

Attachment 1

Statistical Analysis Documentation

Site Investigation Report

Hudson River Operable Unit 2

BASF Rensselaer

Rensselaer, New York

Data set abbreviations used in the statistical documentation are presented below:

- UP = Upstream
- ADJNEAR = Adjacent Nearshore
- ADJFAR = Adjacent Far Field
- UNC = Upper Navigational Channel
- ADJALL = Adjacent

swilk_122006

log: C:\KDW\BASF_Ren\Run4\swilk_122006.smcl
log type: smcl
opened on: 20 Dec 2006, 11:46:40

. bysort area: swilk sb as cd cr cu fe pb mn hg ni ag zn ln_sb ln_as ln_cd ln_c
> r ln_cu ln_fe ln_pb ln_mn ln_hg ln_ni ln_ag ln_zn

-> area = ADJFAR

Variable	Shapiro-Wilk W test for normal data				
	Obs	W	V	z	Prob>z
sb	19	0.28372	16.352	5.613	0.00000
as	18	0.58708	9.077	4.415	0.00001
cd	19	0.68230	7.253	3.980	0.00003
cr	19	0.93955	1.380	0.647	0.25877
cu	19	0.97460	0.580	-1.094	0.86311
fe	19	0.72373	6.307	3.699	0.00011
pb	19	0.61288	8.838	4.377	0.00001
mn	19	0.95425	1.045	0.088	0.46512
hg	19	0.27976	16.443	5.624	0.00000
ni	19	0.90502	2.168	1.555	0.06002
ag	19	0.48258	11.812	4.960	0.00000
zn	19	0.91970	1.833	1.217	0.11174
ln_sb	19	0.76279	5.415	3.393	0.00035
ln_as	18	0.80126	4.369	2.951	0.00158
ln_cd	19	0.57200	9.771	4.579	0.00000
ln_cr	19	0.98144	0.424	-1.725	0.95772
ln_cu	19	0.95076	1.124	0.235	0.40704
ln_fe	19	0.87157	2.932	2.161	0.01536
ln_pb	19	0.65614	7.850	4.139	0.00002
ln_mn	19	0.95168	1.103	0.197	0.42194
ln_hg	19	0.72534	6.270	3.688	0.00011
ln_ni	19	0.95098	1.119	0.226	0.41062
ln_ag	19	0.81974	4.115	2.842	0.00224
ln_zn	19	0.95759	0.968	-0.065	0.52583

-> area = ADJFAR_SPCT

Variable	Shapiro-Wilk W test for normal data				
	Obs	W	V	z	Prob>z
sb	19	0.28372	16.352	5.613	0.00000
as	18	0.58708	9.077	4.415	0.00001
cd	19	0.68230	7.253	3.980	0.00003
cr	19	0.93955	1.380	0.647	0.25877
cu	19	0.97460	0.580	-1.094	0.86311
fe	19	0.72373	6.307	3.699	0.00011
pb	19	0.61288	8.838	4.377	0.00001
mn	19	0.95425	1.045	0.088	0.46512
hg	19	0.27976	16.443	5.624	0.00000
ni	19	0.90502	2.168	1.555	0.06002
ag	19	0.48258	11.812	4.960	0.00000
zn	19	0.91970	1.833	1.217	0.11174
ln_sb	19	0.76279	5.415	3.393	0.00035
ln_as	18	0.80126	4.369	2.951	0.00158
ln_cd	19	0.57200	9.771	4.579	0.00000
ln_cr	19	0.98144	0.424	-1.725	0.95772
ln_cu	19	0.95076	1.124	0.235	0.40704
ln_fe	19	0.87157	2.932	2.161	0.01536

			swilk_122006		
ln_pb	19	0.65614	7.850	4.139	0.00002
ln_mn	19	0.95168	1.103	0.197	0.42194
ln_hg	19	0.72534	6.270	3.688	0.00011
ln_ni	19	0.95098	1.119	0.226	0.41062
ln_ag	18	0.82943	3.749	2.645	0.00408
ln_zn	19	0.95759	0.968	-0.065	0.52583

-> area = ADJFAR_SSD

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	19	0.28372	16.352	5.613	0.00000
as	18	0.58708	9.077	4.415	0.00001
cd	19	0.68230	7.253	3.980	0.00003
cr	19	0.93955	1.380	0.647	0.25877
cu	19	0.97460	0.580	-1.094	0.86311
fe	19	0.72373	6.307	3.699	0.00011
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hg	19	0.27976	16.443	5.624	0.00000
ni	19	0.90502	2.168	1.555	0.06002
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ln_sb	19	0.76279	5.415	3.393	0.00035
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ln_cd	19	0.57200	9.771	4.579	0.00000
ln_cr	19	0.98144	0.424	-1.725	0.95772
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ln_pb	19	0.65614	7.850	4.139	0.00002
ln_mn	19	0.95168	1.103	0.197	0.42194
ln_hg	19	0.72534	6.270	3.688	0.00011
ln_ni	19	0.95098	1.119	0.226	0.41062
ln_ag	18	0.82943	3.749	2.645	0.00408
ln_zn	19	0.95759	0.968	-0.065	0.52583

-> area = ADJNEAR

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	36	0.79323	7.540	4.224	0.00001
as	36	0.30282	25.422	6.766	0.00000
cd	36	0.54765	16.495	5.861	0.00000
cr	36	0.55093	16.375	5.846	0.00000
cu	36	0.73600	9.627	4.735	0.00000
fe	36	0.86386	4.964	3.350	0.00040
pb	36	0.51755	17.592	5.996	0.00000
mn	36	0.83995	5.836	3.689	0.00011
hg	36	0.74194	9.410	4.688	0.00000
ni	36	0.85695	5.216	3.454	0.00028
ag	36	0.77787	8.100	4.374	0.00001
zn	36	0.66498	12.217	5.233	0.00000
ln_sb	36	0.85221	5.389	3.522	0.00021
ln_as	36	0.85265	5.373	3.516	0.00022
ln_cd	36	0.90457	3.480	2.607	0.00456
ln_cr	36	0.84772	5.553	3.585	0.00017
ln_cu	36	0.92664	2.675	2.058	0.01982
ln_fe	36	0.93544	2.354	1.790	0.03670
ln_pb	36	0.84606	5.613	3.607	0.00015

			swilk_122006		
ln_mn	36	0.97556	0.891	-0.241	0.59514
ln_hg	36	0.92323	2.799	2.152	0.01568
ln_ni	36	0.93795	2.263	1.708	0.04386
ln_ag	36	0.96314	1.344	0.619	0.26808
ln_zn	36	0.88290	4.270	3.035	0.00120

-> area = UNC

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	15	0.60603	7.639	4.021	0.00003
as	15	0.71603	5.506	3.374	0.00037
cd	15	0.86798	2.560	1.859	0.03152
cr	15	0.87795	2.366	1.704	0.04422
cu	15	0.88332	2.262	1.615	0.05320
fe	15	0.94055	1.153	0.281	0.38932
pb	15	0.89287	2.077	1.446	0.07412
mn	15	0.97465	0.492	-1.405	0.91992
hg	14	0.79433	3.806	2.631	0.00425
ni	15	0.94829	1.003	0.005	0.49797
ag	15	0.91676	1.614	0.947	0.17189
zn	15	0.91360	1.675	1.020	0.15375
ln_sb	15	0.95807	0.813	-0.410	0.65898
ln_as	15	0.96454	0.687	-0.741	0.77068
ln_cd	15	0.84836	2.940	2.133	0.01646
ln_cr	15	0.88140	2.300	1.647	0.04978
ln_cu	15	0.94910	0.987	-0.026	0.51045
ln_fe	15	0.97548	0.475	-1.471	0.92935
ln_pb	15	0.85191	2.871	2.086	0.01848
ln_mn	15	0.98304	0.329	-2.199	0.98607
ln_hg	14	0.95379	0.855	-0.308	0.62097
ln_ni	15	0.95720	0.830	-0.369	0.64385
ln_ag	15	0.95160	0.939	-0.125	0.54992
ln_zn	15	0.90698	1.804	1.166	0.12172

-> area = UNC_SPCT

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	15	0.60603	7.639	4.021	0.00003
as	15	0.71603	5.506	3.374	0.00037
cd	15	0.86798	2.560	1.859	0.03152
cr	15	0.87795	2.366	1.704	0.04422
cu	15	0.88332	2.262	1.615	0.05320
fe	15	0.94055	1.153	0.281	0.38932
pb	15	0.89287	2.077	1.446	0.07412
mn	15	0.97465	0.492	-1.405	0.91992
hg	14	0.79433	3.806	2.631	0.00425
ni	15	0.94829	1.003	0.005	0.49797
ag	15	0.91676	1.614	0.947	0.17189
zn	15	0.91360	1.675	1.020	0.15375
ln_sb	15	0.95807	0.813	-0.410	0.65898
ln_as	15	0.96454	0.687	-0.741	0.77068
ln_cd	15	0.84836	2.940	2.133	0.01646
ln_cr	15	0.88140	2.300	1.647	0.04978
ln_cu	15	0.94910	0.987	-0.026	0.51045
ln_fe	15	0.97548	0.475	-1.471	0.92935
ln_pb	15	0.85191	2.871	2.086	0.01848
ln_mn	15	0.98304	0.329	-2.199	0.98607

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ln_hg | 14 0.95379 0.855 -0.308 0.62097
ln_ni | 14 0.94640 0.992 -0.016 0.50629
ln_ag | 15 0.95160 0.939 -0.125 0.54992
ln_zn | 15 0.90698 1.804 1.166 0.12172

```

-> area = UNC_SSD

Variable	Obs	Shapiro-Wilk W	test for normal data V	z	Prob>z
sb	15	0.60603	7.639	4.021	0.00003
as	15	0.71603	5.506	3.374	0.00037
cd	15	0.86798	2.560	1.859	0.03152
cr	15	0.87795	2.366	1.704	0.04422
cu	15	0.88332	2.262	1.615	0.05320
fe	15	0.94055	1.153	0.281	0.38932
pb	15	0.89287	2.077	1.446	0.07412
mn	15	0.97465	0.492	-1.405	0.91992
hg	14	0.79433	3.806	2.631	0.00425
ni	15	0.94829	1.003	0.005	0.49797
ag	15	0.91676	1.614	0.947	0.17189
zn	15	0.91360	1.675	1.020	0.15375
ln_sb	15	0.95807	0.813	-0.410	0.65898
ln_as	15	0.96454	0.687	-0.741	0.77068
ln_cd	15	0.84836	2.940	2.133	0.01646
ln_cr	15	0.88140	2.300	1.647	0.04978
ln_cu	15	0.94910	0.987	-0.026	0.51045
ln_fe	15	0.97549	0.475	-1.471	0.92935
ln_pb	15	0.85191	2.871	2.086	0.01848
ln_mn	15	0.98304	0.329	-2.199	0.98607
ln_hg	14	0.95379	0.855	-0.308	0.62097
ln_ni	14	0.94640	0.992	-0.016	0.50629
ln_ag	15	0.95160	0.939	-0.125	0.54992
ln_zn	15	0.90698	1.804	1.166	0.12172

-> area = UP_SPCT

Variable	Obs	Shapiro-Wilk W	test for normal data V	z	Prob>z
sb	28	0.68153	9.617	4.660	0.00000
as	28	0.85250	4.454	3.076	0.00105
cd	28	0.65011	10.566	4.854	0.00000
cr	28	0.87738	3.703	2.695	0.00352
cu	28	0.93402	1.992	1.419	0.07792
fe	28	0.97284	0.820	-0.408	0.65836
pb	28	0.55664	13.388	5.341	0.00000
mn	28	0.90657	2.821	2.135	0.01636
hg	28	0.87763	3.695	2.691	0.00356
ni	28	0.97344	0.802	-0.454	0.67511
ag	28	0.80361	5.931	3.665	0.00012
zn	28	0.96233	1.138	0.266	0.39530
ln_sb	28	0.91323	2.620	1.983	0.02367
ln_as	28	0.95209	1.447	0.761	0.22346
ln_cd	28	0.90319	2.923	2.209	0.01360
ln_cr	28	0.96872	0.945	-0.117	0.54668
ln_cu	28	0.95413	1.385	0.671	0.25122
ln_fe	28	0.96887	0.940	-0.127	0.55062
ln_pb	28	0.90519	2.863	2.166	0.01517
ln_mn	28	0.95802	1.268	0.488	0.31260
ln_hg	28	0.97109	0.873	-0.280	0.61017

			swilk_122006		
ln_ni	28	0.95444	1.376	0.657	0.25568
ln_ag	28	0.94575	1.638	1.016	0.15477
ln_zn	28	0.97203	0.845	-0.348	0.63596

-> area = UP_SSD

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	28	0.68153	9.617	4.660	0.00000
as	28	0.85250	4.454	3.076	0.00105
cd	28	0.65011	10.566	4.854	0.00000
cr	28	0.87738	3.703	2.695	0.00352
cu	28	0.93402	1.992	1.419	0.07792
fe	28	0.97284	0.820	-0.408	0.65836
pb	28	0.55664	13.388	5.341	0.00000
mn	28	0.90657	2.821	2.135	0.01636
hg	28	0.87763	3.695	2.691	0.00356
ni	28	0.97344	0.802	-0.454	0.67511
ag	28	0.80361	5.931	3.665	0.00012
zn	28	0.96233	1.138	0.266	0.39530
ln_sb	28	0.91323	2.620	1.983	0.02367
ln_as	28	0.95209	1.447	0.761	0.22346
ln_cd	28	0.90319	2.923	2.209	0.01360
ln_cr	28	0.96872	0.945	-0.117	0.54668
ln_cu	28	0.95413	1.385	0.671	0.25122
ln_fe	28	0.96887	0.940	-0.127	0.55063
ln_pb	28	0.90519	2.863	2.166	0.01517
ln_mn	28	0.95802	1.268	0.488	0.31260
ln_hg	28	0.97109	0.873	-0.280	0.61017
ln_ni	28	0.95444	1.376	0.657	0.25568
ln_ag	28	0.94575	1.638	1.016	0.15477
ln_zn	28	0.97203	0.845	-0.348	0.63596

-> area = Upstream

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	28	0.68153	9.617	4.660	0.00000
as	28	0.85250	4.454	3.076	0.00105
cd	28	0.65011	10.566	4.854	0.00000
cr	28	0.87738	3.703	2.695	0.00352
cu	28	0.93402	1.992	1.419	0.07792
fe	28	0.97284	0.820	-0.408	0.65836
pb	28	0.55664	13.388	5.341	0.00000
mn	28	0.90657	2.821	2.135	0.01636
hg	28	0.87763	3.695	2.691	0.00356
ni	28	0.97344	0.802	-0.454	0.67511
ag	28	0.80361	5.931	3.665	0.00012
zn	28	0.96233	1.138	0.266	0.39530
ln_sb	28	0.91323	2.620	1.983	0.02367
ln_as	28	0.95209	1.447	0.761	0.22346
ln_cd	28	0.90319	2.923	2.209	0.01360
ln_cr	28	0.96872	0.945	-0.117	0.54668
ln_cu	28	0.95413	1.385	0.671	0.25122
ln_fe	28	0.96887	0.940	-0.127	0.55063
ln_pb	28	0.90519	2.863	2.166	0.01517
ln_mn	28	0.95802	1.268	0.488	0.31260
ln_hg	28	0.97109	0.873	-0.280	0.61017
ln_ni	28	0.95444	1.376	0.657	0.25568

			swilk_122006			
ln_ag		28	0.94575	1.638	1.016	0.15477
ln_zn		28	0.97203	0.845	-0.348	0.63596

. log close
 log: C:\KDW\BASF_Ren\Run4\swilk_122006.smcl
 log type: smcl
 closed on: 20 Dec 2006, 11:47:11

swilk_122006_b

log: C:\KDW\BASF_Ren\Run4\swilk_122006_b.smcl
log type: smcl
opened on: 20 Dec 2006, 15:41:13

. bysort area1: swilk sb as cd cr cu fe pb mn hg ni ag zn ln_sb ln_as ln_cd ln_
> cr ln_cu ln_fe ln_pb ln_mn ln_hg ln_ni ln_ag ln_zn

-> area1 = ADJALL

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	55	0.70685	14.866	5.788	0.00000
as	54	0.39468	30.253	7.304	0.00000
cd	55	0.45254	27.763	7.128	0.00000
cr	55	0.48665	26.033	6.990	0.00000
cu	55	0.72106	14.145	5.682	0.00000
fe	55	0.95294	2.387	1.866	0.03105
pb	55	0.45857	27.457	7.104	0.00000
mn	55	0.88727	5.717	3.739	0.00009
hg	55	0.65319	17.588	6.149	0.00000
ni	55	0.93361	3.367	2.603	0.00462
ag	55	0.79774	10.257	4.993	0.00000
zn	55	0.70937	14.739	5.770	0.00000
ln_sb	55	0.91465	4.328	3.142	0.00084
ln_as	54	0.96543	1.728	1.171	0.12074
ln_cd	55	0.81599	9.332	4.790	0.00000
ln_cr	55	0.92842	3.630	2.765	0.00285
ln_cu	55	0.97281	1.379	0.689	0.24535
ln_fe	55	0.97239	1.400	0.722	0.23511
ln_pb	55	0.90470	4.833	3.379	0.00036
ln_mn	55	0.98448	0.787	-0.513	0.69618
ln_hg	55	0.96152	1.952	1.434	0.07580
ln_ni	55	0.96109	1.973	1.458	0.07246
ln_ag	55	0.87216	6.483	4.009	0.00003
ln_zn	55	0.96462	1.794	1.254	0.10496

-> area1 = ADJFAR_SPCT

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	19	0.28372	16.352	5.613	0.00000
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swilk_122006_b					
ln_pb	19	0.65614	7.850	4.139	0.00002
ln_mn	19	0.95168	1.103	0.197	0.42194
ln_hg	19	0.72534	6.270	3.688	0.00011
ln_ni	19	0.95098	1.119	0.226	0.41062
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ln_zn	19	0.95759	0.968	-0.065	0.52583

-> area1 = ADJFAR_SSD

Variable	Shapiro-Wilk W test for normal data				
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pb	19	0.61288	8.838	4.377	0.00001
mn	19	0.95425	1.045	0.088	0.46512
hg	19	0.27976	16.443	5.624	0.00000
ni	19	0.90502	2.168	1.555	0.06002
ag	19	0.48258	11.812	4.960	0.00000
zn	19	0.91970	1.833	1.217	0.11174
ln_sb	19	0.76279	5.415	3.393	0.00035
ln_as	18	0.80126	4.369	2.951	0.00158
ln_cd	19	0.57200	9.771	4.579	0.00000
ln_cr	19	0.98144	0.424	-1.725	0.95772
ln_cu	19	0.95076	1.124	0.235	0.40704
ln_fe	19	0.87157	2.932	2.161	0.01536
ln_pb	19	0.65614	7.850	4.139	0.00002
ln_mn	19	0.95168	1.103	0.197	0.42194
ln_hg	19	0.72534	6.270	3.688	0.00011
ln_ni	19	0.95098	1.119	0.226	0.41062
ln_ag	18	0.82943	3.749	2.645	0.00408
ln_zn	19	0.95759	0.968	-0.065	0.52583

-> area1 = UNC

Variable	Shapiro-Wilk W test for normal data				
	Obs	W	V	z	Prob>z
sb	15	0.60603	7.639	4.021	0.00003
as	15	0.71603	5.506	3.374	0.00037
cd	15	0.86798	2.560	1.859	0.03152
cr	15	0.87795	2.366	1.704	0.04422
cu	15	0.88332	2.262	1.615	0.05320
fe	15	0.94055	1.153	0.281	0.38932
pb	15	0.89287	2.077	1.446	0.07412
mn	15	0.97465	0.492	-1.405	0.91992
hg	14	0.79433	3.806	2.631	0.00425
ni	15	0.94829	1.003	0.005	0.49797
ag	15	0.91676	1.614	0.947	0.17189
zn	15	0.91360	1.675	1.020	0.15375
ln_sb	15	0.95807	0.813	-0.410	0.65898
ln_as	15	0.96454	0.687	-0.741	0.77068
ln_cd	15	0.84836	2.940	2.133	0.01646
ln_cr	15	0.88140	2.300	1.647	0.04978
ln_cu	15	0.94910	0.987	-0.026	0.51045
ln_fe	15	0.97548	0.475	-1.471	0.92935
ln_pb	15	0.85191	2.871	2.086	0.01848

swilk_122006_b					
ln_mn	15	0.98304	0.329	-2.199	0.98607
ln_hg	14	0.95379	0.855	-0.308	0.62097
ln_ni	15	0.95720	0.830	-0.369	0.64385
ln_ag	15	0.95160	0.939	-0.125	0.54992
ln_zn	15	0.90698	1.804	1.166	0.12172

-> area1 = UNC_SPCT

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	15	0.60603	7.639	4.021	0.00003
as	15	0.71603	5.506	3.374	0.00037
cd	15	0.86798	2.560	1.859	0.03152
cr	15	0.87795	2.366	1.704	0.04422
cu	15	0.88332	2.262	1.615	0.05320
fe	15	0.94055	1.153	0.281	0.38932
pb	15	0.89287	2.077	1.446	0.07412
mn	15	0.97465	0.492	-1.405	0.91992
hg	14	0.79433	3.806	2.631	0.00425
ni	15	0.94829	1.003	0.005	0.49797
ag	15	0.91676	1.614	0.947	0.17189
zn	15	0.91360	1.675	1.020	0.15375
ln_sb	15	0.95807	0.813	-0.410	0.65898
ln_as	15	0.96454	0.687	-0.741	0.77068
ln_cd	15	0.84836	2.940	2.133	0.01646
ln_cr	15	0.88140	2.300	1.647	0.04978
ln_cu	15	0.94910	0.987	-0.026	0.51045
ln_fe	15	0.97548	0.475	-1.471	0.92935
ln_pb	15	0.85191	2.871	2.086	0.01848
ln_mn	15	0.98304	0.329	-2.199	0.98607
ln_hg	14	0.95379	0.855	-0.308	0.62097
ln_ni	14	0.94640	0.992	-0.016	0.50629
ln_ag	15	0.95160	0.939	-0.125	0.54992
ln_zn	15	0.90698	1.804	1.166	0.12172

-> area1 = UNC_SSD

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	15	0.60603	7.639	4.021	0.00003
as	15	0.71603	5.506	3.374	0.00037
cd	15	0.86798	2.560	1.859	0.03152
cr	15	0.87795	2.366	1.704	0.04422
cu	15	0.88332	2.262	1.615	0.05320
fe	15	0.94055	1.153	0.281	0.38932
pb	15	0.89287	2.077	1.446	0.07412
mn	15	0.97465	0.492	-1.405	0.91992
hg	14	0.79433	3.806	2.631	0.00425
ni	15	0.94829	1.003	0.005	0.49797
ag	15	0.91676	1.614	0.947	0.17189
zn	15	0.91360	1.675	1.020	0.15375
ln_sb	15	0.95807	0.813	-0.410	0.65898
ln_as	15	0.96454	0.687	-0.741	0.77068
ln_cd	15	0.84836	2.940	2.133	0.01646
ln_cr	15	0.88140	2.300	1.647	0.04978
ln_cu	15	0.94910	0.987	-0.026	0.51045
ln_fe	15	0.97549	0.475	-1.471	0.92935
ln_pb	15	0.85191	2.871	2.086	0.01848
ln_mn	15	0.98304	0.329	-2.199	0.98607

			swilk_122006_b		
ln_hg	14	0.95379	0.855	-0.308	0.62097
ln_ni	14	0.94640	0.992	-0.016	0.50629
ln_ag	15	0.95160	0.939	-0.125	0.54992
ln_zn	15	0.90698	1.804	1.166	0.12172

-> area1 = UP

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	28	0.68153	9.617	4.660	0.00000
as	28	0.85250	4.454	3.076	0.00105
cd	28	0.65011	10.566	4.854	0.00000
cr	28	0.87738	3.703	2.695	0.00352
cu	28	0.93402	1.992	1.419	0.07792
fe	28	0.97284	0.820	-0.408	0.65836
pb	28	0.55664	13.388	5.341	0.00000
mn	28	0.90657	2.821	2.135	0.01636
hg	28	0.87763	3.695	2.691	0.00356
ni	28	0.97344	0.802	-0.454	0.67511
ag	28	0.80361	5.931	3.665	0.00012
zn	28	0.96233	1.138	0.266	0.39530
ln_sb	28	0.91323	2.620	1.983	0.02367
ln_as	28	0.95209	1.447	0.761	0.22346
ln_cd	28	0.90319	2.923	2.209	0.01360
ln_cr	28	0.96872	0.945	-0.117	0.54668
ln_cu	28	0.95413	1.385	0.671	0.25122
ln_fe	28	0.96887	0.940	-0.127	0.55063
ln_pb	28	0.90519	2.863	2.166	0.01517
ln_mn	28	0.95802	1.268	0.488	0.31260
ln_hg	28	0.97109	0.873	-0.280	0.61017
ln_ni	28	0.95444	1.376	0.657	0.25568
ln_ag	28	0.94575	1.638	1.016	0.15477
ln_zn	28	0.97203	0.845	-0.348	0.63596

-> area1 = UP_SPCT

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
sb	28	0.68153	9.617	4.660	0.00000
as	28	0.85250	4.454	3.076	0.00105
cd	28	0.65011	10.566	4.854	0.00000
cr	28	0.87738	3.703	2.695	0.00352
cu	28	0.93402	1.992	1.419	0.07792
fe	28	0.97284	0.820	-0.408	0.65836
pb	28	0.55664	13.388	5.341	0.00000
mn	28	0.90657	2.821	2.135	0.01636
hg	28	0.87763	3.695	2.691	0.00356
ni	28	0.97344	0.802	-0.454	0.67511
ag	28	0.80361	5.931	3.665	0.00012
zn	28	0.96233	1.138	0.266	0.39530
ln_sb	28	0.91323	2.620	1.983	0.02367
ln_as	28	0.95209	1.447	0.761	0.22346
ln_cd	28	0.90319	2.923	2.209	0.01360
ln_cr	28	0.96872	0.945	-0.117	0.54668
ln_cu	28	0.95413	1.385	0.671	0.25122
ln_fe	28	0.96887	0.940	-0.127	0.55062
ln_pb	28	0.90519	2.863	2.166	0.01517
ln_mn	28	0.95802	1.268	0.488	0.31260
ln_hg	28	0.97109	0.873	-0.280	0.61017

			swilk_122006_b		
ln_ni		28	0.95444	1.376	0.657 0.25568
ln_ag		28	0.94575	1.638	1.016 0.15477
ln_zn		28	0.97203	0.845	-0.348 0.63596

-> area1 = UP_SSD

Variable		Obs	Shapiro-Wilk W test for normal data W	V	z	Prob>z
sb		28	0.68153	9.617	4.660	0.00000
as		28	0.85250	4.454	3.076	0.00105
cd		28	0.65011	10.566	4.854	0.00000
cr		28	0.87738	3.703	2.695	0.00352
cu		28	0.93402	1.992	1.419	0.07792
fe		28	0.97284	0.820	-0.408	0.65836
pb		28	0.55664	13.388	5.341	0.00000
mn		28	0.90657	2.821	2.135	0.01636
hg		28	0.87763	3.695	2.691	0.00356
ni		28	0.97344	0.802	-0.454	0.67511
ag		28	0.80361	5.931	3.665	0.00012
zn		28	0.96233	1.138	0.266	0.39530
ln_sb		28	0.91323	2.620	1.983	0.02367
ln_as		28	0.95209	1.447	0.761	0.22346
ln_cd		28	0.90319	2.923	2.209	0.01360
ln_cr		28	0.96872	0.945	-0.117	0.54668
ln_cu		28	0.95413	1.385	0.671	0.25122
ln_fe		28	0.96887	0.940	-0.127	0.55063
ln_pb		28	0.90519	2.863	2.166	0.01517
ln_mn		28	0.95802	1.268	0.488	0.31260
ln_hg		28	0.97109	0.873	-0.280	0.61017
ln_ni		28	0.95444	1.376	0.657	0.25568
ln_ag		28	0.94575	1.638	1.016	0.15477
ln_zn		28	0.97203	0.845	-0.348	0.63596

. log close
log: C:\KDW\BASF_Ren\Run4\swilk_122006_b.smcl
log type: smcl
closed on: 20 Dec 2006, 15:41:26

sdtest_Run4_122006

```
log: C:\KDW\BASF_Ren\Run4\sdtest_Run4_122006.smcl
log type: smcl
opened on: 20 Dec 2006, 11:59:01
```

```
. sdtest ag if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.4838182	.0695302	.5156495	.3674549	.6001814
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	83	.5031809	.0493594	.449686	.4210641	.5852977

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 3.320
F(54,27) lower tail = F_L = 1/F_obs = 0.301
F(54,27) upper tail = F_U = F_obs = 3.320

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9994 P < F_L + P > F_U = 0.0007 P > F_obs = 0.0006

```
. return list
```

scalars:

r(sd) = .4496859834639983
r(p) = .0006698987214684
r(p_l) = .9994167857756651
r(p_u) = .0005832142243349
r(sd_2) = .283000505442838
r(sd_1) = .5156495090619792
r(F) = 3.319974858151042
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```
. sdtest as if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	54	8.871296	2.17715	15.99872	5.226494	12.5161
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	82	7.3766	1.451401	13.14299	4.961638	9.791562

Ho: sd(ADJALL) = sd(UP_SSD)

F(53,27) observed = F_obs = 95.120
F(53,27) lower tail = F_L = 1/F_obs = 0.011
F(53,27) upper tail = F_U = F_obs = 95.120

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

sdtest_Run4_122006

. return list

scalars:

```

r(sd) = 13.14299192256068
r(p) = 2.00787530024e-21
r(p_l) = 1
r(p_u) = 2.00787530024e-21
r(sd_2) = 1.640400125694598
r(sd_1) = 15.99872218416534
r(F) = 95.11981702914568
r(df_2) = 27
r(df_1) = 53
r(N) = 82

```

. sdtest cd if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	2.256273	.6054289	4.489981	1.243048	3.269497
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	83	1.88394	.4052736	3.692218	1.209707	2.558173

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 82.164
F(54,27) lower tail = F_L = 1/F_obs = 0.012
F(54,27) upper tail = F_U = F_obs = 82.164

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000    P < F_L + P > F_U = 0.0000    P > F_obs = 0.0000

```

. return list

scalars:

```

r(sd) = 3.692217915913362
r(p) = 1.34498910615e-20
r(p_l) = 1
r(p_u) = 1.34498910615e-20
r(sd_2) = .4953390619288118
r(sd_1) = 4.489980834180863
r(F) = 82.16442487643653
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

. sdtest cr if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	69.34364	17.63004	130.7478	39.83863	98.84864
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	83	56.02607	11.84418	107.9056	36.32151	75.73063

sdtest_Run4_122006

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 168.996
F(54,27) lower tail = F_L = 1/F_obs = 0.006
F(54,27) upper tail = F_U = F_obs = 168.996

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 107.9055999598174
r(p) = 8.94433074936e-25
r(p_l) = 1
r(p_u) = 8.94433074936e-25
r(sd_2) = 10.05763126459797
r(sd_1) = 130.74784046058
r(F) = 168.9964688232667
r(df_2) = 27
r(df_1) = 54
r(N) = 83

. sdtest cu if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	53.33636	8.398409	62.28427	39.28108	67.39165
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	83	46.64767	5.689205	51.83113	37.18283	56.11251

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 29.821
F(54,27) lower tail = F_L = 1/F_obs = 0.034
F(54,27) upper tail = F_U = F_obs = 29.821

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 51.831126356973
r(p) = 7.91055040709e-15
r(p_l) = .9999999999999921
r(p_u) = 7.91055040709e-15
r(sd_2) = 11.40559397073612
r(sd_1) = 62.28426869847707
r(F) = 29.82091227647952
r(df_2) = 27
r(df_1) = 54
r(N) = 83

. sdtest fe if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

sdtest_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	22107.27	868.837	6443.468	20653.22	23561.33
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	83	23374.82	687.8251	6266.385	22230.52	24519.12

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 1.566
 F(54,27) lower tail = F_L = 1/F_obs = 0.639
 F(54,27) upper tail = F_U = F_obs = 1.566

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.8965 P < F_L + P > F_U = 0.1839 P > F_obs = 0.1035

. return list

scalars:

r(sd) = 6266.385164610068
 r(p) = .1839222156569797
 r(p_l) = .896543835928611
 r(p_u) = .1034561640713891
 r(sd_2) = 5149.645675906717
 r(sd_1) = 6443.46796851505
 r(F) = 1.565613838520968
 r(df_2) = 27
 r(df_1) = 54
 r(N) = 83

. sdtest hg if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.386	.0796371	.5906042	.2527222	.5192778
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	83	.3046191	.054247	.4942141	.2143711	.3948672

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 83.623
 F(54,27) lower tail = F_L = 1/F_obs = 0.012
 F(54,27) upper tail = F_U = F_obs = 83.623

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = .4942141336713048
 r(p) = 1.06483732651e-20
 r(p_l) = 1
 r(p_u) = 1.06483732651e-20
 r(sd_2) = .0645853196035577

```

sdtest_Run4_122006
r(sd_1) = .5906042077795654
r(F) = 83.6229429172683
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

```
. sdtest mn if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	499.9636	34.66309	257.0684	441.9527	557.9746
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	83	569.9907	29.5172	268.9145	520.8845	619.097

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 1.142
F(54,27) lower tail = F_L = 1/F_obs = 0.875
F(54,27) upper tail = F_U = F_obs = 1.142

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.6394     P < F_L + P > F_U = 0.6917     P > F_obs = 0.3606

```

```
. return list
```

scalars:

```

r(sd) = 268.9145121149485
r(p) = .6917297684956993
r(p_l) = .6393501674113979
r(p_u) = .3606498325886021
r(sd_2) = 240.5082073183621
r(sd_1) = 257.0683879060318
r(F) = 1.142450904123274
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

```
. sdtest ni if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	19.56273	1.165706	8.645108	17.61184	21.51361
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	83	20.58339	.859555	7.830919	19.15339	22.01339

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 2.452
F(54,27) lower tail = F_L = 1/F_obs = 0.408
F(54,27) upper tail = F_U = F_obs = 2.452

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9934     P < F_L + P > F_U = 0.0091     P > F_obs = 0.0066

```

sdtest_Run4_122006

. return list

scalars:

```

r(sd) = 7.830918891006419
r(p) = .0091158167542732
r(p_l) = .9934010585570379
r(p_u) = .0065989414429621
r(sd_2) = 5.520403568185079
r(sd_1) = 8.645108033572846
r(F) = 2.452444533353568
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

. sdtest pb if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	73.05636	18.20059	134.9792	42.59649	103.5162
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	83	71.8773	12.24742	111.5793	51.50189	92.2527

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 13.360
F(54,27) lower tail = F_L = 1/F_obs = 0.075
F(54,27) upper tail = F_U = F_obs = 13.360

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000    P < F_L + P > F_U = 0.0000    P > F_obs = 0.0000

```

. return list

scalars:

```

r(sd) = 111.5792888301454
r(p) = 1.89527357140e-10
r(p_l) = .9999999998104743
r(p_u) = 1.89525691806e-10
r(sd_2) = 36.92913331063091
r(sd_1) = 134.9791956106774
r(F) = 13.35966108163669
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

. sdtest sb if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	1.870364	.3391967	2.51555	1.302696	2.438031
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	83	2.536995	.2855811	2.601767	2.061889	3.012102

sdtest_Run4_122006

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 1.213
 F(54,27) lower tail = F_L = 1/F_obs = 0.825
 F(54,27) upper tail = F_U = F_obs = 1.213

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.7022 P < F_L + P > F_U = 0.5663 P > F_obs = 0.2978

. return list

scalars:

r(sd) = 2.601767480995278
 r(p) = .5663146199602305
 r(p_l) = .7021964786774286
 r(p_u) = .2978035213225714
 r(sd_2) = 2.28448603590679
 r(sd_1) = 2.515549925262254
 r(F) = 1.212519876496609
 r(df_2) = 27
 r(df_1) = 54
 r(N) = 83

. sdtest zn if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	147.7045	17.01145	126.1603	119.2348	176.1743
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	83	141.0499	11.50731	104.8365	121.9057	160.194

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 12.445
 F(54,27) lower tail = F_L = 1/F_obs = 0.080
 F(54,27) upper tail = F_U = F_obs = 12.445

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 104.836546317269
 r(p) = 4.46968000272e-10
 r(p_l) = .9999999995530395
 r(p_u) = 4.46960450756e-10
 r(sd_2) = 35.76211410638251
 r(sd_1) = 126.160278097354
 r(F) = 12.44511477333354
 r(df_2) = 27
 r(df_1) = 54
 r(N) = 83

. sdtest ln_ag if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

sdtest_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-1.643715	.2342101	1.736948	-2.03568	-1.251749
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	83	-1.329276	.1852942	1.68811	-1.63754	-1.021011

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 1.491
F(54,27) lower tail = F_L = 1/F_obs = 0.671
F(54,27) upper tail = F_U = F_obs = 1.491

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.8695 P < F_L + P > F_U = 0.2360 P > F_obs = 0.1305

. return list

scalars:

r(sd) = 1.688110362164964
r(p) = .2360282603074462
r(p_l) = .8695163269800771
r(p_u) = .1304836730199229
r(sd_2) = 1.422565543721684
r(sd_1) = 1.736948345575782
r(F) = 1.490833818870919
r(df_2) = 27
r(df_1) = 54
r(N) = 83

. sdtest ln_as if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	54	1.624419	.1338918	.9839	1.400269	1.84857
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	82	1.563307	.0947981	.8584332	1.405574	1.72104

Ho: sd(ADJALL) = sd(UP_SSD)

F(53,27) observed = F_obs = 3.355
F(53,27) lower tail = F_L = 1/F_obs = 0.298
F(53,27) upper tail = F_U = F_obs = 3.355

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9995 P < F_L + P > F_U = 0.0006 P > F_obs = 0.0005

. return list

scalars:

r(sd) = .8584331931181435
r(p) = .00062547653763
r(p_l) = .9994568981457893
r(p_u) = .0005431018542107
r(sd_2) = .5371996428689455

```

                                sdtest_Run4_122006
r(sd_1) = .9839000434681031
r(F) = 3.354521107873678
r(df_2) = 27
r(df_1) = 53
r(N) = 82

```

```
. sdtest ln_cd if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.000239	.1451673	1.07659	-.242708	.243186
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	83	-.0183715	.1015333	.9250125	-.1872873	.1505444

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 4.162
F(54,27) lower tail = F_L = 1/F_obs = 0.240
F(54,27) upper tail = F_U = F_obs = 4.162

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9999     P < F_L + P > F_U = 0.0001   P > F_obs = 0.0001

```

```
. return list
```

scalars:

```

r(sd) = .9250125440153052
r(p) = .0000784966927076
r(p_l) = .9999256251516501
r(p_u) = .00007437484835
r(sd_2) = .5276860203161229
r(sd_1) = 1.07658984302262
r(F) = 4.162453345173257
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

```
. sdtest ln_cr if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.385496	.1593131	1.181498	3.118875	3.652117
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	83	3.379262	.1097827	1.000168	3.196622	3.561902

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 5.676
F(54,27) lower tail = F_L = 1/F_obs = 0.176
F(54,27) upper tail = F_U = F_obs = 5.676

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000     P < F_L + P > F_U = 0.0000   P > F_obs = 0.0000

```

sdtest_Run4_122006

. return list

scalars:

```

r(sd) = 1.000167631348566
r(p) = 3.35733970921e-06
r(p_l) = .9999966744816131
r(p_u) = 3.32551838685e-06
r(sd_2) = .4959313052537723
r(sd_1) = 1.181497529439772
r(F) = 5.675741251563855
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

. sdtest ln_cu if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.421822	.1462543	1.084651	3.177056	3.666588
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	83	3.455891	.1032233	.9404088	3.284163	3.627618

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 3.610
F(54,27) lower tail = F_L = 1/F_obs = 0.277
F(54,27) upper tail = F_U = F_obs = 3.610

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9997     P < F_L + P > F_U = 0.0003   P > F_obs = 0.0003

```

. return list

scalars:

```

r(sd) = .9404088039452324
r(p) = .0003080183376867
r(p_l) = .9997215550990996
r(p_u) = .0002784449009004
r(sd_2) = .5708913604705675
r(sd_1) = 1.084650900957377
r(F) = 3.609715890308843
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

. sdtest ln_fe if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	9.962177	.0395644	.2934178	9.895963	10.02839
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	83	10.03105	.0325961	.2969645	9.976817	10.08527

sdtest_Run4_122006

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 1.285
F(54,27) lower tail = F_L = 1/F_obs = 0.778
F(54,27) upper tail = F_U = F_obs = 1.285

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.7577 P < F_L + P > F_U = 0.4559 P > F_obs = 0.2423

. return list

scalars:

r(sd) = .2969644650617752
r(p) = .4558598631828947
r(p_l) = .7577263562864496
r(p_u) = .2422736437135504
r(sd_2) = .2588487556964191
r(sd_1) = .2934177735063465
r(F) = 1.28493355729852
r(df_2) = 27
r(df_1) = 54
r(N) = 83

. sdtest ln_hg if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-2.066735	.2185199	1.620587	-2.432442	-1.701028
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	83	-2.038194	.1543633	1.406317	-2.295001	-1.781388

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 3.507
F(54,27) lower tail = F_L = 1/F_obs = 0.285
F(54,27) upper tail = F_U = F_obs = 3.507

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9996 P < F_L + P > F_U = 0.0004 P > F_obs = 0.0004

. return list

scalars:

r(sd) = 1.406316945055847
r(p) = .0004038014565648
r(p_l) = .999639380636435
r(p_u) = .000360619363565
r(sd_2) = .8653945974159339
r(sd_1) = 1.620587045666174
r(F) = 3.506843352665582
r(df_2) = 27
r(df_1) = 54
r(N) = 83

. sdtest ln_mn if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

sdtest_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	6.094574	.0674718	.5003839	5.981655	6.207492
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	83	6.243728	.0598547	.5453022	6.144151	6.343305

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 0.934
 F(54,27) lower tail = F_L = F_obs = 0.934
 F(54,27) upper tail = F_U = 1/F_obs = 1.070

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.4051 P < F_L + P > F_U = 0.8398 P > F_obs = 0.5949

. return list

scalars:

r(sd) = .5453021913308505
 r(p) = .8397666486400714
 r(p_l) = .4050572205310673
 r(p_u) = .5949427794689327
 r(sd_2) = .5176612990743834
 r(sd_1) = .5003839071944481
 r(F) = .9343622249138186
 r(df_2) = 27
 r(df_1) = 54
 r(N) = 83

. sdtest ln_ni if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	2.876534	.0610075	.4524438	2.774434	2.978634
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	83	2.962906	.0478476	.4359126	2.883304	3.042507

Ho: sd(ADJALL) = sd(UP_SSD)

F(54,27) observed = F_obs = 1.669
 F(54,27) lower tail = F_L = 1/F_obs = 0.599
 F(54,27) upper tail = F_U = F_obs = 1.669

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.9252 P < F_L + P > F_U = 0.1295 P > F_obs = 0.0748

. return list

scalars:

r(sd) = .4359126134876361
 r(p) = .1294990370438099
 r(p_l) = .9252260400452146
 r(p_u) = .0747739599547854
 r(sd_2) = .3501996737117437

```

sdtest_Run4_122006
r(sd_1) = .4524437821066193
r(F) = 1.66915925193402
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

```
. sdtest ln_pb if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.578081	.1430121	1.060606	3.338741	3.817421
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	83	3.69167	.107167	.9763382	3.513381	3.869958

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 1.983
F(54,27) lower tail = F_L = 1/F_obs = 0.504
F(54,27) upper tail = F_U = F_obs = 1.983

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9722     P < F_L + P > F_U = 0.0441     P > F_obs = 0.0278

```

```
. return list
```

scalars:

```

r(sd) = .9763381790065955
r(p) = .0441025699753744
r(p_l) = .9721600993514129
r(p_u) = .0278399006485871
r(sd_2) = .7532151173757485
r(sd_1) = 1.060606122054462
r(F) = 1.982760248879483
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

```
. sdtest ln_sb if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-.7464245	.2540862	1.884354	-1.171654	-.3211947
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	83	-.1950169	.2160733	1.968522	-.5544871	.1644534

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 1.254
F(54,27) lower tail = F_L = 1/F_obs = 0.797
F(54,27) upper tail = F_U = F_obs = 1.254

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.7353     P < F_L + P > F_U = 0.5005     P > F_obs = 0.2647

```

sdtest_Run4_122006

. return list

scalars:

```

r(sd) = 1.968521777845991
r(p) = .5004677237791638
r(p_l) = .7352715014725456
r(p_u) = .2647284985274544
r(sd_2) = 1.68262105380143
r(sd_1) = 1.884353525741185
r(F) = 1.254157650471505
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

. sdtest ln_zn if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	4.749694	.0913004	.6771018	4.596897	4.902491
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	83	4.786839	.0659491	.6008245	4.677123	4.896555

Ho: sd(ADJALL) = sd(UP_SSD)

```

F(54,27) observed = F_obs = 2.680
F(54,27) lower tail = F_L = 1/F_obs = 0.373
F(54,27) upper tail = F_U = F_obs = 2.680

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9966     P < F_L + P > F_U = 0.0044   P > F_obs = 0.0034

```

. return list

scalars:

```

r(sd) = .6008245330850439
r(p) = .0044084798334802
r(p_l) = .9966144264853708
r(p_u) = .0033855735146292
r(sd_2) = .4136119464945405
r(sd_1) = .6771018451993339
r(F) = 2.679920101951158
r(df_2) = 27
r(df_1) = 54
r(N) = 83

```

. sdtest ag if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	64	.6324846	.0534673	.4277388	.5432261	.7217431

sdtest_Run4_122006

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 3.193
 F(35,27) lower tail = F_L = 1/F_obs = 0.313
 F(35,27) upper tail = F_U = F_obs = 3.193

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.9987 P < F_L + P > F_U = 0.0020 P > F_obs = 0.0013

. return list

scalars:

r(sd) = .427738788527224
 r(p) = .00201790083395
 r(p_l) = .9987017889632532
 r(p_u) = .0012982110367467
 r(sd_2) = .283000505442838
 r(sd_1) = .5056662151699879
 r(F) = 3.19266575689098
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest as if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	64	7.719238	1.744528	13.95622	4.806919	10.63156

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 124.020
 F(35,27) lower tail = F_L = 1/F_obs = 0.008
 F(35,27) upper tail = F_U = F_obs = 124.020

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 13.95622251913971
 r(p) = 1.84582328121e-22
 r(p_l) = 1
 r(p_u) = 1.84582328121e-22
 r(sd_2) = 1.640400125694598
 r(sd_1) = 18.26819032347449
 r(F) = 124.0199258497877
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest cd if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	64	2.286203	.51576	4.12608	1.425192	3.147214

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 116.674
 F(35,27) lower tail = F_L = 1/F_obs = 0.009
 F(35,27) upper tail = F_U = F_obs = 116.674

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 4.126080287993243
 r(p) = 4.16209267164e-22
 r(p_l) = 1
 r(p_u) = 4.16209267164e-22
 r(sd_2) = .4953390619288118
 r(sd_1) = 5.350435801382296
 r(F) = 116.6737509265969
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest cr if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	64	69.8174	14.95242	119.6194	44.8558	94.779

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 231.403
 F(35,27) lower tail = F_L = 1/F_obs = 0.004
 F(35,27) upper tail = F_U = F_obs = 231.403

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 119.6193569203458
 r(p) = 4.41908084429e-26
 r(p_l) = 1
 r(p_u) = 4.41908084429e-26

```

sdtest_Run4_122006
r(sd_2) = 10.05763126459797
r(sd_1) = 152.9961520864195
r(F) = 231.4033265209134
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

```
. sdtest cu if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	64	57.66338	6.794849	54.35879	46.32005	69.00672

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 33.736
F(35,27) lower tail = F_L = 1/F_obs = 0.030
F(35,27) upper tail = F_U = F_obs = 33.736

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000    P < F_L + P > F_U = 0.0000    P > F_obs = 0.0000

```

```
. return list
```

scalars:

```

r(sd) = 54.35878816528207
r(p) = 4.93826018541e-15
r(p_l) = .999999999999951
r(p_u) = 4.93826018541e-15
r(sd_2) = 11.40559397073612
r(sd_1) = 66.24699983093207
r(F) = 33.73623519563444
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

```
. sdtest fe if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	64	25265	618.5511	4948.409	24232.39	26297.61

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 0.871
F(35,27) lower tail = F_L = F_obs = 0.871
F(35,27) upper tail = F_U = 1/F_obs = 1.148

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)

```

sdtest_Run4_122006
 $P < F_{\text{obs}} = 0.3469$ $P < F_L + P > F_U = 0.7063$ $P > F_{\text{obs}} = 0.6531$

. return list

scalars:

```

r(sd) = 4948.408725891249
r(p) = .706263270172184
r(p_l) = .3469024756928756
r(p_u) = .6530975243071244
r(sd_2) = 5149.645675906717
r(sd_1) = 4807.011042085316
r(F) = .8713558335640133
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

. sdtest hg if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.5122222	.0979643	.5877857	.3467045	.67774
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	64	.3514592	.0596191	.476953	.2519309	.4509875

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 82.827
F(35,27) lower tail = F_L = 1/F_obs = 0.012
F(35,27) upper tail = F_U = F_obs = 82.827

```

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 $P < F_{\text{obs}} = 1.0000$ $P < F_L + P > F_U = 0.0000$ $P > F_{\text{obs}} = 0.0000$

. return list

scalars:

```

r(sd) = .4769529628036643
r(p) = 3.93158764462e-20
r(p_l) = 1
r(p_u) = 3.93158764462e-20
r(sd_2) = .0645853196035577
r(sd_1) = .5877857325071175
r(F) = 82.82671824783766
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

. sdtest mn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	64	656.2458	30.36623	242.9298	605.5523	706.9392

sdtest_Run4_122006

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 1.000
 F(35,27) lower tail = F_L = 1/F_obs = 1.000
 F(35,27) upper tail = F_U = F_obs = 1.000

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.4941 P < F_L + P > F_U = 0.9993 P > F_obs = 0.5059

. return list

scalars:

r(sd) = 242.9298186413152
 r(p) = .9993440576523465
 r(p_l) = .4940834917894447
 r(p_u) = .5059165082105553
 r(sd_2) = 240.5082073183621
 r(sd_1) = 240.5443178485128
 r(F) = 1.00030030776428
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest ni if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	64	23.52143	.7909736	6.327789	22.20097	24.84188

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 1.553
 F(35,27) lower tail = F_L = 1/F_obs = 0.644
 F(35,27) upper tail = F_U = F_obs = 1.553

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.8798 P < F_L + P > F_U = 0.2300 P > F_obs = 0.1202

. return list

scalars:

r(sd) = 6.327788691783725
 r(p) = .2300415732015021
 r(p_l) = .8797682601593099
 r(p_u) = .1202317398406901
 r(sd_2) = 5.520403568185079
 r(sd_1) = 6.879389034980469
 r(F) = 1.552952184079032
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest pb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	103.9806	26.47358	158.8415	59.25153	148.7096
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	64	88.92212	15.25699	122.0559	63.45207	114.3922

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 18.501
 F(35,27) lower tail = F_L = 1/F_obs = 0.054
 F(35,27) upper tail = F_U = F_obs = 18.501

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 122.0559225869556
 r(p) = 9.81020652722e-12
 r(p_l) = .999999999990279
 r(p_u) = 9.72105561834e-12
 r(sd_2) = 36.92913331063091
 r(sd_1) = 158.841473239832
 r(F) = 18.50076055130678
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest sb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	64	3.213916	.3208755	2.567004	2.678245	3.749586

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 1.392
 F(35,27) lower tail = F_L = 1/F_obs = 0.718
 F(35,27) upper tail = F_U = F_obs = 1.392

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.8112 P < F_L + P > F_U = 0.3660 P > F_obs = 0.1888

. return list

scalars:

r(sd) = 2.567004344104927
 r(p) = .3659848172478268
 r(p_l) = .8111691142944693
 r(p_u) = .1888308857055307

```

sdtest_Run4_122006
r(sd_2) = 2.28448603590679
r(sd_1) = 2.695570225717761
r(F) = 1.392272630674795
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

```
. sdtest zn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	64	165.9264	13.40626	107.2501	143.546	188.3068

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 13.816
F(35,27) lower tail = F_L = 1/F_obs = 0.072
F(35,27) upper tail = F_U = F_obs = 13.816

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000    P < F_L + P > F_U = 0.0000    P > F_obs = 0.0000

```

```
. return list
```

scalars:

```

r(sd) = 107.2500694205995
r(p) = 3.47527363272e-10
r(p_l) = .9999999996602375
r(p_u) = 3.39762574460e-10
r(sd_2) = 35.76211410638251
r(sd_1) = 132.928335922908
r(F) = 13.81620494996071
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

```
. sdtest ln_ag if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	64	-.6284791	.1326329	1.061063	-.8498967	-.4070615

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 0.225
F(35,27) lower tail = F_L = F_obs = 0.225
F(35,27) upper tail = F_U = 1/F_obs = 4.442

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)

```

sdtest_Run4_122006

P < F_obs = 0.0000 P < F_L + P > F_U = 0.0001 P > F_obs = 1.0000

. return list

scalars:

```

r(sd) = 1.06106282386155
r(p) = .0000998707601488
r(p_l) = .0000257413943375
r(p_u) = .9999742586056625
r(sd_2) = 1.422565543721684
r(sd_1) = .6749595667155161
r(F) = .2251183743491585
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

. sdtest ln_as if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	64	1.730054	.0829405	.6635239	1.591593	1.868515

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 1.575
F(35,27) lower tail = F_L = 1/F_obs = 0.635
F(35,27) upper tail = F_U = F_obs = 1.575

```

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)

P < F_obs = 0.8873 P < F_L + P > F_U = 0.2153 P > F_obs = 0.1127

. return list

scalars:

```

r(sd) = .6635238591671167
r(p) = .2152858259426098
r(p_l) = .8872522937015495
r(p_u) = .1127477062984505
r(sd_2) = .5371996428689455
r(sd_1) = .6742795428965974
r(F) = 1.57546419257843
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

. sdtest ln_cd if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	64	.1679849	.1220418	.9763341	-.0357519	.3717217

sdtest_Run4_122006

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 5.137
 F(35,27) lower tail = F_L = 1/F_obs = 0.195
 F(35,27) upper tail = F_U = F_obs = 5.137

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = .9763340587468831
 r(p) = .0000235215901284
 r(p_l) = .9999814594207901
 r(p_u) = .0000185405792099
 r(sd_2) = .5276860203161229
 r(sd_1) = 1.195965820831796
 r(F) = 5.136725507888588
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest ln_cr if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	64	3.723762	.1083696	.8669567	3.54285	3.904674

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 3.993
 F(35,27) lower tail = F_L = 1/F_obs = 0.250
 F(35,27) upper tail = F_U = F_obs = 3.993

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.9998 P < F_L + P > F_U = 0.0003 P > F_obs = 0.0002

. return list

scalars:

r(sd) = .8669566993991339
 r(p) = .0002756295626446
 r(p_l) = .999804652463423
 r(p_u) = .0001953475365771
 r(sd_2) = .4959313052537723
 r(sd_1) = .9910459752230189
 r(F) = 3.993416030860416
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest ln_cu if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168	4.266936
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	64	3.83204	.0865989	.692791	3.687472	3.976609

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 1.462
 F(35,27) lower tail = F_L = 1/F_obs = 0.684
 F(35,27) upper tail = F_U = F_obs = 1.462

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.8445 P < F_L + P > F_U = 0.2998 P > F_obs = 0.1555

. return list

scalars:

r(sd) = .692790958285837
 r(p) = .2998027675592672
 r(p_l) = .8445006379484181
 r(p_u) = .1554993620515819
 r(sd_2) = .5708913604705675
 r(sd_1) = .6902956110898095
 r(F) = 1.462053560969048
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest ln_fe if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	64	10.1305	.027057	.216456	10.08533	10.17567

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 0.460
 F(35,27) lower tail = F_L = F_obs = 0.460
 F(35,27) upper tail = F_U = 1/F_obs = 2.174

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0157 P < F_L + P > F_U = 0.0358 P > F_obs = 0.9843

. return list

scalars:

r(sd) = .2164560102585779
 r(p) = .0358189059459329
 r(p_l) = .0157375536146547
 r(p_u) = .9842624463853453

```

sdtest_Run4_122006
r(sd_2) = .2588487556964191
r(sd_1) = .1755640472789583
r(F) = .4600224269721303
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

```
. sdtest ln_hg if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	64	-1.553978	.1291685	1.033348	-1.769612	-1.338344

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 1.447
F(35,27) lower tail = F_L = 1/F_obs = 0.691
F(35,27) upper tail = F_U = F_obs = 1.447

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.8378     P < F_L + P > F_U = 0.3132     P > F_obs = 0.1622

```

```
. return list
```

scalars:

```

r(sd) = 1.033348209947248
r(p) = .3131568052119287
r(p_l) = .8377668566682389
r(p_u) = .1622331433317611
r(sd_2) = .8653945974159339
r(sd_1) = 1.040965920690938
r(F) = 1.446920481633629
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

```
. sdtest ln_mn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	64	6.43887	.0543029	.4344228	6.348217	6.529524

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 0.445
F(35,27) lower tail = F_L = F_obs = 0.445
F(35,27) upper tail = F_U = 1/F_obs = 2.245

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)

```

sdtest_Run4_122006
 $P < F_{\text{obs}} = 0.0126$ $P < F_L + P > F_U = 0.0290$ $P > F_{\text{obs}} = 0.9874$

. return list

scalars:

```

r(sd) = .4344228149790688
r(p) = .0289867754586323
r(p_l) = .0125832655345935
r(p_u) = .9874167344654065
r(sd_2) = .5176612990743834
r(sd_1) = .345492808956618
r(F) = .4454373492678343
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

. sdtest ln_ni if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	64	3.145114	.0371537	.2972298	3.08309	3.207139

Ho: sd(ADJNEAR) = sd(UP_SSD)

```

F(35,27) observed = F_obs = 0.523
F(35,27) lower tail = F_L = F_obs = 0.523
F(35,27) upper tail = F_U = 1/F_obs = 1.911

```

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 $P < F_{\text{obs}} = 0.0361$ $P < F_L + P > F_U = 0.0789$ $P > F_{\text{obs}} = 0.9639$

. return list

scalars:

```

r(sd) = .297229802030152
r(p) = .0789243893018046
r(p_l) = .036103397021755
r(p_u) = .963896602978245
r(sd_2) = .3501996737117437
r(sd_1) = .2533577677483135
r(F) = .5234039233275876
r(df_2) = 27
r(df_1) = 35
r(N) = 64

```

. sdtest ln_pb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	64	4.023896	.1046706	.8373648	3.849159	4.198634

sdtest_Run4_122006

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 1.423
 F(35,27) lower tail = F_L = 1/F_obs = 0.703
 F(35,27) upper tail = F_U = F_obs = 1.423

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.8268 P < F_L + P > F_U = 0.3350 P > F_obs = 0.1732

. return list

scalars:

r(sd) = .8373648007842807
 r(p) = .3349966394176696
 r(p_l) = .8267636361139039
 r(p_u) = .1732363638860961
 r(sd_2) = .7532151173757485
 r(sd_1) = .898630566713301
 r(F) = 1.423391336068339
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest ln_sb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	64	.5230787	.1929172	1.543337	.2010223	.845135

Ho: sd(ADJNEAR) = sd(UP_SSD)

F(35,27) observed = F_obs = 0.676
 F(35,27) lower tail = F_L = F_obs = 0.676
 F(35,27) upper tail = F_U = 1/F_obs = 1.479

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.1371 P < F_L + P > F_U = 0.2852 P > F_obs = 0.8629

. return list

scalars:

r(sd) = 1.543337460396858
 r(p) = .2851782212647496
 r(p_l) = .137058920572334
 r(p_u) = .862941079427666
 r(sd_2) = 1.68262105380143
 r(sd_1) = 1.383409096107487
 r(F) = .6759718588392099
 r(df_2) = 27
 r(df_1) = 35
 r(N) = 64

. sdtest ln_zn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	64	5.014336	.0591964	.4735712	4.915514	5.113159

Ho: sd(ADJNEAR) = sd(UP_SSD)

$F(35, 27)$ observed = F_{obs} = 1.390
 $F(35, 27)$ lower tail = F_L = $1/F_{obs}$ = 0.720
 $F(35, 27)$ upper tail = F_U = F_{obs} = 1.390

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 $P < F_{obs} = 0.8098$ $P < F_L + P > F_U = 0.3686$ $P > F_{obs} = 0.1902$

. return list

scalars:

$r(sd)$ = .4735712182300334
 $r(p)$ = .368611134681528
 $r(p_l)$ = .8098482998942833
 $r(p_u)$ = .1901517001057168
 $r(sd_2)$ = .4136119464945405
 $r(sd_1)$ = .4875964931566519
 $r(F)$ = 1.389744610989402
 $r(df_2)$ = 27
 $r(df_1)$ = 35
 $r(N)$ = 64

. sdtest ag if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.0676316	.0333736	.1454721	.0097596	.1255035
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	47	.3497663	.048483	.3323827	.2683798	.4311528

Ho: sd(ADJFAR) = sd(UP_SSD)

$F(18, 27)$ observed = F_{obs} = 0.264
 $F(18, 27)$ lower tail = F_L = F_{obs} = 0.264
 $F(18, 27)$ upper tail = F_U = $1/F_{obs}$ = 3.785

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 $P < F_{obs} = 0.0024$ $P < F_L + P > F_U = 0.0034$ $P > F_{obs} = 0.9976$

. return list

scalars:

$r(sd)$ = .3323826980105965
 $r(p)$ = .003354386735634
 $r(p_l)$ = .0024284765774052

```

sdtest_Run4_122006
r(p_u) = .9975715234225948
r(sd_2) = .283000505442838
r(sd_1) = .1454721141773615
r(F) = .2642317972700428
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest as if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	18	6.158333	2.347764	9.96072	2.074147	10.24252
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	46	5.145244	.9298269	6.306393	3.583667	6.70682

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(17,27) observed = F_obs = 36.871
F(17,27) lower tail = F_L = 1/F_obs = 0.027
F(17,27) upper tail = F_U = F_obs = 36.871

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000     P < F_L + P > F_U = 0.0000     P > F_obs = 0.0000

```

```
. return list
```

scalars:

```

r(sd) = 6.306392607310353
r(p) = 1.69625373546e-10
r(p_l) = .9999999999999757
r(p_u) = 2.42626132235e-14
r(sd_2) = 1.640400125694598
r(sd_1) = 9.960720351670322
r(F) = 36.8707444985733
r(df_2) = 27
r(df_1) = 17
r(N) = 46

```

```
. sdtest cd if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.5289474	.0149638	.0652257	.5029992	.5548955
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	47	.900468	.0716639	.4913029	.7801686	1.020767

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.017
F(18,27) lower tail = F_L = F_obs = 0.017
F(18,27) upper tail = F_U = 1/F_obs = 57.672

```

```

                                sdtest_Run4_122006
Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.0000             P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = .4913029020953515
r(p) = 1.12116329604e-12
r(p_l) = 1.12110321027e-12
r(p_u) = .9999999999988789
r(sd_2) = .4953390619288118
r(sd_1) = .0652256581208895
r(F) = .0173393089496295
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest cr if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.571053	.655067	2.855371	8.435125	10.70698
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	47	21.66199	1.867539	12.8032	18.52703	24.79696

```
Ho: sd(ADJFAR) = sd(UP_SSD)
```

```

F(18,27) observed = F_obs = 0.081
F(18,27) lower tail = F_L = F_obs = 0.081
F(18,27) upper tail = F_U = 1/F_obs = 12.407

```

```

Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.0000             P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 12.80320152647364
r(p) = 5.07969513610e-07
r(p_l) = 4.98314718045e-07
r(p_u) = .999999501685282
r(sd_2) = 10.05763126459797
r(sd_1) = 2.855371021741286
r(F) = .0805997466430474
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest cu if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.542105	.778177	3.391995	8.192697	10.89151
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053

```

combined |      47      23.82035      2.174341      14.90653      20.17037      27.47033
-----

```

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed   = F_obs      =      0.088
F(18,27) lower tail = F_L       = F_obs      =      0.088
F(18,27) upper tail = F_U       = 1/F_obs     =     11.306

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000      P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

. return list

scalars:

```

r(sd) = 14.90652837416822
r(p) = 1.06789112878e-06
r(p_l) = 1.04067844453e-06
r(p_u) = .9999989593215555
r(sd_2) = 11.40559397073612
r(sd_1) = 3.391994836962124
r(F) = .0884452575726394
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

. sdtest fe if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Variance ratio test

```

-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR |      19     17007.89     1408.414     6139.134     14565.62     19450.17
UP_SSD |      28     25864.65     973.1916     5149.646     24207.02     27522.27
-----+-----
combined |      47     22284.26     1027.447     7043.819     20559.52     24008.99
-----

```

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed   = F_obs      =      1.421
F(18,27) lower tail = F_L       = 1/F_obs     =      0.704
F(18,27) upper tail = F_U       = F_obs      =      1.421

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.8007      P < F_L + P > F_U = 0.4207      P > F_obs = 0.1993

```

. return list

scalars:

```

r(sd) = 7043.818581610922
r(p) = .4206949971068418
r(p_l) = .8006676357764979
r(p_u) = .1993323642235021
r(sd_2) = 5149.645675906717
r(sd_1) = 6139.133651282084
r(F) = 1.421214010166529
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

. sdtest hg if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

sdtest_Run4_122006

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.1468421	.1219171	.5314242	-.0645699	.3582541
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	47	.145604	.0490242	.3360927	.0633091	.2278989

Ho: sd(ADJFAR) = sd(UP_SSD)

F(18,27) observed = F_obs = 67.704
 F(18,27) lower tail = F_L = 1/F_obs = 0.015
 F(18,27) upper tail = F_U = F_obs = 67.704

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = .3360927393062784
 r(p) = 2.74010502601e-13
 r(p_l) = 1
 r(p_u) = 7.46012354781e-18
 r(sd_2) = .0645853196035577
 r(sd_1) = .5314241950454365
 r(F) = 67.70410800424689
 r(df_2) = 27
 r(df_1) = 18
 r(N) = 47

. sdtest mn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	279.4474	19.63434	85.58409	245.4002	313.4946
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	47	534.4836	41.74755	286.2068	464.4037	604.5636

Ho: sd(ADJFAR) = sd(UP_SSD)

F(18,27) observed = F_obs = 0.127
 F(18,27) lower tail = F_L = F_obs = 0.127
 F(18,27) upper tail = F_U = 1/F_obs = 7.897

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 286.2068103186242
 r(p) = .0000175636746737
 r(p_l) = .0000163257327899

```

sdtest_Run4_122006
r(p_u) = .9999836742672101
r(sd_2) = 240.5082073183621
r(sd_1) = 85.58408710100423
r(F) = .126626978073436
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ni if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	10.68684	.520316	2.268005	9.784581	11.5891
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	47	17.77705	1.079345	7.399614	15.9652	19.5889

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.169
F(18,27) lower tail = F_L = F_obs = 0.169
F(18,27) upper tail = F_U = 1/F_obs = 5.925

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0001     P < F_L + P > F_U = 0.0002   P > F_obs = 0.9999

```

```
. return list
```

scalars:

```

r(sd) = 7.399613837363853
r(p) = .0001504293274797
r(p_l) = .0001299834298457
r(p_u) = .9998700165701543
r(sd_2) = 5.520403568185079
r(sd_1) = 2.268004676159051
r(F) = .1687898143336381
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest pb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	14.46316	1.808123	7.881427	11.32776	17.59856
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	47	47.28757	5.782936	39.64581	37.57998	56.99515

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.046
F(18,27) lower tail = F_L = F_obs = 0.046
F(18,27) upper tail = F_U = 1/F_obs = 21.955

```

```

                                sdtest_Run4_122006
Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.0000             P < F_L + P > F_U = 0.0000       P > F_obs = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 39.64580921143723
r(p) = 4.61439991313e-09
r(p_l) = 4.60253768431e-09
r(p_u) = .9999999953974623
r(sd_2) = 36.92913331063091
r(sd_1) = 7.881427399939791
r(F) = .0455482324278854
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest sb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.2568421	.1859515	.8105437	-.0656096	.5792938
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	47	2.395332	.3716266	2.547743	1.771497	3.019167

```
Ho: sd(ADJFAR) = sd(UP_SSD)
```

```

F(18,27) observed = F_obs = 0.126
F(18,27) lower tail = F_L = F_obs = 0.126
F(18,27) upper tail = F_U = 1/F_obs = 7.944

```

```

Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.0000             P < F_L + P > F_U = 0.0000       P > F_obs = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 2.547743292265628
r(p) = .0000167935027116
r(p_l) = .0000156274545777
r(p_u) = .9999843725454223
r(sd_2) = 2.28448603590679
r(sd_1) = .8105437093667497
r(F) = .1258855447735148
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest zn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	57.25526	3.226401	14.06356	51.66048	62.85005
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897

```

sdtest_Run4_122006
combined |      47      99.38807      6.618539      45.37442      88.27779      110.4983
-----

```

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.155
F(18,27) lower tail = F_L = F_obs = 0.155
F(18,27) upper tail = F_U = 1/F_obs = 6.466

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0001      P < F_L + P > F_U = 0.0001      P > F_obs = 0.9999

```

. return list

scalars:

```

r(sd) = 45.37441550532406
r(p) = .0000790438949367
r(p_l) = .0000701015186075
r(p_u) = .9999298984813925
r(sd_2) = 35.76211410638251
r(sd_1) = 14.06355525157996
r(F) = .154647847077688
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

. sdtest ln_ag if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Variance ratio test

```

-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR |      19     -3.689855     .2727497     1.188888     -4.16282     -3.216889
UP_SSD |      28     -.7116284     .2688396     1.422566     -1.16954     -.253717
-----+-----
combined |      47     -1.915592     .2889267     1.980782     -2.400602     -1.430582
-----

```

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.698
F(18,27) lower tail = F_L = F_obs = 0.698
F(18,27) upper tail = F_U = 1/F_obs = 1.432

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.2165      P < F_L + P > F_U = 0.4111      P > F_obs = 0.7835

```

. return list

scalars:

```

r(sd) = 1.980781839401567
r(p) = .411066667697929
r(p_l) = .2165100893018646
r(p_u) = .7834899106981355
r(sd_2) = 1.422565543721684
r(sd_1) = 1.188888451389633
r(F) = .6984537383364619
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

. sdtest ln_as if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

sdtest_Run4_122006

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	18	.9704303	.2791581	1.184368	.484805	1.456056
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	46	1.259571	.1283683	.8706364	1.043986	1.475157

Ho: sd(ADJFAR) = sd(UP_SSD)

F(17,27) observed = F_obs = 4.861
 F(17,27) lower tail = F_L = 1/F_obs = 0.206
 F(17,27) upper tail = F_U = F_obs = 4.861

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.9999 P < F_L + P > F_U = 0.0008 P > F_obs = 0.0001

. return list

scalars:

r(sd) = .8706364386182184
 r(p) = .0008002648655106
 r(p_l) = .9998624884381964
 r(p_u) = .0001375115618036
 r(sd_2) = .5371996428689455
 r(sd_1) = 1.184367515337014
 r(F) = 4.860730512335864
 r(df_2) = 27
 r(df_1) = 17
 r(N) = 46

. sdtest ln_cd if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-.6460982	.0342148	.149139	-.7054289	-.5867675
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	47	-.2939115	.0741103	.5080745	-.4183175	-.1695055

Ho: sd(ADJFAR) = sd(UP_SSD)

F(18,27) observed = F_obs = 0.080
 F(18,27) lower tail = F_L = F_obs = 0.080
 F(18,27) upper tail = F_U = 1/F_obs = 12.519

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = .5080745324673748
 r(p) = 4.72567977496e-07
 r(p_l) = 4.63842181997e-07

```

                                sdtest_Run4_122006
r(p_u) = .999999536157818
r(sd_2) = .5276860203161229
r(sd_1) = .1491390189115591
r(F) = .0798787731598949
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ln_cr if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.218841	.066123	.2882237	2.104179	2.333502
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	47	2.902861	.1032722	.7079984	2.729502	3.07622

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.338
F(18,27) lower tail = F_L = F_obs = 0.338
F(18,27) upper tail = F_U = 1/F_obs = 2.961

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0099     P < F_L + P > F_U = 0.0152   P > F_obs = 0.9901

```

```
. return list
```

scalars:

```

r(sd) = .7079984128497061
r(p) = .0152241771953189
r(p_l) = .0098905006636972
r(p_u) = .9901094993363028
r(sd_2) = .4959313052537723
r(sd_1) = .2882236604104138
r(F) = .3377662183313477
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ln_cu if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.18886	.0892394	.3889854	2.034114	2.343607
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	47	2.983554	.1210211	.829679	2.780401	3.186708

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.464
F(18,27) lower tail = F_L = F_obs = 0.464
F(18,27) upper tail = F_U = 1/F_obs = 2.154

```

```

                                sdtest_Run4_122006
Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.0472             P < F_L + P > F_U = 0.0819       P > F_obs = 0.9528

```

```
. return list
```

```
scalars:
```

```

r(sd) = .8296790279413417
r(p) = .0819118592118846
r(p_l) = .0472304672573799
r(p_u) = .9527695327426201
r(sd_2) = .5708913604705675
r(sd_1) = .3889854134269929
r(F) = .4642583147845832
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ln_fe if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.696045	.0665427	.2900528	9.580655	9.811434
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	47	9.97621	.0519143	.3559062	9.889064	10.06336

```
Ho: sd(ADJFAR) = sd(UP_SSD)
```

```

F(18,27) observed = F_obs = 1.256
F(18,27) lower tail = F_L = 1/F_obs = 0.796
F(18,27) upper tail = F_U = F_obs = 1.256

```

```

Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.7107             P < F_L + P > F_U = 0.6015       P > F_obs = 0.2893

```

```
. return list
```

```
scalars:
```

```

r(sd) = .3559062124740035
r(p) = .6014961427244934
r(p_l) = .7106685940182551
r(p_u) = .2893314059817448
r(sd_2) = .2588487556964191
r(sd_1) = .2900528071328377
r(F) = 1.255630864736858
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ln_hg if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-3.669239	.2929487	1.276934	-4.177231	-3.161247
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569

```

                                sdtest_Run4_122006
combined |          47    -2.664154    .1944995    1.333422    -2.990653    -2.337656
-----

```

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed   = F_obs      =    2.177
F(18,27) lower tail = F_L       = 1/F_obs =    0.459
F(18,27) upper tail = F_U       = F_obs   =    2.177

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9672     P < F_L + P > F_U = 0.0778   P > F_obs = 0.0328

```

. return list

scalars:

```

r(sd) = 1.333421649667856
r(p) = .077833221345993
r(p_l) = .9671979322409314
r(p_u) = .0328020677590685
r(sd_2) = .8653945974159339
r(sd_1) = 1.276933745998642
r(F) = 2.1772503525261
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

. sdtest ln_mn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	5.586407	.0734888	.3203301	5.458973	5.713841
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	47	6.152545	.094493	.6478111	5.993923	6.311166

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed   = F_obs      =    0.383
F(18,27) lower tail = F_L       = F_obs   =    0.383
F(18,27) upper tail = F_U       = 1/F_obs =    2.612

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0190     P < F_L + P > F_U = 0.0308   P > F_obs = 0.9810

```

. return list

scalars:

```

r(sd) = .6478110822460703
r(p) = .0307999054872088
r(p_l) = .0190092321047942
r(p_u) = .9809907678952058
r(sd_2) = .5176612990743834
r(sd_1) = .32033014976996
r(F) = .3829166386008638
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

. sdtest ln_ni if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

sdtest_Run4_122006

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.349152	.0463231	.2019176	2.268824	2.429479
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	47	2.815866	.0713038	.4888344	2.696171	2.935561

Ho: sd(ADJFAR) = sd(UP_SSD)

F(18,27) observed = F_obs = 0.332
F(18,27) lower tail = F_L = F_obs = 0.332
F(18,27) upper tail = F_U = 1/F_obs = 3.008

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0091 P < F_L + P > F_U = 0.0139 P > F_obs = 0.9909

. return list

scalars:

r(sd) = .4888343642856187
r(p) = .0138757502619257
r(p_l) = .0090758331772558
r(p_u) = .9909241668227442
r(sd_2) = .3501996737117437
r(sd_1) = .2019175588084386
r(F) = .3324426225643701
r(df_2) = 27
r(df_1) = 18
r(N) = 47

. sdtest ln_pb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.572592	.0957076	.4171796	2.406629	2.738555
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	47	3.3722	.1340367	.9189094	3.147198	3.597202

Ho: sd(ADJFAR) = sd(UP_SSD)

F(18,27) observed = F_obs = 0.307
F(18,27) lower tail = F_L = F_obs = 0.307
F(18,27) upper tail = F_U = 1/F_obs = 3.260

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0058 P < F_L + P > F_U = 0.0086 P > F_obs = 0.9942

. return list

scalars:

r(sd) = .9189094049799511
r(p) = .0085806134792434
r(p_l) = .0058124120879949

```

sdtest_Run4_122006
r(p_u) = .9941875879120051
r(sd_2) = .7532151173757485
r(sd_1) = .4171795911801338
r(F) = .3067665855784095
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ln_sb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-2.613865	.2622958	1.143321	-3.068702	-2.159027
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	47	-.5275848	.3323366	2.278385	-1.085465	.0302955

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.462
F(18,27) lower tail = F_L = F_obs = 0.462
F(18,27) upper tail = F_U = 1/F_obs = 2.166

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0461     P < F_L + P > F_U = 0.0798   P > F_obs = 0.9539

```

```
. return list
```

scalars:

```

r(sd) = 2.27838507414539
r(p) = .0797965946133107
r(p_l) = .0460906593212824
r(p_u) = .9539093406787176
r(sd_2) = 1.68262105380143
r(sd_1) = 1.143320902391257
r(F) = .4617040130445999
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ln_zn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	4.020533	.0541443	.2360096	3.926644	4.114423
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	47	4.520524	.0792966	.5436303	4.387412	4.653636

Ho: sd(ADJFAR) = sd(UP_SSD)

```

F(18,27) observed = F_obs = 0.326
F(18,27) lower tail = F_L = F_obs = 0.326
F(18,27) upper tail = F_U = 1/F_obs = 3.071

```

```

                                sdtest_Run4_122006
Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.0081            P < F_L + P > F_U = 0.0123      P > F_obs = 0.9919

```

```
. return list
```

```
scalars:
```

```

r(sd) = .5436302563588297
r(p) = .0122733935299158
r(p_l) = .0081000812742854
r(p_u) = .9918999187257146
r(sd_2) = .4136119464945405
r(sd_1) = .2360095719986676
r(F) = .3255915208318649
r(df_2) = 27
r(df_1) = 18
r(N) = 47

```

```
. sdtest ag if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.2131037	.0333736	.1454721	.1552318	.2709756
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
combined	55	.5340722	.0644083	.4776645	.4262808	.6418636

```
Ho: sd(ADJFAR_S) = sd(ADJNEAR)
```

```

F(18,35) observed = F_obs = 0.083
F(18,35) lower tail = F_L = F_obs = 0.083
F(18,35) upper tail = F_U = 1/F_obs = 12.083

```

```

Ha: sd(1) < sd(2)              Ha: sd(1) != sd(2)              Ha: sd(1) > sd(2)
P < F_obs = 0.0000            P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = .4776645301902217
r(p) = 4.31544901893e-07
r(p_l) = 4.31138255430e-07
r(p_u) = .9999995688617446
r(sd_2) = .5056662151699879
r(sd_1) = .1454721127310928
r(F) = .0827621217303441
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

```
. sdtest as if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	16.11905	2.347764	9.960721	12.03487	20.20324
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202

```

-----+-----
sdtest_Run4_122006
combined |      54      12.19154      2.194555      16.12662      8.517597      15.86548
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(17,35) observed = F_obs = 0.297
F(17,35) lower tail = F_L = F_obs = 0.297
F(17,35) upper tail = F_U = 1/F_obs = 3.364

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0049      P < F_L + P > F_U = 0.0061      P > F_obs = 0.9951

```

. return list

scalars:

```

r(sd) = 16.12661821236384
r(p) = .0060975487892267
r(p_l) = .0049255015226894
r(p_u) = .9950744984773106
r(sd_2) = 18.26819032347449
r(sd_1) = 9.960720878951873
r(F) = .2972969718335172
r(df_2) = 35
r(df_1) = 17
r(N) = 54

```

. sdtest cd if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR_S |      19      .594173      .0149638      .0652257      .5682249      .6201212
ADJNEAR |      36      3.167917      .8917393      5.350436      1.661259      4.674575
-----+-----
combined |      55      2.278805      .604252      4.481253      1.26755      3.29006
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.000
F(18,35) lower tail = F_L = F_obs = 0.000
F(18,35) upper tail = F_U = 1/F_obs = 6728.859

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000      P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

. return list

scalars:

```

r(sd) = 4.481252533010225
r(p) = 1.50188267532e-56
r(p_l) = 0
r(p_u) = 1
r(sd_2) = 5.350435801382296
r(sd_1) = .0652256531109017
r(F) = .0001486136011593
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```


sdtest_Run4_122006

. sdtest cr if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.42642	.6550671	2.855371	11.2905	13.56235
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
combined	55	70.33004	17.56897	130.2949	40.92723	99.73284

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18,35) observed = F_obs = 0.000
 F(18,35) lower tail = F_L = F_obs = 0.000
 F(18,35) upper tail = F_U = 1/F_obs = 2871.018

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 130.2949436001154
 r(p) = 4.42341759242e-50
 r(p_l) = 0
 r(p_u) = 1
 r(sd_2) = 152.9961520864195
 r(sd_1) = 2.855371114443928
 r(F) = .0003483085273162
 r(df_2) = 35
 r(df_1) = 18
 r(N) = 55

. sdtest cu if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.9341	.778177	3.391995	11.58469	14.28351
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
combined	55	54.50814	8.287389	61.46092	40.63866	68.37763

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18,35) observed = F_obs = 0.003
 F(18,35) lower tail = F_L = F_obs = 0.003
 F(18,35) upper tail = F_U = 1/F_obs = 381.436

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 61.46092087920003
 r(p) = 8.67996590724e-35

sdtest_Run4_122006

```

r(p_l) = 0
r(p_u) = 1
r(sd_2) = 66.24699983093207
r(sd_1) = 3.391994924514598
r(F) = .0026216695972612
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

. sdtest fe if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	23147.03	1408.414	6139.134	20704.75	25589.31
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24
combined	55	24228.06	715.6457	5307.37	23030.38	25425.74

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 1.631
F(18,35) lower tail = F_L = 1/F_obs = 0.613
F(18,35) upper tail = F_U = F_obs = 1.631

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.8945     P < F_L + P > F_U = 0.2407     P > F_obs = 0.1055

```

. return list

scalars:

```

r(sd) = 5307.370428812667
r(p) = .2406821864676765
r(p_l) = .8945140312515816
r(p_u) = .1054859687484184
r(sd_2) = 4807.011042085316
r(sd_1) = 6139.133651282084
r(F) = 1.631037465318262
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

. sdtest hg if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.6782663	.1219171	.5314242	.4668543	.8896783
ADJNEAR	36	.5122222	.0979643	.5877857	.3467045	.67774
combined	55	.5695829	.0768016	.569576	.4410504	.6981154

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.817
F(18,35) lower tail = F_L = F_obs = 0.817
F(18,35) upper tail = F_U = 1/F_obs = 1.223

```

sdtest_Run4_122006

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.3310 P < F_L + P > F_U = 0.6271 P > F_obs = 0.6690

. return list

scalars:

r(sd) = .569576049786418
r(p) = .6271444693176711
r(p_l) = .3310470007640494
r(p_u) = .6689529992359506
r(sd_2) = .5877857325071175
r(sd_1) = .5314242125132804
r(F) = .8174187494971152
r(df_2) = 35
r(df_1) = 18
r(N) = 55

. sdtest mn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	365.0314	19.63434	85.58409	330.9843	399.0786
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
combined	55	529.529	31.4759	233.4315	476.8521	582.206

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18, 35) observed = F_obs = 0.127
F(18, 35) lower tail = F_L = F_obs = 0.127
F(18, 35) upper tail = F_U = 1/F_obs = 7.900

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 233.431501237777
r(p) = .0000120311789974
r(p_l) = .0000119132644639
r(p_u) = .9999880867355361
r(sd_2) = 240.5443178485128
r(sd_1) = 85.58408889042127
r(F) = .1265889677186656
r(df_2) = 35
r(df_1) = 18
r(N) = 55

. sdtest ni if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.95485	.520316	2.268005	12.05259	13.85711
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443

```

-----+-----
sdtest_Run4_122006
combined |      55      20.34622      1.059645      7.858536      18.57284      22.1196
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.109
F(18,35) lower tail = F_L = F_obs = 0.109
F(18,35) upper tail = F_U = 1/F_obs = 9.201

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000      P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

. return list

scalars:

```

r(sd) = 7.85853637151548
r(p) = 3.72516472117e-06
r(p_l) = 3.70858164456e-06
r(p_u) = .9999962914183554
r(sd_2) = 6.879389034980469
r(sd_1) = 2.26800474325925
r(F) = .1086896467589708
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

. sdtest pb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR_S |      19      22.34459      1.808123      7.881427      19.20918      25.47999
ADJNEAR |      36      103.9806      26.47358      158.8415      59.25153      148.7096
-----+-----
combined |      55      75.77904      18.04475      133.8235      45.57997      105.9781
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.002
F(18,35) lower tail = F_L = F_obs = 0.002
F(18,35) upper tail = F_U = 1/F_obs = 406.180

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000      P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

. return list

scalars:

```

r(sd) = 133.8234654788095
r(p) = 2.91206812000e-35
r(p_l) = 0
r(p_u) = 1
r(sd_2) = 158.841473239832
r(sd_1) = 7.881427399939791
r(F) = .0024619654041557
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

sdtest_Run4_122006

. sdtest sb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	1.067386	.1859515	.8105438	.7449341	1.389838
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
combined	55	2.15037	.3179186	2.357747	1.618312	2.682427

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18,35) observed = F_obs = 0.090
 F(18,35) lower tail = F_L = F_obs = 0.090
 F(18,35) upper tail = F_U = 1/F_obs = 11.060

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 2.357747133603248
 r(p) = 8.75626720464e-07
 r(p_l) = 8.74235461135e-07
 r(p_u) = .9999991257645389
 r(sd_2) = 2.695570225717761
 r(sd_1) = .8105437717069745
 r(F) = .0904173229898394
 r(df_2) = 35
 r(df_1) = 18
 r(N) = 55

. sdtest zn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	71.31882	3.226401	14.06355	65.72403	76.9136
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
combined	55	152.5629	16.5512	122.747	124.8634	180.2624

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18,35) observed = F_obs = 0.011
 F(18,35) lower tail = F_L = F_obs = 0.011
 F(18,35) upper tail = F_U = 1/F_obs = 89.340

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 122.7470069816802
 r(p) = 1.53210777460e-14

```

sdtest_Run4_122006
r(p_l) = 1.53210777398e-14
r(p_u) = .999999999999847
r(sd_2) = 132.928335922908
r(sd_1) = 14.06355483840419
r(F) = .0111932211885199
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

```
. sdtest ln_ag if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	-2.450115	.2832921	1.201907	-2.942932	-1.957298
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
combined	54	-1.192577	.1705017	1.252926	-1.478016	-.9071371

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(17,35) observed = F_obs = 3.171
F(17,35) lower tail = F_L = 1/F_obs = 0.315
F(17,35) upper tail = F_U = F_obs = 3.171

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9981     P < F_L + P > F_U = 0.0087   P > F_obs = 0.0019

```

```
. return list
```

scalars:

```

r(sd) = 1.252926397440689
r(p) = .0087370170130237
r(p_l) = .9981061383150403
r(p_u) = .0018938616849597
r(sd_2) = .6749595667155161
r(sd_1) = 1.20190668914736
r(F) = 3.170925144522539
r(df_2) = 35
r(df_1) = 17
r(N) = 54

```

```
. sdtest ln_as if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	2.154798	.2791581	1.184367	1.669172	2.640423
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
combined	54	2.019208	.1185982	.8715155	1.820661	2.217756

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(17,35) observed = F_obs = 3.085
F(17,35) lower tail = F_L = 1/F_obs = 0.324
F(17,35) upper tail = F_U = F_obs = 3.085

```

sdtest_Run4_122006

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9976 P < F_L + P > F_U = 0.0103 P > F_obs = 0.0024

. return list

scalars:

r(sd) = .8715154601049954
r(p) = .010298849321778
r(p_l) = .9976492777536644
r(p_u) = .0023507222463356
r(sd_2) = .6742795428965974
r(sd_1) = 1.184367421099401
r(F) = 3.085268304870007
r(df_2) = 35
r(df_1) = 17
r(N) = 54

. sdtest ln_cd if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-.4969592	.0342148	.149139	-.5562899	-.4376285
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
combined	55	.0517597	.1411856	1.04706	-.1845235	.288043

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18, 35) observed = F_obs = 0.016
F(18, 35) lower tail = F_L = F_obs = 0.016
F(18, 35) upper tail = F_U = 1/F_obs = 64.307

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 1.047060324050764
r(p) = 2.80331315303e-13
r(p_l) = 2.80331313718e-13
r(p_u) = .999999999997197
r(sd_2) = 1.195965820831796
r(sd_1) = .1491390110301696
r(F) = .015550522330751
r(df_2) = 35
r(df_1) = 18
r(N) = 55

. sdtest ln_cr if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.507064	.066123	.2882237	2.392403	2.621726
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304

```

-----+-----
sdtest_Run4_122006
combined |      55      3.485064      .146377      1.085561      3.240092      3.730035
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.085
F(18,35) lower tail = F_L = F_obs = 0.085
F(18,35) upper tail = F_U = 1/F_obs = 11.823

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000      P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

. return list

scalars:

```

r(sd) = 1.085561005133775
r(p) = 5.13827702141e-07
r(p_l) = 5.13276347647e-07
r(p_u) = .9999994867236524
r(sd_2) = .9910459752230189
r(sd_1) = .2882236642825249
r(F) = .0845807761566841
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

. sdtest ln_cu if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR_S |      19      2.577846      .0892394      .3889854      2.423099      2.732592
ADJNEAR |      36      4.072552      .1150493      .6902956      3.878168      4.266936
-----+-----
combined |      55      3.556199      .1260458      .9347809      3.345253      3.767145
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.318
F(18,35) lower tail = F_L = F_obs = 0.318
F(18,35) upper tail = F_U = 1/F_obs = 3.149

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0060      P < F_L + P > F_U = 0.0077      P > F_obs = 0.9940

```

. return list

scalars:

```

r(sd) = .9347809153230854
r(p) = .0077356203061215
r(p_l) = .0059501579384247
r(p_u) = .9940498420615753
r(sd_2) = .6902956110898095
r(sd_1) = .388985427887002
r(F) = .3175385373660523
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```



```

sdtest_Run4_122006
. sdtest ln_fe if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	9.986097	.0665427	.2900528	9.870708	10.10149
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
combined	55	10.06238	.0304956	.2261615	10.01134	10.11341

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18,35) observed = F_obs = 2.729
 F(18,35) lower tail = F_L = 1/F_obs = 0.366
 F(18,35) upper tail = F_U = F_obs = 2.729

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.9946 P < F_L + P > F_U = 0.0185 P > F_obs = 0.0054

```

. return list

```

scalars:

r(sd) = .2261614595266012
 r(p) = .0185131490035213
 r(p_l) = .9946471174879872
 r(p_u) = .0053528825120128
 r(sd_2) = .1755640472789583
 r(sd_1) = .2900528347234936
 r(F) = 2.729499759131019
 r(df_2) = 35
 r(df_1) = 18
 r(N) = 55

```

. sdtest ln_hg if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-2.392305	.2929487	1.276934	-2.900297	-1.884314
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
combined	55	-1.625612	.1685145	1.249737	-1.907632	-1.343593

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18,35) observed = F_obs = 1.505
 F(18,35) lower tail = F_L = 1/F_obs = 0.665
 F(18,35) upper tail = F_U = F_obs = 1.505

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.8529 P < F_L + P > F_U = 0.3262 P > F_obs = 0.1471

```

. return list

```

scalars:

r(sd) = 1.249736891463374
 r(p) = .3262378718466452

```

sdtest_Run4_122006
r(p_l) = .8529428690200795
r(p_u) = .1470571309799205
r(sd_2) = 1.040965920690938
r(sd_1) = 1.276933774109744
r(F) = 1.504747825485342
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

```
. sdtest ln_mn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	5.906737	.0734888	.3203301	5.779303	6.034171
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
combined	55	6.205233	.0538459	.399332	6.115119	6.295348

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.860
F(18,35) lower tail = F_L = F_obs = 0.860
F(18,35) upper tail = F_U = 1/F_obs = 1.163

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.3753     P < F_L + P > F_U = 0.7155     P > F_obs = 0.6247

```

```
. return list
```

scalars:

```

r(sd) = .399331986957976
r(p) = .7154535866212735
r(p_l) = .3752796568302383
r(p_u) = .6247203431697617
r(sd_2) = .345492808956618
r(sd_1) = .3203301326918442
r(F) = .8596418742176607
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

```
. sdtest ln_ni if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.551069	.0463231	.2019176	2.470742	2.631396
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
combined	55	2.946287	.0503008	.3730404	2.862106	3.030469

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed = F_obs = 0.635
F(18,35) lower tail = F_L = F_obs = 0.635
F(18,35) upper tail = F_U = 1/F_obs = 1.574

```

sdtest_Run4_122006

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.1534 P < F_L + P > F_U = 0.2760 P > F_obs = 0.8466

. return list

scalars:

r(sd) = .3730404281530499
r(p) = .2759605000349044
r(p_l) = .1534116957448812
r(p_u) = .8465883042551188
r(sd_2) = .2533577677483135
r(sd_1) = .2019175718315225
r(F) = .6351550888918913
r(df_2) = 35
r(df_1) = 18
r(N) = 55

. sdtest ln_pb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.989771	.0957076	.4171796	2.823808	3.155734
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
combined	55	3.722197	.1257548	.9326225	3.511738	3.932656

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

F(18, 35) observed = F_obs = 0.216
F(18, 35) lower tail = F_L = F_obs = 0.216
F(18, 35) upper tail = F_U = 1/F_obs = 4.640

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0005 P < F_L + P > F_U = 0.0006 P > F_obs = 0.9995

. return list

scalars:

r(sd) = .93262253002086
r(p) = .0005843704183763
r(p_l) = .000532818542113
r(p_u) = .999467181457887
r(sd_2) = .898630566713301
r(sd_1) = .4171796114446753
r(F) = .215518113401049
r(df_2) = 35
r(df_1) = 18
r(N) = 55

. sdtest ln_sb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-1.470544	.2622958	1.143321	-1.925382	-1.015706
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308

```

-----+-----
sdtest_Run4_122006
combined |      55      -.351459      .2066781      1.532765      -.6973482      -.0055699
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed   = F_obs      =      0.683
F(18,35) lower tail = F_L       = F_obs      =      0.683
F(18,35) upper tail = F_U       = 1/F_obs    =      1.464

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.1961     P < F_L + P > F_U = 0.3595     P > F_obs = 0.8039

```

. return list

scalars:

```

r(sd) = 1.532765464569694
r(p) = .359476106420828
r(p_l) = .1961208505512587
r(p_u) = .8038791494487413
r(sd_2) = 1.383409096107487
r(sd_1) = 1.143320840591967
r(F) = .6830224618003856
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

. sdtest ln_zn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR_S |      19      4.256543      .0541443      .2360096      4.162653      4.350433
ADJNEAR |      36      5.134528      .0812661      .4875965      4.997224      5.271833
-----+-----
combined |      55      4.831224      .0797947      .5917731      4.697683      4.964766
-----+-----

```

Ho: sd(ADJFAR_S) = sd(ADJNEAR)

```

F(18,35) observed   = F_obs      =      0.234
F(18,35) lower tail = F_L       = F_obs      =      0.234
F(18,35) upper tail = F_U       = 1/F_obs    =      4.268

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0009     P < F_L + P > F_U = 0.0010     P > F_obs = 0.9991

```

. return list

scalars:

```

r(sd) = .5917730558978115
r(p) = .0010409822128319
r(p_l) = .0009225920360416
r(p_u) = .9990774079639584
r(sd_2) = .4875964931566519
r(sd_1) = .2360095918909634
r(F) = .2342815889645099
r(df_2) = 35
r(df_1) = 18
r(N) = 55

```

sdtest_Run4_122006

```
. sdtest ag if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
UNC_S	15	1.379974	.1543102	.5976408	1.108186	1.651762
combined	51	.9024434	.0858536	.6131173	.7585609	1.046326

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 0.716
F(35,14) lower tail = F_L = F_obs = 0.716
F(35,14) upper tail = F_U = 1/F_obs = 1.397

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.2062 P < F_L + P > F_U = 0.4620 P > F_obs = 0.7938

```
. return list
```

scalars:

r(sd) = .6131173035636875
r(p) = .4619677308466306
r(p_l) = .2061594159389877
r(p_u) = .7938405840610123
r(sd_2) = .5976407924244336
r(sd_1) = .5056662151699879
r(F) = .7158918376285139
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```
. sdtest as if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
UNC_S	15	9.558497	1.103842	4.275164	7.614288	11.50271
combined	51	10.03093	2.16397	15.45384	6.404322	13.65754

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 18.259
F(35,14) lower tail = F_L = 1/F_obs = 0.055
F(35,14) upper tail = F_U = F_obs = 18.259

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

```
. return list
```

scalars:

r(sd) = 15.45383991991976

```

sdtest_Run4_122006
r(p) = 4.44674104775e-07
r(p_l) = .999999555330521
r(p_u) = 4.44669479031e-07
r(sd_2) = 4.275163615672224
r(sd_1) = 18.26819032347449
r(F) = 18.25936097562889
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
. sdtest cd if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
UNC_S	15	11.36637	1.435509	5.559704	8.837993	13.89475
combined	51	5.579227	.9174516	6.551915	4.041665	7.116788

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed = F_obs = 0.926
F(35,14) lower tail = F_L = F_obs = 0.926
F(35,14) upper tail = F_U = 1/F_obs = 1.080

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.4071     P < F_L + P > F_U = 0.8656   P > F_obs = 0.5929

```

```
. return list
```

scalars:

```

r(sd) = 6.551915112713913
r(p) = .8655603191166439
r(p_l) = .407146469883499
r(p_u) = .592853530116501
r(sd_2) = 5.559704143219983
r(sd_1) = 5.350435801382296
r(F) = .9261363964452084
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
. sdtest cr if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
UNC_S	15	225.7909	25.47328	98.65759	180.9246	270.6573
combined	51	137.6258	20.96419	149.7143	102.4918	172.7598

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed = F_obs = 2.405
F(35,14) lower tail = F_L = 1/F_obs = 0.416

```

```
sdtest_Run4_122006
F(35,14) upper tail = F_U = F_obs = 2.405
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9593     P < F_L + P > F_U = 0.0584   P > F_obs = 0.0407
```

```
. return list
```

```
scalars:
```

```

r(sd) = 149.714296518643
r(p) = .0584047106340541
r(p_l) = .9593304049844816
r(p_u) = .0406695950155183
r(sd_2) = 98.65758554432107
r(sd_1) = 152.9961520864195
r(F) = 2.404916771688568
r(df_2) = 14
r(df_1) = 35
r(N) = 51
```

```
. sdtest cu if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
UNC_S	15	137.8961	15.78356	61.12946	110.0964	165.6959
combined	51	94.52239	9.819865	70.12786	78.06523	110.9796

```
Ho: sd(ADJNEAR) = sd(UNC_S)
```

```

F(35,14) observed = F_obs = 1.174
F(35,14) lower tail = F_L = 1/F_obs = 0.851
F(35,14) upper tail = F_U = F_obs = 1.174
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.6130     P < F_L + P > F_U = 0.7229   P > F_obs = 0.3870
```

```
. return list
```

```
scalars:
```

```

r(sd) = 70.1278609688906
r(p) = .7228852045561589
r(p_l) = .6129712785594313
r(p_u) = .3870287214405687
r(sd_2) = 61.12945863932802
r(sd_1) = 66.24699983093207
r(F) = 1.174441341302285
r(df_2) = 14
r(df_1) = 35
r(N) = 51
```

```
. sdtest fe if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24

```

                                sdtest_Run4_122006
UNC_S |      15      26976.67      1324.562      5130.005      24643.71      29309.64
-----+-----
combined |      51      25439.22      693.7889      4954.644      24276.49      26601.94
-----+-----

```

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed   = F_obs      =      0.878
F(35,14) lower tail = F_L       = F_obs      =      0.878
F(35,14) upper tail = F_U       = 1/F_obs    =      1.139

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.3615     P < F_L + P > F_U = 0.7742     P > F_obs = 0.6385

```

. return list

scalars:

```

r(sd) = 4954.643847278745
r(p) = .7741957183704
r(p_l) = .3614833222141025
r(p_u) = .6385166777858975
r(sd_2) = 5130.004755810965
r(sd_1) = 4807.011042085316
r(F) = .8780408146492162
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

. sdtest hg if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJNEAR |      36      .5122222      .0979643      .5877857      .3467045      .67774
UNC_S |      14      1.621195      .2184235      .817266      1.234381      2.008008
-----+-----
combined |      50      .8227345      .1163594      .8227854      .627652      1.017817
-----+-----

```

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,13) observed   = F_obs      =      0.517
F(35,13) lower tail = F_L       = F_obs      =      0.517
F(35,13) upper tail = F_U       = 1/F_obs    =      1.933

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0603     P < F_L + P > F_U = 0.1620     P > F_obs = 0.9397

```

. return list

scalars:

```

r(sd) = .822785388145871
r(p) = .1619775706693339
r(p_l) = .0603143456988405
r(p_u) = .9396856543011595
r(sd_2) = .8172660245765895
r(sd_1) = .5877857325071175
r(F) = .517262733643264
r(df_2) = 13
r(df_1) = 35
r(N) = 50

```


sdtest_Run4_122006

```
. sdtest mn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
UNC_S	15	525.2589	32.72901	126.7589	467.613	582.9048
combined	51	589.5565	30.27946	216.2386	538.8111	640.302

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 3.601
F(35,14) lower tail = F_L = 1/F_obs = 0.278
F(35,14) upper tail = F_U = F_obs = 3.601

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9934 P < F_L + P > F_U = 0.0076 P > F_obs = 0.0066

```
. return list
```

scalars:

r(sd) = 216.2385649893615
r(p) = .0076047945067775
r(p_l) = .9934351849565294
r(p_u) = .0065648150434706
r(sd_2) = 126.7589106476205
r(sd_1) = 240.5443178485128
r(F) = 3.601083638278319
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```
. sdtest ni if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
UNC_S	15	28.64823	1.803492	6.984893	25.47172	31.82474
combined	51	25.54164	.9989276	7.13377	23.86753	27.21574

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 0.970
F(35,14) lower tail = F_L = F_obs = 0.970
F(35,14) upper tail = F_U = 1/F_obs = 1.031

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.4476 P < F_L + P > F_U = 0.9464 P > F_obs = 0.5524

```
. return list
```

scalars:

r(sd) = 7.133770252591221

```

sdtest_Run4_122006
r(p) = .9464482692280228
r(p_l) = .4475878157098967
r(p_u) = .5524121842901033
r(sd_2) = 6.984893323161297
r(sd_1) = 6.879389034980469
r(F) = .9700188732245162
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
. sdtest pb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	103.9806	26.47358	158.8415	59.25153	148.7096
UNC_S	15	232.5015	24.73585	95.80154	188.934	276.069
combined	51	141.7808	21.57027	154.0425	105.6311	177.9306

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed = F_obs = 2.749
F(35,14) lower tail = F_L = 1/F_obs = 0.364
F(35,14) upper tail = F_U = F_obs = 2.749

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9769     P < F_L + P > F_U = 0.0307   P > F_obs = 0.0231

```

```
. return list
```

scalars:

```

r(sd) = 154.0425432345629
r(p) = .0307367631881634
r(p_l) = .9769119329082794
r(p_u) = .0230880670917206
r(sd_2) = 95.80153830931775
r(sd_1) = 158.841473239832
r(F) = 2.749051320266357
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
. sdtest sb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
UNC_S	15	2.681329	.4222401	1.635329	1.937633	3.425025
combined	51	2.709999	.3382603	2.415662	2.143106	3.276891

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed = F_obs = 2.717
F(35,14) lower tail = F_L = 1/F_obs = 0.368

```

```
sdtest_Run4_122006
F(35,14) upper tail = F_U = F_obs = 2.717
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9757     P < F_L + P > F_U = 0.0326   P > F_obs = 0.0243
```

```
. return list
```

```
scalars:
```

```
r(sd) = 2.415661962398212
r(p) = .0325677222214072
r(p_l) = .9756983625809501
r(p_u) = .0243016374190499
r(sd_2) = 1.635328927075713
r(sd_1) = 2.695570225717761
r(F) = 2.717008914707331
r(df_2) = 14
r(df_1) = 35
r(N) = 51
```

```
. sdtest zn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
UNC_S	15	400.481	38.48909	149.0676	332.6897	468.2722
combined	51	255.7473	23.21836	165.8123	216.8356	294.6591

```
Ho: sd(ADJNEAR) = sd(UNC_S)
```

```
F(35,14) observed = F_obs = 0.795
F(35,14) lower tail = F_L = F_obs = 0.795
F(35,14) upper tail = F_U = 1/F_obs = 1.258
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.2813     P < F_L + P > F_U = 0.6135   P > F_obs = 0.7187
```

```
. return list
```

```
scalars:
```

```
r(sd) = 165.8122632323756
r(p) = .6134761773294233
r(p_l) = .2812999716204248
r(p_u) = .7187000283795753
r(sd_2) = 149.0676208813034
r(sd_1) = 132.928335922908
r(F) = .795185579594286
r(df_2) = 14
r(df_1) = 35
r(N) = 51
```

```
. sdtest ln_ag if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419

```

                                sdtest_Run4_122006
UNC_S |      15      .3610713      .2450597      .9491121      -.0705548      .7926974
-----+-----
combined |      51      -.2917843      .1214513      .8673355      -.4953251      -.0882435
-----+-----

```

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed   = F_obs      =      0.506
F(35,14) lower tail = F_L       = F_obs      =      0.506
F(35,14) upper tail = F_U       = 1/F_obs     =      1.977

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0511     P < F_L + P > F_U = 0.1374     P > F_obs = 0.9489

```

. return list

scalars:

```

r(sd) = .8673354842406555
r(p) = .1373551440606663
r(p_l) = .0510583670413232
r(p_u) = .9489416329586768
r(sd_2) = .9491120904650712
r(sd_1) = .6749595667155161
r(F) = .5057320800314796
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

. sdtest ln_as if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJNEAR |      36      1.951414      .1123799      .6742795      1.76154      2.141288
UNC_S |      15      2.093208      .1654851      .6409209      1.801738      2.384679
-----+-----
combined |      51      1.993118      .0926233      .6614628      1.83789      2.148346
-----+-----

```

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed   = F_obs      =      1.107
F(35,14) lower tail = F_L       = 1/F_obs     =      0.904
F(35,14) upper tail = F_U       = F_obs      =      1.107

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.5629     P < F_L + P > F_U = 0.8229     P > F_obs = 0.4371

```

. return list

scalars:

```

r(sd) = .6614627559476826
r(p) = .8228570677424726
r(p_l) = .5629432680413259
r(p_u) = .4370567319586741
r(sd_2) = .6409208807690817
r(sd_1) = .6742795428965974
r(F) = 1.106805034110291
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

sdtest_Run4_122006

. sdtest ln_cd if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
UNC_S	15	2.454868	.3566298	1.381221	1.826732	3.083004
combined	51	.9629809	.2205761	1.575228	.5933164	1.332645

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 0.750
 F(35,14) lower tail = F_L = F_obs = 0.750
 F(35,14) upper tail = F_U = 1/F_obs = 1.334

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.2378 P < F_L + P > F_U = 0.5258 P > F_obs = 0.7622

. return list

scalars:

r(sd) = 1.575228249131279
 r(p) = .5258396956911454
 r(p_l) = .2377533526395657
 r(p_u) = .7622466473604344
 r(sd_2) = 1.381221309975467
 r(sd_1) = 1.195965820831796
 r(F) = .749740542543763
 r(df_2) = 14
 r(df_1) = 35
 r(N) = 51

. sdtest ln_cr if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304
UNC_S	15	5.473337	.2690908	1.042184	4.999385	5.947289
combined	51	4.434203	.1686484	1.204391	4.151564	4.716842

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 0.904
 F(35,14) lower tail = F_L = F_obs = 0.904
 F(35,14) upper tail = F_U = 1/F_obs = 1.106

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.3865 P < F_L + P > F_U = 0.8243 P > F_obs = 0.6135

. return list

scalars:

r(sd) = 1.204390695300268

```

sdtest_Run4_122006
r(p) = .8243177418133001
r(p_l) = .3865304038489776
r(p_u) = .6134695961510224
r(sd_2) = 1.042184369189185
r(sd_1) = .9910459752230189
r(F) = .9042707719886687
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
. sdtest ln_cu if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168	4.266936
UNC_S	15	4.912339	.2356181	.912545	4.497343	5.327336
combined	51	4.319548	.1184928	.8462078	4.120966	4.518131

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed = F_obs = 0.572
F(35,14) lower tail = F_L = F_obs = 0.572
F(35,14) upper tail = F_U = 1/F_obs = 1.748

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0898     P < F_L + P > F_U = 0.2217   P > F_obs = 0.9102

```

```
. return list
```

scalars:

```

r(sd) = .8462078480839509
r(p) = .2216509692293323
r(p_l) = .0897558864815916
r(p_u) = .9102441135184084
r(sd_2) = .912545005069981
r(sd_1) = .6902956110898095
r(F) = .5722181642418951
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
. sdtest ln_fe if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
UNC_S	15	10.1952	.0588473	.2279146	10.09155	10.29885
combined	51	10.12986	.0272731	.1947692	10.08415	10.17557

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed = F_obs = 0.593
F(35,14) lower tail = F_L = F_obs = 0.593

```

sdtest_Run4_122006
F(35,14) upper tail = F_U = 1/F_obs = 1.685

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.1044 P < F_L + P > F_U = 0.2526 P > F_obs = 0.8956

. return list

scalars:

```
r(sd) = .1947692473820661
r(p) = .2526488923871159
r(p_l) = .1044022371083593
r(p_u) = .8955977628916407
r(sd_2) = .227914627306391
r(sd_1) = .1755640472789583
r(F) = .5933716200882075
r(df_2) = 14
r(df_1) = 35
r(N) = 51
```

. sdtest ln_hg if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
UNC_S	14	.4374954	.3163952	1.183842	-.1228194	.9978102
combined	50	-.7565989	.1850215	1.308299	-1.066797	-.446401

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,13) observed = F_obs = 0.773
F(35,13) lower tail = F_L = F_obs = 0.773
F(35,13) upper tail = F_U = 1/F_obs = 1.293

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.2628 P < F_L + P > F_U = 0.5814 P > F_obs = 0.7372

. return list

scalars:

```
r(sd) = 1.308299307370438
r(p) = .5814022619371662
r(p_l) = .2628431573347086
r(p_u) = .7371568426652914
r(sd_2) = 1.183842390117345
r(sd_1) = 1.040965920690938
r(F) = .773188257789041
r(df_2) = 13
r(df_1) = 35
r(N) = 50
```

. sdtest ln_mn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062

```

                                sdtest_Run4_122006
UNC_S |      15      6.266496      .0845278      .3273746      6.117617      6.415376
-----+-----
combined |      51      6.334456      .0475946      .3398931      6.254692      6.41422
-----+-----

```

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed   = F_obs      =      1.114
F(35,14) lower tail = F_L       = 1/F_obs =      0.898
F(35,14) upper tail = F_U       = F_obs   =      1.114

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.5683     P < F_L + P > F_U = 0.8121     P > F_obs = 0.4317

```

. return list

scalars:

```

r(sd) = .3398931284316092
r(p) = .8121396981300393
r(p_l) = .5683041436442915
r(p_u) = .4316958563557085
r(sd_2) = .3273745845428254
r(sd_1) = .345492808956618
r(F) = 1.11375099319571
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

. sdtest ln_ni if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Variance ratio test

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJNEAR |      36      3.154875      .0422263      .2533578      3.08353      3.226219
UNC_S |      14      3.356214      .0919091      .3438923      3.193449      3.518979
-----+-----
combined |      50      3.21125      .0413678      .2925148      3.141895      3.280605
-----+-----

```

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,13) observed   = F_obs      =      0.543
F(35,13) lower tail = F_L       = F_obs   =      0.543
F(35,13) upper tail = F_U       = 1/F_obs =      1.842

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0749     P < F_L + P > F_U = 0.1940     P > F_obs = 0.9251

```

. return list

scalars:

```

r(sd) = .2925147557869538
r(p) = .1940191165649452
r(p_l) = .0748950020420238
r(p_u) = .9251049979579762
r(sd_2) = .3438923211765457
r(sd_1) = .2533577677483135
r(F) = .5427795678434754
r(df_2) = 13
r(df_1) = 35
r(N) = 50

```


sdtest_Run4_122006

```
. sdtest ln_pb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
UNC_S	15	5.61718	.285321	1.105043	5.114642	6.119719
combined	51	4.55241	.1650328	1.17857	4.27583	4.828989

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 0.661
 F(35,14) lower tail = F_L = F_obs = 0.661
 F(35,14) upper tail = F_U = 1/F_obs = 1.512

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.1578 P < F_L + P > F_U = 0.3634 P > F_obs = 0.8422

```
. return list
```

scalars:

r(sd) = 1.178570211708166
 r(p) = .3634466393030544
 r(p_l) = .1578119315694041
 r(p_u) = .8421880684305959
 r(sd_2) = 1.105043349917252
 r(sd_1) = .898630566713301
 r(F) = .6613079492177071
 r(df_2) = 14
 r(df_1) = 35
 r(N) = 51

```
. sdtest ln_sb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
UNC_S	15	.5847946	.3843439	1.488557	-.0921542	1.261743
combined	51	.3408237	.1973052	1.409041	.0101589	.6714884

Ho: sd(ADJNEAR) = sd(UNC_S)

F(35,14) observed = F_obs = 0.864
 F(35,14) lower tail = F_L = F_obs = 0.864
 F(35,14) upper tail = F_U = 1/F_obs = 1.158

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.3477 P < F_L + P > F_U = 0.7466 P > F_obs = 0.6523

```
. return list
```

scalars:

r(sd) = 1.409040880628396

```

sdtest_Run4_122006
r(p) = .7465843953744388
r(p_l) = .3476907234959019
r(p_u) = .6523092765040981
r(sd_2) = 1.488557460676137
r(sd_1) = 1.383409096107487
r(F) = .8637141732437058
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
. sdtest ln_zn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
UNC_S	15	6.002794	.172063	.6663972	5.699737	6.30585
combined	51	5.389901	.093977	.6711298	5.232404	5.547397

Ho: sd(ADJNEAR) = sd(UNC_S)

```

F(35,14) observed = F_obs = 0.535
F(35,14) lower tail = F_L = F_obs = 0.535
F(35,14) upper tail = F_U = 1/F_obs = 1.868

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0669     P < F_L + P > F_U = 0.1723   P > F_obs = 0.9331

```

```
. return list
```

scalars:

```

r(sd) = .6711298204586308
r(p) = .1723420430513285
r(p_l) = .0668712858378197
r(p_u) = .9331287141621804
r(sd_2) = .6663971947594712
r(sd_1) = .4875964931566519
r(F) = .5353709801581875
r(df_2) = 14
r(df_1) = 35
r(N) = 51

```

```
.
```

```
. sdtest ag if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	.7823333	.1543102	.5976408	.5105452	1.054121
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	43	.6253259	.0654261	.4290276	.5152823	.7353695

Ho: sd(UNC) = sd(UP_SSD)

```

sdtest_Run4_122006
F(14,27) observed = F_obs = 4.460
F(14,27) lower tail = F_L = 1/F_obs = 0.224
F(14,27) upper tail = F_U = F_obs = 4.460

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9996     P < F_L + P > F_U = 0.0030   P > F_obs = 0.0004

```

```
. return list
```

```
scalars:
```

```

r(sd) = .4290275617635434
r(p) = .0029884127423415
r(p_l) = .9995682412404483
r(p_u) = .0004317587595516
r(sd_2) = .283000505442838
r(sd_1) = .5976408066610546
r(F) = 4.459704303340623
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest as if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.283333	1.103842	4.275164	3.339124	7.227542
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	43	4.76933	.4304438	2.822608	4.045344	5.493316

```
Ho: sd(UNC) = sd(UP_SSD)
```

```

F(14,27) observed = F_obs = 6.792
F(14,27) lower tail = F_L = 1/F_obs = 0.147
F(14,27) upper tail = F_U = F_obs = 6.792

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000     P < F_L + P > F_U = 0.0003   P > F_obs = 0.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 2.822608497364344
r(p) = .0002671853498702
r(p_l) = .999988338116066
r(p_u) = .0000116618839339
r(sd_2) = 1.640400125694598
r(sd_1) = 4.275163592900167
r(F) = 6.792128415343348
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest cd if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	

sdtest_Run4_122006						
UNC	15	5.806667	1.435509	5.559704	3.278289	8.335044
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	43	2.776093	.6003588	3.936816	1.766318	3.785868

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 125.979
F(14,27) lower tail = F_L = 1/F_obs = 0.008
F(14,27) upper tail = F_U = F_obs = 125.979

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 3.936815802417771
r(p) = 1.16573418349e-12
r(p_l) = 1
r(p_u) = 7.63563428840e-21
r(sd_2) = .4953390619288118
r(sd_1) = 5.559704163073937
r(F) = 125.979015842289
r(df_2) = 27
r(df_1) = 14
r(N) = 43

. sdtest cr if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	127.1333	25.47328	98.65758	82.26699	171.9997
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	43	63.79683	11.31952	74.22708	44.75793	82.83573

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 96.221
F(14,27) lower tail = F_L = 1/F_obs = 0.010
F(14,27) upper tail = F_U = F_obs = 96.221

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 74.22708478090803
r(p) = 7.51532196387e-12
r(p_l) = 1
r(p_u) = 2.65575617744e-19
r(sd_2) = 10.05763126459797
r(sd_1) = 98.65758017936282
r(F) = 96.22091877683002
r(df_2) = 27

sdtest_Run4_122006

r(df_1) = 14
r(N) = 43

. sdtest cu if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	76.76667	15.78356	61.12946	48.96693	104.5664
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	43	48.59899	6.40566	42.00472	37.82498	59.37301

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 28.725
F(14,27) lower tail = F_L = 1/F_obs = 0.035
F(14,27) upper tail = F_U = F_obs = 28.725

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 42.00472389664635
r(p) = 2.84249246066e-08
r(p_l) = .9999999999986258
r(p_u) = 1.37420440494e-12
r(sd_2) = 11.40559397073612
r(sd_1) = 61.12946069077145
r(F) = 28.72534904343067
r(df_2) = 27
r(df_1) = 14
r(N) = 43

. sdtest fe if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	21846.67	1324.562	5130.005	19513.7	24179.63
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	43	24463.03	829.3259	5438.254	23068.14	25857.91

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 0.992
F(14,27) lower tail = F_L = F_obs = 0.992
F(14,27) upper tail = F_U = 1/F_obs = 1.008

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.5133 P < F_L + P > F_U = 0.9871 P > F_obs = 0.4867

. return list

sdtest_Run4_122006

scalars:

```

r(sd) = 5438.253919734551
r(p) = .9870903617305356
r(p_l) = .5133186829438413
r(p_u) = .4866813170561587
r(sd_2) = 5149.645675906717
r(sd_1) = 5130.005105353442
r(F) = .9923866154844427
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

. sdtest hg if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	14	.8039286	.2184235	.817266	.417115	1.190742
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	42	.3644855	.0863875	.5598551	.2191058	.5098651

Ho: sd(UNC) = sd(UP_SSD)

```

F(13,27) observed = F_obs = 160.125
F(13,27) lower tail = F_L = 1/F_obs = 0.006
F(13,27) upper tail = F_U = F_obs = 160.125

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000     P < F_L + P > F_U = 0.0000     P > F_obs = 0.0000

```

. return list

scalars:

```

r(sd) = .5598551379806471
r(p) = 1.46227474622e-12
r(p_l) = 1
r(p_u) = 4.82149895456e-22
r(sd_2) = .0645853196035577
r(sd_1) = .8172660457424509
r(F) = 160.1250528036585
r(df_2) = 27
r(df_1) = 13
r(N) = 42

```

. sdtest mn if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	398.5	32.72901	126.7589	340.8541	456.1459
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	43	599.7379	38.80563	254.4655	534.4687	665.0071

Ho: sd(UNC) = sd(UP_SSD)

```

sdtest_Run4_122006
F(14,27) observed = F_obs = 0.278
F(14,27) lower tail = F_L = F_obs = 0.278
F(14,27) upper tail = F_U = 1/F_obs = 3.600

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0074      P < F_L + P > F_U = 0.0095      P > F_obs = 0.9926

```

```
. return list
```

```
scalars:
```

```

r(sd) = 254.4655090340603
r(p) = .0095464403652832
r(p_l) = .0074480759142797
r(p_u) = .9925519240857204
r(sd_2) = 240.5082073183621
r(sd_1) = 126.7589106476205
r(F) = .2777775825952557
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest ni if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	21.66333	1.803492	6.984893	18.48683	24.83984
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	43	22.26561	.9156627	6.004402	20.72551	23.80571

```
Ho: sd(UNC) = sd(UP_SSD)
```

```

F(14,27) observed = F_obs = 1.601
F(14,27) lower tail = F_L = 1/F_obs = 0.625
F(14,27) upper tail = F_U = F_obs = 1.601

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.8572      P < F_L + P > F_U = 0.3215      P > F_obs = 0.1428

```

```
. return list
```

```
scalars:
```

```

r(sd) = 6.0044018273675
r(p) = .3214839949094679
r(p_l) = .8572416339519611
r(p_u) = .142758366048039
r(sd_2) = 5.520403568185079
r(sd_1) = 6.984893309247848
r(F) = 1.600950477107712
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest pb if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	

sdtest_Run4_122006						
UNC	15	136.7	24.73585	95.80154	93.1325	180.2675
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	43	92.98176	10.76633	70.59955	74.87331	111.0902

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 6.730
 F(14,27) lower tail = F_L = 1/F_obs = 0.149
 F(14,27) upper tail = F_U = F_obs = 6.730

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 1.0000 P < F_L + P > F_U = 0.0003 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 70.59954587236985
 r(p) = .0002820979236788
 r(p_l) = .9999872956374075
 r(p_u) = .0000127043625925
 r(sd_2) = 36.92913331063091
 r(sd_1) = 95.80153569464791
 r(F) = 6.72987055754484
 r(df_2) = 27
 r(df_1) = 14
 r(N) = 43

. sdtest sb if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.046	.4222401	1.635329	.3023042	1.789696
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	43	2.869549	.3757247	2.463791	2.237598	3.5015

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 0.512
 F(14,27) lower tail = F_L = F_obs = 0.512
 F(14,27) upper tail = F_U = 1/F_obs = 1.951

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0952 P < F_L + P > F_U = 0.1613 P > F_obs = 0.9048

. return list

scalars:

r(sd) = 2.463791379745601
 r(p) = .1612855354643887
 r(p_l) = .0951717341755244
 r(p_u) = .9048282658244756
 r(sd_2) = 2.28448603590679
 r(sd_1) = 1.635328980080292
 r(F) = .5124284699220268
 r(df_2) = 27

sdtest_Run4_122006

r(df_1) = 14
r(N) = 43

. sdtest zn if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	251.4133	38.48909	149.0676	183.6221	319.2046
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	43	171.037	16.54629	108.5013	143.2069	198.867

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 17.375
F(14,27) lower tail = F_L = 1/F_obs = 0.058
F(14,27) upper tail = F_U = F_obs = 17.375

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 1.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 0.0000

. return list

scalars:

r(sd) = 108.5012927808462
r(p) = 7.81757583576e-07
r(p_l) = .9999999994342185
r(p_u) = 5.65781551869e-10
r(sd_2) = 35.76211410638251
r(sd_1) = 149.067616096243
r(F) = 17.37481717162359
r(df_2) = 27
r(df_1) = 14
r(N) = 43

. sdtest ln_ag if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	-.5880407	.2450597	.9491121	-1.019667	-.1564146
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	43	-.6685164	.1931844	1.266795	-.9934433	-.3435895

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 0.445
F(14,27) lower tail = F_L = F_obs = 0.445
F(14,27) upper tail = F_U = 1/F_obs = 2.247

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0572 P < F_L + P > F_U = 0.0917 P > F_obs = 0.9428

. return list

sdtest_Run4_122006

scalars:

```

r(sd) = 1.266794637090629
r(p) = .0917105456373831
r(p_l) = .0571684806746694
r(p_u) = .9428315193253306
r(sd_2) = 1.422565543721684
r(sd_1) = .9491120952241725
r(F) = .4451336695760987
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

. sdtest ln_as if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.452287	.1654851	.6409209	1.160817	1.743758
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	43	1.447834	.0865965	.5678515	1.302182	1.593485

Ho: sd(UNC) = sd(UP_SSD)

```

F(14,27) observed = F_obs = 1.423
F(14,27) lower tail = F_L = 1/F_obs = 0.703
F(14,27) upper tail = F_U = F_obs = 1.423

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.7911     P < F_L + P > F_U = 0.4560   P > F_obs = 0.2089

```

. return list

scalars:

```

r(sd) = .5678515205422409
r(p) = .4559811142749022
r(p_l) = .7911255762599621
r(p_u) = .208874423740038
r(sd_2) = .5371996428689455
r(sd_1) = .6409209043077792
r(F) = 1.423434353609564
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

. sdtest ln_cd if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.073647	.3566298	1.381221	.4455109	1.701782
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	43	.338761	.1607493	1.054103	.0683884	.6091336

Ho: sd(UNC) = sd(UP_SSD)

```

sdtest_Run4_122006
F(14,27) observed = F_obs = 6.851
F(14,27) lower tail = F_L = 1/F_obs = 0.146
F(14,27) upper tail = F_U = F_obs = 6.851

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 1.0000     P < F_L + P > F_U = 0.0003   P > F_obs = 0.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 1.054103380816799
r(p) = .0002538378330612
r(p_l) = .9999892449727807
r(p_u) = .0000107550272192
r(sd_2) = .5276860203161229
r(sd_1) = 1.381221316292974
r(F) = 6.851337580664494
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest ln_cr if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	4.431153	.2690909	1.042184	3.9572	4.905105
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	43	3.738227	.1349853	.8851576	3.511188	3.965266

```
Ho: sd(UNC) = sd(UP_SSD)
```

```

F(14,27) observed = F_obs = 4.416
F(14,27) lower tail = F_L = 1/F_obs = 0.226
F(14,27) upper tail = F_U = F_obs = 4.416

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9995     P < F_L + P > F_U = 0.0032   P > F_obs = 0.0005

```

```
. return list
```

```
scalars:
```

```

r(sd) = .8851575536145355
r(p) = .0031555620571167
r(p_l) = .9995339529972313
r(p_u) = .0004660470027687
r(sd_2) = .4959313052537723
r(sd_1) = 1.042184421742198
r(F) = 4.416173293780984
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest ln_cu if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	

sdtest_Run4_122006						
UNC	15	3.999794	.2356181	.912545	3.584798	4.414791
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	43	3.6892	.1120639	.7348521	3.500714	3.877686

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 2.555
F(14,27) lower tail = F_L = 1/F_obs = 0.391
F(14,27) upper tail = F_U = F_obs = 2.555

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9823 P < F_L + P > F_U = 0.0521 P > F_obs = 0.0177

. return list

scalars:

r(sd) = .7348520515623332
r(p) = .052093277046386
r(p_l) = .982305318550701
r(p_u) = .017694681449299
r(sd_2) = .5708913604705675
r(sd_1) = .9125450391285399
r(F) = 2.555063368254584
r(df_2) = 27
r(df_1) = 14
r(N) = 43

. sdtest ln_fe if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	9.967287	.0588473	.2279148	9.863639	10.07094
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	43	10.09689	.0402322	.2638201	10.02922	10.16456

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 0.775
F(14,27) lower tail = F_L = F_obs = 0.775
F(14,27) upper tail = F_U = 1/F_obs = 1.290

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.3148 P < F_L + P > F_U = 0.5905 P > F_obs = 0.6852

. return list

scalars:

r(sd) = .2638200907230567
r(p) = .5904648288158891
r(p_l) = .3148109910749715
r(p_u) = .6851890089250285
r(sd_2) = .2588487556964191
r(sd_1) = .2279147969244602
r(F) = .7752698243598881
r(df_2) = 27

sdtest_Run4_122006

r(df_1) = 14
r(N) = 43

. sdtest ln_hg if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	14	-.746347	.3163952	1.183842	-1.306662	-.1860322
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	42	-1.570204	.1749288	1.133668	-1.864588	-1.27582

Ho: sd(UNC) = sd(UP_SSD)

F(13,27) observed = F_obs = 1.871
F(13,27) lower tail = F_L = 1/F_obs = 0.534
F(13,27) upper tail = F_U = F_obs = 1.871

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9177 P < F_L + P > F_U = 0.2001 P > F_obs = 0.0823

. return list

scalars:

r(sd) = 1.133668031462022
r(p) = .2000708516107684
r(p_l) = .9177388883007899
r(p_u) = .0822611116992101
r(sd_2) = .8653945974159339
r(sd_1) = 1.183842388598777
r(F) = 1.871368923862203
r(df_2) = 27
r(df_1) = 13
r(N) = 42

. sdtest ln_mn if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.939122	.0845277	.3273746	5.790242	6.088001
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	43	6.328249	.0822704	.5394834	6.189874	6.466624

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 0.400
F(14,27) lower tail = F_L = F_obs = 0.400
F(14,27) upper tail = F_U = 1/F_obs = 2.500

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0376 P < F_L + P > F_U = 0.0575 P > F_obs = 0.9624

. return list

sdtest_Run4_122006

scalars:

```

r(sd) = .5394833717734814
r(p) = .0574700926413824
r(p_l) = .0375680608642287
r(p_u) = .9624319391357713
r(sd_2) = .5176612990743834
r(sd_1) = .327374560683609
r(F) = .3999433329907608
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

. sdtest ln_ni if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	3.025496	.0855654	.3313933	2.874789	3.176204
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	43	3.095215	.0524101	.3436757	3.007064	3.183366

Ho: sd(UNC) = sd(UP_SSD)

```

F(14,27) observed = F_obs = 0.895
F(14,27) lower tail = F_L = F_obs = 0.895
F(14,27) upper tail = F_U = 1/F_obs = 1.117

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.4274     P < F_L + P > F_U = 0.8152   P > F_obs = 0.5726

```

. return list

scalars:

```

r(sd) = .3436757181114249
r(p) = .8152443890395387
r(p_l) = .4273882038478332
r(p_u) = .5726117961521668
r(sd_2) = .3501996737117437
r(sd_1) = .3313932789957432
r(F) = .8954800569990639
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

. sdtest ln_pb if area=="UP_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	4.512137	.285321	1.105043	4.009598	5.014676
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	43	4.123168	.1409879	.9245194	3.886033	4.360303

Ho: sd(UNC) = sd(UP_SSD)

```

sdtest_Run4_122006
F(14,27) observed = F_obs = 2.152
F(14,27) lower tail = F_L = 1/F_obs = 0.465
F(14,27) upper tail = F_U = F_obs = 2.152

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.9575     P < F_L + P > F_U = 0.1096   P > F_obs = 0.0425

```

```
. return list
```

```
scalars:
```

```

r(sd) = .9245193919503948
r(p) = .1095630583325541
r(p_l) = .9575365415083302
r(p_u) = .0424634584916698
r(sd_2) = .7532151173757485
r(sd_1) = 1.105043294128813
r(F) = 2.152387845982312
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest ln_sb if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	-.9037629	.3843439	1.488557	-1.580712	-.2268142
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	43	.2630349	.2772524	1.818066	-.2032904	.7293603

```
Ho: sd(UNC) = sd(UP_SSD)
```

```

F(14,27) observed = F_obs = 0.783
F(14,27) lower tail = F_L = F_obs = 0.783
F(14,27) upper tail = F_U = 1/F_obs = 1.278

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.3218     P < F_L + P > F_U = 0.6043   P > F_obs = 0.6782

```

```
. return list
```

```
scalars:
```

```

r(sd) = 1.818065652658619
r(p) = .6042986222519318
r(p_l) = .3217540260019015
r(p_u) = .6782459739980985
r(sd_2) = 1.68262105380143
r(sd_1) = 1.488557491400668
r(F) = .7826337782617774
r(df_2) = 27
r(df_1) = 14
r(N) = 43

```

```
. sdtest ln_zn if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Variance ratio test
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	

sdtest_Run4_122006						
UNC	15	5.336396	.172063	.6663971	5.03334	5.639453
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	43	5.026057	.085021	.5575199	4.883056	5.169058

Ho: sd(UNC) = sd(UP_SSD)

F(14,27) observed = F_obs = 2.596
 F(14,27) lower tail = F_L = 1/F_obs = 0.385
 F(14,27) upper tail = F_U = F_obs = 2.596

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.9838 P < F_L + P > F_U = 0.0484 P > F_obs = 0.0162

. return list

scalars:

r(sd) = .5575198849609063
 r(p) = .0484435061584065
 r(p_l) = .9837848197230497
 r(p_u) = .0162151802769503
 r(sd_2) = .4136119464945405
 r(sd_1) = .6663971412230149
 r(F) = 2.595853042468824
 r(df_2) = 27
 r(df_1) = 14
 r(N) = 43

. sdtest ag if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.2131037	.0333736	.1454721	.1552318	.2709756
UNC	15	.7823333	.1543102	.5976408	.5105452	1.054121
combined	34	.4642344	.0849527	.4953552	.3204638	.608005

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.059
 F(18,14) lower tail = F_L = F_obs = 0.059
 F(18,14) upper tail = F_U = 1/F_obs = 16.878

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = .4953551513688335
 r(p) = 1.66435147141e-06
 r(p_l) = 1.50537116217e-07
 r(p_u) = .9999998494628838
 r(sd_2) = .5976408066610546
 r(sd_1) = .1454721127310928
 r(F) = .0592487245887995

sdtest_Run4_122006

r(df_2) = 14
r(df_1) = 18
r(N) = 34

. sdtest as if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	16.11905	2.347764	9.960721	12.03487	20.20324
UNC	15	5.283333	1.103842	4.275164	3.339124	7.227542
combined	33	11.19373	1.658084	9.524968	8.385117	14.00234

Ho: sd(ADJFAR_S) = sd(UNC)

F(17,14) observed = F_obs = 5.428
F(17,14) lower tail = F_L = 1/F_obs = 0.184
F(17,14) upper tail = F_U = F_obs = 5.428

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.9987 P < F_L + P > F_U = 0.0020 P > F_obs = 0.0013

. return list

scalars:

r(sd) = 9.524967540180917
r(p) = .0020254288015402
r(p_l) = .998691018714612
r(p_u) = .0013089812853881
r(sd_2) = 4.275163592900167
r(sd_1) = 9.960720878951873
r(F) = 5.428452783499881
r(df_2) = 14
r(df_1) = 17
r(N) = 33

. sdtest cd if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.594173	.0149638	.0652257	.5682249	.6201212
UNC	15	5.806667	1.435509	5.559704	3.278289	8.335044
combined	34	2.893803	.7672962	4.474067	1.595261	4.192344

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.000
F(18,14) lower tail = F_L = F_obs = 0.000
F(18,14) upper tail = F_U = 1/F_obs = 7265.516

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

sdtest_Run4_122006

scalars:

```

r(sd) = 4.474067398126661
r(p) = 1.03519215325e-24
r(p_l) = 0
r(p_u) = 1
r(sd_2) = 5.559704163073937
r(sd_1) = .0652256531109017
r(F) = .0001376364640574
r(df_2) = 14
r(df_1) = 18
r(N) = 34

```

. sdtest cr if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.42642	.6550671	2.855371	11.2905	13.56235
UNC	15	127.1333	25.47328	98.65758	82.26699	171.9997
combined	34	63.03241	14.82836	86.46342	37.93749	88.12733

Ho: sd(ADJFAR_S) = sd(UNC)

```

F(18,14) observed = F_obs = 0.001
F(18,14) lower tail = F_L = F_obs = 0.001
F(18,14) upper tail = F_U = 1/F_obs = 1193.812

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000      P < F_L + P > F_U = 0.0000      P > F_obs = 1.0000

```

. return list

scalars:

```

r(sd) = 86.46342487347418
r(p) = 3.17707075884e-19
r(p_l) = 0
r(p_u) = 1
r(sd_2) = 98.65758017936282
r(sd_1) = 2.855371114443928
r(F) = .0008376531101672
r(df_2) = 14
r(df_1) = 18
r(N) = 34

```

. sdtest cu if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.9341	.778177	3.391995	11.58469	14.28351
UNC	15	76.76667	15.78356	61.12946	48.96693	104.5664
combined	34	41.09553	8.789333	51.25018	26.22081	55.97024

Ho: sd(ADJFAR_S) = sd(UNC)

sdtest_Run4_122006

```
F(18,14) observed = F_obs = 0.003
F(18,14) lower tail = F_L = F_obs = 0.003
F(18,14) upper tail = F_U = 1/F_obs = 324.781
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000     P < F_L + P > F_U = 0.0000   P > F_obs = 1.0000
```

. return list

scalars:

```
r(sd) = 51.25017708469895
r(p) = 2.81100029675e-15
r(p_l) = 0
r(p_u) = 1
r(sd_2) = 61.12946069077145
r(sd_1) = 3.391994924514598
r(F) = .0030789969516028
r(df_2) = 14
r(df_1) = 18
r(N) = 34
```

. sdtest fe if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	23147.03	1408.414	6139.134	20704.75	25589.31
UNC	15	21846.67	1324.562	5130.005	19513.7	24179.63
combined	34	22573.34	972.4423	5670.265	20927.62	24219.06

Ho: sd(ADJFAR_S) = sd(UNC)

```
F(18,14) observed = F_obs = 1.432
F(18,14) lower tail = F_L = 1/F_obs = 0.698
F(18,14) upper tail = F_U = F_obs = 1.432
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.7497     P < F_L + P > F_U = 0.4842   P > F_obs = 0.2503
```

. return list

scalars:

```
r(sd) = 5670.264522194141
r(p) = .4842139398258031
r(p_l) = .7496669438699116
r(p_u) = .2503330561300884
r(sd_2) = 5130.005105353442
r(sd_1) = 6139.133651282084
r(F) = 1.432117269611451
r(df_2) = 14
r(df_1) = 18
r(N) = 34
```

. sdtest hg if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

sdtest_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.6782663	.1219171	.5314242	.4668543	.8896783
UNC	14	.8039286	.2184235	.817266	.417115	1.190742
combined	33	.7315776	.1147036	.6589221	.5372824	.9258727

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,13) observed = F_obs = 0.423
 F(18,13) lower tail = F_L = F_obs = 0.423
 F(18,13) upper tail = F_U = 1/F_obs = 2.365

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0459 P < F_L + P > F_U = 0.1054 P > F_obs = 0.9541

. return list

scalars:

r(sd) = .6589220556597805
 r(p) = .1053629992854343
 r(p_l) = .0458603018571336
 r(p_u) = .9541396981428664
 r(sd_2) = .8172660457424509
 r(sd_1) = .5314242125132804
 r(F) = .4228202349954226
 r(df_2) = 13
 r(df_1) = 18
 r(N) = 33

. sdtest mn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	365.0314	19.63434	85.58409	330.9843	399.0786
UNC	15	398.5	32.72901	126.7589	340.8541	456.1459
combined	34	379.797	18.0656	105.3396	349.2235	410.3705

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.456
 F(18,14) lower tail = F_L = F_obs = 0.456
 F(18,14) upper tail = F_U = 1/F_obs = 2.194

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0592 P < F_L + P > F_U = 0.1298 P > F_obs = 0.9408

. return list

scalars:

r(sd) = 105.3396232833708
 r(p) = .1298049194001947
 r(p_l) = .059215119594671
 r(p_u) = .940784880405329
 r(sd_2) = 126.7589106476205
 r(sd_1) = 85.58408889042127
 r(F) = .4558574604382289

sdtest_Run4_122006

r(df_2) = 14
r(df_1) = 18
r(N) = 34

. sdtest ni if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.95485	.520316	2.268005	12.05259	13.85711
UNC	15	21.66333	1.803492	6.984893	18.48683	24.83984
combined	34	16.79683	1.121548	6.539693	14.89876	18.69489

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.105
F(18,14) lower tail = F_L = F_obs = 0.105
F(18,14) upper tail = F_U = 1/F_obs = 9.485

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0000 P < F_L + P > F_U = 0.0001 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 6.53969274084826
r(p) = .0000659806308421
r(p_l) = .0000124842519118
r(p_u) = .9999875157480882
r(sd_2) = 6.984893309247848
r(sd_1) = 2.26800474325925
r(F) = .1054310091003309
r(df_2) = 14
r(df_1) = 18
r(N) = 34

. sdtest pb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	22.34459	1.808123	7.881427	19.20918	25.47999
UNC	15	136.7	24.73585	95.80154	93.1325	180.2675
combined	34	72.7955	14.60186	85.14276	48.08389	97.50712

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.007
F(18,14) lower tail = F_L = F_obs = 0.007
F(18,14) upper tail = F_U = 1/F_obs = 147.753

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

sdtest_Run4_122006

scalars:

```

r(sd) = 85.14276091720146
r(p) = 6.70917972135e-13
r(p_l) = 1.22124532709e-15
r(p_u) = .999999999999998
r(sd_2) = 95.80153569464791
r(sd_1) = 7.881427399939791
r(F) = .0067680696141802
r(df_2) = 14
r(df_1) = 18
r(N) = 34

```

. sdtest sb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	1.067386	.1859515	.8105438	.7449341	1.389838
UNC	15	1.046	.4222401	1.635329	.3023042	1.789696
combined	34	1.057951	.2095528	1.221893	.703312	1.41259

Ho: sd(ADJFAR_S) = sd(UNC)

```

F(18,14) observed = F_obs = 0.246
F(18,14) lower tail = F_L = F_obs = 0.246
F(18,14) upper tail = F_U = 1/F_obs = 4.071

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0031     P < F_L + P > F_U = 0.0084   P > F_obs = 0.9969

```

. return list

scalars:

```

r(sd) = 1.221892566224819
r(p) = .0084239242269882
r(p_l) = .0031114311970948
r(p_u) = .9968885688029052
r(sd_2) = 1.635328980080292
r(sd_1) = .8105437717069745
r(F) = .2456646566823104
r(df_2) = 14
r(df_1) = 18
r(N) = 34

```

. sdtest zn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	71.31882	3.226401	14.06355	65.72403	76.9136
UNC	15	251.4133	38.48909	149.0676	183.6221	319.2046
combined	34	150.7723	22.86381	133.3178	112.0785	189.4661

Ho: sd(ADJFAR_S) = sd(UNC)

sdtest_Run4_122006

```
F(18,14) observed = F_obs = 0.009
F(18,14) lower tail = F_L = F_obs = 0.009
F(18,14) upper tail = F_U = 1/F_obs = 112.351
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000     P < F_L + P > F_U = 0.0000   P > F_obs = 1.0000
```

. return list

scalars:

```
r(sd) = 133.3177776388664
r(p) = 4.46649949990e-12
r(p_l) = 1.43218770177e-14
r(p_u) = .999999999999857
r(sd_2) = 149.067616096243
r(sd_1) = 14.06355483840419
r(F) = .0089006886497432
r(df_2) = 14
r(df_1) = 18
r(N) = 34
```

. sdtest ln_ag if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	-2.450115	.2832921	1.201907	-2.942932	-1.957298
UNC	15	-.5880407	.2450597	.9491121	-1.019667	-.1564146
combined	33	-1.603718	.2491239	1.431108	-2.025706	-1.18173

Ho: sd(ADJFAR_S) = sd(UNC)

```
F(17,14) observed = F_obs = 1.604
F(17,14) lower tail = F_L = 1/F_obs = 0.624
F(17,14) upper tail = F_U = F_obs = 1.604
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.8114     P < F_L + P > F_U = 0.3648   P > F_obs = 0.1886
```

. return list

scalars:

```
r(sd) = 1.431107958746211
r(p) = .3648352476668861
r(p_l) = .811397734871748
r(p_u) = .188602265128252
r(sd_2) = .9491120952241725
r(sd_1) = 1.20190668914736
r(F) = 1.603638552881361
r(df_2) = 14
r(df_1) = 17
r(N) = 33
```

. sdtest ln_as if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

sdtest_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	2.154798	.2791581	1.184367	1.669172	2.640423
UNC	15	1.452287	.1654851	.6409209	1.160817	1.743758
combined	33	1.835475	.1784698	1.025231	1.533167	2.137783

Ho: sd(ADJFAR_S) = sd(UNC)

F(17,14) observed = F_obs = 3.415
 F(17,14) lower tail = F_L = 1/F_obs = 0.293
 F(17,14) upper tail = F_U = F_obs = 3.415

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.9876 P < F_L + P > F_U = 0.0216 P > F_obs = 0.0124

. return list

scalars:

r(sd) = 1.025231059666318
 r(p) = .0215931133367034
 r(p_l) = .9875515064136573
 r(p_u) = .0124484935863427
 r(sd_2) = .6409209043077792
 r(sd_1) = 1.184367421099401
 r(F) = 3.414790240585343
 r(df_2) = 14
 r(df_1) = 17
 r(N) = 33

. sdtest ln_cd if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-.4969592	.0342148	.149139	-.5562899	-.4376285
UNC	15	1.073647	.3566298	1.381221	.4455109	1.701782
combined	34	.1959551	.2063752	1.203364	-.153306	.5452163

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.012
 F(18,14) lower tail = F_L = F_obs = 0.012
 F(18,14) upper tail = F_U = 1/F_obs = 85.772

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0000 P < F_L + P > F_U = 0.0000 P > F_obs = 1.0000

. return list

scalars:

r(sd) = 1.203363792995896
 r(p) = 2.87481534353e-11
 r(p_l) = 1.54432022725e-13
 r(p_u) = .9999999999998456
 r(sd_2) = 1.381221316292974
 r(sd_1) = .1491390110301696
 r(F) = .0116588569424443

sdtest_Run4_122006

```
r(df_2) = 14
r(df_1) = 18
r(N) = 34
```

```
. sdtest ln_cr if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.507064	.066123	.2882237	2.392403	2.621726
UNC	15	4.431153	.2690909	1.042184	3.9572	4.905105
combined	34	3.355927	.2062608	1.202697	3.006859	3.704994

Ho: sd(ADJFAR_S) = sd(UNC)

```
F(18,14) observed = F_obs = 0.076
F(18,14) lower tail = F_L = F_obs = 0.076
F(18,14) upper tail = F_U = 1/F_obs = 13.075
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0000     P < F_L + P > F_U = 0.0000     P > F_obs = 1.0000
```

```
. return list
```

scalars:

```
r(sd) = 1.20269675070648
r(p) = 8.69347566974e-06
r(p_l) = 1.11896739319e-06
r(p_u) = .9999988810326068
r(sd_2) = 1.042184421742198
r(sd_1) = .2882236642825249
r(F) = .0764839160370752
r(df_2) = 14
r(df_1) = 18
r(N) = 34
```

```
. sdtest ln_cu if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.577846	.0892394	.3889854	2.423099	2.732592
UNC	15	3.999794	.2356181	.912545	3.584798	4.414791
combined	34	3.205176	.1671042	.9743763	2.922375	3.487976

Ho: sd(ADJFAR_S) = sd(UNC)

```
F(18,14) observed = F_obs = 0.182
F(18,14) lower tail = F_L = F_obs = 0.182
F(18,14) upper tail = F_U = 1/F_obs = 5.504
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.0005     P < F_L + P > F_U = 0.0017     P > F_obs = 0.9995
```

```
. return list
```

sdtest_Run4_122006

scalars:

```

r(sd) = .9743763083078467
r(p) = .0016697556534618
r(p_l) = .0005143860552124
r(p_u) = .9994856139447876
r(sd_2) = .9125450391285399
r(sd_1) = .388985427887002
r(F) = .1817013053645256
r(df_2) = 14
r(df_1) = 18
r(N) = 34

```

. sdtest ln_fe if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	9.986097	.0665427	.2900528	9.870708	10.10149
UNC	15	9.967287	.0588473	.2279148	9.863639	10.07094
combined	34	9.977799	.0447268	.2608	9.902105	10.05349

Ho: sd(ADJFAR_S) = sd(UNC)

```

F(18,14) observed = F_obs = 1.620
F(18,14) lower tail = F_L = 1/F_obs = 0.617
F(18,14) upper tail = F_U = F_obs = 1.620

```

```

Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.8178     P < F_L + P > F_U = 0.3487     P > F_obs = 0.1822

```

. return list

scalars:

```

r(sd) = .2608000336253992
r(p) = .3486693509717658
r(p_l) = .8178484951785581
r(p_u) = .182151504821442
r(sd_2) = .2279147969244602
r(sd_1) = .2900528347234936
r(F) = 1.619605283427644
r(df_2) = 14
r(df_1) = 18
r(N) = 34

```

. sdtest ln_hg if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-2.392305	.2929487	1.276934	-2.900297	-1.884314
UNC	14	-.746347	.3163952	1.183842	-1.306662	-.1860322
combined	33	-1.69402	.2563714	1.472742	-2.128285	-1.259755

Ho: sd(ADJFAR_S) = sd(UNC)

sdtest_Run4_122006

```
F(18,13) observed = F_obs = 1.163
F(18,13) lower tail = F_L = 1/F_obs = 0.860
F(18,13) upper tail = F_U = F_obs = 1.163
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.6026     P < F_L + P > F_U = 0.7725   P > F_obs = 0.3974
```

. return list

scalars:

```
r(sd) = 1.472741702225262
r(p) = .7724974655886647
r(p_l) = .6026227589496158
r(p_u) = .3973772410503841
r(sd_2) = 1.183842388598777
r(sd_1) = 1.276933774109744
r(F) = 1.163453352583687
r(df_2) = 13
r(df_1) = 18
r(N) = 33
```

. sdtest ln_mn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	5.906737	.0734888	.3203301	5.779303	6.034171
UNC	15	5.939122	.0845277	.3273746	5.790242	6.088001
combined	34	5.921024	.0546927	.3189107	5.828465	6.013584

Ho: sd(ADJFAR_S) = sd(UNC)

```
F(18,14) observed = F_obs = 0.957
F(18,14) lower tail = F_L = F_obs = 0.957
F(18,14) upper tail = F_U = 1/F_obs = 1.044
```

```
Ha: sd(1) < sd(2)      Ha: sd(1) != sd(2)      Ha: sd(1) > sd(2)
P < F_obs = 0.4577     P < F_L + P > F_U = 0.9323   P > F_obs = 0.5423
```

. return list

scalars:

```
r(sd) = .3189107243424801
r(p) = .9322931851838759
r(p_l) = .4576974020910751
r(p_u) = .5423025979089249
r(sd_2) = .327374560683609
r(sd_1) = .3203301326918442
r(F) = .9574271307580308
r(df_2) = 14
r(df_1) = 18
r(N) = 34
```

. sdtest ln_ni if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

sdtest_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.551069	.0463231	.2019176	2.470742	2.631396
UNC	15	3.025496	.0855654	.3313933	2.874789	3.176204
combined	34	2.760375	.0608766	.3549684	2.65735	2.8634

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.371
 F(18,14) lower tail = F_L = F_obs = 0.371
 F(18,14) upper tail = F_U = 1/F_obs = 2.694

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0251 P < F_L + P > F_U = 0.0579 P > F_obs = 0.9749

. return list

scalars:

r(sd) = .3549683912974032
 r(p) = .0578690965695141
 r(p_l) = .0251164174466103
 r(p_u) = .9748835825533897
 r(sd_2) = .3313932789957432
 r(sd_1) = .2019175718315225
 r(F) = .3712451917260802
 r(df_2) = 14
 r(df_1) = 18
 r(N) = 34

. sdtest ln_pb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.989771	.0957076	.4171796	2.823808	3.155734
UNC	15	4.512137	.285321	1.105043	4.009598	5.014676
combined	34	3.661403	.1879985	1.09621	3.343242	3.979564

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.143
 F(18,14) lower tail = F_L = F_obs = 0.143
 F(18,14) upper tail = F_U = 1/F_obs = 7.016

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
 P < F_obs = 0.0001 P < F_L + P > F_U = 0.0004 P > F_obs = 0.9999

. return list

scalars:

r(sd) = 1.096209926413948
 r(p) = .0004112132026831
 r(p_l) = .0001046332334604
 r(p_u) = .9998953667665396
 r(sd_2) = 1.105043294128813
 r(sd_1) = .4171796114446753
 r(F) = .1425238559832343

sdtest_Run4_122006

r(df_2) = 14
r(df_1) = 18
r(N) = 34

. sdtest ln_sb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-1.470544	.2622958	1.143321	-1.925382	-1.015706
UNC	15	-.9037629	.3843439	1.488557	-1.580712	-.2268142
combined	34	-1.220493	.2258738	1.317059	-1.602753	-.8382337

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.590
F(18,14) lower tail = F_L = F_obs = 0.590
F(18,14) upper tail = F_U = 1/F_obs = 1.695

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.1451 P < F_L + P > F_U = 0.3055 P > F_obs = 0.8549

. return list

scalars:

r(sd) = 1.317059240784356
r(p) = .3054799267968296
r(p_l) = .1451456619442669
r(p_u) = .8548543380557331
r(sd_2) = 1.488557491400668
r(sd_1) = 1.143320840591967
r(F) = .5899361565476771
r(df_2) = 14
r(df_1) = 18
r(N) = 34

. sdtest ln_zn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Variance ratio test

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	4.256543	.0541443	.2360096	4.162653	4.350433
UNC	15	5.336396	.172063	.6663971	5.03334	5.639453
combined	34	4.732949	.1230709	.7176208	4.524669	4.941229

Ho: sd(ADJFAR_S) = sd(UNC)

F(18,14) observed = F_obs = 0.125
F(18,14) lower tail = F_L = F_obs = 0.125
F(18,14) upper tail = F_U = 1/F_obs = 7.973

Ha: sd(1) < sd(2) Ha: sd(1) != sd(2) Ha: sd(1) > sd(2)
P < F_obs = 0.0000 P < F_L + P > F_U = 0.0002 P > F_obs = 1.0000

. return list

sdtest_Run4_122006

scalars:

r(sd) = .7176207831914011
r(p) = .0001913391667773
r(p_l) = .0000432855869262
r(p_u) = .9999567144130738
r(sd_2) = .6663971412230149
r(sd_1) = .2360095918909634
r(F) = .1254275840699376
r(df_2) = 14
r(df_1) = 18
r(N) = 34

. log close
log: C:\KDW\BASF_Ren\Run4\sdtest_Run4_122006.smcl
log type: smcl
closed on: 20 Dec 2006, 11:59:15

ttesteq_Run4_122006

```

log: C:\KDW\BASF_Ren\Run4\ttesteq_Run4_122006.smcl
log type: smcl
opened on: 20 Dec 2006, 11:58:03

```

```
. ttest ag if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.4838182	.0695302	.5156495	.3674549	.6001814
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	83	.5031809	.0493594	.449686	.4210641	.5852977
diff		-.0573966	.1048457		-.2318476	.1170544

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.5474	t = -0.5474	t = -0.5474
P < t = 0.2928	P > t = 0.5856	P > t = 0.7072

```
. return list
```

scalars:

```

r(sd) = .4496859834639983
r(sd_2) = .283000505442838
r(sd_1) = .5156495090619792
r(se) = .1048456749146939
r(p_u) = .7072087645869538
r(p_l) = .2927912354130462
r(p) = .5855824708260924
r(t) = -.5474389666969503
r(df_t) = 81
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .4838181827894666
r(N_1) = 55

```

```
. ttest as if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	54	8.871296	2.17715	15.99872	5.226494	12.5161
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	82	7.3766	1.451401	13.14299	4.961638	9.791562
diff		4.377325	3.040669		-.6827273	9.437377

Degrees of freedom: 80

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

                                ttesteq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
  t = 1.4396                     t = 1.4396                     t = 1.4396
P < t = 0.9231                  P > |t| = 0.1539                  P > t = 0.0769

```

```
. return list
```

```
scalars:
```

```

r(sd) = 13.14299192256068
r(sd_2) = 1.640400125694598
r(sd_1) = 15.99872218416534
r(se) = 3.040668975219526
r(p_u) = .0769421660906976
r(p_l) = .9230578339093024
r(p) = .1538843321813951
r(t) = 1.439592645578101
r(df_t) = 80
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 8.8712962380162
r(N_1) = 54

```

```
. ttest cd if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	2.256273	.6054289	4.489981	1.243048	3.269497
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	83	1.88394	.4052736	3.692218	1.209707	2.558173
diff		1.103702	.8536797		-.3167224	2.524125

```
Degrees of freedom: 81
```

```
Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
  t = 1.2929                     t = 1.2929                     t = 1.2929
P < t = 0.9001                  P > |t| = 0.1997                  P > t = 0.0999

```

```
. return list
```

```
scalars:
```

```

r(sd) = 3.692217915913362
r(sd_2) = .4953390619288118
r(sd_1) = 4.489980834180863
r(se) = .8536797070652719
r(p_u) = .0998648597599688
r(p_l) = .9001351402400312
r(p) = .1997297195199375
r(t) = 1.292875432160136
r(df_t) = 81
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = 2.256272734295238
r(N_1) = 55

```

```
. ttest cr if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

```
Two-sample t test with equal variances
```


ttesteq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	69.34364	17.63004	130.7478	39.83863	98.84864
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	83	56.02607	11.84418	107.9056	36.32151	75.73063
diff		39.47708	24.82042		-1.821218	80.77537

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.5905	t = 1.5905	t = 1.5905
P < t = 0.9422	P > t = 0.1156	P > t = 0.0578

. return list

scalars:

```

r(sd) = 107.9055999598174
r(sd_2) = 10.05763126459797
r(sd_1) = 130.74784046058
r(se) = 24.82041810600032
r(p_u) = .057807970425671
r(p_l) = .942192029574329
r(p) = .1156159408513421
r(t) = 1.590508132913527
r(df_t) = 81
r(mu_2) = 29.86655950546265
r(N_2) = 28
r(mu_1) = 69.34363636537032
r(N_1) = 55

```

. ttest cu if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	53.33636	8.398409	62.28427	39.28108	67.39165
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	83	46.64767	5.689205	51.83113	37.18283	56.11251
diff		19.8272	11.9048		.0189934	39.6354

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.6655	t = 1.6655	t = 1.6655
P < t = 0.9502	P > t = 0.0997	P > t = 0.0498

. return list

scalars:

```

r(sd) = 51.831126356973
r(sd_2) = 11.40559397073612

```

```

                                ttesteq_Run4_122006
r(sd_1) = 62.28426869847707
r(se) = 11.90479976832054
r(p_u) = .0498402433295434
r(p_l) = .9501597566704566
r(p) = .0996804866590869
r(t) = 1.665479352154823
r(df_t) = 81
r(mu_2) = 33.50916549137661
r(N_2) = 28
r(mu_1) = 53.336363697052
r(N_1) = 55

```

```
. ttest fe if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	22107.27	868.837	6443.468	20653.22	23561.33
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	83	23374.82	687.8251	6266.385	22230.52	24519.12
diff		-3757.373	1402.927		-6091.681	-1423.066

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.6782	t = -2.6782	t = -2.6782
P < t = 0.0045	P > t = 0.0090	P > t = 0.9955

```
. return list
```

scalars:

```

r(sd) = 6266.385164610068
r(sd_2) = 5149.645675906717
r(sd_1) = 6443.46796851505
r(se) = 1402.926671085382
r(p_u) = .995520439777861
r(p_l) = .004479560222139
r(p) = .0089591204442779
r(t) = -2.678239394492014
r(df_t) = 81
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 22107.27272727273
r(N_1) = 55

```

```
. ttest hg if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.386	.0796371	.5906042	.2527222	.5192778
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	83	.3046191	.054247	.4942141	.2143711	.3948672

```

diff | .2412361 .1122856 .0544059 .4280663
-----
Degrees of freedom: 81

```

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
  t = 2.1484      t = 2.1484      t = 2.1484
P < t = 0.9827    P > |t| = 0.0347    P > t = 0.0173

```

. return list

scalars:

```

r(sd) = .4942141336713048
r(sd_2) = .0645853196035577
r(sd_1) = .5906042077795654
r(se) = .1122856087930682
r(p_u) = .0173337813384297
r(p_l) = .9826662186615703
r(p) = .0346675626768594
r(t) = 2.148415209994686
r(df_t) = 81
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .3860000004483895
r(N_1) = 55

```

. ttest mn if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	499.9636	34.66309	257.0684	441.9527	557.9746
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	83	569.9907	29.5172	268.9145	520.8845	619.097
diff		-207.5803	58.4264		-304.7951	-110.3655

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
  t = -3.5529      t = -3.5529      t = -3.5529
P < t = 0.0003     P > |t| = 0.0006     P > t = 0.9997

```

. return list

scalars:

```

r(sd) = 268.9145121149485
r(sd_2) = 240.5082073183621
r(sd_1) = 257.0683879060318
r(se) = 58.42640377888236
r(p_u) = .9996806140065706
r(p_l) = .0003193859934294
r(p) = .0006387719868587
r(t) = -3.552850919850908
r(df_t) = 81
r(mu_2) = 707.543938773019
r(N_2) = 28

```

```

                                ttesteq_Run4_122006
r(mu_1) = 499.9636363636363
r(N_1) = 55

```

```
. ttest ni if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	19.56273	1.165706	8.645108	17.61184	21.51361
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	83	20.58339	.859555	7.830919	19.15339	22.01339
diff		-3.025533	1.798021		-6.017231	-.0338348

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.6827	t = -1.6827	t = -1.6827
P < t = 0.0481	P > t = 0.0963	P > t = 0.9519

```
. return list
```

scalars:

```

r(sd) = 7.830918891006419
r(sd_2) = 5.520403568185079
r(sd_1) = 8.645108033572846
r(se) = 1.798020992089434
r(p_u) = .9518580198823099
r(p_l) = .0481419801176901
r(p) = .0962839602353801
r(t) = -1.682701718289972
r(df_t) = 81
r(mu_2) = 22.58826041221619
r(N_2) = 28
r(mu_1) = 19.56272739930586
r(N_1) = 55

```

```
. ttest pb if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	73.05636	18.20059	134.9792	42.59649	103.5162
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	83	71.8773	12.24742	111.5793	51.50189	92.2527
diff		3.495089	26.06024		-39.86613	46.85631

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.1341	t = 0.1341	t = 0.1341
P < t = 0.5532	P > t = 0.8936	P > t = 0.4468

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
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ttesteq_Run4_122006						
ADJALL	55	147.7045	17.01145	126.1603	119.2348	176.1743
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	83	141.0499	11.50731	104.8365	121.9057	160.194
diff		19.72636	24.38985		-20.85552	60.30825

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.8088	t = 0.8088	t = 0.8088
P < t = 0.7895	P > t = 0.4210	P > t = 0.2105

. return list

scalars:

```

r(sd) = 104.836546317269
r(sd_2) = 35.76211410638251
r(sd_1) = 126.160278097354
r(se) = 24.38985359880463
r(p_u) = .2105015477257212
r(p_l) = .7894984522742788
r(p) = .4210030954514425
r(t) = .8087937056868638
r(df_t) = 81
r(mu_2) = 127.9781853812082
r(N_2) = 28
r(mu_1) = 147.7045454545455
r(N_1) = 55

```

. ttest ln_ag if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-1.643715	.2342101	1.736948	-2.03568	-1.251749
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	83	-1.329276	.1852942	1.68811	-1.63754	-1.021011
diff		-.9320863	.3804721		-1.565148	-.2990248

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.4498	t = -2.4498	t = -2.4498
P < t = 0.0082	P > t = 0.0164	P > t = 0.9918

. return list

scalars:

```

r(sd) = 1.688110362164964
r(sd_2) = 1.422565543721684
r(sd_1) = 1.736948345575782
r(se) = .3804721270847065
r(p_u) = .9917755643063956

```

```

                                ttestedq_Run4_122006
r(p_l) = .0082244356936044
r(p) = .0164488713872088
r(t) = -2.449814806846848
r(df_t) = 81
r(mu_2) = -.7116283997893333
r(N_2) = 28
r(mu_1) = -1.643714650313963
r(N_1) = 55

```

```
. ttest ln_as if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	54	1.624419	.1338918	.9839	1.400269	1.84857
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	82	1.563307	.0947981	.8584332	1.405574	1.72104
diff		.1789713	.2001593		-.1541187	.5120613

Degrees of freedom: 80

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.8941	t = 0.8941	t = 0.8941
P < t = 0.8130	P > t = 0.3739	P > t = 0.1870

```
. return list
```

scalars:

```

r(sd) = .8584331931181435
r(sd_2) = .5371996428689455
r(sd_1) = .9839000434681031
r(se) = .2001592758357649
r(p_u) = .1869633961449168
r(p_l) = .8130366038550831
r(p) = .3739267922898336
r(t) = .8941444108234181
r(df_t) = 80
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = 1.624419219515942
r(N_1) = 54

```

```
. ttest ln_cd if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.000239	.1451673	1.07659	-.242708	.243186
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	83	-.0183715	.1015333	.9250125	-.1872873	.1505444
diff		.0551667	.2159812		-.3042009	.4145343

Degrees of freedom: 81

ttesteq_Run4_122006

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.2554	t = 0.2554	t = 0.2554
P < t = 0.6005	P > t = 0.7990	P > t = 0.3995

. return list

scalars:

```
r(sd) = .9250125440153052
r(sd_2) = .5276860203161229
r(sd_1) = 1.07658984302262
r(se) = .2159811725438526
r(p_u) = .3995217321163774
r(p_l) = .6004782678836226
r(p) = .7990434642327547
r(t) = .2554235426485297
r(df_t) = 81
r(mu_2) = -.0549276916842375
r(N_2) = 28
r(mu_1) = .0002389845522967
r(N_1) = 55
```

. ttest ln_cr if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.385496	.1593131	1.181498	3.118875	3.652117
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	83	3.379262	.1097827	1.000168	3.196622	3.561902
diff		.0184784	.2336141		-.3702284	.4071852

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0791	t = 0.0791	t = 0.0791
P < t = 0.5314	P > t = 0.9371	P > t = 0.4686

. return list

scalars:

```
r(sd) = 1.000167631348566
r(sd_2) = .4959313052537723
r(sd_1) = 1.181497529439772
r(se) = .2336141399723743
r(p_u) = .4685748367663462
r(p_l) = .5314251632336537
r(p) = .9371496735326924
r(t) = .0790981098391783
r(df_t) = 81
r(mu_2) = 3.367017269134522
r(N_2) = 28
r(mu_1) = 3.385495706038042
r(N_1) = 55
```



```

ttesteq_Run4_122006
. ttest ln_cu if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.421822	.1462543	1.084651	3.177056	3.666588
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	83	3.455891	.1032233	.9404088	3.284163	3.627618
diff		-.1009884	.2193777		-.4660074	.2640305

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.4603	t = -0.4603	t = -0.4603
P < t = 0.3233	P > t = 0.6465	P > t = 0.6767

```

. return list

```

scalars:

```

r(sd) = .9404088039452324
r(sd_2) = .5708913604705675
r(sd_1) = 1.084650900957377
r(se) = .2193776736354802
r(p_u) = .6767473784100759
r(p_l) = .323252621589924
r(p) = .646505243179848
r(t) = -.4603405488498809
r(df_t) = 81
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 3.421822335503318
r(N_1) = 55

```

```

. ttest ln_fe if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	9.962177	.0395644	.2934178	9.895963	10.02839
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	83	10.03105	.0325961	.2969645	9.976817	10.08527
diff		-.2041462	.0655526		-.3132182	-.0950742

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.1142	t = -3.1142	t = -3.1142
P < t = 0.0013	P > t = 0.0025	P > t = 0.9987

```

. return list

```

ttesteq_Run4_122006

scalars:

```

r(sd) = .2969644650617752
r(sd_2) = .2588487556964191
r(sd_1) = .2934177735063465
r(se) = .065552636742164
r(p_u) = .9987251226233271
r(p_l) = .0012748773766729
r(p) = .0025497547533457
r(t) = -3.114233367975109
r(df_t) = 81
r(mu_2) = 10.16632287842887
r(N_2) = 28
r(mu_1) = 9.962176669727672
r(N_1) = 55

```

. ttest ln_hg if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-2.066735	.2185199	1.620587	-2.432442	-1.701028
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	83	-2.038194	.1543633	1.406317	-2.295001	-1.781388
diff		-.0846026	.3283586		-.6309532	.461748

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.2577	t = -0.2577	t = -0.2577
P < t = 0.3987	P > t = 0.7973	P > t = 0.6013

. return list

scalars:

```

r(sd) = 1.406316945055847
r(sd_2) = .8653945974159339
r(sd_1) = 1.620587045666174
r(se) = .3283586170462844
r(p_u) = .6013359572501413
r(p_l) = .3986640427498587
r(p) = .7973280854997173
r(t) = -.2576531164773839
r(df_t) = 81
r(mu_2) = -1.982132386948381
r(N_2) = 28
r(mu_1) = -2.06673500795256
r(N_1) = 55

```

. ttest ln_mn if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	6.094574	.0674718	.5003839	5.981655	6.207492
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334

ttesteq_Run4_122006						
combined	83	6.243728	.0598547	.5453022	6.144151	6.343305
diff		-.4421357	.117519		-.6376737	-.2465976

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.7622	t = -3.7622	t = -3.7622
P < t = 0.0002	P > t = 0.0003	P > t = 0.9998

. return list

scalars:

```

r(sd) = .5453021913308505
r(sd_2) = .5176612990743834
r(sd_1) = .5003839071944481
r(se) = .1175190233901112
r(p_u) = .9998414073662444
r(p_l) = .0001585926337556
r(p) = .0003171852675112
r(t) = -3.762247566359626
r(df_t) = 81
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 6.094573853232644
r(N_1) = 55

```

. ttest ln_ni if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	2.876534	.0610075	.4524438	2.774434	2.978634
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	83	2.962906	.0478476	.4359126	2.883304	3.042507
diff		-.2560305	.0977675		-.4187043	-.0933567

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.6188	t = -2.6188	t = -2.6188
P < t = 0.0053	P > t = 0.0105	P > t = 0.9947

. return list

scalars:

```

r(sd) = .4359126134876361
r(sd_2) = .3501996737117437
r(sd_1) = .4524437821066193
r(se) = .0977675004676544
r(p_u) = .9947345578136619
r(p_l) = .0052654421863381
r(p) = .0105308843726762
r(t) = -2.618769019396292

```

```

                                ttesteq_Run4_122006
r(df_t) = 81
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 2.87653402631933
r(N_1) = 55

```

```
. ttest ln_pb if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.578081	.1430121	1.060606	3.338741	3.817421
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	83	3.69167	.107167	.9763382	3.513381	3.869958
diff		-.336711	.2249673		-.7110306	.0376085

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.4967	t = -1.4967	t = -1.4967
P < t = 0.0692	P > t = 0.1384	P > t = 0.9308

```
. return list
```

scalars:

```

r(sd) = .9763381790065955
r(sd_2) = .7532151173757485
r(sd_1) = 1.060606122054462
r(se) = .2249673413247228
r(p_u) = .9308224338037898
r(p_l) = .0691775661962102
r(p) = .1383551323924203
r(t) = -1.496710692562357
r(df_t) = 81
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 3.578080558776855
r(N_1) = 55

```

```
. ttest ln_sb if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-.7464245	.2540862	1.884354	-1.171654	-.3211947
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	83	-.1950169	.2160733	1.968522	-.5544871	.1644534
diff		-1.63453	.422429		-2.337402	-.9316569

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

                                ttesteq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -3.8694                     t = -3.8694                     t = -3.8694
P < t = 0.0001                 P > |t| = 0.0002                 P > t = 0.9999

```

```
. return list
```

```
scalars:
```

```

r(sd) = 1.968521777845991
r(sd_2) = 1.68262105380143
r(sd_1) = 1.884353525741185
r(se) = .4224289618660486
r(p_u) = .9998901608271859
r(p_l) = .0001098391728141
r(p) = .0002196783456282
r(t) = -3.869359857056375
r(df_t) = 81
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = -.7464244549247352
r(N_1) = 55

```

```
. ttest ln_zn if area1=="UP_SSD"|area1=="ADJALL", by(area1) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	4.749694	.0913004	.6771018	4.596897	4.902491
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	83	4.786839	.0659491	.6008245	4.677123	4.896555
diff		-.1101102	.1398087		-.3427356	.1225153

Degrees of freedom: 81

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -0.7876                     t = -0.7876                     t = -0.7876
P < t = 0.2166                 P > |t| = 0.4332                 P > t = 0.7834

```

```
. return list
```

```
scalars:
```

```

r(sd) = .6008245330850439
r(sd_2) = .4136119464945405
r(sd_1) = .6771018451993339
r(se) = .1398087119006226
r(p_u) = .7833787175925181
r(p_l) = .2166212824074819
r(p) = .4332425648149638
r(t) = -.7875773733251512
r(df_t) = 81
r(mu_2) = 4.85980395759855
r(N_2) = 28
r(mu_1) = 4.749693779511885
r(N_1) = 55

```

```
. ttest ag if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

ttesteq_Run4_122006

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	64	.6324846	.0534673	.4277388	.5432261	.7217431
diff		.1622574	.1066736		-.0158666	.3403815

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.5211	t = 1.5211	t = 1.5211
P < t = 0.9333	P > t = 0.1333	P > t = 0.0667

. return list

scalars:

```

r(sd) = .427738788527224
r(sd_2) = .283000505442838
r(sd_1) = .5056662151699879
r(se) = .1066736363167328
r(p_u) = .0666638821359324
r(p_l) = .9333361178640676
r(p) = .1333277642718648
r(t) = 1.521064041762549
r(df_t) = 62
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .7034722231328487
r(N_1) = 36

```

. ttest as if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	64	7.719238	1.744528	13.95622	4.806919	10.63156
diff		5.733806	3.469285		-.0592198	11.52683

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.6527	t = 1.6527	t = 1.6527
P < t = 0.9483	P > t = 0.1034	P > t = 0.0517

. return list

scalars:

```

r(sd) = 13.95622251913971

```

```

                                ttesteq_Run4_122006
r(sd_2) = 1.640400125694598
r(sd_1) = 18.26819032347449
r(se) = 3.469284704849973
r(p_u) = .0517203114025235
r(p_l) = .9482796885974765
r(p) = .103440622805047
r(t) = 1.652734405941811
r(df_t) = 62
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 10.2277777393659
r(N_1) = 36

```

```
. ttest cd if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	64	2.286203	.51576	4.12608	1.425192	3.147214
diff		2.015345	1.016291		.3183385	3.712352

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.9830	t = 1.9830	t = 1.9830
P < t = 0.9741	P > t = 0.0518	P > t = 0.0259

```
. return list
```

scalars:

```

r(sd) = 4.126080287993243
r(sd_2) = .4953390619288118
r(sd_1) = 5.350435801382296
r(se) = 1.016290986212997
r(p_u) = .0258986299690681
r(p_l) = .9741013700309319
r(p) = .0517972599381361
r(t) = 1.98303978421594
r(df_t) = 62
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = 3.167916672097312
r(N_1) = 36

```

```
. ttest cr if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	64	69.8174	14.95242	119.6194	44.8558	94.779

```

-----+-----
ttesteq_Run4_122006
diff | 71.02372 29.01357 22.57675 119.4707
-----+-----
Degrees of freedom: 62

```

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.4479	t = 2.4479	t = 2.4479
P < t = 0.9914	P > t = 0.0172	P > t = 0.0086

. return list

scalars:

```

r(sd) = 119.6193569203458
r(sd_2) = 10.05763126459797
r(sd_1) = 152.9961520864195
r(se) = 29.01356569415849
r(p_u) = .0086057646560342
r(p_l) = .9913942353439658
r(p) = .0172115293120685
r(t) = 2.447948625129591
r(df_t) = 62
r(mu_2) = 29.86655950546265
r(N_2) = 28
r(mu_1) = 100.890277756585
r(N_1) = 36

```

. ttest cu if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	64	57.66338	6.794849	54.35879	46.32005	69.00672
diff		42.94083	12.68451		21.76019	64.12148

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.3853	t = 3.3853	t = 3.3853
P < t = 0.9994	P > t = 0.0012	P > t = 0.0006

. return list

scalars:

```

r(sd) = 54.35878816528207
r(sd_2) = 11.40559397073612
r(sd_1) = 66.24699983093207
r(se) = 12.68450676023314
r(p_u) = .0006190668048259
r(p_l) = .9993809331951741
r(p) = .0012381336096518
r(t) = 3.385297938223402
r(df_t) = 62
r(mu_2) = 33.50916549137661

```


ttesteq_Run4_122006

r(N_2) = 28
r(mu_1) = 76.45000007417467
r(N_1) = 36

. ttest fe if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	64	25265	618.5511	4948.409	24232.39	26297.61
diff		-1066.035	1249.584		-3152.596	1020.526

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.8531	t = -0.8531	t = -0.8531
P < t = 0.1984	P > t = 0.3969	P > t = 0.8016

. return list

scalars:

r(sd) = 4948.408725891249
r(sd_2) = 5149.645675906717
r(sd_1) = 4807.011042085316
r(se) = 1249.584220216949
r(p_u) = .8015594256940203
r(p_l) = .1984405743059797
r(p) = .3968811486119594
r(t) = -.8531118407216681
r(df_t) = 62
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 24798.611111111111
r(N_1) = 36

. ttest hg if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.5122222	.0979643	.5877857	.3467045	.67774
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	64	.3514592	.0596191	.476953	.2519309	.4509875
diff		.3674583	.111797		.1807793	.5541374

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.2868	t = 3.2868	t = 3.2868

```

                                ttesteq_Run4_122006
P < t = 0.9992                P > |t| = 0.0017                P > t = 0.0008

```

```
. return list
```

```
scalars:
```

```

r(sd) = .4769529628036643
r(sd_2) = .0645853196035577
r(sd_1) = .5877857325071175
r(se) = .1117969708664639
r(p_u) = .0008354479142567
r(p_l) = .9991645520857433
r(p) = .0016708958285134
r(t) = 3.286836235057088
r(df_t) = 62
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .512222225467364
r(N_1) = 36

```

```
. ttest mn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	64	656.2458	30.36623	242.9298	605.5523	706.9392
diff		-91.19672	60.60751		-192.3994	10.00595

```
Degrees of freedom: 62
```

```
Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
t = -1.5047                t = -1.5047                t = -1.5047
P < t = 0.0687                P > |t| = 0.1375                P > t = 0.9313

```

```
. return list
```

```
scalars:
```

```

r(sd) = 242.9298186413152
r(sd_2) = 240.5082073183621
r(sd_1) = 240.5443178485128
r(se) = 60.60750858821344
r(p_u) = .9312618559843207
r(p_l) = .0687381440156794
r(p) = .1374762880313588
r(t) = -1.504709873002966
r(df_t) = 62
r(mu_2) = 707.543938773019
r(N_2) = 28
r(mu_1) = 616.3472222222222
r(N_1) = 36

```

```
. ttest ni if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

ttesteq_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	64	23.52143	.7909736	6.327789	22.20097	24.84188
diff		1.658962	1.593391		-1.001689	4.319613

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.0412	t = 1.0412	t = 1.0412
P < t = 0.8491	P > t = 0.3018	P > t = 0.1509

. return list

scalars:

```

r(sd) = 6.327788691783725
r(sd_2) = 5.520403568185079
r(sd_1) = 6.879389034980469
r(se) = 1.593391007418656
r(p_u) = .1509240607533973
r(p_l) = .8490759392466027
r(p) = .3018481215067947
r(t) = 1.041151860160709
r(df_t) = 62
r(mu_2) = 22.58826041221619
r(N_2) = 28
r(mu_1) = 24.2472242355347
r(N_1) = 36

```

. ttest pb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	103.9806	26.47358	158.8415	59.25153	148.7096
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	64	88.92212	15.25699	122.0559	63.45207	114.3922
diff		34.41928	30.69252		-16.83122	85.66978

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.1214	t = 1.1214	t = 1.1214
P < t = 0.8668	P > t = 0.2664	P > t = 0.1332

. return list

scalars:

```

r(sd) = 122.0559225869556
r(sd_2) = 36.92913331063091
r(sd_1) = 158.841473239832
r(se) = 30.69251933533712

```

```

                                ttesteq_Run4_122006
r(p_u) = .1332163741603888
r(p_l) = .8667836258396112
r(p) = .2664327483207777
r(t) = 1.121422462957916
r(df_t) = 62
r(mu_2) = 69.56127480098179
r(N_2) = 28
r(mu_1) = 103.980555428399
r(N_1) = 36

```

```
. ttest sb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	64	3.213916	.3208755	2.567004	2.678245	3.749586
diff		-1.124506	.6361874		-2.186814	-.0621976

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.7676	t = -1.7676	t = -1.7676
P < t = 0.0410	P > t = 0.0821	P > t = 0.9590

```
. return list
```

scalars:

```

r(sd) = 2.567004344104927
r(sd_2) = 2.28448603590679
r(sd_1) = 2.695570225717761
r(se) = .636187379260997
r(p_u) = .9589732936368371
r(p_l) = .0410267063631628
r(p) = .0820534127263255
r(t) = -1.767570299118179
r(df_t) = 62
r(mu_2) = 3.846450345856803
r(N_2) = 28
r(mu_1) = 2.721944429601232
r(N_1) = 36

```

```
. ttest zn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	64	165.9264	13.40626	107.2501	143.546	188.3068
diff		67.46348	25.85911		24.28384	110.6431

ttesteq_Run4_122006

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.6089	t = 2.6089	t = 2.6089
P < t = 0.9943	P > t = 0.0114	P > t = 0.0057

. return list

scalars:

```
r(sd) = 107.2500694205995
r(sd_2) = 35.76211410638251
r(sd_1) = 132.928335922908
r(se) = 25.85910591786404
r(p_u) = .0056849991551855
r(p_l) = .9943150008448145
r(p) = .011369998310371
r(t) = 2.608886847910652
r(df_t) = 62
r(mu_2) = 127.9781853812082
r(N_2) = 28
r(mu_1) = 195.4416667090522
r(N_1) = 36
```

. ttest ln_ag if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	64	-.6284791	.1326329	1.061063	-.8498967	-.4070615
diff		.1478209	.2688556		-.3011152	.5967571

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.5498	t = 0.5498	t = 0.5498
P < t = 0.7078	P > t = 0.5844	P > t = 0.2922

. return list

scalars:

```
r(sd) = 1.06106282386155
r(sd_2) = 1.422565543721684
r(sd_1) = .6749595667155161
r(se) = .2688555864418361
r(p_u) = .2922106230624356
r(p_l) = .7077893769375644
r(p) = .5844212461248711
r(t) = .5498153938107464
r(df_t) = 62
r(mu_2) = -.7116283997893333
r(N_2) = 28
r(mu_1) = -.5638074596515961
r(N_1) = 36
```

ttesteq_Run4_122006

. ttest ln_as if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	64	1.730054	.0829405	.6635239	1.591593	1.868515
diff		.5059658	.1558046		.2458026	.7661289

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.2474	t = 3.2474	t = 3.2474
P < t = 0.9991	P > t = 0.0019	P > t = 0.0009

. return list

scalars:

```

r(sd) = .6635238591671167
r(sd_2) = .5371996428689455
r(sd_1) = .6742795428965974
r(se) = .1558045859746164
r(p_u) = .0009405722665139
r(p_l) = .9990594277334861
r(p) = .0018811445330278
r(t) = 3.247438285621316
r(df_t) = 62
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = 1.951413699322277
r(N_1) = 36

```

. ttest ln_cd if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	64	.1679849	.1220418	.9763341	-.0357519	.3717217
diff		.3962891	.2428284		-.0091867	.8017649

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.6320	t = 1.6320	t = 1.6320
P < t = 0.9461	P > t = 0.1078	P > t = 0.0539

. return list

ttesteq_Run4_122006

scalars:

```

r(sd) = .9763340587468831
r(sd_2) = .5276860203161229
r(sd_1) = 1.195965820831796
r(se) = .2428283526314554
r(p_u) = .0538774041121446
r(p_l) = .9461225958878554
r(p) = .1077548082242892
r(t) = 1.631972000342564
r(df_t) = 62
r(mu_2) = -.0549276916842375
r(N_2) = 28
r(mu_1) = .3413613806996081
r(N_1) = 36

```

. ttest ln_cr if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	64	3.723762	.1083696	.8669567	3.54285	3.904674
diff		.6342129	.2049481		.2919898	.976436

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.0945	t = 3.0945	t = 3.0945
P < t = 0.9985	P > t = 0.0030	P > t = 0.0015

. return list

scalars:

```

r(sd) = .8669566993991339
r(sd_2) = .4959313052537723
r(sd_1) = .9910459752230189
r(se) = .2049480510215759
r(p_u) = .0014782779668249
r(p_l) = .9985217220331751
r(p) = .0029565559336498
r(t) = 3.094505824567144
r(df_t) = 62
r(mu_2) = 3.367017269134522
r(N_2) = 28
r(mu_1) = 4.001230206754473
r(N_1) = 36

```

. ttest ln_cu if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168	4.266936

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UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	64	3.83204	.0865989	.692791	3.687472	3.976609
diff		.5497415	.1615261		.2800246	.8194584

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.4034	t = 3.4034	t = 3.4034
P < t = 0.9994	P > t = 0.0012	P > t = 0.0006

. return list

scalars:

```

r(sd) = .692790958285837
r(sd_2) = .5708913604705675
r(sd_1) = .6902956110898095
r(se) = .1615260639365605
r(p_u) = .0005855132702548
r(p_l) = .9994144867297452
r(p) = .0011710265405096
r(t) = 3.403423050653803
r(df_t) = 62
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 4.072552303473155
r(N_1) = 36

```

. ttest ln_fe if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	64	10.1305	.027057	.216456	10.08533	10.17567
diff		-.0636877	.0543817		-.1544944	.0271191

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.1711	t = -1.1711	t = -1.1711
P < t = 0.1230	P > t = 0.2460	P > t = 0.8770

. return list

scalars:

```

r(sd) = .2164560102585779
r(sd_2) = .2588487556964191
r(sd_1) = .1755640472789583
r(se) = .0543816709316442
r(p_u) = .8769847654839511
r(p_l) = .1230152345160489
r(p) = .2460304690320978

```



```

                                ttesteq_Run4_122006
      r(t) = -1.171123517861069
    r(df_t) = 62
    r(mu_2) = 10.16632287842887
    r(N_2) = 28
    r(mu_1) = 10.10263522466024
    r(N_1) = 36

```

```
. ttest ln_hg if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	64	-1.553978	.1291685	1.033348	-1.769612	-1.338344
diff		.7611635	.2440209		.3536963	1.168631

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.1193	t = 3.1193	t = 3.1193
P < t = 0.9986	P > t = 0.0028	P > t = 0.0014

```
. return list
```

scalars:

```

      r(sd) = 1.033348209947248
    r(sd_2) = .8653945974159339
    r(sd_1) = 1.040965920690938
    r(se) = .2440208970318139
    r(p_u) = .0013751657188047
    r(p_l) = .9986248342811953
    r(p) = .0027503314376095
    r(t) = 3.119255209994934
    r(df_t) = 62
    r(mu_2) = -1.982132386948381
    r(N_2) = 28
    r(mu_1) = -1.220968932534258
    r(N_1) = 36

```

```
. ttest ln_mn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	64	6.43887	.0543029	.4344228	6.348217	6.529524
diff		-.1739364	.1081098		-.3544586	.0065857

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

ttesteq_Run4_122006

Ha: diff < 0
t = -1.6089
P < t = 0.0564

Ha: diff != 0
t = -1.6089
P > |t| = 0.1127

Ha: diff > 0
t = -1.6089
P > t = 0.9436

. return list

scalars:

r(sd) = .4344228149790688
r(sd_2) = .5176612990743834
r(sd_1) = .345492808956618
r(se) = .1081097742519893
r(p_u) = .9436391637397321
r(p_l) = .0563608362602679
r(p) = .1127216725205358
r(t) = -1.60888726428663
r(df_t) = 62
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 6.362773074044122
r(N_1) = 36

. ttest ln_ni if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	64	3.145114	.0371537	.2972298	3.08309	3.207139
diff		.0223103	.0754433		-.1036652	.1482857

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0
t = 0.2957
P < t = 0.6158

Ha: diff != 0
t = 0.2957
P > |t| = 0.7684

Ha: diff > 0
t = 0.2957
P > t = 0.3842

. return list

scalars:

r(sd) = .297229802030152
r(sd_2) = .3501996737117437
r(sd_1) = .2533577677483135
r(se) = .0754432571882454
r(p_u) = .384215172879444
r(p_l) = .6157848271205559
r(p) = .768430345758888
r(t) = .2957223077474339
r(df_t) = 62
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 3.154874781767527
r(N_1) = 36

. ttest ln_pb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

ttesteq_Run4_122006

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	64	4.023896	.1046706	.8373648	3.849159	4.198634
diff		.1939637	.2112596		-.1587984	.5467258

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.9181	t = 0.9181	t = 0.9181
P < t = 0.8189	P > t = 0.3621	P > t = 0.1811

. return list

scalars:

```

r(sd) = .8373648007842807
r(sd_2) = .7532151173757485
r(sd_1) = .898630566713301
r(se) = .211259560340838
r(p_u) = .1810544340262333
r(p_l) = .8189455659737667
r(p) = .3621088680524665
r(t) = .9181299034510929
r(df_t) = 62
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 4.108755303753747
r(N_1) = 36

```

. ttest ln_sb if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	64	.5230787	.1929172	1.543337	.2010223	.845135
diff		-.6489361	.3832468		-1.288883	-.008989

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.6933	t = -1.6933	t = -1.6933
P < t = 0.0477	P > t = 0.0954	P > t = 0.9523

. return list

scalars:

```

r(sd) = 1.543337460396858

```

```

ttesteq_Run4_122006
r(sd_2) = 1.68262105380143
r(sd_1) = 1.383409096107487
r(se) = .3832468251288813
r(p_u) = .9522872761880236
r(p_l) = .0477127238119764
r(p) = .0954254476239528
r(t) = -1.693258923589593
r(df_t) = 62
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = .2391691059908933
r(N_1) = 36

```

```
. ttest ln_zn if area=="UP_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	64	5.014336	.0591964	.4735712	4.915514	5.113159
diff		.2747245	.115116		.0825033	.4669457

Degrees of freedom: 62

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.3865	t = 2.3865	t = 2.3865
P < t = 0.9900	P > t = 0.0201	P > t = 0.0100

```
. return list
```

scalars:

```

r(sd) = .4735712182300334
r(sd_2) = .4136119464945405
r(sd_1) = .4875964931566519
r(se) = .1151160177327755
r(p_u) = .0100375888783916
r(p_l) = .9899624111216084
r(p) = .0200751777567832
r(t) = 2.38650102138594
r(df_t) = 62
r(mu_2) = 4.85980395759855
r(N_2) = 28
r(mu_1) = 5.134528451495701
r(N_1) = 36

```

```
. ttest ag if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.0676316	.0333736	.1454721	.0097596	.1255035
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102

```

ttesteq_Run4_122006
combined |      47      .3497663      .048483      .3323827      .2683798      .4311528
-----+-----
diff |      - .4735832      .0706624      - .5922555      - .3549109
-----+-----

```

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -6.7021      t = -6.7021      t = -6.7021
P < t = 0.0000      P > |t| = 0.0000      P > t = 1.0000

```

. return list

scalars:

```

r(sd) = .3323826980105965
r(sd_2) = .283000505442838
r(sd_1) = .1454721141773615
r(se) = .0706623606928632
r(p_u) = .999999985889068
r(p_l) = 1.41109320035e-08
r(p) = 2.82218640070e-08
r(t) = -6.702057588371192
r(df_t) = 45
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .0676315800335846
r(N_1) = 19

```

. ttest as if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR |      18      6.158333      2.347764      9.96072      2.074147      10.24252
UP_SSD |      28      4.493972      .3100065      1.6404      3.965941      5.022002
-----+-----
combined |      46      5.145244      .9298269      6.306393      3.583667      6.70682
-----+-----
diff |      1.664362      1.910339      -1.545447      4.874171
-----+-----

```

Degrees of freedom: 44

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = 0.8712      t = 0.8712      t = 0.8712
P < t = 0.8058      P > |t| = 0.3884      P > t = 0.1942

```

. return list

scalars:

```

r(sd) = 6.306392607310353
r(sd_2) = 1.640400125694598
r(sd_1) = 9.960720351670322
r(se) = 1.910339007443106
r(p_u) = .1941763721642533
r(p_l) = .8058236278357467
r(p) = .3883527443285065
r(t) = .8712389189454923
r(df_t) = 44

```

```

ttesteq_Run4_122006
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 6.158333235316807
r(N_1) = 18

```

```
. ttest cd if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.5289474	.0149638	.0652257	.5029992	.5548955
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	47	.900468	.0716639	.4913029	.7801686	1.020767
diff		-.6236238	.114701		-.8162558	-.4309919

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.4370	t = -5.4370	t = -5.4370
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = .4913029020953515
r(sd_2) = .4953390619288118
r(sd_1) = .0652256581208895
r(se) = .1147009567142406
r(p_u) = .9999989394976504
r(p_l) = 1.06050234965e-06
r(p) = 2.12100469930e-06
r(t) = -5.43695408915218
r(df_t) = 45
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = .5289473784597296
r(N_1) = 19

```

```
. ttest cr if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.571053	.655067	2.855371	8.435125	10.70698
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	47	21.66199	1.867539	12.8032	18.52703	24.79696
diff		-20.29551	2.377003		-24.28751	-16.3035

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0

```

                                ttesteq_Run4_122006
      t = -8.5383                t = -8.5383                t = -8.5383
P < t = 0.0000                P > |t| = 0.0000                P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

      r(sd) = 12.80320152647364
      r(sd_2) = 10.05763126459797
      r(sd_1) = 2.855371021741286
      r(se) = 2.377003229842274
      r(p_u) = .999999999712399
      r(p_l) = 2.87601024835e-11
      r(p) = 5.75202049671e-11
      r(t) = -8.538274821804244
      r(df_t) = 45
      r(mu_2) = 29.86655950546265
      r(N_2) = 28
      r(mu_1) = 9.571052676752993
      r(N_1) = 19

```

```
. ttest cu if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.542105	.778177	3.391995	8.192697	10.89151
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	47	23.82035	2.174341	14.90653	20.17037	27.47033
diff		-23.96706	2.70226		-28.50531	-19.42881

```
Degrees of freedom: 45
```

```
Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0
```

```

      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
      t = -8.8693                t = -8.8693                t = -8.8693
P < t = 0.0000                P > |t| = 0.0000                P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

      r(sd) = 14.90652837416822
      r(sd_2) = 11.40559397073612
      r(sd_1) = 3.391994836962124
      r(se) = 2.702260056114551
      r(p_u) = .999999999902993
      r(p_l) = 9.70069577620e-12
      r(p) = 1.94013915524e-11
      r(t) = -8.869264872879935
      r(df_t) = 45
      r(mu_2) = 33.50916549137661
      r(N_2) = 28
      r(mu_1) = 9.542105298293265
      r(N_1) = 19

```

```
. ttest fe if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

ttesteq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	17007.89	1408.414	6139.134	14565.62	19450.17
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	47	22284.26	1027.447	7043.819	20559.52	24008.99
diff		-8856.751	1654.559		-11635.46	-6078.04

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.3529	t = -5.3529	t = -5.3529
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 7043.818581610922
r(sd_2) = 5149.645675906717
r(sd_1) = 6139.133651282084
r(se) = 1654.55856499799
r(p_u) = .99999859147906
r(p_l) = 1.40852093994e-06
r(p) = 2.81704187988e-06
r(t) = -5.35293924064017
r(df_t) = 45
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 17007.89473684211
r(N_1) = 19

```

. ttest hg if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.1468421	.1219171	.5314242	-.0645699	.3582541
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	47	.145604	.0490242	.3360927	.0633091	.2278989
diff		.0020782	.1010003		-.1675445	.171701

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0206	t = 0.0206	t = 0.0206
P < t = 0.5082	P > t = 0.9837	P > t = 0.4918

. return list

scalars:

```

r(sd) = .3360927393062784
r(sd_2) = .0645853196035577
r(sd_1) = .5314241950454365

```



```

                                ttesteq_Run4_122006
r(se) = .1010003454400411
r(p_u) = .4918373211078138
r(p_l) = .5081626788921863
r(p) = .9836746422156276
r(t) = .0205762638685512
r(df_t) = 45
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .1468421004124378
r(N_1) = 19

```

```
. ttest mn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	279.4474	19.63434	85.58409	245.4002	313.4946
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	47	534.4836	41.74755	286.2068	464.4037	604.5636
diff		-428.0966	57.66297		-524.9373	-331.2558

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.4241	t = -7.4241	t = -7.4241
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 286.2068103186242
r(sd_2) = 240.5082073183621
r(sd_1) = 85.58408710100423
r(se) = 57.66296836426526
r(p_u) = .9999999987975872
r(p_l) = 1.20241281875e-09
r(p) = 2.40482563750e-09
r(t) = -7.424116074767756
r(df_t) = 45
r(mu_2) = 707.543938773019
r(N_2) = 28
r(mu_1) = 279.4473684210527
r(N_1) = 19

```

```
. ttest ni if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	10.68684	.520316	2.268005	9.784581	11.5891
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	47	17.77705	1.079345	7.399614	15.9652	19.5889
diff		-11.90142	1.340586		-14.15284	-9.650001

ttesteq_Run4_122006

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.8778	t = -8.8778	t = -8.8778
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```
r(sd) = 7.399613837363853
r(sd_2) = 5.520403568185079
r(sd_1) = 2.268004676159051
r(se) = 1.340586237376813
r(p_u) = .9999999999905651
r(p_l) = 9.43494155120e-12
r(p) = 1.88698831024e-11
r(t) = -8.877771522777305
r(df_t) = 45
r(mu_2) = 22.58826041221619
r(N_2) = 28
r(mu_1) = 10.68684209020514
r(N_1) = 19
```

. ttest pb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	14.46316	1.808123	7.881427	11.32776	17.59856
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	47	47.28757	5.782936	39.64581	37.57998	56.99515
diff		-55.09812	8.630451		-69.59233	-40.6039

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.3842	t = -6.3842	t = -6.3842
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```
r(sd) = 39.64580921143723
r(sd_2) = 36.92913331063091
r(sd_1) = 7.881427399939791
r(se) = 8.630451278863214
r(p_u) = .9999999580812031
r(p_l) = 4.19187969192e-08
r(p) = 8.38375938384e-08
r(t) = -6.384152481265971
r(df_t) = 45
r(mu_2) = 69.56127480098179
r(N_2) = 28
r(mu_1) = 14.46315785458213
```

ttesteq_Run4_122006

r(N_1) = 19

. ttest sb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.2568421	.1859515	.8105437	-.0656096	.5792938
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	47	2.395332	.3716266	2.547743	1.771497	3.019167
diff		-3.589608	.5475914		-4.509248	-2.669968

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.5553	t = -6.5553	t = -6.5553
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 2.547743292265628
r(sd_2) = 2.28448603590679
r(sd_1) = .8105437093667497
r(se) = .5475913777057824
r(p_u) = .9999999766737446
r(p_l) = 2.33262554072e-08
r(p) = 4.66525108144e-08
r(t) = -6.555268017910212
r(df_t) = 45
r(mu_2) = 3.846450345856803
r(N_2) = 28
r(mu_1) = .256842100698697
r(N_1) = 19

```

. ttest zn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	57.25526	3.226401	14.06356	51.66048	62.85005
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	47	99.38807	6.618539	45.37442	88.27779	110.4983
diff		-70.72292	8.647669		-85.24606	-56.19979

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.1783	t = -8.1783	t = -8.1783
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

ttesteq_Run4_122006

. return list

scalars:

```
r(sd) = 45.37441550532406
r(sd_2) = 35.76211410638251
r(sd_1) = 14.06355525157996
r(se) = 8.647669481979008
r(p_u) = .9999999999050274
r(p_l) = 9.49725837900e-11
r(p) = 1.89945167580e-10
r(t) = -8.178263802866576
r(df_t) = 45
r(mu_2) = 127.9781853812082
r(N_2) = 28
r(mu_1) = 57.25526307758532
r(N_1) = 19
```

. ttest ln_ag if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-3.689855	.2727497	1.188888	-4.16282	-3.216889
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	47	-1.915592	.2889267	1.980782	-2.400602	-1.430582
diff		-2.978226	.3965099		-3.644136	-2.312317

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.5111	t = -7.5111	t = -7.5111
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```
r(sd) = 1.980781839401567
r(sd_2) = 1.422565543721684
r(sd_1) = 1.188888451389633
r(se) = .3965099221646981
r(p_u) = .9999999991046918
r(p_l) = 8.95308149160e-10
r(p) = 1.79061629832e-09
r(t) = -7.511101297207752
r(df_t) = 45
r(mu_2) = -.7116283997893333
r(N_2) = 28
r(mu_1) = -3.689854590516342
r(N_1) = 19
```

. ttest ln_as if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	

ttesteq_Run4_122006						
ADJFAR	18	.9704303	.2791581	1.184368	.484805	1.456056
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368

combined	46	1.259571	.1283683	.8706364	1.043986	1.475157

diff		-.4750177	.2561784		-.9054563	-.044579

Degrees of freedom: 44

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.8542	t = -1.8542	t = -1.8542
P < t = 0.0352	P > t = 0.0704	P > t = 0.9648

. return list

scalars:

```

r(sd) = .8706364386182184
r(sd_2) = .5371996428689455
r(sd_1) = 1.184367515337014
r(se) = .2561784080143893
r(p_u) = .964792870119414
r(p_l) = .0352071298805861
r(p) = .0704142597611721
r(t) = -1.854245506213688
r(df_t) = 44
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = .970430259903272
r(N_1) = 18

```

. ttest ln_cd if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-.6460982	.0342148	.149139	-.7054289	-.5867675
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298

combined	47	-.2939115	.0741103	.5080745	-.4183175	-.1695055

diff		-.5911705	.124684		-.8005681	-.3817728

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.7414	t = -4.7414	t = -4.7414
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .5080745324673748
r(sd_2) = .5276860203161229
r(sd_1) = .1491390189115591
r(se) = .1246839577558845
r(p_u) = .9999891744503368
r(p_l) = .0000108255496632

```

```

                                ttesteq_Run4_122006
      r(p) = .0000216510993263
      r(t) = -4.741351702746239
      r(df_t) = 45
      r(mu_2) = -.0549276916842375
      r(N_2) = 28
      r(mu_1) = -.6460981870952406
      r(N_1) = 19

```

```
. ttest ln_cr if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.218841	.066123	.2882237	2.104179	2.333502
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	47	2.902861	.1032722	.7079984	2.729502	3.07622
diff		-1.148176	.1263833		-1.360428	-.9359248

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -9.0849	t = -9.0849	t = -9.0849
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

      r(sd) = .7079984128497061
      r(sd_2) = .4959313052537723
      r(sd_1) = .2882236604104138
      r(se) = .1263833212759757
      r(p_u) = .9999999999951904
      r(p_l) = 4.80958901438e-12
      r(p) = 9.61917802875e-12
      r(t) = -9.084872869039327
      r(df_t) = 45
      r(mu_2) = 3.367017269134522
      r(N_2) = 28
      r(mu_1) = 2.21884086257533
      r(N_1) = 19

```

```
. ttest ln_cu if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.18886	.0892394	.3889854	2.034114	2.343607
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	47	2.983554	.1210211	.829679	2.780401	3.186708
diff		-1.33395	.1504097		-1.586553	-1.081348

Degrees of freedom: 45

ttesteq_Run4_122006
Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.8688	t = -8.8688	t = -8.8688
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .8296790279413417
r(sd_2) = .5708913604705675
r(sd_1) = .3889854134269929
r(se) = .1504097118632294
r(p_u) = .9999999999902839
r(p_l) = 9.71610339365e-12
r(p) = 1.94322067873e-11
r(t) = -8.868778928811345
r(df_t) = 45
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 2.188860290928891
r(N_1) = 19

```

. ttest ln_fe if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.696045	.0665427	.2900528	9.580655	9.811434
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	47	9.97621	.0519143	.3559062	9.889064	10.06336
diff		-.4702782	.0807755		-.6059348	-.3346216

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.8220	t = -5.8220	t = -5.8220
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .3559062124740035
r(sd_2) = .2588487556964191
r(sd_1) = .2900528071328377
r(se) = .0807755103001813
r(p_u) = .9999997133594168
r(p_l) = 2.86640583166e-07
r(p) = 5.73281166332e-07
r(t) = -5.822039449495625
r(df_t) = 45
r(mu_2) = 10.16632287842887
r(N_2) = 28
r(mu_1) = 9.696044670908075
r(N_1) = 19

```

. ttest ln_hg if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

ttesteq_Run4_122006

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-3.669239	.2929487	1.276934	-4.177231	-3.161247
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	47	-2.664154	.1944995	1.333422	-2.990653	-2.337656
diff		-1.687107	.31196		-2.211021	-1.163193

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.4081	t = -5.4081	t = -5.4081
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.333421649667856
r(sd_2) = .8653945974159339
r(sd_1) = 1.276933745998642
r(se) = .3119599824438667
r(p_u) = .9999988307860886
r(p_l) = 1.16921391131e-06
r(p) = 2.33842782262e-06
r(t) = -5.408087122859064
r(df_t) = 45
r(mu_2) = -1.982132386948381
r(N_2) = 28
r(mu_1) = -3.669239150850396
r(N_1) = 19

```

. ttest ln_mn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	5.586407	.0734888	.3203301	5.458973	5.713841
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	47	6.152545	.094493	.6478111	5.993923	6.311166
diff		-.9503026	.1335317		-1.174559	-.7260458

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.1167	t = -7.1167	t = -7.1167
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:


```

                                ttesteq_Run4_122006
r(sd) = .6478110822460703
r(sd_2) = .5176612990743834
r(sd_1) = .32033014976996
r(se) = .1335316922689071
r(p_u) = .9999999965783158
r(p_l) = 3.42168417021e-09
r(p) = 6.84336834043e-09
r(t) = -7.116682102194225
r(df_t) = 45
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 5.586406908537212
r(N_1) = 19

```

```
. ttest ln_ni if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.349152	.0463231	.2019176	2.268824	2.429479
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	47	2.815866	.0713038	.4888344	2.696171	2.935561
diff		-.783413	.0891157		-.9330763	-.6337497

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.7910	t = -8.7910	t = -8.7910
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = .4888343642856187
r(sd_2) = .3501996737117437
r(sd_1) = .2019175588084386
r(se) = .0891156620858669
r(p_u) = .999999999874687
r(p_l) = 1.25313593413e-11
r(p) = 2.50627186826e-11
r(t) = -8.790968579471045
r(df_t) = 45
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 2.349151542312221
r(N_1) = 19

```

```
. ttest ln_pb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.572592	.0957076	.4171796	2.406629	2.738555
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245

			ttesteq_Run4_122006		
combined		47	3.3722	.1340367	.9189094 3.147198 3.597202

diff			-1.3422	.1903238	-1.661835 -1.022565

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.0522	t = -7.0522	t = -7.0522
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .9189094049799511
r(sd_2) = .7532151173757485
r(sd_1) = .4171795911801338
r(se) = .1903238268334953
r(p_u) = .9999999957364429
r(p_l) = 4.26355703462e-09
r(p) = 8.52711406924e-09
r(t) = -7.052191194614803
r(df_t) = 45
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 2.572591568294325
r(N_1) = 19

```

. ttest ln_sb if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)

Two-sample t test with equal variances

Group		Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]

ADJFAR		19	-2.613865	.2622958	1.143321	-3.068702 -2.159027
UP_SSD		28	.8881052	.3179855	1.682621	.3464842 1.429726

combined		47	-.5275848	.3323366	2.278385	-1.085465 .0302955

diff			-3.50197	.4430229		-4.245995 -2.757945

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.9047	t = -7.9047	t = -7.9047
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 2.27838507414539
r(sd_2) = 1.68262105380143
r(sd_1) = 1.143320902391257
r(se) = .4430228916748432
r(p_u) = .999999997627275
r(p_l) = 2.37272579183e-10
r(p) = 4.74545158366e-10
r(t) = -7.9047159063765
r(df_t) = 45

```

```

ttesteq_Run4_122006
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = -2.613864886133294
r(N_1) = 19

```

```
. ttest ln_zn if area=="UP_SSD"|area=="ADJFAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	4.020533	.0541443	.2360096	3.926644	4.114423
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	47	4.520524	.0792966	.5436303	4.387412	4.653636
diff		-.8392706	.1050553		-1.015703	-.6628379

Degrees of freedom: 45

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.9888	t = -7.9888	t = -7.9888
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = .5436302563588297
r(sd_2) = .4136119464945405
r(sd_1) = .2360095719986676
r(se) = .1050553049140488
r(p_u) = .9999999998210818
r(p_l) = 1.78918178666e-10
r(p) = 3.57836357331e-10
r(t) = -7.988845588526387
r(df_t) = 45
r(mu_2) = 4.85980395759855
r(N_2) = 28
r(mu_1) = 4.020533348384657
r(N_1) = 19

```

```
. ttest ag if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.2131037	.0333736	.1454721	.1552318	.2709756
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
combined	55	.5340722	.0644083	.4776645	.4262808	.6418636
diff		-.4903685	.1189774		-.6895506	-.2911865

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

```

                                ttesteq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -4.1215                     t = -4.1215                     t = -4.1215
P < t = 0.0001                  P > |t| = 0.0001                  P > t = 0.9999

```

```
. return list
```

```
scalars:
```

```

r(sd) = .4776645301902217
r(sd_2) = .5056662151699879
r(sd_1) = .1454721127310928
r(se) = .1189774213543109
r(p_u) = .9999335351372221
r(p_l) = .000066464862778
r(p) = .0001329297255559
r(t) = -4.121525949917195
r(df_t) = 53
r(mu_2) = .7034722231328487
r(N_2) = 36
r(mu_1) = .2131036935668243
r(N_1) = 19

```

```
. ttest as if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	16.11905	2.347764	9.960721	12.03487	20.20324
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
combined	54	12.19154	2.194555	16.12662	8.517597	15.86548
diff		5.891276	4.628353		-1.859776	13.64233

```
Degrees of freedom: 52
```

```
Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = 1.2729                     t = 1.2729                     t = 1.2729
P < t = 0.8956                  P > |t| = 0.2087                  P > t = 0.1044

```

```
. return list
```

```
scalars:
```

```

r(sd) = 16.12661821236384
r(sd_2) = 18.26819032347449
r(sd_1) = 9.960720878951873
r(se) = 4.628352656383649
r(p_u) = .1043634702432212
r(p_l) = .8956365297567788
r(p) = .2087269404864424
r(t) = 1.272866785130409
r(df_t) = 52
r(mu_2) = 10.2277777393659
r(N_2) = 36
r(mu_1) = 16.11905410554674
r(N_1) = 18

```

```
. ttest cd if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

ttesteq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.594173	.0149638	.0652257	.5682249	.6201212
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
combined	55	2.278805	.604252	4.481253	1.26755	3.29006
diff		-2.573744	1.232977		-4.637891	-.5095961

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.0874	t = -2.0874	t = -2.0874
P < t = 0.0208	P > t = 0.0417	P > t = 0.9792

. return list

scalars:

```

r(sd) = 4.481252533010225
r(sd_2) = 5.350435801382296
r(sd_1) = .0652256531109017
r(se) = 1.232977452149947
r(p_u) = .9791631236735779
r(p_l) = .0208368763264221
r(p) = .0416737526528441
r(t) = -2.087421500959816
r(df_t) = 53
r(mu_2) = 3.167916672097312
r(N_2) = 36
r(mu_1) = .5941730282808605
r(N_1) = 19

```

. ttest cr if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.42642	.6550671	2.855371	11.2905	13.56235
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
combined	55	70.33004	17.56897	130.2949	40.92723	99.73284
diff		-88.46385	35.2589		-147.4914	-29.43635

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.5090	t = -2.5090	t = -2.5090
P < t = 0.0076	P > t = 0.0152	P > t = 0.9924

. return list

scalars:

```

r(sd) = 130.2949436001154
r(sd_2) = 152.9961520864195

```

```

                                ttesteq_Run4_122006
r(sd_1) = 2.855371114443928
r(se) = 35.25890199062098
r(p_u) = .9923994419070779
r(p_l) = .0076005580929222
r(p) = .0152011161858443
r(t) = -2.508979268701407
r(df_t) = 53
r(mu_2) = 100.890277756585
r(N_2) = 36
r(mu_1) = 12.42642362494218
r(N_1) = 19

```

```
. ttest cu if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.9341	.778177	3.391995	11.58469	14.28351
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
combined	55	54.50814	8.287389	61.46092	40.63866	68.37763
diff		-63.5159	15.27595		-89.08961	-37.94219

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.1579	t = -4.1579	t = -4.1579
P < t = 0.0001	P > t = 0.0001	P > t = 0.9999

```
. return list
```

scalars:

```

r(sd) = 61.46092087920003
r(sd_2) = 66.24699983093207
r(sd_1) = 3.391994924514598
r(se) = 15.27594815685159
r(p_u) = .9999410297640897
r(p_l) = .0000589702359103
r(p) = .0001179404718207
r(t) = -4.157902298177223
r(df_t) = 53
r(mu_2) = 76.45000007417467
r(N_2) = 36
r(mu_1) = 12.93410012596532
r(N_1) = 19

```

```
. ttest fe if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	23147.03	1408.414	6139.134	20704.75	25589.31
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24
combined	55	24228.06	715.6457	5307.37	23030.38	25425.74

```

diff |          -1651.584      1502.083      -4166.246      863.0785
-----
Degrees of freedom: 53

```

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

```

Ha: diff < 0          Ha: diff != 0          Ha: diff > 0
  t = -1.0995          t = -1.0995          t = -1.0995
P < t = 0.1383        P > |t| = 0.2765        P > t = 0.8617

```

. return list

scalars:

```

r(sd) = 5307.370428812667
r(sd_2) = 4807.011042085316
r(sd_1) = 6139.133651282084
r(se) = 1502.08332144454
r(p_u) = .8617465016885479
r(p_l) = .1382534983114521
r(p) = .2765069966229042
r(t) = -1.099528593514164
r(df_t) = 53
r(mu_2) = 24798.61111111111
r(N_2) = 36
r(mu_1) = 23147.02754934211
r(N_1) = 19

```

. ttest hg if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.6782663	.1219171	.5314242	.4668543	.8896783
ADJNEAR	36	.5122222	.0979643	.5877857	.3467045	.67774
combined	55	.5695829	.0768016	.569576	.4410504	.6981154
diff		.1660441	.1614253		-.1042007	.4362889

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

```

Ha: diff < 0          Ha: diff != 0          Ha: diff > 0
  t = 1.0286          t = 1.0286          t = 1.0286
P < t = 0.8458        P > |t| = 0.3083        P > t = 0.1542

```

. return list

scalars:

```

r(sd) = .569576049786418
r(sd_2) = .5877857325071175
r(sd_1) = .5314242125132804
r(se) = .1614253486097924
r(p_u) = .1541667497515692
r(p_l) = .8458332502484308
r(p) = .3083334995031385
r(t) = 1.028612221743912
r(df_t) = 53
r(mu_2) = .512222225467364
r(N_2) = 36

```

```

                                ttestedq_Run4_122006
r(mu_1) = .6782663119466681
r(N_1) = 19

```

```
. ttest mn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	365.0314	19.63434	85.58409	330.9843	399.0786
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
combined	55	529.529	31.4759	233.4315	476.8521	582.206
diff		-251.3158	57.20583		-347.085	-155.5466

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.3932	t = -4.3932	t = -4.3932
P < t = 0.0000	P > t = 0.0001	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 233.431501237777
r(sd_2) = 240.5443178485128
r(sd_1) = 85.58408889042127
r(se) = 57.20582679026643
r(p_u) = .9999730783089481
r(p_l) = .0000269216910519
r(p) = .0000538433821038
r(t) = -4.393184917780335
r(df_t) = 53
r(mu_2) = 616.3472222222222
r(N_2) = 36
r(mu_1) = 365.0314467580695
r(N_1) = 19

```

```
. ttest ni if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.95485	.520316	2.268005	12.05259	13.85711
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
combined	55	20.34622	1.059645	7.858536	18.57284	22.1196
diff		-11.29238	1.628959		-14.01944	-8.565309

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.9323	t = -6.9323	t = -6.9323
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

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ttesteq_Run4_122006						
ADJFAR_S	19	1.067386	.1859515	.8105438	.7449341	1.389838
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
combined	55	2.15037	.3179186	2.357747	1.618312	2.682427
diff		-1.654559	.6354329		-2.718347	-.59077

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.6038	t = -2.6038	t = -2.6038
P < t = 0.0060	P > t = 0.0119	P > t = 0.9940

. return list

scalars:

```

r(sd) = 2.357747133603248
r(sd_2) = 2.695570225717761
r(sd_1) = .8105437717069745
r(se) = .6354329311947192
r(p_u) = .9940332892854881
r(p_l) = .0059667107145119
r(p) = .0119334214290238
r(t) = -2.603828811667689
r(df_t) = 53
r(mu_2) = 2.721944429601232
r(N_2) = 36
r(mu_1) = 1.06738585547397
r(N_1) = 19

```

. ttest zn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	71.31882	3.226401	14.06355	65.72403	76.9136
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
combined	55	152.5629	16.5512	122.747	124.8634	180.2624
diff		-124.1228	30.71945		-175.5508	-72.69493

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.0405	t = -4.0405	t = -4.0405
P < t = 0.0001	P > t = 0.0002	P > t = 0.9999

. return list

scalars:

```

r(sd) = 122.7470069816802
r(sd_2) = 132.928335922908
r(sd_1) = 14.06355483840419
r(se) = 30.71944578607094
r(p_u) = .9999133869861934

```

```

                                ttesteq_Run4_122006
r(p_l) = .0000866130138066
r(p) = .0001732260276132
r(t) = -4.040530191506461
r(df_t) = 53
r(mu_2) = 195.4416667090522
r(N_2) = 36
r(mu_1) = 71.31881854408665
r(N_1) = 19

```

```
. ttest ln_ag if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	-2.450115	.2832921	1.201907	-2.942932	-1.957298
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
combined	54	-1.192577	.1705017	1.252926	-1.478016	-.9071371
diff		-1.886308	.2547712		-2.31297	-1.459645

Degrees of freedom: 52

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.4039	t = -7.4039	t = -7.4039
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 1.252926397440689
r(sd_2) = .6749595667155161
r(sd_1) = 1.20190668914736
r(se) = .254771199844535
r(p_u) = .9999999994380932
r(p_l) = 5.61906847115e-10
r(p) = 1.12381369423e-09
r(t) = -7.403928432205204
r(df_t) = 52
r(mu_2) = -.5638074596515961
r(N_2) = 36
r(mu_1) = -2.450115189887583
r(N_1) = 18

```

```
. ttest ln_as if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	2.154798	.2791581	1.184367	1.669172	2.640423
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
combined	54	2.019208	.1185982	.8715155	1.820661	2.217756
diff		.203384	.2524216		-.2193437	.6261117

Degrees of freedom: 52

ttesteq_Run4_122006

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.8057	t = 0.8057	t = 0.8057
P < t = 0.7880	P > t = 0.4241	P > t = 0.2120

. return list

scalars:

```
r(sd) = .8715154601049954
r(sd_2) = .6742795428965974
r(sd_1) = 1.184367421099401
r(se) = .2524215947311772
r(p_u) = .2120335179782709
r(p_l) = .7879664820217291
r(p) = .4240670359565418
r(t) = .8057314345714158
r(df_t) = 52
r(mu_2) = 1.951413699322277
r(N_2) = 36
r(mu_1) = 2.154797712961833
r(N_1) = 18
```

. ttest ln_cd if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-.4969592	.0342148	.149139	-.5562899	-.4376285
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
combined	55	.0517597	.1411856	1.04706	-.1845235	.288043
diff		-.8383206	.2766928		-1.301536	-.3751047

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.0298	t = -3.0298	t = -3.0298
P < t = 0.0019	P > t = 0.0038	P > t = 0.9981

. return list

scalars:

```
r(sd) = 1.047060324050764
r(sd_2) = 1.195965820831796
r(sd_1) = .1491390110301696
r(se) = .2766927998118523
r(p_u) = .998110998120854
r(p_l) = .001889001879146
r(p) = .0037780037582919
r(t) = -3.029788174675374
r(df_t) = 53
r(mu_2) = .3413613806996081
r(N_2) = 36
r(mu_1) = -.4969591921881625
r(N_1) = 19
```

```

ttesteq_Run4_122006
. ttest ln_cr if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.507064	.066123	.2882237	2.392403	2.621726
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304
combined	55	3.485064	.146377	1.085561	3.240092	3.730035
diff		-1.494166	.2332862		-1.884714	-1.103617

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.4049	t = -6.4049	t = -6.4049
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.085561005133775
r(sd_2) = .9910459752230189
r(sd_1) = .2882236642825249
r(se) = .2332862469917019
r(p_u) = .9999999795897262
r(p_l) = 2.04102737919e-08
r(p) = 4.08205475837e-08
r(t) = -6.4048598092219
r(df_t) = 53
r(mu_2) = 4.001230206754473
r(N_2) = 36
r(mu_1) = 2.507064499353108
r(N_1) = 19

```

```

. ttest ln_cu if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.577846	.0892394	.3889854	2.423099	2.732592
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168	4.266936
combined	55	3.556199	.1260458	.9347809	3.345253	3.767145
diff		-1.494707	.1715661		-1.781928	-1.207485

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.7121	t = -8.7121	t = -8.7121
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

ttesteq_Run4_122006

scalars:

```
r(sd) = .9347809153230854
r(sd_2) = .6902956110898095
r(sd_1) = .388985427887002
r(se) = .1715660649450183
r(p_u) = .999999999958518
r(p_l) = 4.14826299118e-12
r(p) = 8.29652598235e-12
r(t) = -8.712134258572993
r(df_t) = 53
r(mu_2) = 4.072552303473155
r(N_2) = 36
r(mu_1) = 2.577845711457102
r(N_1) = 19
```

. ttest ln_fe if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	9.986097	.0665427	.2900528	9.870708	10.10149
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
combined	55	10.06238	.0304956	.2261615	10.01134	10.11341
diff		-.1165378	.0627233		-.2215439	-.0115317

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.8580	t = -1.8580	t = -1.8580
P < t = 0.0344	P > t = 0.0687	P > t = 0.9656

. return list

scalars:

```
r(sd) = .2261614595266012
r(sd_2) = .1755640472789583
r(sd_1) = .2900528347234936
r(se) = .0627233083941506
r(p_u) = .9656338684406673
r(p_l) = .0343661315593327
r(p) = .0687322631186654
r(t) = -1.857966224066513
r(df_t) = 53
r(mu_2) = 10.10263522466024
r(N_2) = 36
r(mu_1) = 9.986097436202201
r(N_1) = 19
```

. ttest ln_hg if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-2.392305	.2929487	1.276934	-2.900297	-1.884314
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377

ttesteq_Run4_122006						
combined	55	-1.625612	.1685145	1.249737	-1.907632	-1.343593
diff		-1.171337	.3194823		-1.706187	-.636486

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.6664	t = -3.6664	t = -3.6664
P < t = 0.0003	P > t = 0.0006	P > t = 0.9997

. return list

scalars:

```

r(sd) = 1.249736891463374
r(sd_2) = 1.040965920690938
r(sd_1) = 1.276933774109744
r(se) = .3194823170068618
r(p_u) = .9997147385109317
r(p_l) = .0002852614890683
r(p) = .0005705229781367
r(t) = -3.666357939380151
r(df_t) = 53
r(mu_2) = -1.220968932534258
r(N_2) = 36
r(mu_1) = -2.392305461983932
r(N_1) = 19

```

. ttest ln_mn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	5.906737	.0734888	.3203301	5.779303	6.034171
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
combined	55	6.205233	.0538459	.399332	6.115119	6.295348
diff		-.456036	.0956063		-.616092	-.29598

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.7699	t = -4.7699	t = -4.7699
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .399331986957976
r(sd_2) = .345492808956618
r(sd_1) = .3203301326918442
r(se) = .0956062564483048
r(p_u) = .9999925798521177
r(p_l) = 7.42014788235e-06
r(p) = .0000148402957647
r(t) = -4.769938855224881

```

ttesteq_Run4_122006

```
r(df_t) = 53
r(mu_2) = 6.362773074044122
r(N_2) = 36
r(mu_1) = 5.906737076608758
r(N_1) = 19
```

. ttest ln_ni if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.551069	.0463231	.2019176	2.470742	2.631396
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
combined	55	2.946287	.0503008	.3730404	2.862106	3.030469
diff		-.6038057	.0672453		-.7163822	-.4912293

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.9792	t = -8.9792	t = -8.9792
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```
r(sd) = .3730404281530499
r(sd_2) = .2533577677483135
r(sd_1) = .2019175718315225
r(se) = .0672453069690804
r(p_u) = .99999999999842
r(p_l) = 1.57999750532e-12
r(p) = 3.15999501065e-12
r(t) = -8.979150555792559
r(df_t) = 53
r(mu_2) = 3.154874781767527
r(N_2) = 36
r(mu_1) = 2.551069046321668
r(N_1) = 19
```

. ttest ln_pb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.989771	.0957076	.4171796	2.823808	3.155734
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
combined	55	3.722197	.1257548	.9326225	3.511738	3.932656
diff		-1.118984	.2182508		-1.484361	-.7536069

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0


```

                                ttesteq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -5.1271                     t = -5.1271                     t = -5.1271
P < t = 0.0000                  P > |t| = 0.0000                  P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = .93262253002086
r(sd_2) = .898630566713301
r(sd_1) = .4171796114446753
r(se) = .2182508330292698
r(p_u) = .9999978804507477
r(p_l) = 2.11954925232e-06
r(p) = 4.23909850465e-06
r(t) = -5.12705552082743
r(df_t) = 53
r(mu_2) = 4.108755303753747
r(N_2) = 36
r(mu_1) = 2.989771165345844
r(N_1) = 19

```

```
. ttest ln_sb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-1.470544	.2622958	1.143321	-1.925382	-1.015706
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
combined	55	-.351459	.2066781	1.532765	-.6973482	-.0055699
diff		-1.709713	.3705705		-2.330091	-1.089335

```
Degrees of freedom: 53
```

```
Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -4.6137                     t = -4.6137                     t = -4.6137
P < t = 0.0000                  P > |t| = 0.0000                  P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 1.532765464569694
r(sd_2) = 1.383409096107487
r(sd_1) = 1.143320840591967
r(se) = .3705705190988712
r(p_u) = .9999872811867729
r(p_l) = .0000127188132271
r(p) = .0000254376264541
r(t) = -4.613731955701129
r(df_t) = 53
r(mu_2) = .2391691059908933
r(N_2) = 36
r(mu_1) = -1.470543939816324
r(N_1) = 19

```

```
. ttest ln_zn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) level (90)
```

```
Two-sample t test with equal variances
```

ttesteq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	4.256543	.0541443	.2360096	4.162653	4.350433
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
combined	55	4.831224	.0797947	.5917731	4.697683	4.964766
diff		-.8779855	.118936		-1.077098	-.6788728

Degrees of freedom: 53

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.3820	t = -7.3820	t = -7.3820
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .5917730558978115
r(sd_2) = .4875964931566519
r(sd_1) = .2360095918909634
r(se) = .1189360460300476
r(p_u) = .9999999994523473
r(p_l) = 5.47652661755e-10
r(p) = 1.09530532351e-09
r(t) = -7.381996856186544
r(df_t) = 53
r(mu_2) = 5.134528451495701
r(N_2) = 36
r(mu_1) = 4.256542933614631
r(N_1) = 19

```

. ttest ag if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
UNC_S	15	1.379974	.1543102	.5976408	1.108186	1.651762
combined	51	.9024434	.0858536	.6131173	.7585609	1.046326
diff		-.6765019	.1639742		-.951413	-.4015908

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.1257	t = -4.1257	t = -4.1257
P < t = 0.0001	P > t = 0.0001	P > t = 0.9999

. return list

scalars:

```

r(sd) = .6131173035636875

```

```

                                ttesteq_Run4_122006
r(sd_2) = .5976407924244336
r(sd_1) = .5056662151699879
r(se) = .1639741822233748
r(p_u) = .9999286030988152
r(p_l) = .0000713969011849
r(p) = .0001427938023697
r(t) = -4.125661067714522
r(df_t) = 49
r(mu_2) = 1.379974122842153
r(N_2) = 15
r(mu_1) = .7034722231328487
r(N_1) = 36

```

```
. ttest as if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
UNC_S	15	9.558497	1.103842	4.275164	7.614288	11.50271
combined	51	10.03093	2.16397	15.45384	6.404322	13.65754
diff		.6692807	4.79651		-7.372312	8.710873

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.1395	t = 0.1395	t = 0.1395
P < t = 0.5552	P > t = 0.8896	P > t = 0.4448

```
. return list
```

scalars:

```

r(sd) = 15.45383991991976
r(sd_2) = 4.275163615672224
r(sd_1) = 18.26819032347449
r(se) = 4.79650955416561
r(p_u) = .444799696967229
r(p_l) = .555200303032771
r(p) = .8895993939344581
r(t) = .139534950607881
r(df_t) = 49
r(mu_2) = 9.558497015635172
r(N_2) = 15
r(mu_1) = 10.2277777393659
r(N_1) = 36

```

```
. ttest cd if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
UNC_S	15	11.36637	1.435509	5.559704	8.837993	13.89475
combined	51	5.579227	.9174516	6.551915	4.041665	7.116788

```

-----+-----
ttesteq_Run4_122006
diff | -8.198454 1.662915 -10.98642 -5.410493
-----+-----
Degrees of freedom: 49

```

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.9302	t = -4.9302	t = -4.9302
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 6.551915112713913
r(sd_2) = 5.559704143219983
r(sd_1) = 5.350435801382296
r(se) = 1.662914687019693
r(p_u) = .9999950872492891
r(p_l) = 4.91275071096e-06
r(p) = 9.82550142192e-06
r(t) = -4.930171201934322
r(df_t) = 49
r(mu_2) = 11.36637077331543
r(N_2) = 15
r(mu_1) = 3.167916672097312
r(N_1) = 36

```

. ttest cr if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

```

-----+-----
Group | Obs Mean Std. Err. Std. Dev. [90% Conf. Interval]
-----+-----
ADJNEAR | 36 100.8903 25.49936 152.9962 57.80726 143.9733
UNC_S | 15 225.7909 25.47328 98.65759 180.9246 270.6573
-----+-----
combined | 51 137.6258 20.96419 149.7143 102.4918 172.7598
-----+-----
diff | -124.9006 42.91555 -196.8507 -52.95054
-----+-----

```

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.9104	t = -2.9104	t = -2.9104
P < t = 0.0027	P > t = 0.0054	P > t = 0.9973

. return list

scalars:

```

r(sd) = 149.714296518643
r(sd_2) = 98.65758554432107
r(sd_1) = 152.9961520864195
r(se) = 42.91554801437233
r(p_u) = .9972915478070703
r(p_l) = .0027084521929297
r(p) = .0054169043858593
r(t) = -2.91038205265286
r(df_t) = 49
r(mu_2) = 225.7909184773763

```

ttesteq_Run4_122006

r(N_2) = 15
r(mu_1) = 100.890277756585
r(N_1) = 36

. ttest cu if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
UNC_S	15	137.8961	15.78356	61.12946	110.0964	165.6959
combined	51	94.52239	9.819865	70.12786	78.06523	110.9796
diff		-61.44613	19.92223		-94.84676	-28.04549

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.0843	t = -3.0843	t = -3.0843
P < t = 0.0017	P > t = 0.0033	P > t = 0.9983

. return list

scalars:

r(sd) = 70.1278609688906
r(sd_2) = 61.12945863932802
r(sd_1) = 66.24699983093207
r(se) = 19.92223150233728
r(p_u) = .9983256114845303
r(p_l) = .0016743885154698
r(p) = .0033487770309395
r(t) = -3.084299326782101
r(df_t) = 49
r(mu_2) = 137.8961252848307
r(N_2) = 15
r(mu_1) = 76.45000007417467
r(N_1) = 36

. ttest fe if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24
UNC_S	15	26976.67	1324.562	5130.005	24643.71	29309.64
combined	51	25439.22	693.7889	4954.644	24276.49	26601.94
diff		-2178.061	1506.31		-4703.466	347.3439

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.4460	t = -1.4460	t = -1.4460

$P < t = 0.0773$
 $ttesteq\_Run4\_122006$
 $P > |t| = 0.1546$
 $P > t = 0.9227$

. return list

scalars:

```

r(sd) = 4954.643847278745
r(sd_2) = 5130.004755810965
r(sd_1) = 4807.011042085316
r(se) = 1506.309862805677
r(p_u) = .9227224183075251
r(p_l) = .0772775816924749
r(p) = .1545551633849498
r(t) = -1.445958324049832
r(df_t) = 49
r(mu_2) = 26976.67239583334
r(N_2) = 15
r(mu_1) = 24798.611111111111
r(N_1) = 36

```

. ttest hg if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.5122222	.0979643	.5877857	.3467045	.67774
UNC_S	14	1.621195	.2184235	.817266	1.234381	2.008008
combined	50	.8227345	.1163594	.8227854	.627652	1.017817
diff		-1.108972	.2072154		-1.456519	-.7614257

Degrees of freedom: 48

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.3518	t = -5.3518	t = -5.3518
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .822785388145871
r(sd_2) = .8172660245765895
r(sd_1) = .5877857325071175
r(se) = .2072154091752792
r(p_u) = .9999987953499594
r(p_l) = 1.20465004065e-06
r(p) = 2.40930008130e-06
r(t) = -5.351785254522573
r(df_t) = 48
r(mu_2) = 1.621194596801485
r(N_2) = 14
r(mu_1) = .512222225467364
r(N_1) = 36

```

. ttest mn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

ttesteq_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
UNC_S	15	525.2589	32.72901	126.7589	467.613	582.9048
combined	51	589.5565	30.27946	216.2386	538.8111	640.302
diff		91.08831	65.85542		-19.32165	201.4983

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.3832	t = 1.3832	t = 1.3832
P < t = 0.9136	P > t = 0.1729	P > t = 0.0864

. return list

scalars:

```

r(sd) = 216.2385649893615
r(sd_2) = 126.7589106476205
r(sd_1) = 240.5443178485128
r(se) = 65.85541691543926
r(p_u) = .0864436697239433
r(p_l) = .9135563302760568
r(p) = .1728873394478865
r(t) = 1.383155940024954
r(df_t) = 49
r(mu_2) = 525.2589111328125
r(N_2) = 15
r(mu_1) = 616.3472222222222
r(N_1) = 36

```

. ttest ni if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
UNC_S	15	28.64823	1.803492	6.984893	25.47172	31.82474
combined	51	25.54164	.9989276	7.13377	23.86753	27.21574
diff		-4.401005	2.123475		-7.961119	-.8408899

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.0725	t = -2.0725	t = -2.0725
P < t = 0.0217	P > t = 0.0435	P > t = 0.9783

. return list

scalars:

```

r(sd) = 7.133770252591221
r(sd_2) = 6.984893323161297
r(sd_1) = 6.879389034980469
r(se) = 2.123475443413664

```

```

ttesteq_Run4_122006
r(p_u) = .9782517714506298
r(p_l) = .0217482285493702
r(p) = .0434964570987404
r(t) = -2.07254786901726
r(df_t) = 49
r(mu_2) = 28.64822692871094
r(N_2) = 15
r(mu_1) = 24.24722242355347
r(N_1) = 36

```

```
. ttest pb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	103.9806	26.47358	158.8415	59.25153	148.7096
UNC_S	15	232.5015	24.73585	95.80154	188.934	276.069
combined	51	141.7808	21.57027	154.0425	105.6311	177.9306
diff		-128.521	44.15568		-202.5502	-54.49174

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.9106	t = -2.9106	t = -2.9106
P < t = 0.0027	P > t = 0.0054	P > t = 0.9973

```
. return list
```

scalars:

```

r(sd) = 154.0425432345629
r(sd_2) = 95.80153830931775
r(sd_1) = 158.841473239832
r(se) = 44.15567643161064
r(p_u) = .9972933993175278
r(p_l) = .0027066006824722
r(p) = .0054132013649443
r(t) = -2.910633333266845
r(df_t) = 49
r(mu_2) = 232.5015391031901
r(N_2) = 15
r(mu_1) = 103.980555428399
r(N_1) = 36

```

```
. ttest sb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
UNC_S	15	2.681329	.4222401	1.635329	1.937633	3.425025
combined	51	2.709999	.3382603	2.415662	2.143106	3.276891
diff		.0406155	.7498913		-1.216615	1.297846

ttesteq_Run4_122006

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0542	t = 0.0542	t = 0.0542
P < t = 0.5215	P > t = 0.9570	P > t = 0.4785

. return list

scalars:

```
r(sd) = 2.415661962398212
r(sd_2) = 1.635328927075713
r(sd_1) = 2.695570225717761
r(se) = .7498913282866598
r(p_u) = .4785132115588576
r(p_l) = .5214867884411424
r(p) = .9570264231177152
r(t) = .0541618758169037
r(df_t) = 49
r(mu_2) = 2.681328908602397
r(N_2) = 15
r(mu_1) = 2.721944429601232
r(N_1) = 36
```

. ttest zn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
UNC_S	15	400.481	38.48909	149.0676	332.6897	468.2722
combined	51	255.7473	23.21836	165.8123	216.8356	294.6591
diff		-205.0393	42.32775		-276.0039	-134.0747

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.8441	t = -4.8441	t = -4.8441
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```
r(sd) = 165.8122632323756
r(sd_2) = 149.0676208813034
r(sd_1) = 132.928335922908
r(se) = 42.32774993168675
r(p_u) = .9999934115863548
r(p_l) = 6.58841364520e-06
r(p) = .0000131768272904
r(t) = -4.844086672120784
r(df_t) = 49
r(mu_2) = 400.4809560139974
r(N_2) = 15
r(mu_1) = 195.4416667090522
r(N_1) = 36
```

ttesteq_Run4_122006

. ttest ln_ag if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
UNC_S	15	.3610713	.2450597	.9491121	-.0705548	.7926974
combined	51	-.2917843	.1214513	.8673355	-.4953251	-.0882435
diff		-.9248788	.2346073		-1.31821	-.5315477

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.9422	t = -3.9422	t = -3.9422
P < t = 0.0001	P > t = 0.0003	P > t = 0.9999

. return list

scalars:

```

r(sd) = .8673354842406555
r(sd_2) = .9491120904650712
r(sd_1) = .6749595667155161
r(se) = .2346073268938076
r(p_u) = .9998718091496455
r(p_l) = .0001281908503545
r(p) = .0002563817007089
r(t) = -3.942241754083212
r(df_t) = 49
r(mu_2) = .3610713402430216
r(N_2) = 15
r(mu_1) = -.5638074596515961
r(N_1) = 36

```

. ttest ln_as if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
UNC_S	15	2.093208	.1654851	.6409209	1.801738	2.384679
combined	51	1.993118	.0926233	.6614628	1.83789	2.148346
diff		-.1417944	.2043418		-.4843837	.200795

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.6939	t = -0.6939	t = -0.6939
P < t = 0.2455	P > t = 0.4910	P > t = 0.7545

. return list

ttesteq_Run4_122006

scalars:

```

r(sd) = .6614627559476826
r(sd_2) = .6409208807690817
r(sd_1) = .6742795428965974
r(se) = .2043417659860781
r(p_u) = .7544916370373302
r(p_l) = .2455083629626697
r(p) = .4910167259253393
r(t) = -.6939078688519961
r(df_t) = 49
r(mu_2) = 2.09320805867513
r(N_2) = 15
r(mu_1) = 1.951413699322277
r(N_1) = 36

```

. ttest ln_cd if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
UNC_S	15	2.454868	.3566298	1.381221	1.826732	3.083004
combined	51	.9629809	.2205761	1.575228	.5933164	1.332645
diff		-2.113506	.3846692		-2.758424	-1.468589

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.4943	t = -5.4943	t = -5.4943
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.575228249131279
r(sd_2) = 1.381221309975467
r(sd_1) = 1.195965820831796
r(se) = .3846691726761347
r(p_u) = .9999993037300278
r(p_l) = 6.96269972205e-07
r(p) = 1.39253994441e-06
r(t) = -5.494348507765243
r(df_t) = 49
r(mu_2) = 2.454867875576019
r(N_2) = 15
r(mu_1) = .3413613806996081
r(N_1) = 36

```

. ttest ln_cr if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304

UNC_S	15	5.473337	.2690908	1.042184	4.999385	5.947289
combined	51	4.434203	.1686484	1.204391	4.151564	4.716842
diff		-1.472107	.3091382		-1.990393	-.9538209

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.7620	t = -4.7620	t = -4.7620
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.204390695300268
r(sd_2) = 1.042184369189185
r(sd_1) = .9910459752230189
r(se) = .309138166372775
r(p_u) = .9999912950552776
r(p_l) = 8.70494472235e-06
r(p) = .0000174098894447
r(t) = -4.761970329465675
r(df_t) = 49
r(mu_2) = 5.473336982727051
r(N_2) = 15
r(mu_1) = 4.001230206754473
r(N_1) = 36

```

. ttest ln_cu if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168 4.266936
UNC_S	15	4.912339	.2356181	.912545	4.497343 5.327336
combined	51	4.319548	.1184928	.8462078	4.120966 4.518131
diff		-.8397868	.2337009		-1.231598 -.4479754

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.5934	t = -3.5934	t = -3.5934
P < t = 0.0004	P > t = 0.0008	P > t = 0.9996

. return list

scalars:

```

r(sd) = .8462078480839509
r(sd_2) = .912545005069981
r(sd_1) = .6902956110898095
r(se) = .2337008801494239
r(p_u) = .9996222078532532
r(p_l) = .0003777921467468
r(p) = .0007555842934937

```

```

                                ttesteq_Run4_122006
      r(t) = -3.593426104864764
    r(df_t) = 49
    r(mu_2) = 4.912339146931966
    r(N_2) = 15
    r(mu_1) = 4.072552303473155
    r(N_1) = 36

```

```
. ttest ln_fe if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
UNC_S	15	10.1952	.0588473	.2279146	10.09155	10.29885
combined	51	10.12986	.0272731	.1947692	10.08415	10.17557
diff		-.0925666	.059		-.1914832	.0063499

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.5689	t = -1.5689	t = -1.5689
P < t = 0.0616	P > t = 0.1231	P > t = 0.9384

```
. return list
```

scalars:

```

      r(sd) = .1947692473820661
    r(sd_2) = .227914627306391
    r(sd_1) = .1755640472789583
      r(se) = .0590000341593221
    r(p_u) = .9384494102785731
    r(p_l) = .0615505897214269
      r(p) = .1231011794428538
      r(t) = -1.568925347892103
    r(df_t) = 49
    r(mu_2) = 10.1952018737793
    r(N_2) = 15
    r(mu_1) = 10.10263522466024
    r(N_1) = 36

```

```
. ttest ln_hg if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
UNC_S	14	.4374954	.3163952	1.183842	-.1228194	.9978102
combined	50	-.7565989	.1850215	1.308299	-1.066797	-.446401
diff		-1.658464	.340649		-2.229809	-1.08712

Degrees of freedom: 48

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

ttesteq_Run4_122006

Ha: diff < 0
t = -4.8685
P < t = 0.0000

Ha: diff != 0
t = -4.8685
P > |t| = 0.0000

Ha: diff > 0
t = -4.8685
P > t = 1.0000

. return list

scalars:

r(sd) = 1.308299307370438
r(sd_2) = 1.183842390117345
r(sd_1) = 1.040965920690938
r(se) = .3406489759707275
r(p_u) = .999993702175621
r(p_l) = 6.29782437905e-06
r(p) = .0000125956487581
r(t) = -4.868543331668136
r(df_t) = 48
r(mu_2) = .437495367867606
r(N_2) = 14
r(mu_1) = -1.220968932534258
r(N_1) = 36

. ttest ln_mn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
UNC_S	15	6.266496	.0845278	.3273746	6.117617	6.415376
combined	51	6.334456	.0475946	.3398931	6.254692	6.41422
diff		.0962767	.1046156		-.0791167	.27167

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0
t = 0.9203
P < t = 0.8190

Ha: diff != 0
t = 0.9203
P > |t| = 0.3619

Ha: diff > 0
t = 0.9203
P > t = 0.1810

. return list

scalars:

r(sd) = .3398931284316092
r(sd_2) = .3273745845428254
r(sd_1) = .345492808956618
r(se) = .1046155809551618
r(p_u) = .1809649638941465
r(p_l) = .8190350361058535
r(p) = .361929927788293
r(t) = .9202899716567223
r(df_t) = 49
r(mu_2) = 6.266496404012044
r(N_2) = 15
r(mu_1) = 6.362773074044122
r(N_1) = 36

. ttest ln_ni if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

ttesteq_Run4_122006

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
UNC_S	14	3.356214	.0919091	.3438923	3.193449	3.518979
combined	50	3.21125	.0413678	.2925148	3.141895	3.280605
diff		-.2013394	.0884358		-.3496661	-.0530127

Degrees of freedom: 48

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.2767	t = -2.2767	t = -2.2767
P < t = 0.0137	P > t = 0.0273	P > t = 0.9863

. return list

scalars:

```

r(sd) = .2925147557869538
r(sd_2) = .3438923211765457
r(sd_1) = .2533577677483135
r(se) = .0884358099479408
r(p_u) = .9863478586097151
r(p_l) = .0136521413902849
r(p) = .0273042827805698
r(t) = -2.276672968770824
r(df_t) = 48
r(mu_2) = 3.356214199747358
r(N_2) = 14
r(mu_1) = 3.154874781767527
r(N_1) = 36

```

. ttest ln_pb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
UNC_S	15	5.61718	.285321	1.105043	5.114642	6.119719
combined	51	4.55241	.1650328	1.17857	4.27583	4.828989
diff		-1.508425	.2956815		-2.00415	-1.0127

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.1015	t = -5.1015	t = -5.1015
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.178570211708166

```

```

                                ttesteq_Run4_122006
r(sd_2) = 1.105043349917252
r(sd_1) = .898630566713301
r(se) = .2956815418606706
r(p_u) = .9999972718174602
r(p_l) = 2.72818253981e-06
r(p) = 5.45636507962e-06
r(t) = -5.101519618870289
r(df_t) = 49
r(mu_2) = 5.617180490493775
r(N_2) = 15
r(mu_1) = 4.108755303753747
r(N_1) = 36

```

```
. ttest ln_sb if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
UNC_S	15	.5847946	.3843439	1.488557	-.0921542	1.261743
combined	51	.3408237	.1973052	1.409041	.0101589	.6714884
diff		-.3456255	.4346245		-1.074296	.3830447

Degrees of freedom: 49

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.7952	t = -0.7952	t = -0.7952
P < t = 0.2152	P > t = 0.4303	P > t = 0.7848

```
. return list
```

scalars:

```

r(sd) = 1.409040880628396
r(sd_2) = 1.488557460676137
r(sd_1) = 1.383409096107487
r(se) = .434624518185795
r(p_u) = .7848417983254531
r(p_l) = .2151582016745469
r(p) = .4303164033490938
r(t) = -.795227688825257
r(df_t) = 49
r(mu_2) = .584794557094574
r(N_2) = 15
r(mu_1) = .2391691059908933
r(N_1) = 36

```

```
. ttest ln_zn if area=="UNC_SSD"|area=="ADJNEAR", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
UNC_S	15	6.002794	.172063	.6663972	5.699737	6.30585
combined	51	5.389901	.093977	.6711298	5.232404	5.547397


```

-----+-----
ttesteq_Run4_122006
diff |      - .8682652      .1673976      -1.148916      -.5876146
-----+-----
Degrees of freedom: 49

```

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -5.1868      t = -5.1868      t = -5.1868
P < t = 0.0000    P > |t| = 0.0000    P > t = 1.0000

```

. return list

scalars:

```

r(sd) = .6711298204586308
r(sd_2) = .6663971947594712
r(sd_1) = .4875964931566519
r(se) = .1673976266923664
r(p_u) = .9999979682423312
r(p_l) = 2.03175766882e-06
r(p) = 4.06351533765e-06
r(t) = -5.186843202039101
r(df_t) = 49
r(mu_2) = 6.002793693542481
r(N_2) = 15
r(mu_1) = 5.134528451495701
r(N_1) = 36

```

.

. ttest ag if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
UNC |      15      .7823333      .1543102      .5976408      .5105452      1.054121
UP_SSD |      28      .5412148      .0534821      .2830005      .4501194      .6323102
-----+-----
combined |      43      .6253259      .0654261      .4290276      .5152823      .7353695
-----+-----
diff |              .2411186      .1337398              .0160508      .4661863
-----+-----

```

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = 1.8029      t = 1.8029      t = 1.8029
P < t = 0.9606    P > |t| = 0.0788    P > t = 0.0394

```

. return list

scalars:

```

r(sd) = .4290275617635434
r(sd_2) = .283000505442838
r(sd_1) = .5976408066610546
r(se) = .1337398124202844
r(p_u) = .0393792102433279
r(p_l) = .9606207897566721
r(p) = .0787584204866558
r(t) = 1.80289283836468

```

```

                                ttesteq_Run4_122006
r(df_t) = 41
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .7823333407441775
r(N_1) = 15

```

```
. ttest as if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.283333	1.103842	4.275164	3.339124	7.227542
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	43	4.76933	.4304438	2.822608	4.045344	5.493316
diff		.7893618	.9057475		-.7349008	2.313624

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.8715	t = 0.8715	t = 0.8715
P < t = 0.8057	P > t = 0.3886	P > t = 0.1943

```
. return list
```

scalars:

```

r(sd) = 2.822608497364344
r(sd_2) = 1.640400125694598
r(sd_1) = 4.275163592900167
r(se) = .9057474820598759
r(p_u) = .1942771564382628
r(p_l) = .8057228435617372
r(p) = .3885543128765256
r(t) = .8715031214840714
r(df_t) = 41
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 5.28333330154419
r(N_1) = 15

```

```
. ttest cd if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.806667	1.435509	5.559704	3.278289	8.335044
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	43	2.776093	.6003588	3.936816	1.766318	3.785868
diff		4.654095	1.047448		2.891369	6.416822

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

                                ttesteq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
  t = 4.4433                     t = 4.4433                     t = 4.4433
P < t = 1.0000                  P > |t| = 0.0001                  P > t = 0.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 3.936815802417771
r(sd_2) = .4953390619288118
r(sd_1) = 5.559704163073937
r(se) = 1.047447833603703
r(p_u) = .0000329139180068
r(p_l) = .9999670860819933
r(p) = .0000658278360136
r(t) = 4.443271854397619
r(df_t) = 41
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = 5.806666692097982
r(N_1) = 15

```

```
. ttest cr if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	127.1333	25.47328	98.65758	82.26699	171.9997
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	43	63.79683	11.31952	74.22708	44.75793	82.83573
diff		97.26677	18.63037		65.91414	128.6194

```
Degrees of freedom: 41
```

```
Ho: mean(UNC) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
  t = 5.2209                     t = 5.2209                     t = 5.2209
P < t = 1.0000                  P > |t| = 0.0000                  P > t = 0.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 74.22708478090803
r(sd_2) = 10.05763126459797
r(sd_1) = 98.65758017936282
r(se) = 18.63036680143755
r(p_u) = 2.74846509835e-06
r(p_l) = .9999972515349016
r(p) = 5.49693019671e-06
r(t) = 5.220872707994794
r(df_t) = 41
r(mu_2) = 29.86655950546265
r(N_2) = 28
r(mu_1) = 127.1333330790202
r(N_1) = 15

```

```
. ttest cu if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

```
Two-sample t test with equal variances
```

ttesteq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	76.76667	15.78356	61.12946	48.96693	104.5664
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	43	48.59899	6.40566	42.00472	37.82498	59.37301
diff		43.2575	11.80708		23.38762	63.12738

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.6637	t = 3.6637	t = 3.6637
P < t = 0.9996	P > t = 0.0007	P > t = 0.0004

. return list

scalars:

```

r(sd) = 42.00472389664635
r(sd_2) = 11.40559397073612
r(sd_1) = 61.12946069077145
r(se) = 11.80708234905488
r(p_u) = .0003528571708685
r(p_l) = .9996471428291315
r(p) = .000705714341737
r(t) = 3.663691007716722
r(df_t) = 41
r(mu_2) = 33.50916549137661
r(N_2) = 28
r(mu_1) = 76.76666692097982
r(N_1) = 15

```

. ttest fe if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	21846.67	1324.562	5130.005	19513.7	24179.63
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	43	24463.03	829.3259	5438.254	23068.14	25857.91
diff		-4017.98	1645.59		-6787.307	-1248.652

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.4417	t = -2.4417	t = -2.4417
P < t = 0.0095	P > t = 0.0190	P > t = 0.9905

. return list

scalars:

```

r(sd) = 5438.253919734551
r(sd_2) = 5149.645675906717

```

```

                                ttesteq_Run4_122006
r(sd_1) = 5130.005105353442
r(se) = 1645.590152256527
r(p_u) = .9904890557814852
r(p_l) = .0095109442185148
r(p) = .0190218884370295
r(t) = -2.441664793132596
r(df_t) = 41
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 21846.66666666667
r(N_1) = 15

```

```
. ttest hg if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	14	.8039286	.2184235	.817266	.417115	1.190742
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	42	.3644855	.0863875	.5598551	.2191058	.5098651
diff		.6591647	.1534918		.4007074	.917622

Degrees of freedom: 40

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 4.2945	t = 4.2945	t = 4.2945
P < t = 0.9999	P > t = 0.0001	P > t = 0.0001

```
. return list
```

scalars:

```

r(sd) = .5598551379806471
r(sd_2) = .0645853196035577
r(sd_1) = .8172660457424509
r(se) = .153491798686178
r(p_u) = .0000542108244024
r(p_l) = .9999457891755976
r(p) = .0001084216488047
r(t) = 4.294461916112011
r(df_t) = 40
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .8039285745471716
r(N_1) = 14

```

```
. ttest mn if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	398.5	32.72901	126.7589	340.8541	456.1459
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	43	599.7379	38.80563	254.4655	534.4687	665.0071

```

diff |          -309.0439    ttesteq_Run4_122006    -421.453    -196.6349
-----
Degrees of freedom: 41

```

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0          Ha: diff != 0          Ha: diff > 0
  t = -4.6267          t = -4.6267          t = -4.6267
P < t = 0.0000        P > |t| = 0.0000        P > t = 1.0000

```

. return list

scalars:

```

r(sd) = 254.4655090340603
r(sd_2) = 240.5082073183621
r(sd_1) = 126.7589106476205
r(se) = 66.79572675938682
r(p_u) = .9999815301970086
r(p_l) = .0000184698029914
r(p) = .0000369396059827
r(t) = -4.626702242289609
r(df_t) = 41
r(mu_2) = 707.543938773019
r(N_2) = 28
r(mu_1) = 398.5
r(N_1) = 15

```

. ttest ni if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

```

-----
Group |      Obs      Mean    Std. Err.    Std. Dev.    [90% Conf. Interval]
-----+-----
UNC |      15    21.66333    1.803492    6.984893    18.48683    24.83984
UP_SSD |      28    22.58826    1.043258    5.520404    20.81129    24.36523
-----+-----
combined |      43    22.26561    .9156627    6.004402    20.72551    23.80571
-----+-----
diff |          - .9249272    1.939146          -4.188273    2.338418
-----

```

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0          Ha: diff != 0          Ha: diff > 0
  t = -0.4770          t = -0.4770          t = -0.4770
P < t = 0.3180        P > |t| = 0.6359        P > t = 0.6820

```

. return list

scalars:

```

r(sd) = 6.0044018273675
r(sd_2) = 5.520403568185079
r(sd_1) = 6.984893309247848
r(se) = 1.939145696779909
r(p_u) = .6820442945346559
r(p_l) = .3179557054653442
r(p) = .6359114109306884
r(t) = -.4769766174417466
r(df_t) = 41
r(mu_2) = 22.58826041221619
r(N_2) = 28

```

```

                                ttestedq_Run4_122006
r(mu_1) = 21.66333325703939
r(N_1) = 15

```

```
. ttest pb if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	136.7	24.73585	95.80154	93.1325	180.2675
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	43	92.98176	10.76633	70.59955	74.87331	111.0902
diff		67.13873	20.31752		32.94682	101.3306

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.3045	t = 3.3045	t = 3.3045
P < t = 0.9990	P > t = 0.0020	P > t = 0.0010

```
. return list
```

scalars:

```

r(sd) = 70.59954587236985
r(sd_2) = 36.92913331063091
r(sd_1) = 95.80153569464791
r(se) = 20.31751846359355
r(p_u) = .0009910457961324
r(p_l) = .9990089542038676
r(p) = .0019820915922649
r(t) = 3.304474686396156
r(df_t) = 41
r(mu_2) = 69.56127480098179
r(N_2) = 28
r(mu_1) = 136.7000002543132
r(N_1) = 15

```

```
. ttest sb if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.046	.4222401	1.635329	.3023042	1.789696
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	43	2.869549	.3757247	2.463791	2.237598	3.5015
diff		-2.80045	.6673506		-3.92352	-1.677381

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.1964	t = -4.1964	t = -4.1964
P < t = 0.0001	P > t = 0.0001	P > t = 0.9999

ttesteq_Run4_122006						
UNC	15	-.5880407	.2450597	.9491121	-1.019667	-.1564146
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	43	-.6685164	.1931844	1.266795	-.9934433	-.3435895
diff		.1235877	.4097956		-.5660484	.8132237

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.3016	t = 0.3016	t = 0.3016
P < t = 0.6178	P > t = 0.7645	P > t = 0.3822

. return list

scalars:

```

r(sd) = 1.266794637090629
r(sd_2) = 1.422565543721684
r(sd_1) = .9491120952241725
r(se) = .4097956449601143
r(p_u) = .3822469422565954
r(p_l) = .6177530577434046
r(p) = .7644938845131908
r(t) = .30158363991878
r(df_t) = 41
r(mu_2) = -.7116283997893333
r(N_2) = 28
r(mu_1) = -.588040737559398
r(N_1) = 15

```

. ttest ln_as if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.452287	.1654851	.6409209	1.160817	1.743758
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	43	1.447834	.0865965	.5678515	1.302182	1.593485
diff		.0068393	.1838949		-.3026335	.316312

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0372	t = 0.0372	t = 0.0372
P < t = 0.5147	P > t = 0.9705	P > t = 0.4853

. return list

scalars:

```

r(sd) = .5678515205422409
r(sd_2) = .5371996428689455
r(sd_1) = .6409209043077792
r(se) = .18389493467438
r(p_u) = .4852565684778758

```

```

                                ttestedq_Run4_122006
r(p_l) = .5147434315221242
r(p) = .9705131369557516
r(t) = .0371910923875166
r(df_t) = 41
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = 1.452287175258001
r(N_1) = 15

```

```
. ttest ln_cd if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.073647	.3566298	1.381221	.4455109	1.701782
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	43	.338761	.1607493	1.054103	.0683884	.6091336
diff		1.128574	.2923494		.6365858	1.620563

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.8604	t = 3.8604	t = 3.8604
P < t = 0.9998	P > t = 0.0004	P > t = 0.0002

```
. return list
```

scalars:

```

r(sd) = 1.054103380816799
r(sd_2) = .5276860203161229
r(sd_1) = 1.381221316292974
r(se) = .292349441456133
r(p_u) = .0001969012936139
r(p_l) = .9998030987063861
r(p) = .0003938025872278
r(t) = 3.860360639683883
r(df_t) = 41
r(mu_2) = -.0549276916842375
r(N_2) = 28
r(mu_1) = 1.073646585146586
r(N_1) = 15

```

```
. ttest ln_cr if area=="UP_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	4.431153	.2690909	1.042184	3.9572	4.905105
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	43	3.738227	.1349853	.8851576	3.511188	3.965266
diff		1.064135	.2335663		.6710716	1.457199

Degrees of freedom: 41

ttesteq_Run4_122006

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 4.5560	t = 4.5560	t = 4.5560
P < t = 1.0000	P > t = 0.0000	P > t = 0.0000

. return list

scalars:

```
r(sd) = .8851575536145355
r(sd_2) = .4959313052537723
r(sd_1) = 1.042184421742198
r(se) = .2335663490986201
r(p_u) = .0000230908849055
r(p_l) = .9999769091150945
r(p) = .0000461817698109
r(t) = 4.556030015651652
r(df_t) = 41
r(mu_2) = 3.367017269134522
r(N_2) = 28
r(mu_1) = 4.431152566274007
r(N_1) = 15
```

. ttest ln_cu if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	3.999794	.2356181	.912545	3.584798	4.414791
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	43	3.6892	.1120639	.7348521	3.500714	3.877686
diff		.4769833	.2260218		.0966163	.8573504

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.1103	t = 2.1103	t = 2.1103
P < t = 0.9795	P > t = 0.0410	P > t = 0.0205

. return list

scalars:

```
r(sd) = .7348520515623332
r(sd_2) = .5708913604705675
r(sd_1) = .9125450391285399
r(se) = .2260217630614231
r(p_u) = .0204872350181977
r(p_l) = .9795127649818023
r(p) = .0409744700363953
r(t) = 2.110342407606153
r(df_t) = 41
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 3.999794085820516
r(N_1) = 15
```

```

ttesteq_Run4_122006
. ttest ln_fe if area=="UP_SSD"|area=="UNC", by(area) level (90)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	9.967287	.0588473	.2279148	9.863639	10.07094
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	43	10.09689	.0402322	.2638201	10.02922	10.16456
diff		-.1990357	.0795826		-.3329636	-.0651078

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.5010	t = -2.5010	t = -2.5010
P < t = 0.0082	P > t = 0.0165	P > t = 0.9918

```

. return list

```

scalars:

```

r(sd) = .2638200907230567
r(sd_2) = .2588487556964191
r(sd_1) = .2279147969244602
r(se) = .0795826412297913
r(p_u) = .9917636500512455
r(p_l) = .0082363499487545
r(p) = .0164726998975089
r(t) = -2.500993741825631
r(df_t) = 41
r(mu_2) = 10.16632287842887
r(N_2) = 28
r(mu_1) = 9.967287190755208
r(N_1) = 15

```

```

. ttest ln_hg if area=="UP_SSD"|area=="UNC", by(area) level (90)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	14	-.746347	.3163952	1.183842	-1.306662	-.1860322
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	42	-1.570204	.1749288	1.133668	-1.864588	-1.27582
diff		1.235785	.3208796		.6954719	1.776099

Degrees of freedom: 40

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.8512	t = 3.8512	t = 3.8512
P < t = 0.9998	P > t = 0.0004	P > t = 0.0002

```

. return list

```

ttesteq_Run4_122006

scalars:

```
r(sd) = 1.133668031462022
r(sd_2) = .8653945974159339
r(sd_1) = 1.183842388598777
r(se) = .3208795971745625
r(p_u) = .0002075160944489
r(p_l) = .9997924839055511
r(p) = .0004150321888977
r(t) = 3.851243167028968
r(df_t) = 40
r(mu_2) = -1.982132386948381
r(N_2) = 28
r(mu_1) = -.7463470308908394
r(N_1) = 14
```

. ttest ln_mn if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.939122	.0845277	.3273746	5.790242	6.088001
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	43	6.328249	.0822704	.5394834	6.189874	6.466624
diff		-.5975878	.1476954		-.8461411	-.3490345

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.0461	t = -4.0461	t = -4.0461
P < t = 0.0001	P > t = 0.0002	P > t = 0.9999

. return list

scalars:

```
r(sd) = .5394833717734814
r(sd_2) = .5176612990743834
r(sd_1) = .327374560683609
r(se) = .1476953654241541
r(p_u) = .9998876424151397
r(p_l) = .0001123575848603
r(p) = .0002247151697206
r(t) = -4.046083559168145
r(df_t) = 41
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 5.939121723175049
r(N_1) = 15
```

. ttest ln_ni if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	3.025496	.0855654	.3313933	2.874789	3.176204
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291

ttesteq_Run4_122006						
combined	43	3.095215	.0524101	.3436757	3.007064	3.183366
diff		-.1070682	.1100357		-.2922449	.0781085

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.9730	t = -0.9730	t = -0.9730
P < t = 0.1681	P > t = 0.3362	P > t = 0.8319

. return list

scalars:

```

r(sd) = .3436757181114249
r(sd_2) = .3501996737117437
r(sd_1) = .3313932789957432
r(se) = .1100357262601547
r(p_u) = .8318780575901374
r(p_l) = .1681219424098626
r(p) = .3362438848197252
r(t) = -.9730309926991472
r(df_t) = 41
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 3.025496355692546
r(N_1) = 15

```

. ttest ln_pb if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	4.512137	.285321	1.105043	4.009598	5.014676
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	43	4.123168	.1409879	.9245194	3.886033	4.360303
diff		.5973456	.2844997		.1185673	1.076124

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.0996	t = 2.0996	t = 2.0996
P < t = 0.9790	P > t = 0.0420	P > t = 0.0210

. return list

scalars:

```

r(sd) = .9245193919503948
r(sd_2) = .7532151173757485
r(sd_1) = 1.105043294128813
r(se) = .2844997115428727
r(p_u) = .0209792935827865
r(p_l) = .9790207064172135
r(p) = .041958587165573
r(t) = 2.099635080321835

```

ttesteq_Run4_122006

```
r(df_t) = 41
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 4.512137158711751
r(N_1) = 15
```

. ttest ln_sb if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	-.9037629	.3843439	1.488557	-1.580712	-.2268142
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	43	.2630349	.2772524	1.818066	-.2032904	.7293603
diff		-1.791868	.5180232		-2.663638	-.9200984

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.4591	t = -3.4591	t = -3.4591
P < t = 0.0006	P > t = 0.0013	P > t = 0.9994

. return list

scalars:

```
r(sd) = 1.818065652658619
r(sd_2) = 1.68262105380143
r(sd_1) = 1.488557491400668
r(se) = .5180231706591868
r(p_u) = .9993609674923516
r(p_l) = .0006390325076484
r(p) = .0012780650152967
r(t) = -3.459050195354001
r(df_t) = 41
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = -.9037629370888074
r(N_1) = 15
```

. ttest ln_zn if area=="UP_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.336396	.172063	.6663971	5.03334	5.639453
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	43	5.026057	.085021	.5575199	4.883056	5.169058
diff		.4765925	.1644964		.1997651	.7534199

Degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

                                ttesteq_Run4_122006
      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
      t = 2.8973                  t = 2.8973                  t = 2.8973
P < t = 0.9970                  P > |t| = 0.0060              P > t = 0.0030

```

```
. return list
```

```
scalars:
```

```

      r(sd) = .5575198849609063
      r(sd_2) = .4136119464945405
      r(sd_1) = .6663971412230149
      r(se) = .1644964074547696
      r(p_u) = .0030078002765993
      r(p_l) = .9969921997234007
      r(p) = .0060156005531987
      r(t) = 2.897282204730443
      r(df_t) = 41
      r(mu_2) = 4.85980395759855
      r(N_2) = 28
      r(mu_1) = 5.336396471659342
      r(N_1) = 15

```

```
. ttest ag if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.2131037	.0333736	.1454721	.1552318	.2709756
UNC	15	.7823333	.1543102	.5976408	.5105452	1.054121
combined	34	.4642344	.0849527	.4953552	.3204638	.608005
diff		-.5692296	.1416407		-.8091533	-.329306

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

```

      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
      t = -4.0188                  t = -4.0188                  t = -4.0188
P < t = 0.0002                  P > |t| = 0.0003              P > t = 0.9998

```

```
. return list
```

```
scalars:
```

```

      r(sd) = .4953551513688335
      r(sd_2) = .5976408066610546
      r(sd_1) = .1454721127310928
      r(se) = .1416407245566785
      r(p_u) = .9998339112196655
      r(p_l) = .0001660887803345
      r(p) = .0003321775606691
      r(t) = -4.018827557956838
      r(df_t) = 32
      r(mu_2) = .7823333407441775
      r(N_2) = 15
      r(mu_1) = .2131036935668243
      r(N_1) = 19

```

```
. ttest as if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```


ttesteq_Run4_122006

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	16.11905	2.347764	9.960721	12.03487	20.20324
UNC	15	5.283333	1.103842	4.275164	3.339124	7.227542
combined	33	11.19373	1.658084	9.524968	8.385117	14.00234
diff		10.83572	2.767453		6.143452	15.52799

Degrees of freedom: 31

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.9154	t = 3.9154	t = 3.9154
P < t = 0.9998	P > t = 0.0005	P > t = 0.0002

. return list

scalars:

```

r(sd) = 9.524967540180917
r(sd_2) = 4.275163592900167
r(sd_1) = 9.960720878951873
r(se) = 2.76745333141819
r(p_u) = .0002309360497093
r(p_l) = .9997690639502908
r(p) = .0004618720994186
r(t) = 3.915412296564276
r(df_t) = 31
r(mu_2) = 5.28333330154419
r(N_2) = 15
r(mu_1) = 16.11905410554674
r(N_1) = 18

```

. ttest cd if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.594173	.0149638	.0652257	.5682249	.6201212
UNC	15	5.806667	1.435509	5.559704	3.278289	8.335044
combined	34	2.893803	.7672962	4.474067	1.595261	4.192344
diff		-5.212494	1.27027		-7.36419	-3.060797

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.1035	t = -4.1035	t = -4.1035
P < t = 0.0001	P > t = 0.0003	P > t = 0.9999

. return list

scalars:

```

r(sd) = 4.474067398126661

```

```

                                ttesteq_Run4_122006
r(sd_2) = 5.559704163073937
r(sd_1) = .0652256531109017
r(se) = 1.270270356697554
r(p_u) = .9998691699669351
r(p_l) = .0001308300330649
r(p) = .0002616600661299
r(t) = -4.103452179556918
r(df_t) = 32
r(mu_2) = 5.806666692097982
r(N_2) = 15
r(mu_1) = .5941730282808605
r(N_1) = 19

```

```
. ttest cr if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.42642	.6550671	2.855371	11.2905	13.56235
UNC	15	127.1333	25.47328	98.65758	82.26699	171.9997
combined	34	63.03241	14.82836	86.46342	37.93749	88.12733
diff		-114.7069	22.55123		-152.9062	-76.50763

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.0865	t = -5.0865	t = -5.0865
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 86.46342487347418
r(sd_2) = 98.65758017936282
r(sd_1) = 2.855371114443928
r(se) = 22.5512310333996
r(p_u) = .9999922737600234
r(p_l) = 7.72623997655e-06
r(p) = .0000154524799531
r(t) = -5.086503228324469
r(df_t) = 32
r(mu_2) = 127.1333330790202
r(N_2) = 15
r(mu_1) = 12.42642362494218
r(N_1) = 19

```

```
. ttest cu if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.9341	.778177	3.391995	11.58469	14.28351
UNC	15	76.76667	15.78356	61.12946	48.96693	104.5664
combined	34	41.09553	8.789333	51.25018	26.22081	55.97024

```

-----+-----
ttesteq_Run4_122006
diff | -63.83257 13.99312 -87.53535 -40.12978
-----+-----

```

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -4.5617      t = -4.5617      t = -4.5617
P < t = 0.0000    P > |t| = 0.0001    P > t = 1.0000

```

. return list

scalars:

```

r(sd) = 51.25017708469895
r(sd_2) = 61.12946069077145
r(sd_1) = 3.391994924514598
r(se) = 13.993119645165
r(p_u) = .9999646555829964
r(p_l) = .0000353444170036
r(p) = .0000706888340071
r(t) = -4.56171092748931
r(df_t) = 32
r(mu_2) = 76.76666692097982
r(N_2) = 15
r(mu_1) = 12.93410012596532
r(N_1) = 19

```

. ttest fe if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

```

-----+-----
Group | Obs Mean Std. Err. Std. Dev. [90% Conf. Interval]
-----+-----
ADJFAR_S | 19 23147.03 1408.414 6139.134 20704.75 25589.31
UNC | 15 21846.67 1324.562 5130.005 19513.7 24179.63
-----+-----
combined | 34 22573.34 972.4423 5670.265 20927.62 24219.06
-----+-----
diff | 1300.361 1975.522 -2045.954 4646.676
-----+-----

```

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = 0.6582      t = 0.6582      t = 0.6582
P < t = 0.7425    P > |t| = 0.5151    P > t = 0.2575

```

. return list

scalars:

```

r(sd) = 5670.264522194141
r(sd_2) = 5130.005105353442
r(sd_1) = 6139.133651282084
r(se) = 1975.522195848775
r(p_u) = .2575471252551877
r(p_l) = .7424528747448123
r(p) = .5150942505103754
r(t) = .6582365338177049
r(df_t) = 32
r(mu_2) = 21846.66666666667

```

ttesteq_Run4_122006

r(N_2) = 15
r(mu_1) = 23147.02754934211
r(N_1) = 19

. ttest hg if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.6782663	.1219171	.5314242	.4668543	.8896783
UNC	14	.8039286	.2184235	.817266	.417115	1.190742
combined	33	.7315776	.1147036	.6589221	.5372824	.9258727
diff		-.1256623	.2347177		-.5236305	.272306

Degrees of freedom: 31

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.5354	t = -0.5354	t = -0.5354
P < t = 0.2981	P > t = 0.5962	P > t = 0.7019

. return list

scalars:

r(sd) = .6589220556597805
r(sd_2) = .8172660457424509
r(sd_1) = .5314242125132804
r(se) = .2347176824607151
r(p_u) = .7018950173003844
r(p_l) = .2981049826996156
r(p) = .5962099653992312
r(t) = -.5353762072081454
r(df_t) = 31
r(mu_2) = .8039285745471716
r(N_2) = 14
r(mu_1) = .6782663119466681
r(N_1) = 19

. ttest mn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	365.0314	19.63434	85.58409	330.9843	399.0786
UNC	15	398.5	32.72901	126.7589	340.8541	456.1459
combined	34	379.797	18.0656	105.3396	349.2235	410.3705
diff		-33.46855	36.47121		-95.24672	28.30962

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.9177	t = -0.9177	t = -0.9177

$P < t = 0.1828$
 $ttesteq\_Run4\_122006$
 $P > |t| = 0.3657$
 $P > t = 0.8172$

. return list

scalars:

```

r(sd) = 105.3396232833708
r(sd_2) = 126.7589106476205
r(sd_1) = 85.58408889042127
r(se) = 36.47121010392716
r(p_u) = .8171717427377594
r(p_l) = .1828282572622406
r(p) = .3656565145244813
r(t) = -.9176704898619934
r(df_t) = 32
r(mu_2) = 398.5
r(N_2) = 15
r(mu_1) = 365.0314467580695
r(N_1) = 19

```

. ttest ni if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.95485	.520316	2.268005	12.05259	13.85711
UNC	15	21.66333	1.803492	6.984893	18.48683	24.83984
combined	34	16.79683	1.121548	6.539693	14.89876	18.69489
diff		-8.708486	1.700473		-11.5889	-5.828074

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.1212	t = -5.1212	t = -5.1212
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 6.53969274084826
r(sd_2) = 6.984893309247848
r(sd_1) = 2.26800474325925
r(se) = 1.70047307327794
r(p_u) = .9999930158889051
r(p_l) = 6.98411109485e-06
r(p) = .0000139682221897
r(t) = -5.121213978745437
r(df_t) = 32
r(mu_2) = 21.66333325703939
r(N_2) = 15
r(mu_1) = 12.95484678368819
r(N_1) = 19

```

. ttest pb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

ttesteq_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	22.34459	1.808123	7.881427	19.20918	25.47999
UNC	15	136.7	24.73585	95.80154	93.1325	180.2675
combined	34	72.7955	14.60186	85.14276	48.08389	97.50712
diff		-114.3554	21.98163		-151.5899	-77.12098

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.2023	t = -5.2023	t = -5.2023
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 85.14276091720146
r(sd_2) = 95.80153569464791
r(sd_1) = 7.881427399939791
r(se) = 21.98163168705279
r(p_u) = .9999944843387284
r(p_l) = 5.51566127165e-06
r(p) = .0000110313225433
r(t) = -5.202316928192095
r(df_t) = 32
r(mu_2) = 136.7000002543132
r(N_2) = 15
r(mu_1) = 22.34458561947471
r(N_1) = 19

```

. ttest sb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	1.067386	.1859515	.8105438	.7449341	1.389838
UNC	15	1.046	.4222401	1.635329	.3023042	1.789696
combined	34	1.057951	.2095528	1.221893	.703312	1.41259
diff		.0213858	.4285635		-.704553	.7473246

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0499	t = 0.0499	t = 0.0499
P < t = 0.5197	P > t = 0.9605	P > t = 0.4803

. return list

scalars:

```

r(sd) = 1.221892566224819
r(sd_2) = 1.635328980080292
r(sd_1) = .8105437717069745
r(se) = .4285634553484524

```

```

                                ttesteq_Run4_122006
r(p_u) = .48025564258961
r(p_l) = .5197443574103899
r(p) = .9605112851792199
r(t) = .0499012184866967
r(df_t) = 32
r(mu_2) = 1.046000016853213
r(N_2) = 15
r(mu_1) = 1.06738585547397
r(N_1) = 19

```

```
. ttest zn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	71.31882	3.226401	14.06355	65.72403	76.9136
UNC	15	251.4133	38.48909	149.0676	183.6221	319.2046
combined	34	150.7723	22.86381	133.3178	112.0785	189.4661
diff		-180.0945	34.24997		-238.1102	-122.0789

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.2582	t = -5.2582	t = -5.2582
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 133.3177776388664
r(sd_2) = 149.067616096243
r(sd_1) = 14.06355483840419
r(se) = 34.24997267890707
r(p_u) = .9999953130489161
r(p_l) = 4.68695108393e-06
r(p) = 9.37390216786e-06
r(t) = -5.258238196981331
r(df_t) = 32
r(mu_2) = 251.4133331298828
r(N_2) = 15
r(mu_1) = 71.31881854408665
r(N_1) = 19

```

```
. ttest ln_ag if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	-2.450115	.2832921	1.201907	-2.942932	-1.957298
UNC	15	-.5880407	.2450597	.9491121	-1.019667	-.1564146
combined	33	-1.603718	.2491239	1.431108	-2.025706	-1.18173
diff		-1.862074	.3828125		-2.51114	-1.213009

ttesteq_Run4_122006

Degrees of freedom: 31

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.8642	t = -4.8642	t = -4.8642
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```
r(sd) = 1.431107958746211
r(sd_2) = .9491120952241725
r(sd_1) = 1.20190668914736
r(se) = .3828125131349098
r(p_u) = .9999841561919932
r(p_l) = .0000158438080068
r(p) = .0000316876160135
r(t) = -4.864194320816147
r(df_t) = 31
r(mu_2) = -.588040737559398
r(N_2) = 15
r(mu_1) = -2.450115189887583
r(N_1) = 18
```

. ttest ln_as if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	2.154798	.2791581	1.184367	1.669172	2.640423
UNC	15	1.452287	.1654851	.6409209	1.160817	1.743758
combined	33	1.835475	.1784698	1.025231	1.533167	2.137783
diff		.7025105	.3416017		.1233185	1.281703

Degrees of freedom: 31

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.0565	t = 2.0565	t = 2.0565
P < t = 0.9759	P > t = 0.0482	P > t = 0.0241

. return list

scalars:

```
r(sd) = 1.025231059666318
r(sd_2) = .6409209043077792
r(sd_1) = 1.184367421099401
r(se) = .3416016756679058
r(p_u) = .0241164228826594
r(p_l) = .9758835771173406
r(p) = .0482328457653187
r(t) = 2.056519589168497
r(df_t) = 31
r(mu_2) = 1.452287175258001
r(N_2) = 15
r(mu_1) = 2.154797712961833
r(N_1) = 18
```


ttesteq_Run4_122006

. ttest ln_cd if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-.4969592	.0342148	.149139	-.5562899	-.4376285
UNC	15	1.073647	.3566298	1.381221	.4455109	1.701782
combined	34	.1959551	.2063752	1.203364	-.153306	.5452163
diff		-1.570606	.3179071		-2.109105	-1.032107

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.9405	t = -4.9405	t = -4.9405
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.203363792995896
r(sd_2) = 1.381221316292974
r(sd_1) = .1491390110301696
r(se) = .3179070816545667
r(p_u) = .9999881876687533
r(p_l) = .0000118123312467
r(p) = .0000236246624934
r(t) = -4.940455460005595
r(df_t) = 32
r(mu_2) = 1.073646585146586
r(N_2) = 15
r(mu_1) = -.4969591921881625
r(N_1) = 19

```

. ttest ln_cr if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.507064	.066123	.2882237	2.392403	2.621726
UNC	15	4.431153	.2690909	1.042184	3.9572	4.905105
combined	34	3.355927	.2062608	1.202697	3.006859	3.704994
diff		-1.924088	.2495275		-2.34676	-1.501416

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.7109	t = -7.7109	t = -7.7109
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

ttesteq_Run4_122006

scalars:

```

r(sd) = 1.20269675070648
r(sd_2) = 1.042184421742198
r(sd_1) = .2882236642825249
r(se) = .2495274539632551
r(p_u) = .9999999956884514
r(p_l) = 4.31154857899e-09
r(p) = 8.62309715798e-09
r(t) = -7.710927340300746
r(df_t) = 32
r(mu_2) = 4.431152566274007
r(N_2) = 15
r(mu_1) = 2.507064499353108
r(N_1) = 19

```

. ttest ln_cu if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.577846	.0892394	.3889854	2.423099	2.732592
UNC	15	3.999794	.2356181	.912545	3.584798	4.414791
combined	34	3.205176	.1671042	.9743763	2.922375	3.487976
diff		-1.421948	.231553		-1.814173	-1.029723

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.1409	t = -6.1409	t = -6.1409
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .9743763083078467
r(sd_2) = .9125450391285399
r(sd_1) = .388985427887002
r(se) = .231552970162569
r(p_u) = .9999996388562886
r(p_l) = 3.61143711402e-07
r(p) = 7.22287422804e-07
r(t) = -6.140920470012069
r(df_t) = 32
r(mu_2) = 3.999794085820516
r(N_2) = 15
r(mu_1) = 2.577845711457102
r(N_1) = 19

```

. ttest ln_fe if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	9.986097	.0665427	.2900528	9.870708	10.10149

ttesteq_Run4_122006						
UNC	15	9.967287	.0588473	.2279148	9.863639	10.07094
combined	34	9.977799	.0447268	.2608	9.902105	10.05349
diff		.0188102	.0914154		-.1360373	.1736578

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.2058	t = 0.2058	t = 0.2058
P < t = 0.5809	P > t = 0.8383	P > t = 0.4191

. return list

scalars:

```

r(sd) = .2608000336253992
r(sd_2) = .2279147969244602
r(sd_1) = .2900528347234936
r(se) = .0914154349530655
r(p_u) = .4191383462179918
r(p_l) = .5808616537820082
r(p) = .8382766924359836
r(t) = .2057666241663706
r(df_t) = 32
r(mu_2) = 9.967287190755208
r(N_2) = 15
r(mu_1) = 9.986097436202201
r(N_1) = 19

```

. ttest ln_hg if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-2.392305	.2929487	1.276934	-2.900297	-1.884314
UNC	14	-.746347	.3163952	1.183842	-1.306662	-.1860322
combined	33	-1.69402	.2563714	1.472742	-2.128285	-1.259755
diff		-1.645958	.4363138		-2.385737	-.9061802

Degrees of freedom: 31

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.7724	t = -3.7724	t = -3.7724
P < t = 0.0003	P > t = 0.0007	P > t = 0.9997

. return list

scalars:

```

r(sd) = 1.472741702225262
r(sd_2) = 1.183842388598777
r(sd_1) = 1.276933774109744
r(se) = .4363137819185061
r(p_u) = .9996576527461257
r(p_l) = .0003423472538743
r(p) = .0006846945077487

```

```

                                ttesteq_Run4_122006
      r(t) = -3.772419069266351
    r(df_t) = 31
    r(mu_2) = -.7463470308908394
      r(N_2) = 14
    r(mu_1) = -2.392305461983932
      r(N_1) = 19

```

```
. ttest ln_mn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	5.906737	.0734888	.3203301	5.779303	6.034171
UNC	15	5.939122	.0845277	.3273746	5.790242	6.088001
combined	34	5.921024	.0546927	.3189107	5.828465	6.013584
diff		-.0323846	.1117117		-.2216118	.1568425

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.2899	t = -0.2899	t = -0.2899
P < t = 0.3869	P > t = 0.7738	P > t = 0.6131

```
. return list
```

scalars:

```

      r(sd) = .3189107243424801
    r(sd_2) = .327374560683609
    r(sd_1) = .3203301326918442
      r(se) = .111711685458985
    r(p_u) = .61311656453589
    r(p_l) = .38688343546411
      r(p) = .7737668709282199
      r(t) = -.289894888195745
    r(df_t) = 32
    r(mu_2) = 5.939121723175049
      r(N_2) = 15
    r(mu_1) = 5.906737076608758
      r(N_1) = 19

```

```
. ttest ln_ni if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)
```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.551069	.0463231	.2019176	2.470742	2.631396
UNC	15	3.025496	.0855654	.3313933	2.874789	3.176204
combined	34	2.760375	.0608766	.3549684	2.65735	2.8634
diff		-.4744273	.0920209		-.6303004	-.3185542

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

ttesteq_Run4_122006

Ha: diff < 0
t = -5.1556
P < t = 0.0000

Ha: diff != 0
t = -5.1556
P > |t| = 0.0000

Ha: diff > 0
t = -5.1556
P > t = 1.0000

. return list

scalars:

r(sd) = .3549683912974032
r(sd_2) = .3313932789957432
r(sd_1) = .2019175718315225
r(se) = .0920208717930393
r(p_u) = .9999936818254119
r(p_l) = 6.31817458805e-06
r(p) = .0000126363491761
r(t) = -5.155648931884658
r(df_t) = 32
r(mu_2) = 3.025496355692546
r(N_2) = 15
r(mu_1) = 2.551069046321668
r(N_1) = 19

. ttest ln_pb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.989771	.0957076	.4171796	2.823808	3.155734
UNC	15	4.512137	.285321	1.105043	4.009598	5.014676
combined	34	3.661403	.1879985	1.09621	3.343242	3.979564
diff		-1.522366	.274614		-1.987532	-1.0572

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0
t = -5.5437
P < t = 0.0000

Ha: diff != 0
t = -5.5437
P > |t| = 0.0000

Ha: diff > 0
t = -5.5437
P > t = 1.0000

. return list

scalars:

r(sd) = 1.096209926413948
r(sd_2) = 1.105043294128813
r(sd_1) = .4171796114446753
r(se) = .2746140049115933
r(p_u) = .9999979583003865
r(p_l) = 2.04169961345e-06
r(p) = 4.08339922691e-06
r(t) = -5.5436575197831
r(df_t) = 32
r(mu_2) = 4.512137158711751
r(N_2) = 15
r(mu_1) = 2.989771165345844
r(N_1) = 19

. ttest ln_sb if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

ttesteq_Run4_122006

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-1.470544	.2622958	1.143321	-1.925382	-1.015706
UNC	15	-.9037629	.3843439	1.488557	-1.580712	-.2268142
combined	34	-1.220493	.2258738	1.317059	-1.602753	-.8382337
diff		-.566781	.4509637		-1.330663	.1971012

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.2568	t = -1.2568	t = -1.2568
P < t = 0.1090	P > t = 0.2179	P > t = 0.8910

. return list

scalars:

```

r(sd) = 1.317059240784356
r(sd_2) = 1.488557491400668
r(sd_1) = 1.143320840591967
r(se) = .4509636536355722
r(p_u) = .8910424647601
r(p_l) = .1089575352399
r(p) = .2179150704797999
r(t) = -1.256821914933166
r(df_t) = 32
r(mu_2) = -.9037629370888074
r(N_2) = 15
r(mu_1) = -1.470543939816324
r(N_1) = 19

```

. ttest ln_zn if area=="ADJFAR_SSD"|area=="UNC", by(area) level (90)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	4.256543	.0541443	.2360096	4.162653	4.350433
UNC	15	5.336396	.172063	.6663971	5.03334	5.639453
combined	34	4.732949	.1230709	.7176208	4.524669	4.941229
diff		-1.079854	.1640607		-1.357754	-.8019529

Degrees of freedom: 32

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.5820	t = -6.5820	t = -6.5820
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .7176207831914011

```

```
                                ttesteq_Run4_122006
r(sd_2) = .6663971412230149
r(sd_1) = .2360095918909634
r(se) = .1640607417625005
r(p_u) = .9999998982367455
r(p_l) = 1.01763254530e-07
r(p) = 2.03526509061e-07
r(t) = -6.582034961221502
r(df_t) = 32
r(mu_2) = 5.336396471659342
r(N_2) = 15
r(mu_1) = 4.256542933614631
r(N_1) = 19
```

```
. log close
   log: C:\KDW\BASF_Ren\Run4\ttesteq_Run4_122006.smcl
   log type: smcl
closed on: 20 Dec 2006, 11:58:17
```

ttestuneq_Run4_122006

```

log: C:\KDW\BASF_Ren\Run4\ttestuneq_Run4_122006.smcl
log type: smcl
opened on: 20 Dec 2006, 11:59:41

```

```
. ttest ag if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.4838182	.0695302	.5156495	.3674549	.6001814
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	83	.5031809	.0493594	.449686	.4210641	.5852977
diff		-.0573966	.0877199		-.2033635	.0885703

Satterthwaite's degrees of freedom: 80.4663

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.6543	t = -0.6543	t = -0.6543
P < t = 0.2574	P > t = 0.5148	P > t = 0.7426

```
. return list
```

scalars:

```

r(sd) = .4496859834639983
r(sd_2) = .283000505442838
r(sd_1) = .5156495090619792
r(se) = .0877198699074521
r(p_u) = .7426133084814567
r(p_l) = .2573866915185433
r(p) = .5147733830370866
r(t) = -.6543170663442625
r(df_t) = 80.46632760753484
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .4838181827894666
r(N_1) = 55

```

```
. ttest as if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	54	8.871296	2.17715	15.99872	5.226494	12.5161
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	82	7.3766	1.451401	13.14299	4.961638	9.791562
diff		4.377325	2.199111		.6982825	8.056367

Satterthwaite's degrees of freedom: 55.1265

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0


```

                                ttestuneq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = 1.9905                      t = 1.9905                      t = 1.9905
P < t = 0.9742                  P > |t| = 0.0515                  P > t = 0.0258

```

```
. return list
```

```
scalars:
```

```

r(sd) = 13.14299192256068
r(sd_2) = 1.640400125694598
r(sd_1) = 15.99872218416534
r(se) = 2.199110630964666
r(p_u) = .0257516691979549
r(p_l) = .9742483308020451
r(p) = .0515033383959098
r(t) = 1.990497718817977
r(df_t) = 55.12647270677463
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 8.8712962380162
r(N_1) = 54

```

```
. ttest cd if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	2.256273	.6054289	4.489981	1.243048	3.269497
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	83	1.88394	.4052736	3.692218	1.209707	2.558173
diff		1.103702	.6126231		.0792428	2.12816

```
Satterthwaite's degrees of freedom: 56.5482
```

```
Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = 1.8016                      t = 1.8016                      t = 1.8016
P < t = 0.9615                  P > |t| = 0.0769                  P > t = 0.0385

```

```
. return list
```

```
scalars:
```

```

r(sd) = 3.692217915913362
r(sd_2) = .4953390619288118
r(sd_1) = 4.489980834180863
r(se) = .6126230722903023
r(p_u) = .0384701447828465
r(p_l) = .9615298552171535
r(p) = .0769402895656929
r(t) = 1.801599662370115
r(df_t) = 56.54815525425673
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = 2.256272734295238
r(N_1) = 55

```

```
. ttest cr if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

```
Two-sample t test with unequal variances
```

ttestuneq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	69.34364	17.63004	130.7478	39.83863	98.84864
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	83	56.02607	11.84418	107.9056	36.32151	75.73063
diff		39.47708	17.7322		9.812785	69.14137

Satterthwaite's degrees of freedom: 55.2477

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.2263	t = 2.2263	t = 2.2263
P < t = 0.9850	P > t = 0.0301	P > t = 0.0150

. return list

scalars:

```

r(sd) = 107.9055999598174
r(sd_2) = 10.05763126459797
r(sd_1) = 130.74784046058
r(se) = 17.73219822604887
r(p_u) = .0150456599522933
r(p_l) = .9849543400477067
r(p) = .0300913199045865
r(t) = 2.226293455366139
r(df_t) = 55.24767690789199
r(mu_2) = 29.86655950546265
r(N_2) = 28
r(mu_1) = 69.34363636537032
r(N_1) = 55

```

. ttest cu if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	53.33636	8.398409	62.28427	39.28108	67.39165
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	83	46.64767	5.689205	51.83113	37.18283	56.11251
diff		19.8272	8.670597		5.344738	34.30966

Satterthwaite's degrees of freedom: 60.8204

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.2867	t = 2.2867	t = 2.2867
P < t = 0.9871	P > t = 0.0257	P > t = 0.0129

. return list

scalars:

```

r(sd) = 51.831126356973
r(sd_2) = 11.40559397073612

```

```

                                ttestuneq_Run4_122006
r(sd_1) = 62.28426869847707
r(se) = 8.67059743162876
r(p_u) = .0128535857839827
r(p_l) = .9871464142160173
r(p) = .0257071715679653
r(t) = 2.286716499297889
r(df_t) = 60.82041702972241
r(mu_2) = 33.50916549137661
r(N_2) = 28
r(mu_1) = 53.336363697052
r(N_1) = 55

```

```
. ttest fe if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	22107.27	868.837	6443.468	20653.22	23561.33
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	83	23374.82	687.8251	6266.385	22230.52	24519.12
diff		-3757.373	1304.599		-5933.717	-1581.03

Satterthwaite's degrees of freedom: 66.1734

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.8801	t = -2.8801	t = -2.8801
P < t = 0.0027	P > t = 0.0054	P > t = 0.9973

```
. return list
```

scalars:

```

r(sd) = 6266.385164610068
r(sd_2) = 5149.645675906717
r(sd_1) = 6443.46796851505
r(se) = 1304.599407894704
r(p_u) = .9973241070390049
r(p_l) = .0026758929609951
r(p) = .0053517859219901
r(t) = -2.8800974884297
r(df_t) = 66.17342671234422
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 22107.27272727273
r(N_1) = 55

```

```
. ttest hg if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.386	.0796371	.5906042	.2527222	.5192778
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	83	.3046191	.054247	.4942141	.2143711	.3948672

```

ttestuneq_Run4_122006
diff | .2412361 .080567 .1065063 .3759659
-----
Satterthwaite's degrees of freedom: 56.5043

```

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = 2.9942         t = 2.9942         t = 2.9942
P < t = 0.9980     P > |t| = 0.0041     P > t = 0.0020

```

. return list

scalars:

```

r(sd) = .4942141336713048
r(sd_2) = .0645853196035577
r(sd_1) = .5906042077795654
r(se) = .0805669550539731
r(p_u) = .0020386740014704
r(p_l) = .9979613259985296
r(p) = .0040773480029407
r(t) = 2.994231439340519
r(df_t) = 56.50433852380687
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .3860000004483895
r(N_1) = 55

```

. ttest mn if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	499.9636	34.66309	257.0684	441.9527	557.9746
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	83	569.9907	29.5172	268.9145	520.8845	619.097
diff		-207.5803	57.16113		-303.1343	-112.0263

Satterthwaite's degrees of freedom: 57.7695

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -3.6315       t = -3.6315       t = -3.6315
P < t = 0.0003     P > |t| = 0.0006     P > t = 0.9997

```

. return list

scalars:

```

r(sd) = 268.9145121149485
r(sd_2) = 240.5082073183621
r(sd_1) = 257.0683879060318
r(se) = 57.16112592390906
r(p_u) = .9997002888211467
r(p_l) = .0002997111788533
r(p) = .0005994223577066
r(t) = -3.631494290117843
r(df_t) = 57.76946253586397
r(mu_2) = 707.543938773019
r(N_2) = 28

```

```

                                ttestuneq_Run4_122006
r(mu_1) = 499.9636363636363
r(N_1) = 55

```

```
. ttest ni if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	19.56273	1.165706	8.645108	17.61184	21.51361
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	83	20.58339	.859555	7.830919	19.15339	22.01339
diff		-3.025533	1.564372		-5.630149	-.4209173

Satterthwaite's degrees of freedom: 76.7155

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.9340	t = -1.9340	t = -1.9340
P < t = 0.0284	P > t = 0.0568	P > t = 0.9716

```
. return list
```

scalars:

```

r(sd) = 7.830918891006419
r(sd_2) = 5.520403568185079
r(sd_1) = 8.645108033572846
r(se) = 1.564371592249172
r(p_u) = .9716008844300195
r(p_l) = .0283991155699805
r(p) = .0567982311399609
r(t) = -1.934024516873498
r(df_t) = 76.71551296358243
r(mu_2) = 22.58826041221619
r(N_2) = 28
r(mu_1) = 19.56272739930586
r(N_1) = 55

```

```
. ttest pb if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	73.05636	18.20059	134.9792	42.59649	103.5162
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	83	71.8773	12.24742	111.5793	51.50189	92.2527
diff		3.495089	19.49275		-29.0098	35.99998

Satterthwaite's degrees of freedom: 68.1023

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.1793	t = 0.1793	t = 0.1793
P < t = 0.5709	P > t = 0.8582	P > t = 0.4291

```
. return list
```

```
scalars:
```

```

      r(sd) = 111.5792888301454
    r(sd_2) = 36.92913331063091
    r(sd_1) = 134.9791956106774
      r(se) = 19.49274889700236
    r(p_u) = .4291164886440602
    r(p_l) = .5708835113559398
      r(p) = .8582329772881203
      r(t) = .1793019936155819
    r(df_t) = 68.1022503489157
    r(mu_2) = 69.56127480098179
    r(N_2) = 28
    r(mu_1) = 73.05636353926225
    r(N_1) = 55

```

```
. ttest sb if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	1.870364	.3391967	2.51555	1.302696	2.438031
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	83	2.536995	.2855811	2.601767	2.061889	3.012102
diff		-1.976087	.5490381		-2.893502	-1.058672

```
Satterthwaite's degrees of freedom: 59.3198
```

```
Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0
```

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.5992	t = -3.5992	t = -3.5992
P < t = 0.0003	P > t = 0.0007	P > t = 0.9997

```
. return list
```

```
scalars:
```

```

      r(sd) = 2.601767480995278
    r(sd_2) = 2.28448603590679
    r(sd_1) = 2.515549925262254
      r(se) = .5490380989994758
    r(p_u) = .9996737891530813
    r(p_l) = .0003262108469188
      r(p) = .0006524216938376
      r(t) = -3.599179591337295
    r(df_t) = 59.31975835510575
    r(mu_2) = 3.846450345856803
    r(N_2) = 28
    r(mu_1) = 1.870363625071265
    r(N_1) = 55

```

```
. ttest zn if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	1.870364	.3391967	2.51555	1.302696	2.438031
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	83	2.536995	.2855811	2.601767	2.061889	3.012102
diff		-1.976087	.5490381		-2.893502	-1.058672

ttestuneq_Run4_122006						
ADJALL	55	147.7045	17.01145	126.1603	119.2348	176.1743
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	83	141.0499	11.50731	104.8365	121.9057	160.194
diff		19.72636	18.30479		-10.79236	50.24508

Satterthwaite's degrees of freedom: 68.9559

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.0777	t = 1.0777	t = 1.0777
P < t = 0.8575	P > t = 0.2849	P > t = 0.1425

. return list

scalars:

```

r(sd) = 104.836546317269
r(sd_2) = 35.76211410638251
r(sd_1) = 126.160278097354
r(se) = 18.30479189698437
r(p_u) = .1424703459066944
r(p_l) = .8575296540933056
r(p) = .2849406918133889
r(t) = 1.077660985404981
r(df_t) = 68.95585323544997
r(mu_2) = 127.9781853812082
r(N_2) = 28
r(mu_1) = 147.7045454545455
r(N_1) = 55

```

. ttest ln_ag if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-1.643715	.2342101	1.736948	-2.03568	-1.251749
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	83	-1.329276	.1852942	1.68811	-1.63754	-1.021011
diff		-.9320863	.3565517		-1.52706	-.3371124

Satterthwaite's degrees of freedom: 64.8573

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.6142	t = -2.6142	t = -2.6142
P < t = 0.0056	P > t = 0.0111	P > t = 0.9944

. return list

scalars:

```

r(sd) = 1.688110362164964
r(sd_2) = 1.422565543721684
r(sd_1) = 1.736948345575782
r(se) = .35655167335174
r(p_u) = .9944455503338473

```

```

                                ttestuneq_Run4_122006
r(p_l) = .0055544496661527
r(p) = .0111088993323055
r(t) = -2.614168773245728
r(df_t) = 64.85728644399244
r(mu_2) = -.7116283997893333
r(N_2) = 28
r(mu_1) = -1.643714650313963
r(N_1) = 55

```

```
. ttest ln_as if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	54	1.624419	.1338918	.9839	1.400269	1.84857
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	82	1.563307	.0947981	.8584332	1.405574	1.72104
diff		.1789713	.1680285		-.1006602	.4586028

Satterthwaite's degrees of freedom: 79.7294

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.0651	t = 1.0651	t = 1.0651
P < t = 0.8550	P > t = 0.2900	P > t = 0.1450

```
. return list
```

scalars:

```

r(sd) = .8584331931181435
r(sd_2) = .5371996428689455
r(sd_1) = .9839000434681031
r(se) = .1680284975891853
r(p_u) = .145017276293963
r(p_l) = .854982723706037
r(p) = .290034552587926
r(t) = 1.065124668320138
r(df_t) = 79.72943357710548
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = 1.624419219515942
r(N_1) = 54

```

```
. ttest ln_cd if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	.000239	.1451673	1.07659	-.242708	.243186
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	83	-.0183715	.1015333	.9250125	-.1872873	.1505444
diff		.0551667	.1761201		-.2378792	.3482126

Satterthwaite's degrees of freedom: 80.941

ttestuneq_Run4_122006

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.3132	t = 0.3132	t = 0.3132
P < t = 0.6225	P > t = 0.7549	P > t = 0.3775

. return list

scalars:

```
r(sd) = .9250125440153052
r(sd_2) = .5276860203161229
r(sd_1) = 1.07658984302262
r(se) = .1761201051319917
r(p_u) = .3774545855439582
r(p_l) = .6225454144560418
r(p) = .7549091710879163
r(t) = .3132332688263501
r(df_t) = 80.94102428420763
r(mu_2) = -.0549276916842375
r(N_2) = 28
r(mu_1) = .0002389845522967
r(N_1) = 55
```

. ttest ln_cr if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.385496	.1593131	1.181498	3.118875	3.652117
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	83	3.379262	.1097827	1.000168	3.196622	3.561902
diff		.0184784	.1848365		-.289161	.3261179

Satterthwaite's degrees of freedom: 78.9359

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.1000	t = 0.1000	t = 0.1000
P < t = 0.5397	P > t = 0.9206	P > t = 0.4603

. return list

scalars:

```
r(sd) = 1.000167631348566
r(sd_2) = .4959313052537723
r(sd_1) = 1.181497529439772
r(se) = .184836452475627
r(p_u) = .4603100835070832
r(p_l) = .5396899164929168
r(p) = .9206201670141664
r(t) = .0999718218783529
r(df_t) = 78.93592643462027
r(mu_2) = 3.367017269134522
r(N_2) = 28
r(mu_1) = 3.385495706038042
r(N_1) = 55
```

ttestuneq_Run4_122006

. ttest ln_cu if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.421822	.1462543	1.084651	3.177056	3.666588
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	83	3.455891	.1032233	.9404088	3.284163	3.627618
diff		-.1009884	.1817422		-.403392	.2014151

Satterthwaite's degrees of freedom: 80.8677

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.5557	t = -0.5557	t = -0.5557
P < t = 0.2900	P > t = 0.5800	P > t = 0.7100

. return list

scalars:

```

r(sd) = .9404088039452324
r(sd_2) = .5708913604705675
r(sd_1) = 1.084650900957377
r(se) = .1817421538613147
r(p_u) = .7100142994000368
r(p_l) = .2899857005999632
r(p) = .5799714011999264
r(t) = -.5556687677633121
r(df_t) = 80.86768813758425
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 3.421822335503318
r(N_1) = 55

```

. ttest ln_fe if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	9.962177	.0395644	.2934178	9.895963	10.02839
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	83	10.03105	.0325961	.2969645	9.976817	10.08527
diff		-.2041462	.062915		-.3092319	-.0990605

Satterthwaite's degrees of freedom: 60.8569

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.2448	t = -3.2448	t = -3.2448
P < t = 0.0010	P > t = 0.0019	P > t = 0.9990

. return list

ttestuneq_Run4_122006

scalars:

```

r(sd) = .2969644650617752
r(sd_2) = .2588487556964191
r(sd_1) = .2934177735063465
r(se) = .0629150066884246
r(p_u) = .9990442242813616
r(p_l) = .0009557757186384
r(p) = .0019115514372768
r(t) = -3.244793562721786
r(df_t) = 60.85692055715447
r(mu_2) = 10.16632287842887
r(N_2) = 28
r(mu_1) = 9.962176669727672
r(N_1) = 55

```

. ttest ln_hg if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-2.066735	.2185199	1.620587	-2.432442	-1.701028
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	83	-2.038194	.1543633	1.406317	-2.295001	-1.781388
diff		-.0846026	.2729426		-.538763	.3695578

Satterthwaite's degrees of freedom: 80.7601

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.3100	t = -0.3100	t = -0.3100
P < t = 0.3787	P > t = 0.7574	P > t = 0.6213

. return list

scalars:

```

r(sd) = 1.406316945055847
r(sd_2) = .8653945974159339
r(sd_1) = 1.620587045666174
r(se) = .2729425941502802
r(p_u) = .6213069539310603
r(p_l) = .3786930460689398
r(p) = .7573860921378796
r(t) = -.3099648893847526
r(df_t) = 80.76007372040287
r(mu_2) = -1.982132386948381
r(N_2) = 28
r(mu_1) = -2.06673500795256
r(N_1) = 55

```

. ttest ln_mn if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	6.094574	.0674718	.5003839	5.981655	6.207492
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334

ttestuneq_Run4_122006						
combined		83	6.243728	.0598547	.5453022	6.144151 6.343305
diff			-.4421357	.1188398		-.6410994 -.2431719

Satterthwaite's degrees of freedom: 52.82

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.7204	t = -3.7204	t = -3.7204
P < t = 0.0002	P > t = 0.0005	P > t = 0.9998

. return list

scalars:

```

r(sd) = .5453021913308505
r(sd_2) = .5176612990743834
r(sd_1) = .5003839071944481
r(se) = .1188398481941982
r(p_u) = .9997584429583473
r(p_l) = .0002415570416527
r(p) = .0004831140833054
r(t) = -3.720432720747881
r(df_t) = 52.81996812236167
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 6.094573853232644
r(N_1) = 55

```

. ttest ln_ni if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	2.876534	.0610075	.4524438	2.774434	2.978634
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	83	2.962906	.0478476	.4359126	2.883304	3.042507
diff		-.2560305	.0900106		-.4061335	-.1059275

Satterthwaite's degrees of freedom: 67.8767

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.8444	t = -2.8444	t = -2.8444
P < t = 0.0029	P > t = 0.0059	P > t = 0.9971

. return list

scalars:

```

r(sd) = .4359126134876361
r(sd_2) = .3501996737117437
r(sd_1) = .4524437821066193
r(se) = .090010606004955
r(p_u) = .9970625691064217
r(p_l) = .0029374308935783
r(p) = .0058748617871565
r(t) = -2.844448145526446

```

```

                                ttestuneq_Run4_122006
r(df_t) = 67.87666394156685
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 2.87653402631933
r(N_1) = 55

```

```
. ttest ln_pb if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	3.578081	.1430121	1.060606	3.338741	3.817421
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	83	3.69167	.107167	.9763382	3.513381	3.869958
diff		-.336711	.201778		-.6729188	-.0005032

Satterthwaite's degrees of freedom: 72.2238

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.6687	t = -1.6687	t = -1.6687
P < t = 0.0498	P > t = 0.0995	P > t = 0.9502

```
. return list
```

scalars:

```

r(sd) = .9763381790065955
r(sd_2) = .7532151173757485
r(sd_1) = 1.060606122054462
r(se) = .2017779823515824
r(p_u) = .9502486868018507
r(p_l) = .0497513131981493
r(p) = .0995026263962987
r(t) = -1.668720349534199
r(df_t) = 72.22378471282336
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 3.578080558776855
r(N_1) = 55

```

```
. ttest ln_sb if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	-.7464245	.2540862	1.884354	-1.171654	-.3211947
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	83	-.1950169	.2160733	1.968522	-.5544871	.1644534
diff		-1.63453	.4070314		-2.314499	-.9545606

Satterthwaite's degrees of freedom: 60.2118

Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0

```

                                ttestuneq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -4.0157                     t = -4.0157                     t = -4.0157
P < t = 0.0001                  P > |t| = 0.0002                  P > t = 0.9999

```

```
. return list
```

```
scalars:
```

```

r(sd) = 1.968521777845991
r(sd_2) = 1.68262105380143
r(sd_1) = 1.884353525741185
r(se) = .4070313961433964
r(p_u) = .999916606326085
r(p_l) = .000083393673915
r(p) = .00016678734783
r(t) = -4.015733633792331
r(df_t) = 60.21179331550908
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = -.7464244549247352
r(N_1) = 55

```

```
. ttest ln_zn if area1=="UP_SSD"|area1=="ADJALL", by(area1) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJALL	55	4.749694	.0913004	.6771018	4.596897	4.902491
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	83	4.786839	.0659491	.6008245	4.677123	4.896555
diff		-.1101102	.1201898		-.3101756	.0899553

```
Satterthwaite's degrees of freedom: 78.1745
```

```
Ho: mean(ADJALL) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -0.9161                     t = -0.9161                     t = -0.9161
P < t = 0.1812                  P > |t| = 0.3624                  P > t = 0.8188

```

```
. return list
```

```
scalars:
```

```

r(sd) = .6008245330850439
r(sd_2) = .4136119464945405
r(sd_1) = .6771018451993339
r(se) = .1201897573568583
r(p_u) = .8187934880223855
r(p_l) = .1812065119776145
r(p) = .362413023955229
r(t) = -.9161361209818763
r(df_t) = 78.17450467982573
r(mu_2) = 4.85980395759855
r(N_2) = 28
r(mu_1) = 4.749693779511885
r(N_1) = 55

```

```
. ttest ag if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

ttestuneq_Run4_122006

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102
combined	64	.6324846	.0534673	.4277388	.5432261	.7217431
diff		.1622574	.0998151		-.0046411	.3291559

Satterthwaite's degrees of freedom: 56.9032

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.6256	t = 1.6256	t = 1.6256
P < t = 0.9452	P > t = 0.1096	P > t = 0.0548

. return list

scalars:

```

r(sd) = .427738788527224
r(sd_2) = .283000505442838
r(sd_1) = .5056662151699879
r(se) = .099815143085608
r(p_u) = .0547827704226495
r(p_l) = .9452172295773506
r(p) = .109565540845299
r(t) = 1.625579319826003
r(df_t) = 56.90318410564283
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .7034722231328487
r(N_1) = 36

```

. ttest as if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	64	7.719238	1.744528	13.95622	4.806919	10.63156
diff		5.733806	3.06044		.5658201	10.90179

Satterthwaite's degrees of freedom: 35.7245

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.8735	t = 1.8735	t = 1.8735
P < t = 0.9654	P > t = 0.0692	P > t = 0.0346

. return list

scalars:

```

r(sd) = 13.95622251913971

```

```

                                ttestuneq_Run4_122006
r(sd_2) = 1.640400125694598
r(sd_1) = 18.26819032347449
r(se) = 3.060439885006559
r(p_u) = .0345975796435627
r(p_l) = .9654024203564373
r(p) = .0691951592871255
r(t) = 1.873523549279237
r(df_t) = 35.72447435395391
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 10.2277777393659
r(N_1) = 36

```

```
. ttest cd if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	64	2.286203	.51576	4.12608	1.425192	3.147214
diff		2.015345	.8966392		.5012945	3.529396

Satterthwaite's degrees of freedom: 35.77

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.2477	t = 2.2477	t = 2.2477
P < t = 0.9846	P > t = 0.0309	P > t = 0.0154

```
. return list
```

scalars:

```

r(sd) = 4.126080287993243
r(sd_2) = .4953390619288118
r(sd_1) = 5.350435801382296
r(se) = .8966392054775381
r(p_u) = .015429647986303
r(p_l) = .984570352013697
r(p) = .030859295972606
r(t) = 2.247666001763863
r(df_t) = 35.77000119917705
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = 3.167916672097312
r(N_1) = 36

```

```
. ttest cr if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	64	69.8174	14.95242	119.6194	44.8558	94.779


```

-----+-----
ttestuneq_Run4_122006
diff | 71.02372 25.5701 27.83407 114.2134
-----+-----
Satterthwaite's degrees of freedom: 35.3886

```

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.7776	t = 2.7776	t = 2.7776
P < t = 0.9956	P > t = 0.0087	P > t = 0.0044

. return list

scalars:

```

r(sd) = 119.6193569203458
r(sd_2) = 10.05763126459797
r(sd_1) = 152.9961520864195
r(se) = 25.5700998341105
r(p_u) = .0043508973279755
r(p_l) = .9956491026720244
r(p) = .0087017946559511
r(t) = 2.777608171727853
r(df_t) = 35.38859562088691
r(mu_2) = 29.86655950546265
r(N_2) = 28
r(mu_1) = 100.890277756585
r(N_1) = 36

```

. ttest cu if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

```

-----+-----
Group | Obs Mean Std. Err. Std. Dev. [90% Conf. Interval]
-----+-----
ADJNEAR | 36 76.45 11.04117 66.247 57.79515 95.10485
UP_SSD | 28 33.50917 2.155455 11.40559 29.8378 37.18053
-----+-----
combined | 64 57.66338 6.794849 54.35879 46.32005 69.00672
diff | 42.94083 11.24959 23.9701 61.91157
-----+-----

```

Satterthwaite's degrees of freedom: 37.6477

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.8171	t = 3.8171	t = 3.8171
P < t = 0.9998	P > t = 0.0005	P > t = 0.0002

. return list

scalars:

```

r(sd) = 54.35878816528207
r(sd_2) = 11.40559397073612
r(sd_1) = 66.24699983093207
r(se) = 11.2495931267913
r(p_u) = .0002443107714287
r(p_l) = .9997556892285713
r(p) = .0004886215428574
r(t) = 3.817101125242739
r(df_t) = 37.64770739039469
r(mu_2) = 33.50916549137661

```

ttestuneq_Run4_122006

r(N_2) = 28
r(mu_1) = 76.45000007417467
r(N_1) = 36

. ttest fe if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	64	25265	618.5511	4948.409	24232.39	26297.61
diff		-1066.035	1260.545		-3174.251	1042.181

Satterthwaite's degrees of freedom: 56.1153

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.8457	t = -0.8457	t = -0.8457
P < t = 0.2007	P > t = 0.4013	P > t = 0.7993

. return list

scalars:

r(sd) = 4948.408725891249
r(sd_2) = 5149.645675906717
r(sd_1) = 4807.011042085316
r(se) = 1260.544637576832
r(p_u) = .7993424000340127
r(p_l) = .2006575999659873
r(p) = .4013151999319746
r(t) = -.8456940456272067
r(df_t) = 56.11532511783706
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 24798.611111111111
r(N_1) = 36

. ttest hg if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.5122222	.0979643	.5877857	.3467045	.67774
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	64	.3514592	.0596191	.476953	.2519309	.4509875
diff		.3674583	.0987217		.2007969	.5341197

Satterthwaite's degrees of freedom: 36.0838

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.7222	t = 3.7222	t = 3.7222

```

                                ttestuneq_Run4_122006
P < t = 0.9997                P > |t| = 0.0007                P > t = 0.0003

```

```
. return list
```

```
scalars:
```

```

r(sd) = .4769529628036643
r(sd_2) = .0645853196035577
r(sd_1) = .5877857325071175
r(se) = .0987217076799757
r(p_u) = .0003354317837917
r(p_l) = .9996645682162083
r(p) = .0006708635675834
r(t) = 3.722163478013346
r(df_t) = 36.08376850558285
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .512222225467364
r(N_1) = 36

```

```
. ttest mn if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	64	656.2458	30.36623	242.9298	605.5523	706.9392
diff		-91.19672	60.60635		-192.4982	10.10474

```
Satterthwaite's degrees of freedom: 58.186
```

```
Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
  t = -1.5047                t = -1.5047                t = -1.5047
P < t = 0.0689                P > |t| = 0.1378                P > t = 0.9311

```

```
. return list
```

```
scalars:
```

```

r(sd) = 242.9298186413152
r(sd_2) = 240.5082073183621
r(sd_1) = 240.5443178485128
r(se) = 60.60635286884532
r(p_u) = .9310997044525101
r(p_l) = .0689002955474899
r(p) = .1378005910949798
r(t) = -1.504738566733266
r(df_t) = 58.18598628229528
r(mu_2) = 707.543938773019
r(N_2) = 28
r(mu_1) = 616.3472222222222
r(N_1) = 36

```

```
. ttest ni if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

ttestuneq_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	64	23.52143	.7909736	6.327789	22.20097	24.84188
diff		1.658962	1.550161		-.9295516	4.247476

Satterthwaite's degrees of freedom: 61.9233

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.0702	t = 1.0702	t = 1.0702
P < t = 0.8557	P > t = 0.2887	P > t = 0.1443

. return list

scalars:

```

r(sd) = 6.327788691783725
r(sd_2) = 5.520403568185079
r(sd_1) = 6.879389034980469
r(se) = 1.550160839661871
r(p_u) = .1443444490862301
r(p_l) = .8556555509137699
r(p) = .2886888981724602
r(t) = 1.070187021173327
r(df_t) = 61.92334280283825
r(mu_2) = 22.58826041221619
r(N_2) = 28
r(mu_1) = 24.2472242355347
r(N_1) = 36

```

. ttest pb if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	103.9806	26.47358	158.8415	59.25153	148.7096
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	64	88.92212	15.25699	122.0559	63.45207	114.3922
diff		34.41928	27.37802		-11.68715	80.52571

Satterthwaite's degrees of freedom: 39.7846

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.2572	t = 1.2572	t = 1.2572
P < t = 0.8920	P > t = 0.2160	P > t = 0.1080

. return list

scalars:

```

r(sd) = 122.0559225869556
r(sd_2) = 36.92913331063091
r(sd_1) = 158.841473239832
r(se) = 27.37802265190201

```

```

ttestuneq_Run4_122006
r(p_u) = .1080082851015803
r(p_l) = .8919917148984197
r(p) = .2160165702031606
r(t) = 1.257186505579359
r(df_t) = 39.78462579654418
r(mu_2) = 69.56127480098179
r(N_2) = 28
r(mu_1) = 103.980555428399
r(N_1) = 36

```

```
. ttest sb if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	64	3.213916	.3208755	2.567004	2.678245	3.749586
diff		-1.124506	.6230767		-2.16505	-.0839621

Satterthwaite's degrees of freedom: 61.5019

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.8048	t = -1.8048	t = -1.8048
P < t = 0.0380	P > t = 0.0760	P > t = 0.9620

```
. return list
```

scalars:

```

r(sd) = 2.567004344104927
r(sd_2) = 2.28448603590679
r(sd_1) = 2.695570225717761
r(se) = .6230766594237771
r(p_u) = .9619960875807987
r(p_l) = .0380039124192013
r(p) = .0760078248384026
r(t) = -1.804763345324983
r(df_t) = 61.50189983568838
r(mu_2) = 3.846450345856803
r(N_2) = 28
r(mu_1) = 2.721944429601232
r(N_1) = 36

```

```
. ttest zn if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	64	165.9264	13.40626	107.2501	143.546	188.3068
diff		67.46348	23.16264		28.49128	106.4357

ttestuneq_Run4_122006
Satterthwaite's degrees of freedom: 41.353

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.9126	t = 2.9126	t = 2.9126
P < t = 0.9971	P > t = 0.0058	P > t = 0.0029

. return list

scalars:

```

r(sd) = 107.2500694205995
r(sd_2) = 35.76211410638251
r(sd_1) = 132.928335922908
r(se) = 23.16263725551086
r(p_u) = .0028781034700376
r(p_l) = .9971218965299624
r(p) = .0057562069400752
r(t) = 2.912599311712361
r(df_t) = 41.35296688254245
r(mu_2) = 127.9781853812082
r(N_2) = 28
r(mu_1) = 195.4416667090522
r(N_1) = 36

```

. ttest ln_ag if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	64	-.6284791	.1326329	1.061063	-.8498967	-.4070615
diff		.1478209	.2914266		-.3440437	.6396856

Satterthwaite's degrees of freedom: 36.4214

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.5072	t = 0.5072	t = 0.5072
P < t = 0.6925	P > t = 0.6150	P > t = 0.3075

. return list

scalars:

```

r(sd) = 1.06106282386155
r(sd_2) = 1.422565543721684
r(sd_1) = .6749595667155161
r(se) = .291426618581947
r(p_u) = .3075248284754101
r(p_l) = .6924751715245899
r(p) = .6150496569508203
r(t) = .5072321150930527
r(df_t) = 36.42135682541014
r(mu_2) = -.7116283997893333
r(N_2) = 28
r(mu_1) = -.5638074596515961
r(N_1) = 36

```

ttestuneq_Run4_122006

```
. ttest ln_as if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	64	1.730054	.0829405	.6635239	1.591593	1.868515
diff		.5059658	.1514457		.2530781	.7588534

Satterthwaite's degrees of freedom: 61.9514

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.3409	t = 3.3409	t = 3.3409
P < t = 0.9993	P > t = 0.0014	P > t = 0.0007

```
. return list
```

scalars:

```

r(sd) = .6635238591671167
r(sd_2) = .5371996428689455
r(sd_1) = .6742795428965974
r(se) = .1514456974878252
r(p_u) = .0007093549845428
r(p_l) = .9992906450154572
r(p) = .0014187099690856
r(t) = 3.340905591656191
r(df_t) = 61.95144091752866
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = 1.951413699322277
r(N_1) = 36

```

```
. ttest ln_cd if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	64	.1679849	.1220418	.9763341	-.0357519	.3717217
diff		.3962891	.2228817		.0228447	.7697335

Satterthwaite's degrees of freedom: 50.604

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.7780	t = 1.7780	t = 1.7780
P < t = 0.9593	P > t = 0.0814	P > t = 0.0407

```
. return list
```

scalars:

```

r(sd) = .9763340587468831
r(sd_2) = .5276860203161229
r(sd_1) = 1.195965820831796
r(se) = .2228816731458211
r(p_u) = .0407042528989936
r(p_l) = .9592957471010064
r(p) = .0814085057979871
r(t) = 1.778024486224007
r(df_t) = 50.60396313891536
r(mu_2) = -.0549276916842375
r(N_2) = 28
r(mu_1) = .3413613806996081
r(N_1) = 36

```

```
. ttest ln_cr if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	64	3.723762	.1083696	.8669567	3.54285	3.904674
diff		.6342129	.1899116		.3163753	.9520506

Satterthwaite's degrees of freedom: 53.9199

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.3395	t = 3.3395	t = 3.3395
P < t = 0.9992	P > t = 0.0015	P > t = 0.0008

```
. return list
```

scalars:

```

r(sd) = .8669566993991339
r(sd_2) = .4959313052537723
r(sd_1) = .9910459752230189
r(se) = .189911587729749
r(p_u) = .0007638952185136
r(p_l) = .9992361047814864
r(p) = .0015277904370271
r(t) = 3.339516799377501
r(df_t) = 53.91985947685917
r(mu_2) = 3.367017269134522
r(N_2) = 28
r(mu_1) = 4.001230206754473
r(N_1) = 36

```

```
. ttest ln_cu if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168	4.266936

ttestuneq_Run4_122006						
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	64	3.83204	.0865989	.692791	3.687472	3.976609
diff		.5497415	.157722		.2863596	.8131234

Satterthwaite's degrees of freedom: 61.7359

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.4855	t = 3.4855	t = 3.4855
P < t = 0.9995	P > t = 0.0009	P > t = 0.0005

. return list

scalars:

```

r(sd) = .692790958285837
r(sd_2) = .5708913604705675
r(sd_1) = .6902956110898095
r(se) = .157721986720662
r(p_u) = .00045503869107
r(p_l) = .99954496130893
r(p) = .00091007738214
r(t) = 3.485509792979626
r(df_t) = 61.73591700104633
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 4.072552303473155
r(N_1) = 36

```

. ttest ln_fe if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	64	10.1305	.027057	.216456	10.08533	10.17567
diff		-.0636877	.0570012		-.1594036	.0320283

Satterthwaite's degrees of freedom: 45.3034

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.1173	t = -1.1173	t = -1.1173
P < t = 0.1349	P > t = 0.2698	P > t = 0.8651

. return list

scalars:

```

r(sd) = .2164560102585779
r(sd_2) = .2588487556964191
r(sd_1) = .1755640472789583
r(se) = .0570012269364273
r(p_u) = .8651224009191727
r(p_l) = .1348775990808273
r(p) = .2697551981616545

```

```

                                ttestuneq_Run4_122006
r(t) = -1.117303208923207
r(df_t) = 45.30341485068107
r(mu_2) = 10.16632287842887
r(N_2) = 28
r(mu_1) = 10.10263522466024
r(N_1) = 36

```

```
. ttest ln_hg if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	64	-1.553978	.1291685	1.033348	-1.769612	-1.338344
diff		.7611635	.2384261		.3630085	1.159318

Satterthwaite's degrees of freedom: 61.6922

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.1925	t = 3.1925	t = 3.1925
P < t = 0.9989	P > t = 0.0022	P > t = 0.0011

```
. return list
```

scalars:

```

r(sd) = 1.033348209947248
r(sd_2) = .8653945974159339
r(sd_1) = 1.040965920690938
r(se) = .2384260610440041
r(p_u) = .0011105003024601
r(p_l) = .9988894996975399
r(p) = .0022210006049202
r(t) = 3.192450737478912
r(df_t) = 61.69224451626308
r(mu_2) = -1.982132386948381
r(N_2) = 28
r(mu_1) = -1.220968932534258
r(N_1) = 36

```

```
. ttest ln_mn if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	64	6.43887	.0543029	.4344228	6.348217	6.529524
diff		-.1739364	.1135173		-.3645983	.0167254

Satterthwaite's degrees of freedom: 44.8009

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

ttestuneq_Run4_122006

Ha: diff < 0
t = -1.5322
P < t = 0.0662

Ha: diff != 0
t = -1.5322
P > |t| = 0.1325

Ha: diff > 0
t = -1.5322
P > t = 0.9338

. return list

scalars:

r(sd) = .4344228149790688
r(sd_2) = .5176612990743834
r(sd_1) = .345492808956618
r(se) = .1135172868507984
r(p_u) = .9337532654167025
r(p_l) = .0662467345832976
r(p) = .1324934691665952
r(t) = -1.532246266311331
r(df_t) = 44.80087254142868
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 6.362773074044122
r(N_1) = 36

. ttest ln_ni if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	64	3.145114	.0371537	.2972298	3.08309	3.207139
diff		.0223103	.0785051		-.1093933	.1540139

Satterthwaite's degrees of freedom: 47.398

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0
t = 0.2842
P < t = 0.6112

Ha: diff != 0
t = 0.2842
P > |t| = 0.7775

Ha: diff > 0
t = 0.2842
P > t = 0.3888

. return list

scalars:

r(sd) = .297229802030152
r(sd_2) = .3501996737117437
r(sd_1) = .2533577677483135
r(se) = .0785051159125386
r(p_u) = .3887518802622171
r(p_l) = .6112481197377829
r(p) = .7775037605244342
r(t) = .2841885380380386
r(df_t) = 47.3979587607339
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 3.154874781767527
r(N_1) = 36

. ttest ln_pb if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

ttestuneq_Run4_122006

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245
combined	64	4.023896	.1046706	.8373648	3.849159	4.198634
diff		.1939637	.206624		-.1510904	.5390179

Satterthwaite's degrees of freedom: 61.6167

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.9387	t = 0.9387	t = 0.9387
P < t = 0.8242	P > t = 0.3515	P > t = 0.1758

. return list

scalars:

```

r(sd) = .8373648007842807
r(sd_2) = .7532151173757485
r(sd_1) = .898630566713301
r(se) = .20662399122955
r(p_u) = .1757678784904662
r(p_l) = .8242321215095338
r(p) = .3515357569809324
r(t) = .9387279695094505
r(df_t) = 61.61670034777518
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 4.108755303753747
r(N_1) = 36

```

. ttest ln_sb if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	64	.5230787	.1929172	1.543337	.2010223	.845135
diff		-.6489361	.3927804		-1.306766	.0088935

Satterthwaite's degrees of freedom: 51.8069

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.6522	t = -1.6522	t = -1.6522
P < t = 0.0523	P > t = 0.1046	P > t = 0.9477

. return list

scalars:

```

r(sd) = 1.543337460396858

```

```

ttestuneq_Run4_122006
r(sd_2) = 1.68262105380143
r(sd_1) = 1.383409096107487
r(se) = .3927804204349243
r(p_u) = .9477245512941518
r(p_l) = .0522754487058482
r(p) = .1045508974116963
r(t) = -1.6521600182318
r(df_t) = 51.8069438266344
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = .2391691059908933
r(N_1) = 36

```

```
. ttest ln_zn if area=="UP_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	64	5.014336	.0591964	.4735712	4.915514	5.113159
diff		.2747245	.1127563		.0864199	.4630291

Satterthwaite's degrees of freedom: 61.4918

Ho: mean(ADJNEAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.4364	t = 2.4364	t = 2.4364
P < t = 0.9911	P > t = 0.0177	P > t = 0.0089

```
. return list
```

scalars:

```

r(sd) = .4735712182300334
r(sd_2) = .4136119464945405
r(sd_1) = .4875964931566519
r(se) = .112756338672309
r(p_u) = .0088712931608677
r(p_l) = .9911287068391324
r(p) = .0177425863217354
r(t) = 2.436443903127713
r(df_t) = 61.49180372282757
r(mu_2) = 4.85980395759855
r(N_2) = 28
r(mu_1) = 5.134528451495701
r(N_1) = 36

```

```
. ttest ag if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.0676316	.0333736	.1454721	.0097596	.1255035
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102

```

ttestuneq_Run4_122006
combined |      47      .3497663      .048483      .3323827      .2683798      .4311528
-----+-----
diff |      -.4735832      .0630407      -.5795886      -.3675779
-----+-----

```

Satterthwaite's degrees of freedom: 42.4633

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -7.5123      t = -7.5123      t = -7.5123
P < t = 0.0000      P > |t| = 0.0000      P > t = 1.0000

```

. return list

scalars:

```

r(sd) = .3323826980105965
r(sd_2) = .283000505442838
r(sd_1) = .1454721141773615
r(se) = .0630406874763871
r(p_u) = .9999999987313799
r(p_l) = 1.26862010195e-09
r(p) = 2.53724020390e-09
r(t) = -7.512342102411472
r(df_t) = 42.46330927398463
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .0676315800335846
r(N_1) = 19

```

. ttest as if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR |      18      6.158333      2.347764      9.96072      2.074147      10.24252
UP_SSD |      28      4.493972      .3100065      1.6404      3.965941      5.022002
-----+-----
combined |      46      5.145244      .9298269      6.306393      3.583667      6.70682
-----+-----
diff |      1.664362      2.368143      -2.447281      5.776004
-----+-----

```

Satterthwaite's degrees of freedom: 17.5946

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = 0.7028      t = 0.7028      t = 0.7028
P < t = 0.7543      P > |t| = 0.4914      P > t = 0.2457

```

. return list

scalars:

```

r(sd) = 6.306392607310353
r(sd_2) = 1.640400125694598
r(sd_1) = 9.960720351670322
r(se) = 2.36814299366657
r(p_u) = .245683772822048
r(p_l) = .754316227177952
r(p) = .491367545644096
r(t) = .7028130041620599
r(df_t) = 17.59460471645157

```

```

                                ttestuneq_Run4_122006
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 6.158333235316807
r(N_1) = 18

```

```
. ttest cd if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.5289474	.0149638	.0652257	.5029992	.5548955
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	47	.900468	.0716639	.4913029	.7801686	1.020767
diff		-.6236238	.0947987		-.7848171	-.4624306

Satterthwaite's degrees of freedom: 28.3697

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.5784	t = -6.5784	t = -6.5784
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = .4913029020953515
r(sd_2) = .4953390619288118
r(sd_1) = .0652256581208895
r(se) = .0947987357604056
r(p_u) = .9999998162716249
r(p_l) = 1.83728375045e-07
r(p) = 3.67456750090e-07
r(t) = -6.578398231104103
r(df_t) = 28.36968779812694
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = .5289473784597296
r(N_1) = 19

```

```
. ttest cr if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.571053	.655067	2.855371	8.435125	10.70698
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	47	21.66199	1.867539	12.8032	18.52703	24.79696
diff		-20.29551	2.010429		-23.6976	-16.89342

Satterthwaite's degrees of freedom: 33.0946

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0

```

                                ttestuneq_Run4_122006
t = -10.0951                    t = -10.0951                    t = -10.0951
P < t = 0.0000                  P > |t| = 0.0000                  P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 12.80320152647364
r(sd_2) = 10.05763126459797
r(sd_1) = 2.855371021741286
r(se) = 2.010429109755841
r(p_u) = .999999999938174
r(p_l) = 6.18262765710e-12
r(p) = 1.23652553142e-11
r(t) = -10.09511189935688
r(df_t) = 33.09460308889749
r(mu_2) = 29.86655950546265
r(N_2) = 28
r(mu_1) = 9.571052676752993
r(N_1) = 19

```

```
. ttest cu if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.542105	.778177	3.391995	8.192697	10.89151
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	47	23.82035	2.174341	14.90653	20.17037	27.47033
diff		-23.96706	2.291625		-27.84319	-20.09093

```
Satterthwaite's degrees of freedom: 33.6398
```

```
Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -10.4585                    t = -10.4585                    t = -10.4585
P < t = 0.0000                  P > |t| = 0.0000                  P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = 14.90652837416822
r(sd_2) = 11.40559397073612
r(sd_1) = 3.391994836962124
r(se) = 2.291624794585221
r(p_u) = .999999999979264
r(p_l) = 2.07357571063e-12
r(p) = 4.14715142125e-12
r(t) = -10.45854463161424
r(df_t) = 33.63983188411801
r(mu_2) = 33.50916549137661
r(N_2) = 28
r(mu_1) = 9.542105298293265
r(N_1) = 19

```

```
. ttest fe if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```


ttestuneq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	17007.89	1408.414	6139.134	14565.62	19450.17
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	47	22284.26	1027.447	7043.819	20559.52	24008.99
diff		-8856.751	1711.938		-11751.25	-5962.251

Satterthwaite's degrees of freedom: 34.1082

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.1735	t = -5.1735	t = -5.1735
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 7043.818581610922
r(sd_2) = 5149.645675906717
r(sd_1) = 6139.133651282084
r(se) = 1711.937903378539
r(p_u) = .9999949276983939
r(p_l) = 5.07230160605e-06
r(p) = .0000101446032121
r(t) = -5.173523789055713
r(df_t) = 34.10822926297097
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 17007.89473684211
r(N_1) = 19

```

. ttest hg if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.1468421	.1219171	.5314242	-.0645699	.3582541
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	47	.145604	.0490242	.3360927	.0633091	.2278989
diff		.0020782	.1225265		-.2101642	.2143207

Satterthwaite's degrees of freedom: 18.3614

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0170	t = 0.0170	t = 0.0170
P < t = 0.5067	P > t = 0.9867	P > t = 0.4933

. return list

scalars:

```

r(sd) = .3360927393062784
r(sd_2) = .0645853196035577
r(sd_1) = .5314241950454365

```

```

ttestuneq_Run4_122006
r(se) = .1225265116998768
r(p_u) = .4933252164858001
r(p_l) = .5066747835141999
r(p) = .9866504329716003
r(t) = .0169613068205156
r(df_t) = 18.36139223894927
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .1468421004124378
r(N_1) = 19

```

```
. ttest mn if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	279.4474	19.63434	85.58409	245.4002	313.4946
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	47	534.4836	41.74755	286.2068	464.4037	604.5636
diff		-428.0966	49.51133		-511.6785	-344.5146

Satterthwaite's degrees of freedom: 36.1298

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.6464	t = -8.6464	t = -8.6464
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 286.2068103186242
r(sd_2) = 240.5082073183621
r(sd_1) = 85.58408710100423
r(se) = 49.51132560075691
r(p_u) = .9999999998737911
r(p_l) = 1.26208963254e-10
r(p) = 2.52417926508e-10
r(t) = -8.646437257689213
r(df_t) = 36.1298485939299
r(mu_2) = 707.543938773019
r(N_2) = 28
r(mu_1) = 279.4473684210527
r(N_1) = 19

```

```
. ttest ni if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	10.68684	.520316	2.268005	9.784581	11.5891
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	47	17.77705	1.079345	7.399614	15.9652	19.5889
diff		-11.90142	1.165811		-13.86625	-9.936585

ttestuneq_Run4_122006

Satterthwaite's degrees of freedom: 38.527

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -10.2087	t = -10.2087	t = -10.2087
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 7.399613837363853
r(sd_2) = 5.520403568185079
r(sd_1) = 2.268004676159051
r(se) = 1.165811474353955
r(p_u) = .9999999999991822
r(p_l) = 8.17840994600e-13
r(p) = 1.63568198920e-12
r(t) = -10.20869890528941
r(df_t) = 38.52701322508239
r(mu_2) = 22.58826041221619
r(N_2) = 28
r(mu_1) = 10.68684209020514
r(N_1) = 19

```

. ttest pb if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	14.46316	1.808123	7.881427	11.32776	17.59856
UP_SSD	28	69.56127	6.97895	36.92913	57.67411	81.44844
combined	47	47.28757	5.782936	39.64581	37.57998	56.99515
diff		-55.09812	7.209373		-67.32742	-42.86882

Satterthwaite's degrees of freedom: 30.5399

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.6426	t = -7.6426	t = -7.6426
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 39.64580921143723
r(sd_2) = 36.92913331063091
r(sd_1) = 7.881427399939791
r(se) = 7.209372814652653
r(p_u) = .9999999929188703
r(p_l) = 7.08112968760e-09
r(p) = 1.41622593752e-08
r(t) = -7.642567302722337
r(df_t) = 30.53993066344226
r(mu_2) = 69.56127480098179
r(N_2) = 28
r(mu_1) = 14.46315785458213

```

ttestuneq_Run4_122006

r(N_1) = 19

. ttest sb if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	.2568421	.1859515	.8105437	-.0656096	.5792938
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	47	2.395332	.3716266	2.547743	1.771497	3.019167
diff		-3.589608	.4700706		-4.383178	-2.796038

Satterthwaite's degrees of freedom: 36.0843

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.6363	t = -7.6363	t = -7.6363
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 2.547743292265628
r(sd_2) = 2.28448603590679
r(sd_1) = .8105437093667497
r(se) = .4700706302933249
r(p_u) = .9999999975908531
r(p_l) = 2.40914688550e-09
r(p) = 4.81829377099e-09
r(t) = -7.636316786943664
r(df_t) = 36.08425703736913
r(mu_2) = 3.846450345856803
r(N_2) = 28
r(mu_1) = .256842100698697
r(N_1) = 19

```

. ttest zn if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	57.25526	3.226401	14.06356	51.66048	62.85005
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	47	99.38807	6.618539	45.37442	88.27779	110.4983
diff		-70.72292	7.489038		-83.35105	-58.0948

Satterthwaite's degrees of freedom: 37.7667

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -9.4435	t = -9.4435	t = -9.4435
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

```
scalars:
```

```

r(sd) = 45.37441550532406
r(sd_2) = 35.76211410638251
r(sd_1) = 14.06355525157996
r(se) = 7.489038069096369
r(p_u) = .999999999913041
r(p_l) = 8.69589315470e-12
r(p) = 1.73917863094e-11
r(t) = -9.443525543749352
r(df_t) = 37.76670758744908
r(mu_2) = 127.9781853812082
r(N_2) = 28
r(mu_1) = 57.25526307758532
r(N_1) = 19

```

```
. ttest ln_ag if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-3.689855	.2727497	1.188888	-4.16282	-3.216889
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	47	-1.915592	.2889267	1.980782	-2.400602	-1.430582
diff		-2.978226	.3829715		-3.622047	-2.334405

```
Satterthwaite's degrees of freedom: 42.943
```

```
Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0
```

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.7766	t = -7.7766	t = -7.7766
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

```
scalars:
```

```

r(sd) = 1.980781839401567
r(sd_2) = 1.422565543721684
r(sd_1) = 1.188888451389633
r(se) = .3829714716628134
r(p_u) = .999999999503424
r(p_l) = 4.96576047096e-10
r(p) = 9.93152094192e-10
r(t) = -7.77662674923521
r(df_t) = 42.94303269878113
r(mu_2) = -.7116283997893333
r(N_2) = 28
r(mu_1) = -3.689854590516342
r(N_1) = 19

```

```
. ttest ln_as if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-3.689855	.2727497	1.188888	-4.16282	-3.216889
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	47	-1.915592	.2889267	1.980782	-2.400602	-1.430582
diff		-2.978226	.3829715		-3.622047	-2.334405

ttestuneq_Run4_122006						
ADJFAR	18	.9704303	.2791581	1.184368	.484805	1.456056
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368

combined	46	1.259571	.1283683	.8706364	1.043986	1.475157

diff		-.4750177	.2970451		-.9855482	.0355128

Satterthwaite's degrees of freedom: 21.5566

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.5991	t = -1.5991	t = -1.5991
P < t = 0.0622	P > t = 0.1243	P > t = 0.9378

. return list

scalars:

```

r(sd) = .8706364386182184
r(sd_2) = .5371996428689455
r(sd_1) = 1.184367515337014
r(se) = .2970451095164466
r(p_u) = .9378279520298885
r(p_l) = .0621720479701115
r(p) = .1243440959402229
r(t) = -1.599143182740591
r(df_t) = 21.55662720327883
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = .970430259903272
r(N_1) = 18

```

. ttest ln_cd if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-.6460982	.0342148	.149139	-.7054289	-.5867675
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298

combined	47	-.2939115	.0741103	.5080745	-.4183175	-.1695055

diff		-.5911705	.1054295		-.7695884	-.4127526

Satterthwaite's degrees of freedom: 33.044

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.6073	t = -5.6073	t = -5.6073
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .5080745324673748
r(sd_2) = .5276860203161229
r(sd_1) = .1491390189115591
r(se) = .1054295429808614
r(p_u) = .9999984710907636
r(p_l) = 1.52890923641e-06

```

```

                                ttestuneq_Run4_122006
r(p) = 3.05781847283e-06
r(t) = -5.607256549697064
r(df_t) = 33.04397049693983
r(mu_2) = -.0549276916842375
r(N_2) = 28
r(mu_1) = -.6460981870952406
r(N_1) = 19

```

```
. ttest ln_cr if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.218841	.066123	.2882237	2.104179	2.333502
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	47	2.902861	.1032722	.7079984	2.729502	3.07622
diff		-1.148176	.1147001		-1.340884	-.9554687

Satterthwaite's degrees of freedom: 44.1576

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -10.0102	t = -10.0102	t = -10.0102
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = .7079984128497061
r(sd_2) = .4959313052537723
r(sd_1) = .2882236604104138
r(se) = .1147000823237021
r(p_u) = .9999999999999689
r(p_l) = 3.10988376285e-13
r(p) = 6.21976752570e-13
r(t) = -10.01024919336024
r(df_t) = 44.15763190354182
r(mu_2) = 3.367017269134522
r(N_2) = 28
r(mu_1) = 2.21884086257533
r(N_1) = 19

```

```
. ttest ln_cu if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.18886	.0892394	.3889854	2.034114	2.343607
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	47	2.983554	.1210211	.829679	2.780401	3.186708
diff		-1.33395	.1400127		-1.569092	-1.098809

Satterthwaite's degrees of freedom: 44.9927

ttestuneq_Run4_122006
Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -9.5274	t = -9.5274	t = -9.5274
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .8296790279413417
r(sd_2) = .5708913604705675
r(sd_1) = .3889854134269929
r(se) = .1400127022687497
r(p_u) = .9999999999988393
r(p_l) = 1.16071578257e-12
r(p) = 2.32143156513e-12
r(t) = -9.527353316134995
r(df_t) = 44.99271028817248
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 2.188860290928891
r(N_1) = 19

```

. ttest ln_fe if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	9.696045	.0665427	.2900528	9.580655	9.811434
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	47	9.97621	.0519143	.3559062	9.889064	10.06336
diff		-.4702782	.0825886		-.609738	-.3308184

Satterthwaite's degrees of freedom: 35.7513

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.6942	t = -5.6942	t = -5.6942
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .3559062124740035
r(sd_2) = .2588487556964191
r(sd_1) = .2900528071328377
r(se) = .0825886235555297
r(p_u) = .9999990890378053
r(p_l) = 9.10962194645e-07
r(p) = 1.82192438929e-06
r(t) = -5.694225030940213
r(df_t) = 35.75130015433866
r(mu_2) = 10.16632287842887
r(N_2) = 28
r(mu_1) = 9.696044670908075
r(N_1) = 19

```

. ttest ln_hg if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

ttestuneq_Run4_122006

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	-3.669239	.2929487	1.276934	-4.177231	-3.161247
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	47	-2.664154	.1944995	1.333422	-2.990653	-2.337656
diff		-1.687107	.335508		-2.257123	-1.117091

Satterthwaite's degrees of freedom: 29.0849

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.0285	t = -5.0285	t = -5.0285
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.333421649667856
r(sd_2) = .8653945974159339
r(sd_1) = 1.276933745998642
r(se) = .335508038467679
r(p_u) = .9999883707577184
r(p_l) = .0000116292422816
r(p) = .0000232584845632
r(t) = -5.028513688099135
r(df_t) = 29.08490723776366
r(mu_2) = -1.982132386948381
r(N_2) = 28
r(mu_1) = -3.669239150850396
r(N_1) = 19

```

. ttest ln_mn if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	5.586407	.0734888	.3203301	5.458973	5.713841
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	47	6.152545	.094493	.6478111	5.993923	6.311166
diff		-.9503026	.1223563		-1.155819	-.7447863

Satterthwaite's degrees of freedom: 44.7128

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -7.7667	t = -7.7667	t = -7.7667
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

                                ttestuneq_Run4_122006
r(sd) = .6478110822460703
r(sd_2) = .5176612990743834
r(sd_1) = .32033014976996
r(se) = .1223563337885893
r(p_u) = .9999999996063669
r(p_l) = 3.93633079010e-10
r(p) = 7.87266158020e-10
r(t) = -7.766680931187409
r(df_t) = 44.71277900061189
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 5.586406908537212
r(N_1) = 19

```

```
. ttest ln_ni if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.349152	.0463231	.2019176	2.268824	2.429479
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	47	2.815866	.0713038	.4888344	2.696171	2.935561
diff		-.783413	.0807825		-.9191416	-.6476843

Satterthwaite's degrees of freedom: 44.0697

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -9.6978	t = -9.6978	t = -9.6978
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = .4888343642856187
r(sd_2) = .3501996737117437
r(sd_1) = .2019175588084386
r(se) = .0807825452168719
r(p_u) = .9999999999991608
r(p_l) = 8.39204038815e-13
r(p) = 1.67840807763e-12
r(t) = -9.697800226923221
r(df_t) = 44.06967914141765
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 2.349151542312221
r(N_1) = 19

```

```
. ttest ln_pb if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	2.572592	.0957076	.4171796	2.406629	2.738555
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245

```

ttestuneq_Run4_122006
combined |      47      3.3722      .1340367      .9189094      3.147198      3.597202
-----+-----
diff |      -1.3422      .1715279      -1.630467      -1.053933
-----+-----

```

Satterthwaite's degrees of freedom: 43.5726

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -7.8250      t = -7.8250      t = -7.8250
P < t = 0.0000      P > |t| = 0.0000      P > t = 1.0000

```

. return list

scalars:

```

r(sd) = .9189094049799511
r(sd_2) = .7532151173757485
r(sd_1) = .4171795911801338
r(se) = .1715279299696502
r(p_u) = .9999999996154732
r(p_l) = 3.84526906876e-10
r(p) = 7.69053813752e-10
r(t) = -7.824964808693572
r(df_t) = 43.57260949071697
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 2.572591568294325
r(N_1) = 19

```

. ttest ln_sb if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)

Two-sample t test with unequal variances

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR |      19     -2.613865     .2622958     1.143321     -3.068702     -2.159027
UP_SSD |      28      .8881052     .3179855     1.682621      .3464842      1.429726
-----+-----
combined |      47     -.5275848     .3323366     2.278385     -1.085465      .0302955
-----+-----
diff |      -3.50197     .4122061      -4.194242     -2.809698
-----+-----

```

Satterthwaite's degrees of freedom: 44.9955

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -8.4957      t = -8.4957      t = -8.4957
P < t = 0.0000      P > |t| = 0.0000      P > t = 1.0000

```

. return list

scalars:

```

r(sd) = 2.27838507414539
r(sd_2) = 1.68262105380143
r(sd_1) = 1.143320902391257
r(se) = .41220608988616
r(p_u) = .999999999668687
r(p_l) = 3.31312629297e-11
r(p) = 6.62625258593e-11
r(t) = -8.495677731685609
r(df_t) = 44.99548811829121

```

```

ttestuneq_Run4_122006
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = -2.613864886133294
r(N_1) = 19

```

```
. ttest ln_zn if area=="UP_SSD"|area=="ADJFAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR	19	4.020533	.0541443	.2360096	3.926644	4.114423
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	47	4.520524	.0792966	.5436303	4.387412	4.653636
diff		-.8392706	.0950864		-.9990416	-.6794996

Satterthwaite's degrees of freedom: 43.949

Ho: mean(ADJFAR) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.8264	t = -8.8264	t = -8.8264
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = .5436302563588297
r(sd_2) = .4136119464945405
r(sd_1) = .2360095719986676
r(se) = .0950863923508243
r(p_u) = .9999999999863043
r(p_l) = 1.36957409590e-11
r(p) = 2.73914819180e-11
r(t) = -8.826400796839334
r(df_t) = 43.94901119378773
r(mu_2) = 4.85980395759855
r(N_2) = 28
r(mu_1) = 4.020533348384657
r(N_1) = 19

```

```
. ttest ag if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.2131037	.0333736	.1454721	.1552318	.2709756
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
combined	55	.5340722	.0644083	.4776645	.4262808	.6418636
diff		-.4903685	.0906451		-.6426218	-.3381153

Satterthwaite's degrees of freedom: 44.7002

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

```

                                ttestuneq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = -5.4098                     t = -5.4098                     t = -5.4098
P < t = 0.0000                  P > |t| = 0.0000                  P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = .4776645301902217
r(sd_2) = .5056662151699879
r(sd_1) = .1454721127310928
r(se) = .0906450646922182
r(p_u) = .9999988169993455
r(p_l) = 1.18300065457e-06
r(p) = 2.36600130914e-06
r(t) = -5.409765343883332
r(df_t) = 44.70022207359247
r(mu_2) = .7034722231328487
r(N_2) = 36
r(mu_1) = .2131036935668243
r(N_1) = 19

```

```
. ttest as if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	16.11905	2.347764	9.960721	12.03487	20.20324
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
combined	54	12.19154	2.194555	16.12662	8.517597	15.86548
diff		5.891276	3.844761		-.5486241	12.33118

```
Satterthwaite's degrees of freedom: 51.5056
```

```
Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = 1.5323                     t = 1.5323                     t = 1.5323
P < t = 0.9342                  P > |t| = 0.1316                  P > t = 0.0658

```

```
. return list
```

```
scalars:
```

```

r(sd) = 16.12661821236384
r(sd_2) = 18.26819032347449
r(sd_1) = 9.960720878951873
r(se) = 3.844760860037196
r(p_u) = .0657857462340549
r(p_l) = .9342142537659451
r(p) = .1315714924681097
r(t) = 1.532286813314014
r(df_t) = 51.50561309464098
r(mu_2) = 10.2277777393659
r(N_2) = 36
r(mu_1) = 16.11905410554674
r(N_1) = 18

```

```
. ttest cd if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

ttestuneq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.594173	.0149638	.0652257	.5682249	.6201212
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
combined	55	2.278805	.604252	4.481253	1.26755	3.29006
diff		-2.573744	.8918648		-4.080591	-1.066896

Satterthwaite's degrees of freedom: 35.0197

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.8858	t = -2.8858	t = -2.8858
P < t = 0.0033	P > t = 0.0066	P > t = 0.9967

. return list

scalars:

```

r(sd) = 4.481252533010225
r(sd_2) = 5.350435801382296
r(sd_1) = .0652256531109017
r(se) = .8918648410037966
r(p_u) = .9966785521174698
r(p_l) = .0033214478825302
r(p) = .0066428957650604
r(t) = -2.885800096032147
r(df_t) = 35.01970823258245
r(mu_2) = 3.167916672097312
r(N_2) = 36
r(mu_1) = .5941730282808605
r(N_1) = 19

```

. ttest cr if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.42642	.6550671	2.855371	11.2905	13.56235
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
combined	55	70.33004	17.56897	130.2949	40.92723	99.73284
diff		-88.46385	25.50777		-131.5595	-45.36817

Satterthwaite's degrees of freedom: 35.0462

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.4681	t = -3.4681	t = -3.4681
P < t = 0.0007	P > t = 0.0014	P > t = 0.9993

. return list

scalars:

```

r(sd) = 130.2949436001154
r(sd_2) = 152.9961520864195

```

```

                                ttestuneq_Run4_122006
r(sd_1) = 2.855371114443928
r(se) = 25.50777148240415
r(p_u) = .9992969126718184
r(p_l) = .0007030873281816
r(p) = .0014061746563632
r(t) = -3.46811379397323
r(df_t) = 35.04618227387869
r(mu_2) = 100.890277756585
r(N_2) = 36
r(mu_1) = 12.42642362494218
r(N_1) = 19

```

```
. ttest cu if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.9341	.778177	3.391995	11.58469	14.28351
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
combined	55	54.50814	8.287389	61.46092	40.63866	68.37763
diff		-63.5159	11.06856		-82.21204	-44.81976

Satterthwaite's degrees of freedom: 35.3469

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.7384	t = -5.7384	t = -5.7384
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 61.46092087920003
r(sd_2) = 66.24699983093207
r(sd_1) = 3.391994924514598
r(se) = 11.06855546988039
r(p_u) = .9999991737459736
r(p_l) = 8.26254026460e-07
r(p) = 1.65250805292e-06
r(t) = -5.73840914661791
r(df_t) = 35.346883895734
r(mu_2) = 76.45000007417467
r(N_2) = 36
r(mu_1) = 12.93410012596532
r(N_1) = 19

```

```
. ttest fe if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	23147.03	1408.414	6139.134	20704.75	25589.31
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24
combined	55	24228.06	715.6457	5307.37	23030.38	25425.74

```

                                ttestuneq_Run4_122006
diff |                -1651.584      1620.34      -4401.95      1098.783
-----
Satterthwaite's degrees of freedom:  29.9224

```

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

```

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
t = -1.0193                t = -1.0193                t = -1.0193
P < t = 0.1581            P > |t| = 0.3162            P > t = 0.8419

```

. return list

scalars:

```

r(sd) = 5307.370428812667
r(sd_2) = 4807.011042085316
r(sd_1) = 6139.133651282084
r(se) = 1620.339641853889
r(p_u) = .8418800647569732
r(p_l) = .1581199352430268
r(p) = .3162398704860536
r(t) = -1.019282327672588
r(df_t) = 29.92244908382964
r(mu_2) = 24798.611111111111
r(N_2) = 36
r(mu_1) = 23147.02754934211
r(N_1) = 19

```

. ttest hg if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

```

-----
Group |      Obs      Mean   Std. Err.   Std. Dev.   [90% Conf. Interval]
-----+-----
ADJFAR_S |      19   .6782663   .1219171   .5314242   .4668543   .8896783
ADJNEAR |      36   .5122222   .0979643   .5877857   .3467045   .67774
-----+-----
combined |      55   .5695829   .0768016   .569576   .4410504   .6981154
-----+-----
diff |                .1660441   .1563994                -.0972872   .4293754
-----

```

Satterthwaite's degrees of freedom: 40.1416

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

```

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
t = 1.0617                t = 1.0617                t = 1.0617
P < t = 0.8526            P > |t| = 0.2947            P > t = 0.1474

```

. return list

scalars:

```

r(sd) = .569576049786418
r(sd_2) = .5877857325071175
r(sd_1) = .5314242125132804
r(se) = .1563994092708844
r(p_u) = .1473663955454919
r(p_l) = .8526336044545081
r(p) = .2947327910909839
r(t) = 1.061666966987805
r(df_t) = 40.14156699332456
r(mu_2) = .512222225467364
r(N_2) = 36

```



```

                                ttestuneq_Run4_122006
r(mu_1) = .6782663119466681
r(N_1) = 19

```

```
. ttest mn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	365.0314	19.63434	85.58409	330.9843	399.0786
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
combined	55	529.529	31.4759	233.4315	476.8521	582.206
diff		-251.3158	44.64049		-326.176	-176.4556

Satterthwaite's degrees of freedom: 48.3902

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.6298	t = -5.6298	t = -5.6298
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 233.431501237777
r(sd_2) = 240.5443178485128
r(sd_1) = 85.58408889042127
r(se) = 44.64048581204566
r(p_u) = .9999995516905432
r(p_l) = 4.48309456814e-07
r(p) = 8.96618913628e-07
r(t) = -5.629772411579319
r(df_t) = 48.39017008083307
r(mu_2) = 616.3472222222222
r(N_2) = 36
r(mu_1) = 365.0314467580695
r(N_1) = 19

```

```
. ttest ni if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.95485	.520316	2.268005	12.05259	13.85711
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
combined	55	20.34622	1.059645	7.858536	18.57284	22.1196
diff		-11.29238	1.259103		-13.40504	-9.179714

Satterthwaite's degrees of freedom: 47.0224

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.9686	t = -8.9686	t = -8.9686
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

```
scalars:
```

```

r(sd) = 7.85853637151548
r(sd_2) = 6.879389034980469
r(sd_1) = 2.26800474325925
r(se) = 1.25910271294486
r(p_u) = .9999999999952624
r(p_l) = 4.73759993208e-12
r(p) = 9.47519986416e-12
r(t) = -8.968589713744672
r(df_t) = 47.02235111402266
r(mu_2) = 24.24722242355347
r(N_2) = 36
r(mu_1) = 12.95484678368819
r(N_1) = 19

```

```
. ttest pb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	22.34459	1.808123	7.881427	19.20918	25.47999
ADJNEAR	36	103.9806	26.47358	158.8415	59.25153	148.7096
combined	55	75.77904	18.04475	133.8235	45.57997	105.9781
diff		-81.63597	26.53525		-126.458	-36.81397

```
Satterthwaite's degrees of freedom: 35.3258
```

```
Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0
```

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.0765	t = -3.0765	t = -3.0765
P < t = 0.0020	P > t = 0.0040	P > t = 0.9980

```
. return list
```

```
scalars:
```

```

r(sd) = 133.8234654788095
r(sd_2) = 158.841473239832
r(sd_1) = 7.881427399939791
r(se) = 26.5352536972012
r(p_u) = .9979851658624312
r(p_l) = .0020148341375687
r(p) = .0040296682751373
r(t) = -3.076509866477546
r(df_t) = 35.32580128023698
r(mu_2) = 103.980555428399
r(N_2) = 36
r(mu_1) = 22.34458561947471
r(N_1) = 19

```

```
. ttest sb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	

```

                                ttestuneq_Run4_122006
-----+-----
ADJFAR_S |      19      1.067386      .1859515      .8105438      .7449341      1.389838
ADJNEAR  |      36      2.721944      .4492617      2.69557      1.962884      3.481005
-----+-----
combined |      55      2.15037      .3179186      2.357747      1.618312      2.682427
-----+-----
diff     |              -1.654559      .4862243              -2.470976      -.8381415
-----+-----

```

Satterthwaite's degrees of freedom: 45.427

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.4029	t = -3.4029	t = -3.4029
P < t = 0.0007	P > t = 0.0014	P > t = 0.9993

. return list

scalars:

```

r(sd) = 2.357747133603248
r(sd_2) = 2.695570225717761
r(sd_1) = .8105437717069745
r(se) = .4862242663020973
r(p_u) = .9992992676685465
r(p_l) = .0007007323314535
r(p) = .001401464662907
r(t) = -3.402871244396643
r(df_t) = 45.42697535484651
r(mu_2) = 2.721944429601232
r(N_2) = 36
r(mu_1) = 1.06738585547397
r(N_1) = 19

```

. ttest zn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR_S |      19      71.31882      3.226401      14.06355      65.72403      76.9136
ADJNEAR  |      36      195.4417      22.15472      132.9283      158.0097      232.8737
-----+-----
combined |      55      152.5629      16.5512      122.747      124.8634      180.2624
-----+-----
diff     |              -124.1228      22.38842              -161.9084      -86.33734
-----+-----

```

Satterthwaite's degrees of freedom: 36.4684

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.5441	t = -5.5441	t = -5.5441
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 122.7470069816802
r(sd_2) = 132.928335922908
r(sd_1) = 14.06355483840419
r(se) = 22.38842106298552
r(p_u) = .9999986404312751

```

```

                                ttestuneq_Run4_122006
r(p_l) = 1.35956872496e-06
r(p) = 2.71913744992e-06
r(t) = -5.544064398993114
r(df_t) = 36.46842233931412
r(mu_2) = 195.4416667090522
r(N_2) = 36
r(mu_1) = 71.31881854408665
r(N_1) = 19

```

```

. ttest ln_ag if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	-2.450115	.2832921	1.201907	-2.942932	-1.957298
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
combined	54	-1.192577	.1705017	1.252926	-1.478016	-.9071371
diff		-1.886308	.30481		-2.409188	-1.363427

Satterthwaite's degrees of freedom: 22.512

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.1885	t = -6.1885	t = -6.1885
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.252926397440689
r(sd_2) = .6749595667155161
r(sd_1) = 1.20190668914736
r(se) = .304810040823932
r(p_u) = .9999985783209814
r(p_l) = 1.42167901861e-06
r(p) = 2.84335803721e-06
r(t) = -6.188469792980272
r(df_t) = 22.51202513362923
r(mu_2) = -.5638074596515961
r(N_2) = 36
r(mu_1) = -2.450115189887583
r(N_1) = 18

```

```

. ttest ln_as if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	2.154798	.2791581	1.184367	1.669172	2.640423
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
combined	54	2.019208	.1185982	.8715155	1.820661	2.217756
diff		.203384	.3009294		-.3126878	.7194558

ttestuneq_Run4_122006

Satterthwaite's degrees of freedom: 22.6674

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.6759	t = 0.6759	t = 0.6759
P < t = 0.7470	P > t = 0.5060	P > t = 0.2530

. return list

scalars:

```

r(sd) = .8715154601049954
r(sd_2) = .6742795428965974
r(sd_1) = 1.184367421099401
r(se) = .3009293604030011
r(p_u) = .2529857373151215
r(p_l) = .7470142626848786
r(p) = .5059714746302431
r(t) = .675853008716685
r(df_t) = 22.66737798444167
r(mu_2) = 1.951413699322277
r(N_2) = 36
r(mu_1) = 2.154797712961833
r(N_1) = 18

```

. ttest ln_cd if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9 > 0)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-.4969592	.0342148	.149139	-.5562899	-.4376285
ADJNEAR	36	.3413614	.1993276	1.195966	.0045829	.6781399
combined	55	.0517597	.1411856	1.04706	-.1845235	.288043
diff		-.8383206	.2022428		-1.179516	-.4971252

Satterthwaite's degrees of freedom: 37.0304

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.1451	t = -4.1451	t = -4.1451
P < t = 0.0001	P > t = 0.0002	P > t = 0.9999

. return list

scalars:

```

r(sd) = 1.047060324050764
r(sd_2) = 1.195965820831796
r(sd_1) = .1491390110301696
r(se) = .202242828732973
r(p_u) = .9999052108424118
r(p_l) = .0000947891575882
r(p) = .0001895783151764
r(t) = -4.145118905524354
r(df_t) = 37.03036626870409
r(mu_2) = .3413613806996081
r(N_2) = 36

```

```

                                ttestuneq_Run4_122006
r(mu_1) = -.4969591921881625
r(N_1) = 19

```

```

. ttest ln_cr if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.507064	.066123	.2882237	2.392403	2.621726
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304
combined	55	3.485064	.146377	1.085561	3.240092	3.730035
diff		-1.494166	.177918		-1.792983	-1.195348

Satterthwaite's degrees of freedom: 44.8759

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.3981	t = -8.3981	t = -8.3981
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```

. return list

```

scalars:

```

r(sd) = 1.085561005133775
r(sd_2) = .9910459752230189
r(sd_1) = .2882236642825249
r(se) = .1779180033172075
r(p_u) = .9999999999532763
r(p_l) = 4.67237413735e-11
r(p) = 9.34474827470e-11
r(t) = -8.398057979199766
r(df_t) = 44.87593440026243
r(mu_2) = 4.001230206754473
r(N_2) = 36
r(mu_1) = 2.507064499353108
r(N_1) = 19

```

```

. ttest ln_cu if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.577846	.0892394	.3889854	2.423099	2.732592
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168	4.266936
combined	55	3.556199	.1260458	.9347809	3.345253	3.767145
diff		-1.494707	.1456022		-1.738487	-1.250926

Satterthwaite's degrees of freedom: 52.6951

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0

```

                                ttestuneq_Run4_122006
      t = -10.2657
P < t = 0.0000
      t = -10.2657
P > |t| = 0.0000
      t = -10.2657
P > t = 1.0000

. return list

scalars:
      r(sd) = .9347809153230854
      r(sd_2) = .6902956110898095
      r(sd_1) = .388985427887002
      r(se) = .145602200069987
      r(p_u) = .9999999999999821
      r(p_l) = 1.78473492722e-14
      r(p) = 3.56946985443e-14
      r(t) = -10.26568685979737
      r(df_t) = 52.69512830459878
      r(mu_2) = 4.072552303473155
      r(N_2) = 36
      r(mu_1) = 2.577845711457102
      r(N_1) = 19

. ttest ln_fe if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

Two-sample t test with unequal variances

-----
      Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR_S |      19      9.986097      .0665427      .2900528      9.870708      10.10149
ADJNEAR |      36     10.10264      .0292607      .175564      10.0532      10.15207
-----+-----
combined |      55     10.06238      .0304956      .2261615     10.01134      10.11341
-----+-----
      diff |           -.1165378      .0726919           -.2406773      .0076017
-----+-----

Satterthwaite's degrees of freedom: 25.1504

      Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

      Ha: diff < 0
      t = -1.6032
P < t = 0.0607

      Ha: diff != 0
      t = -1.6032
P > |t| = 0.1214

      Ha: diff > 0
      t = -1.6032
P > t = 0.9393

. return list

scalars:
      r(sd) = .2261614595266012
      r(sd_2) = .1755640472789583
      r(sd_1) = .2900528347234936
      r(se) = .072691924316013
      r(p_u) = .9393087322895904
      r(p_l) = .0606912677104096
      r(p) = .1213825354208191
      r(t) = -1.603173798941072
      r(df_t) = 25.150373892629
      r(mu_2) = 10.10263522466024
      r(N_2) = 36
      r(mu_1) = 9.986097436202201
      r(N_1) = 19

. ttest ln_hg if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

ttestuneq_Run4_122006

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-2.392305	.2929487	1.276934	-2.900297	-1.884314
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
combined	55	-1.625612	.1685145	1.249737	-1.907632	-1.343593
diff		-1.171337	.3404691		-1.748673	-.5939997

Satterthwaite's degrees of freedom: 30.8869

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.4404	t = -3.4404	t = -3.4404
P < t = 0.0008	P > t = 0.0017	P > t = 0.9992

. return list

scalars:

```

r(sd) = 1.249736891463374
r(sd_2) = 1.040965920690938
r(sd_1) = 1.276933774109744
r(se) = .3404691165060922
r(p_u) = .9991569892447723
r(p_l) = .0008430107552278
r(p) = .0016860215104556
r(t) = -3.440360586798522
r(df_t) = 30.88692360511232
r(mu_2) = -1.220968932534258
r(N_2) = 36
r(mu_1) = -2.392305461983932
r(N_1) = 19

```

. ttest ln_mn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9 > 0)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	5.906737	.0734888	.3203301	5.779303	6.034171
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
combined	55	6.205233	.0538459	.399332	6.115119	6.295348
diff		-.456036	.0933611		-.6133112	-.2987608

Satterthwaite's degrees of freedom: 39.2737

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.8846	t = -4.8846	t = -4.8846
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:


```

                                ttestuneq_Run4_122006
r(sd) = .399331986957976
r(sd_2) = .345492808956618
r(sd_1) = .3203301326918442
r(se) = .0933611371536621
r(p_u) = .9999911247892843
r(p_l) = 8.87521071570e-06
r(p) = .0000177504214314
r(t) = -4.884644846225244
r(df_t) = 39.27374984318033
r(mu_2) = 6.362773074044122
r(N_2) = 36
r(mu_1) = 5.906737076608758
r(N_1) = 19

```

```

. ttest ln_ni if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.551069	.0463231	.2019176	2.470742	2.631396
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
combined	55	2.946287	.0503008	.3730404	2.862106	3.030469
diff		-.6038057	.0626808		-.709097	-.4985145

Satterthwaite's degrees of freedom: 44.5299

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -9.6330	t = -9.6330	t = -9.6330
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```

. return list

```

scalars:

```

r(sd) = .3730404281530499
r(sd_2) = .2533577677483135
r(sd_1) = .2019175718315225
r(se) = .0626808310374139
r(p_u) = .9999999999990771
r(p_l) = 9.22878289645e-13
r(p) = 1.84575657929e-12
r(t) = -9.633020581450975
r(df_t) = 44.52991047315722
r(mu_2) = 3.154874781767527
r(N_2) = 36
r(mu_1) = 2.551069046321668
r(N_1) = 19

```

```

. ttest ln_pb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.989771	.0957076	.4171796	2.823808	3.155734

ttestuneq_Run4_122006						
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
combined	55	3.722197	.1257548	.9326225	3.511738	3.932656
diff		-1.118984	.17774		-1.4166	-.8213684

Satterthwaite's degrees of freedom: 52.4233

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.2956	t = -6.2956	t = -6.2956
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = .93262253002086
r(sd_2) = .898630566713301
r(sd_1) = .4171796114446753
r(se) = .1777400313807717
r(p_u) = .9999999682072728
r(p_l) = 3.17927271896e-08
r(p) = 6.35854543792e-08
r(t) = -6.295622487039559
r(df_t) = 52.42325720652924
r(mu_2) = 4.108755303753747
r(N_2) = 36
r(mu_1) = 2.989771165345844
r(N_1) = 19

```

. ttest ln_sb if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9 > 0)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-1.470544	.2622958	1.143321	-1.925382	-1.015706
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
combined	55	-.351459	.2066781	1.532765	-.6973482	-.0055699
diff		-1.709713	.3492288		-2.296709	-1.122717

Satterthwaite's degrees of freedom: 43.2762

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.8957	t = -4.8957	t = -4.8957
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.532765464569694
r(sd_2) = 1.383409096107487
r(sd_1) = 1.143320840591967
r(se) = .3492288191968472
r(p_u) = .9999929731675238
r(p_l) = 7.02683247620e-06

```

```

                                ttestuneq_Run4_122006
      r(p) = .0000140536649524
      r(t) = -4.895681432417857
      r(df_t) = 43.27617287930259
      r(mu_2) = .2391691059908933
      r(N_2) = 36
      r(mu_1) = -1.470543939816324
      r(N_1) = 19

```

```

. ttest ln_zn if area=="ADJFAR_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	4.256543	.0541443	.2360096	4.162653	4.350433
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
combined	55	4.831224	.0797947	.5917731	4.697683	4.964766
diff		-.8779855	.0976513		-1.041479	-.7144924

Satterthwaite's degrees of freedom: 52.7563

Ho: mean(ADJFAR_S) - mean(ADJNEAR) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -8.9910	t = -8.9910	t = -8.9910
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```

. return list

```

scalars:

```

      r(sd) = .5917730558978115
      r(sd_2) = .4875964931566519
      r(sd_1) = .2360095918909634
      r(se) = .09765133293316
      r(p_u) = .9999999999984232
      r(p_l) = 1.57681702606e-12
      r(p) = 3.15363405211e-12
      r(t) = -8.991024408054207
      r(df_t) = 52.75625318274062
      r(mu_2) = 5.134528451495701
      r(N_2) = 36
      r(mu_1) = 4.256542933614631
      r(N_1) = 19

```

```

. ttest ag if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.7034722	.0842777	.5056662	.5610789	.8458655
UNC_S	15	1.379974	.1543102	.5976408	1.108186	1.651762
combined	51	.9024434	.0858536	.6131173	.7585609	1.046326
diff		-.6765019	.1758248		-.9779613	-.3750425

ttestuneq_Run4_122006
Satterthwaite's degrees of freedom: 22.7867

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.8476	t = -3.8476	t = -3.8476
P < t = 0.0004	P > t = 0.0008	P > t = 0.9996

. return list

scalars:

```

r(sd) = .6131173035636875
r(sd_2) = .5976407924244336
r(sd_1) = .5056662151699879
r(se) = .1758248150710461
r(p_u) = .9995842229067354
r(p_l) = .0004157770932646
r(p) = .0008315541865292
r(t) = -3.847590565847875
r(df_t) = 22.7867455114375
r(mu_2) = 1.379974122842153
r(N_2) = 15
r(mu_1) = .7034722231328487
r(N_1) = 36

```

. ttest as if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.22778	3.044698	18.26819	5.083539	15.37202
UNC_S	15	9.558497	1.103842	4.275164	7.614288	11.50271
combined	51	10.03093	2.16397	15.45384	6.404322	13.65754
diff		.6692807	3.23862		-4.775206	6.113768

Satterthwaite's degrees of freedom: 42.9504

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.2067	t = 0.2067	t = 0.2067
P < t = 0.5814	P > t = 0.8373	P > t = 0.4186

. return list

scalars:

```

r(sd) = 15.45383991991976
r(sd_2) = 4.275163615672224
r(sd_1) = 18.26819032347449
r(se) = 3.238619541103076
r(p_u) = .4186274847765687
r(p_l) = .5813725152234313
r(p) = .8372549695531374
r(t) = .206656174100268
r(df_t) = 42.95037018281437
r(mu_2) = 9.558497015635172
r(N_2) = 15
r(mu_1) = 10.2277777393659
r(N_1) = 36

```

ttestuneq_Run4_122006

. ttest cd if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.167917	.8917393	5.350436	1.661259	4.674575
UNC_S	15	11.36637	1.435509	5.559704	8.837993	13.89475
combined	51	5.579227	.9174516	6.551915	4.041665	7.116788
diff		-8.198454	1.689937		-11.08345	-5.313457

Satterthwaite's degrees of freedom: 25.3781

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.8513	t = -4.8513	t = -4.8513
P < t = 0.0000	P > t = 0.0001	P > t = 1.0000

. return list

scalars:

```

r(sd) = 6.551915112713913
r(sd_2) = 5.559704143219983
r(sd_1) = 5.350435801382296
r(se) = 1.689936780943162
r(p_u) = .9999736071733112
r(p_l) = .0000263928266888
r(p) = .0000527856533777
r(t) = -4.851337750423139
r(df_t) = 25.37805108432829
r(mu_2) = 11.36637077331543
r(N_2) = 15
r(mu_1) = 3.167916672097312
r(N_1) = 36

```

. ttest cr if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	100.8903	25.49936	152.9962	57.80726	143.9733
UNC_S	15	225.7909	25.47328	98.65759	180.9246	270.6573
combined	51	137.6258	20.96419	149.7143	102.4918	172.7598
diff		-124.9006	36.0431		-185.5906	-64.21069

Satterthwaite's degrees of freedom: 40.0351

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.4653	t = -3.4653	t = -3.4653
P < t = 0.0006	P > t = 0.0013	P > t = 0.9994

. return list

scalars:

```

r(sd) = 149.714296518643
r(sd_2) = 98.65758554432107
r(sd_1) = 152.9961520864195
r(se) = 36.04310251409449
r(p_u) = .999361219459547
r(p_l) = .000638780540453
r(p) = .0012775610809061
r(t) = -3.465313250210619
r(df_t) = 40.03507270181652
r(mu_2) = 225.7909184773763
r(N_2) = 15
r(mu_1) = 100.890277756585
r(N_1) = 36

```

```
. ttest cu if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	76.45	11.04117	66.247	57.79515	95.10485
UNC_S	15	137.8961	15.78356	61.12946	110.0964	165.6959
combined	51	94.52239	9.819865	70.12786	78.06523	110.9796
diff		-61.44613	19.26209		-94.20003	-28.69222

Satterthwaite's degrees of freedom: 28.3398

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.1900	t = -3.1900	t = -3.1900
P < t = 0.0017	P > t = 0.0035	P > t = 0.9983

```
. return list
```

scalars:

```

r(sd) = 70.1278609688906
r(sd_2) = 61.12945863932802
r(sd_1) = 66.24699983093207
r(se) = 19.26208906050163
r(p_u) = .9982692209182108
r(p_l) = .0017307790817892
r(p) = .0034615581635784
r(t) = -3.190003172431383
r(df_t) = 28.33976972064408
r(mu_2) = 137.8961252848307
r(N_2) = 15
r(mu_1) = 76.45000007417467
r(N_1) = 36

```

```
. ttest fe if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24798.61	801.1685	4807.011	23444.98	26152.24

UNC_S	15	26976.67	1324.562	5130.005	24643.71	29309.64
combined	51	25439.22	693.7889	4954.644	24276.49	26601.94
diff		-2178.061	1548.01		-4823.14	467.0172

Satterthwaite's degrees of freedom: 24.7904

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.4070	t = -1.4070	t = -1.4070
P < t = 0.0859	P > t = 0.1718	P > t = 0.9141

. return list

scalars:

```

r(sd) = 4954.643847278745
r(sd_2) = 5130.004755810965
r(sd_1) = 4807.011042085316
r(se) = 1548.009764054349
r(p_u) = .9140803272101749
r(p_l) = .0859196727898252
r(p) = .1718393455796503
r(t) = -1.407007459060032
r(df_t) = 24.79041620806647
r(mu_2) = 26976.67239583334
r(N_2) = 15
r(mu_1) = 24798.61111111111
r(N_1) = 36

```

. ttest hg if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
ADJNEAR	36	.5122222	.0979643	.5877857	.3467045 .67774
UNC_S	14	1.621195	.2184235	.817266	1.234381 2.008008
combined	50	.8227345	.1163594	.8227854	.627652 1.017817
diff		-1.108972	.2393864		-1.523502 -.6944426

Satterthwaite's degrees of freedom: 18.4784

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6326	t = -4.6326	t = -4.6326
P < t = 0.0001	P > t = 0.0002	P > t = 0.9999

. return list

scalars:

```

r(sd) = .822785388145871
r(sd_2) = .8172660245765895
r(sd_1) = .5877857325071175
r(se) = .239386385386021
r(p_u) = .9999029199612501
r(p_l) = .0000970800387499
r(p) = .0001941600774998

```

```

                                ttestuneq_Run4_122006
      r(t) = -4.632562413881034
    r(df_t) = 18.47841455834518
    r(mu_2) = 1.621194596801485
      r(N_2) = 14
    r(mu_1) = .512222225467364
      r(N_1) = 36

```

```
. ttest mn if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	616.3472	40.09072	240.5443	548.611	684.0834
UNC_S	15	525.2589	32.72901	126.7589	467.613	582.9048
combined	51	589.5565	30.27946	216.2386	538.8111	640.302
diff		91.08831	51.75378		4.213463	177.9632

Satterthwaite's degrees of freedom: 46.0561

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.7600	t = 1.7600	t = 1.7600
P < t = 0.9575	P > t = 0.0850	P > t = 0.0425

```
. return list
```

scalars:

```

      r(sd) = 216.2385649893615
    r(sd_2) = 126.7589106476205
    r(sd_1) = 240.5443178485128
      r(se) = 51.75378147154987
    r(p_u) = .0425213774472697
    r(p_l) = .9574786225527303
      r(p) = .0850427548945394
      r(t) = 1.760031991855181
    r(df_t) = 46.05613216893448
    r(mu_2) = 525.2589111328125
      r(N_2) = 15
    r(mu_1) = 616.3472222222222
      r(N_1) = 36

```

```
. ttest ni if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	24.24722	1.146565	6.879389	22.31002	26.18443
UNC_S	15	28.64823	1.803492	6.984893	25.47172	31.82474
combined	51	25.54164	.9989276	7.13377	23.86753	27.21574
diff		-4.401005	2.137099		-8.046543	-.7554663

Satterthwaite's degrees of freedom: 25.9108

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

ttestuneq_Run4_122006

Ha: diff < 0
t = -2.0593
P < t = 0.0248

Ha: diff != 0
t = -2.0593
P > |t| = 0.0496

Ha: diff > 0
t = -2.0593
P > t = 0.9752

. return list

scalars:

r(sd) = 7.133770252591221
r(sd_2) = 6.984893323161297
r(sd_1) = 6.879389034980469
r(se) = 2.137099259776057
r(p_u) = .9751784906214452
r(p_l) = .0248215093785548
r(p) = .0496430187571096
r(t) = -2.059335561989125
r(df_t) = 25.91080076771258
r(mu_2) = 28.64822692871094
r(N_2) = 15
r(mu_1) = 24.24722242355347
r(N_1) = 36

. ttest pb if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	103.9806	26.47358	158.8415	59.25153	148.7096
UNC_S	15	232.5015	24.73585	95.80154	188.934	276.069
combined	51	141.7808	21.57027	154.0425	105.6311	177.9306
diff		-128.521	36.23138		-189.4519	-67.59003

Satterthwaite's degrees of freedom: 42.2614

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0
t = -3.5472
P < t = 0.0005

Ha: diff != 0
t = -3.5472
P > |t| = 0.0010

Ha: diff > 0
t = -3.5472
P > t = 0.9995

. return list

scalars:

r(sd) = 154.0425432345629
r(sd_2) = 95.80153830931775
r(sd_1) = 158.841473239832
r(se) = 36.23137720986094
r(p_u) = .9995159446375189
r(p_l) = .0004840553624811
r(p) = .0009681107249621
r(t) = -3.547228771635325
r(df_t) = 42.26140026670583
r(mu_2) = 232.5015391031901
r(N_2) = 15
r(mu_1) = 103.98055428399
r(N_1) = 36

. ttest sb if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

ttestuneq_Run4_122006

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	2.721944	.4492617	2.69557	1.962884	3.481005
UNC_S	15	2.681329	.4222401	1.635329	1.937633	3.425025
combined	51	2.709999	.3382603	2.415662	2.143106	3.276891
diff		.0406155	.616541		-.9963367	1.077568

Satterthwaite's degrees of freedom: 42.0727

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0659	t = 0.0659	t = 0.0659
P < t = 0.5261	P > t = 0.9478	P > t = 0.4739

. return list

scalars:

```

r(sd) = 2.415661962398212
r(sd_2) = 1.635328927075713
r(sd_1) = 2.695570225717761
r(se) = .6165409899216746
r(p_u) = .4738941234219433
r(p_l) = .5261058765780566
r(p) = .9477882468438866
r(t) = .0658764326504793
r(df_t) = 42.07265290547395
r(mu_2) = 2.681328908602397
r(N_2) = 15
r(mu_1) = 2.721944429601232
r(N_1) = 36

```

. ttest zn if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	195.4417	22.15472	132.9283	158.0097	232.8737
UNC_S	15	400.481	38.48909	149.0676	332.6897	468.2722
combined	51	255.7473	23.21836	165.8123	216.8356	294.6591
diff		-205.0393	44.40993		-281.0489	-129.0297

Satterthwaite's degrees of freedom: 23.7703

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6170	t = -4.6170	t = -4.6170
P < t = 0.0001	P > t = 0.0001	P > t = 0.9999

. return list

scalars:

```

r(sd) = 165.8122632323756

```

```

                                ttestuneq_Run4_122006
r(sd_2) = 149.0676208813034
r(sd_1) = 132.928335922908
r(se) = 44.40993254759266
r(p_u) = .9999438240409833
r(p_l) = .0000561759590168
r(p) = .0001123519180337
r(t) = -4.616969167544025
r(df_t) = 23.77027488518948
r(mu_2) = 400.4809560139974
r(N_2) = 15
r(mu_1) = 195.4416667090522
r(N_1) = 36

```

```

. ttest ln_ag if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-.5638075	.1124933	.6749596	-.753873	-.3737419
UNC_S	15	.3610713	.2450597	.9491121	-.0705548	.7926974
combined	51	-.2917843	.1214513	.8673355	-.4953251	-.0882435
diff		-.9248788	.269646		-1.389759	-.4599985

Satterthwaite's degrees of freedom: 20.1637

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.4300	t = -3.4300	t = -3.4300
P < t = 0.0013	P > t = 0.0026	P > t = 0.9987

```

. return list

```

scalars:

```

r(sd) = .8673354842406555
r(sd_2) = .9491120904650712
r(sd_1) = .6749595667155161
r(se) = .2696460355386475
r(p_u) = .9986860714289176
r(p_l) = .0013139285710824
r(p) = .0026278571421648
r(t) = -3.429973661756499
r(df_t) = 20.1637214780146
r(mu_2) = .3610713402430216
r(N_2) = 15
r(mu_1) = -.5638074596515961
r(N_1) = 36

```

```

. ttest ln_as if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	1.951414	.1123799	.6742795	1.76154	2.141288
UNC_S	15	2.093208	.1654851	.6409209	1.801738	2.384679

```

                                ttestuneq_Run4_122006
-----+-----
combined |      51      1.993118      .0926233      .6614628      1.83789      2.148346
-----+-----
diff |      -.1417944      .2000364      -.482274      .1986853
-----+-----

```

Satterthwaite's degrees of freedom: 27.5468

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.7088	t = -0.7088	t = -0.7088
P < t = 0.2422	P > t = 0.4844	P > t = 0.7578

. return list

scalars:

```

r(sd) = .6614627559476826
r(sd_2) = .6409208807690817
r(sd_1) = .6742795428965974
r(se) = .2000363774516193
r(p_u) = .7578108802630263
r(p_l) = .2421891197369736
r(p) = .4843782394739471
r(t) = -.7088428672787133
r(df_t) = 27.54677601880868
r(mu_2) = 2.09320805867513
r(N_2) = 15
r(mu_1) = 1.951413699322277
r(N_1) = 36

```

. ttest ln_cd if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9 > 0)

Two-sample t test with unequal variances

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJNEAR |      36      .3413614      .1993276      1.195966      .0045829      .6781399
UNC_S |      15      2.454868      .3566298      1.381221      1.826732      3.083004
-----+-----
combined |      51      .9629809      .2205761      1.575228      .5933164      1.332645
-----+-----
diff |      -2.113506      .4085539      -2.813453      -1.41356
-----+-----

```

Satterthwaite's degrees of freedom: 23.2073

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.1731	t = -5.1731	t = -5.1731
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.575228249131279
r(sd_2) = 1.381221309975467
r(sd_1) = 1.195965820831796
r(se) = .4085539465844648
r(p_u) = .9999852007590641
r(p_l) = .0000147992409359
r(p) = .0000295984818717

```

```

                                ttestuneq_Run4_122006
r(t) = -5.173139343152723
r(df_t) = 23.20730642524973
r(mu_2) = 2.454867875576019
r(N_2) = 15
r(mu_1) = .3413613806996081
r(N_1) = 36

```

```

. ttest ln_cr if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.00123	.1651743	.991046	3.722156	4.280304
UNC_S	15	5.473337	.2690908	1.042184	4.999385	5.947289
combined	51	4.434203	.1686484	1.204391	4.151564	4.716842
diff		-1.472107	.3157411		-2.011345	-.9328685

Satterthwaite's degrees of freedom: 25.1114

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6624	t = -4.6624	t = -4.6624
P < t = 0.0000	P > t = 0.0001	P > t = 1.0000

```

. return list

```

scalars:

```

r(sd) = 1.204390695300268
r(sd_2) = 1.042184369189185
r(sd_1) = .9910459752230189
r(se) = .3157411011996295
r(p_u) = .9999557456317355
r(p_l) = .0000442543682645
r(p) = .0000885087365289
r(t) = -4.662385639308416
r(df_t) = 25.11135357892512
r(mu_2) = 5.473336982727051
r(N_2) = 15
r(mu_1) = 4.001230206754473
r(N_1) = 36

```

```

. ttest ln_cu if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.072552	.1150493	.6902956	3.878168	4.266936
UNC_S	15	4.912339	.2356181	.912545	4.497343	5.327336
combined	51	4.319548	.1184928	.8462078	4.120966	4.518131
diff		-.8397868	.2622065		-1.290982	-.3885913

Satterthwaite's degrees of freedom: 20.9943

ttestuneq_Run4_122006

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.2028	t = -3.2028	t = -3.2028
P < t = 0.0021	P > t = 0.0043	P > t = 0.9979

. return list

scalars:

```

r(sd) = .8462078480839509
r(sd_2) = .912545005069981
r(sd_1) = .6902956110898095
r(se) = .2622064579761034
r(p_u) = .9978615144374463
r(p_l) = .0021384855625537
r(p) = .0042769711251074
r(t) = -3.202769489130382
r(df_t) = 20.99434540839695
r(mu_2) = 4.912339146931966
r(N_2) = 15
r(mu_1) = 4.072552303473155
r(N_1) = 36

```

. ttest ln_fe if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9 > 0)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	10.10264	.0292607	.175564	10.0532	10.15207
UNC_S	15	10.1952	.0588473	.2279146	10.09155	10.29885
combined	51	10.12986	.0272731	.1947692	10.08415	10.17557
diff		-.0925666	.0657206		-.2055914	.0204581

Satterthwaite's degrees of freedom: 21.2587

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.4085	t = -1.4085	t = -1.4085
P < t = 0.0867	P > t = 0.1734	P > t = 0.9133

. return list

scalars:

```

r(sd) = .1947692473820661
r(sd_2) = .227914627306391
r(sd_1) = .1755640472789583
r(se) = .0657205617058304
r(p_u) = .91327773046501
r(p_l) = .08672226953499
r(p) = .17344453906998
r(t) = -1.408488404791714
r(df_t) = 21.2586542326779
r(mu_2) = 10.1952018737793
r(N_2) = 15
r(mu_1) = 10.10263522466024
r(N_1) = 36

```

ttestuneq_Run4_122006

```
. ttest ln_hg if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	-1.220969	.1734943	1.040966	-1.5141	-.9278377
UNC_S	14	.4374954	.3163952	1.183842	-.1228194	.9978102
combined	50	-.7565989	.1850215	1.308299	-1.066797	-.446401
diff		-1.658464	.360841		-2.279004	-1.037924

Satterthwaite's degrees of freedom: 21.2786

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.5961	t = -4.5961	t = -4.5961
P < t = 0.0001	P > t = 0.0002	P > t = 0.9999

```
. return list
```

scalars:

```

r(sd) = 1.308299307370438
r(sd_2) = 1.183842390117345
r(sd_1) = 1.040965920690938
r(se) = .3608409535089854
r(p_u) = .9999241474294546
r(p_l) = .0000758525705454
r(p) = .0001517051410908
r(t) = -4.596108851487574
r(df_t) = 21.27857500815865
r(mu_2) = .437495367867606
r(N_2) = 14
r(mu_1) = -1.220968932534258
r(N_1) = 36

```

```
. ttest ln_mn if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	6.362773	.0575821	.3454928	6.265484	6.460062
UNC_S	15	6.266496	.0845278	.3273746	6.117617	6.415376
combined	51	6.334456	.0475946	.3398931	6.254692	6.41422
diff		.0962767	.1022773		-.0777904	.2703437

Satterthwaite's degrees of freedom: 27.6287

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.9413	t = 0.9413	t = 0.9413
P < t = 0.8227	P > t = 0.3547	P > t = 0.1773

```
. return list
```

```
scalars:
```

```

r(sd) = .3398931284316092
r(sd_2) = .3273745845428254
r(sd_1) = .345492808956618
r(se) = .102277287270622
r(p_u) = .1773470762359976
r(p_l) = .8226529237640023
r(p) = .3546941524719952
r(t) = .9413299140143676
r(df_t) = 27.62873526921845
r(mu_2) = 6.266496404012044
r(N_2) = 15
r(mu_1) = 6.362773074044122
r(N_1) = 36

```

```
. ttest ln_ni if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	3.154875	.0422263	.2533578	3.08353	3.226219
UNC_S	14	3.356214	.0919091	.3438923	3.193449	3.518979
combined	50	3.21125	.0413678	.2925148	3.141895	3.280605
diff		-.2013394	.1011451		-.3763489	-.0263299

Satterthwaite's degrees of freedom: 18.7569

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.9906	t = -1.9906	t = -1.9906
P < t = 0.0306	P > t = 0.0613	P > t = 0.9694

```
. return list
```

```
scalars:
```

```

r(sd) = .2925147557869538
r(sd_2) = .3438923211765457
r(sd_1) = .2533577677483135
r(se) = .1011451460499297
r(p_u) = .9693507014165065
r(p_l) = .0306492985834935
r(p) = .061298597166987
r(t) = -1.990598914953771
r(df_t) = 18.75691236907755
r(mu_2) = 3.356214199747358
r(N_2) = 14
r(mu_1) = 3.154874781767527
r(N_1) = 36

```

```
. ttest ln_pb if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)
```

Two-sample t test with unequal variances

ttestuneq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	4.108755	.1497718	.8986306	3.855705	4.361806
UNC_S	15	5.61718	.285321	1.105043	5.114642	6.119719
combined	51	4.55241	.1650328	1.17857	4.27583	4.828989
diff		-1.508425	.3222416		-2.061643	-.9552073

Satterthwaite's degrees of freedom: 22.1068

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6810	t = -4.6810	t = -4.6810
P < t = 0.0001	P > t = 0.0001	P > t = 0.9999

. return list

scalars:

```

r(sd) = 1.178570211708166
r(sd_2) = 1.105043349917252
r(sd_1) = .898630566713301
r(se) = .3222415772497523
r(p_u) = .9999434673995733
r(p_l) = .0000565326004267
r(p) = .0001130652008533
r(t) = -4.681038367593787
r(df_t) = 22.10682530539836
r(mu_2) = 5.617180490493775
r(N_2) = 15
r(mu_1) = 4.108755303753747
r(N_1) = 36

```

. ttest ln_sb if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9 > 0)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	.2391691	.2305682	1.383409	-.1503925	.6287308
UNC_S	15	.5847946	.3843439	1.488557	-.0921542	1.261743
combined	51	.3408237	.1973052	1.409041	.0101589	.6714884
diff		-.3456255	.4481985		-1.111673	.4204218

Satterthwaite's degrees of freedom: 24.6147

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.7711	t = -0.7711	t = -0.7711
P < t = 0.2240	P > t = 0.4480	P > t = 0.7760

. return list

scalars:

```

r(sd) = 1.409040880628396
r(sd_2) = 1.488557460676137

```

```

ttestuneq_Run4_122006
r(sd_1) = 1.383409096107487
r(se) = .4481985138106882
r(p_u) = .7760192406818687
r(p_l) = .2239807593181313
r(p) = .4479615186362626
r(t) = -.7711436795385432
r(df_t) = 24.6146839873814
r(mu_2) = .584794557094574
r(N_2) = 15
r(mu_1) = .2391691059908933
r(N_1) = 36

```

```

. ttest ln_zn if area=="UNC_SSD"|area=="ADJNEAR", by(area) unequal level (9
> 0)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJNEAR	36	5.134528	.0812661	.4875965	4.997224	5.271833
UNC_S	15	6.002794	.172063	.6663972	5.699737	6.30585
combined	51	5.389901	.093977	.6711298	5.232404	5.547397
diff		-.8682652	.1902889		-1.196046	-.540484

Satterthwaite's degrees of freedom: 20.5339

Ho: mean(ADJNEAR) - mean(UNC_S) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.5629	t = -4.5629	t = -4.5629
P < t = 0.0001	P > t = 0.0002	P > t = 0.9999

```

. return list

```

scalars:

```

r(sd) = .6711298204586308
r(sd_2) = .6663971947594712
r(sd_1) = .4875964931566519
r(se) = .1902888791474227
r(p_u) = .9999109981140082
r(p_l) = .0000890018859918
r(p) = .0001780037719836
r(t) = -4.562879585696168
r(df_t) = 20.53393189505246
r(mu_2) = 6.002793693542481
r(N_2) = 15
r(mu_1) = 5.134528451495701
r(N_1) = 36

```

```

.
.
. ttest ag if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	.7823333	.1543102	.5976408	.5105452	1.054121
UP_SSD	28	.5412148	.0534821	.2830005	.4501194	.6323102

ttestuneq_Run4_122006						
combined		43	.6253259	.0654261	.4290276	.5152823
diff			.2411186	.1633155		-.042579

Satterthwaite's degrees of freedom: 17.435

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.4764	t = 1.4764	t = 1.4764
P < t = 0.9212	P > t = 0.1577	P > t = 0.0788

. return list

scalars:

```

r(sd) = .4290275617635434
r(sd_2) = .283000505442838
r(sd_1) = .5976408066610546
r(se) = .1633155449781543
r(p_u) = .0788354888548984
r(p_l) = .9211645111451016
r(p) = .1576709777097967
r(t) = 1.476396812373368
r(df_t) = 17.43501704529754
r(mu_2) = .541214790727411
r(N_2) = 28
r(mu_1) = .7823333407441775
r(N_1) = 15

```

. ttest as if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.283333	1.103842	4.275164	3.339124	7.227542
UP_SSD	28	4.493972	.3100065	1.6404	3.965941	5.022002
combined	43	4.76933	.4304438	2.822608	4.045344	5.493316
diff		.7893618	1.146548		-1.210542	2.789265

Satterthwaite's degrees of freedom: 16.2431

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.6885	t = 0.6885	t = 0.6885
P < t = 0.7496	P > t = 0.5009	P > t = 0.2504

. return list

scalars:

```

r(sd) = 2.822608497364344
r(sd_2) = 1.640400125694598
r(sd_1) = 4.275163592900167
r(se) = 1.146547979885436
r(p_u) = .2504367753248694
r(p_l) = .7495632246751306
r(p) = .5008735506497387
r(t) = .6884681424063855

```

```

                                ttestuneq_Run4_122006
r(df_t) = 16.24313682290947
r(mu_2) = 4.493971543652671
r(N_2) = 28
r(mu_1) = 5.28333330154419
r(N_1) = 15

```

```
. ttest cd if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.806667	1.435509	5.559704	3.278289	8.335044
UP_SSD	28	1.152571	.0936103	.4953391	.9931259	1.312017
combined	43	2.776093	.6003588	3.936816	1.766318	3.785868
diff		4.654095	1.438558		2.121859	7.186332

Satterthwaite's degrees of freedom: 14.1192

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.2352	t = 3.2352	t = 3.2352
P < t = 0.9970	P > t = 0.0059	P > t = 0.0030

```
. return list
```

scalars:

```

r(sd) = 3.936815802417771
r(sd_2) = .4953390619288118
r(sd_1) = 5.559704163073937
r(se) = 1.438558390872889
r(p_u) = .0029647615528525
r(p_l) = .9970352384471475
r(p) = .005929523105705
r(t) = 3.235249613453007
r(df_t) = 14.11918822378865
r(mu_2) = 1.152571214096887
r(N_2) = 28
r(mu_1) = 5.806666692097982
r(N_1) = 15

```

```
. ttest cr if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	127.1333	25.47328	98.65758	82.26699	171.9997
UP_SSD	28	29.86656	1.900714	10.05763	26.6291	33.10402
combined	43	63.79683	11.31952	74.22708	44.75793	82.83573
diff		97.26677	25.54409		52.31074	142.2228

Satterthwaite's degrees of freedom: 14.1561

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

                                ttestuneq_Run4_122006
Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = 3.8078                      t = 3.8078                      t = 3.8078
P < t = 0.9991                  P > |t| = 0.0019                  P > t = 0.0009

```

```
. return list
```

```
scalars:
```

```

r(sd) = 74.22708478090803
r(sd_2) = 10.05763126459797
r(sd_1) = 98.65758017936282
r(se) = 25.54409104868839
r(p_u) = .000943048585367
r(p_l) = .999056951414633
r(p) = .0018860971707339
r(t) = 3.807799361040561
r(df_t) = 14.15609769479257
r(mu_2) = 29.86655950546265
r(N_2) = 28
r(mu_1) = 127.1333330790202
r(N_1) = 15

```

```
. ttest cu if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	76.76667	15.78356	61.12946	48.96693	104.5664
UP_SSD	28	33.50917	2.155455	11.40559	29.8378	37.18053
combined	43	48.59899	6.40566	42.00472	37.82498	59.37301
diff		43.2575	15.93006		15.27114	71.24386

```
Satterthwaite's degrees of freedom: 14.5244
```

```
Ho: mean(UNC) - mean(UP_SSD) = diff = 0
```

```

Ha: diff < 0                    Ha: diff != 0                    Ha: diff > 0
t = 2.7155                      t = 2.7155                      t = 2.7155
P < t = 0.9918                  P > |t| = 0.0163                  P > t = 0.0082

```

```
. return list
```

```
scalars:
```

```

r(sd) = 42.00472389664635
r(sd_2) = 11.40559397073612
r(sd_1) = 61.12946069077145
r(se) = 15.93005699097714
r(p_u) = .0081572117776103
r(p_l) = .9918427882223897
r(p) = .0163144235552206
r(t) = 2.715464323454992
r(df_t) = 14.52443675097633
r(mu_2) = 33.50916549137661
r(N_2) = 28
r(mu_1) = 76.76666692097982
r(N_1) = 15

```

```
. ttest fe if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

ttestuneq_Run4_122006

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	21846.67	1324.562	5130.005	19513.7	24179.63
UP_SSD	28	25864.65	973.1916	5149.646	24207.02	27522.27
combined	43	24463.03	829.3259	5438.254	23068.14	25857.91
diff		-4017.98	1643.644		-6811.259	-1224.7

Satterthwaite's degrees of freedom: 28.8374

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.4446	t = -2.4446	t = -2.4446
P < t = 0.0104	P > t = 0.0209	P > t = 0.9896

. return list

scalars:

```

r(sd) = 5438.253919734551
r(sd_2) = 5149.645675906717
r(sd_1) = 5130.005105353442
r(se) = 1643.643908745384
r(p_u) = .9895729742727328
r(p_l) = .0104270257272672
r(p) = .0208540514545343
r(t) = -2.44455597548343
r(df_t) = 28.83743726627766
r(mu_2) = 25864.64620535714
r(N_2) = 28
r(mu_1) = 21846.66666666667
r(N_1) = 15

```

. ttest hg if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	14	.8039286	.2184235	.817266	.417115	1.190742
UP_SSD	28	.1447639	.0122055	.0645853	.1239744	.1655533
combined	42	.3644855	.0863875	.5598551	.2191058	.5098651
diff		.6591647	.2187643		.2719316	1.046398

Satterthwaite's degrees of freedom: 13.0813

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.0131	t = 3.0131	t = 3.0131
P < t = 0.9950	P > t = 0.0099	P > t = 0.0050

. return list

scalars:

```

r(sd) = .5598551379806471
r(sd_2) = .0645853196035577

```

```

                                ttestuneq_Run4_122006
r(sd_1) = .8172660457424509
r(se) = .2187642928028848
r(p_u) = .0049619492585242
r(p_l) = .9950380507414758
r(p) = .0099238985170483
r(t) = 3.01312739591948
r(df_t) = 13.08125188953791
r(mu_2) = .1447638906538487
r(N_2) = 28
r(mu_1) = .8039285745471716
r(N_1) = 14

```

```
. ttest mn if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	398.5	32.72901	126.7589	340.8541	456.1459
UP_SSD	28	707.5439	45.45178	240.5082	630.1264	784.9614
combined	43	599.7379	38.80563	254.4655	534.4687	665.0071
diff		-309.0439	56.00939		-403.3009	-214.787

Satterthwaite's degrees of freedom: 41

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.5177	t = -5.5177	t = -5.5177
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 254.4655090340603
r(sd_2) = 240.5082073183621
r(sd_1) = 126.7589106476205
r(se) = 56.00939476493428
r(p_u) = .9999989528523284
r(p_l) = 1.04714767154e-06
r(p) = 2.09429534308e-06
r(t) = -5.517716091560085
r(df_t) = 40.99999999999545
r(mu_2) = 707.543938773019
r(N_2) = 28
r(mu_1) = 398.5
r(N_1) = 15

```

```
. ttest ni if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	21.66333	1.803492	6.984893	18.48683	24.83984
UP_SSD	28	22.58826	1.043258	5.520404	20.81129	24.36523
combined	43	22.26561	.9156627	6.004402	20.72551	23.80571

```

ttestuneq_Run4_122006
diff |          -.9249272      2.083499      -4.492168      2.642314
-----
Satterthwaite's degrees of freedom:  23.5687

```

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = -0.4439      t = -0.4439      t = -0.4439
P < t = 0.3306    P > |t| = 0.6611    P > t = 0.6694

```

. return list

scalars:

```

r(sd) = 6.0044018273675
r(sd_2) = 5.520403568185079
r(sd_1) = 6.984893309247848
r(se) = 2.083499460328
r(p_u) = .669428718967692
r(p_l) = .330571281032308
r(p) = .6611425620646161
r(t) = -.4439296351107241
r(df_t) = 23.56865692031553
r(mu_2) = 22.58826041221619
r(N_2) = 28
r(mu_1) = 21.66333325703939
r(N_1) = 15

```

. ttest pb if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

```

-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
UNC |      15      136.7      24.73585      95.80154      93.1325      180.2675
UP_SSD |      28      69.56127      6.97895      36.92913      57.67411      81.44844
-----+-----
combined |      43      92.98176      10.76633      70.59955      74.87331      111.0902
-----+-----
diff |              67.13873      25.70152              22.31152      111.9659
-----

```

Satterthwaite's degrees of freedom: 16.2641

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

```

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0
t = 2.6122      t = 2.6122      t = 2.6122
P < t = 0.9907    P > |t| = 0.0187    P > t = 0.0093

```

. return list

scalars:

```

r(sd) = 70.59954587236985
r(sd_2) = 36.92913331063091
r(sd_1) = 95.80153569464791
r(se) = 25.70151802385353
r(p_u) = .0093421658650225
r(p_l) = .9906578341349775
r(p) = .018684331730045
r(t) = 2.612247470792196
r(df_t) = 16.26414296510632
r(mu_2) = 69.56127480098179
r(N_2) = 28

```



```

                                ttestuneq_Run4_122006
r(mu_1) = 136.7000002543132
r(N_1) = 15

```

```
. ttest sb if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.046	.4222401	1.635329	.3023042	1.789696
UP_SSD	28	3.84645	.4317273	2.284486	3.111094	4.581806
combined	43	2.869549	.3757247	2.463791	2.237598	3.5015
diff		-2.80045	.6038834		-3.818988	-1.781913

Satterthwaite's degrees of freedom: 37.3863

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6374	t = -4.6374	t = -4.6374
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

```

r(sd) = 2.463791379745601
r(sd_2) = 2.28448603590679
r(sd_1) = 1.635328980080292
r(se) = .6038834071682754
r(p_u) = .9999789153588181
r(p_l) = .0000210846411819
r(p) = .0000421692823637
r(t) = -4.63740234581943
r(df_t) = 37.38630816036927
r(mu_2) = 3.846450345856803
r(N_2) = 28
r(mu_1) = 1.046000016853213
r(N_1) = 15

```

```
. ttest zn if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	251.4133	38.48909	149.0676	183.6221	319.2046
UP_SSD	28	127.9782	6.758404	35.76211	116.4667	139.4897
combined	43	171.037	16.54629	108.5013	143.2069	198.867
diff		123.4351	39.07795		54.88997	191.9803

Satterthwaite's degrees of freedom: 14.8693

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.1587	t = 3.1587	t = 3.1587
P < t = 0.9967	P > t = 0.0065	P > t = 0.0033

```
. return list
```

```
scalars:
```

```

      r(sd) = 108.5012927808462
      r(sd_2) = 35.76211410638251
      r(sd_1) = 149.067616096243
      r(se) = 39.07795166933108
      r(p_u) = .0032740902158054
      r(p_l) = .9967259097841946
      r(p) = .0065481804316108
      r(t) = 3.158690322183602
      r(df_t) = 14.86929809237739
      r(mu_2) = 127.9781853812082
      r(N_2) = 28
      r(mu_1) = 251.4133331298828
      r(N_1) = 15

```

```
. ttest ln_ag if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	-.5880407	.2450597	.9491121	-1.019667	-.1564146
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	43	-.6685164	.1931844	1.266795	-.9934433	-.3435895
diff		.1235877	.3637705		-.4893892	.7365645

```
Satterthwaite's degrees of freedom: 38.8204
```

```
Ho: mean(UNC) - mean(UP_SSD) = diff = 0
```

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.3397	t = 0.3397	t = 0.3397
P < t = 0.6321	P > t = 0.7359	P > t = 0.3679

```
. return list
```

```
scalars:
```

```

      r(sd) = 1.266794637090629
      r(sd_2) = 1.422565543721684
      r(sd_1) = .9491120952241725
      r(se) = .3637705203938116
      r(p_u) = .3679415609385547
      r(p_l) = .6320584390614453
      r(p) = .7358831218771094
      r(t) = .3397407302167902
      r(df_t) = 38.82041156678042
      r(mu_2) = -.7116283997893333
      r(N_2) = 28
      r(mu_1) = -.588040737559398
      r(N_1) = 15

```

```
. ttest ln_as if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	-.5880407	.2450597	.9491121	-1.019667	-.1564146
UP_SSD	28	-.7116284	.2688396	1.422566	-1.16954	-.253717
combined	43	-.6685164	.1931844	1.266795	-.9934433	-.3435895
diff		.1235877	.3637705		-.4893892	.7365645

ttestuneq_Run4_122006						
UNC	15	1.452287	.1654851	.6409209	1.160817	1.743758
UP_SSD	28	1.445448	.1015212	.5371996	1.272528	1.618368
combined	43	1.447834	.0865965	.5678515	1.302182	1.593485
diff		.0068393	.1941439		-.3249375	.338616

Satterthwaite's degrees of freedom: 24.7063

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0352	t = 0.0352	t = 0.0352
P < t = 0.5139	P > t = 0.9722	P > t = 0.4861

. return list

scalars:

```

r(sd) = .5678515205422409
r(sd_2) = .5371996428689455
r(sd_1) = .6409209043077792
r(se) = .1941439132428355
r(p_u) = .4860906072630995
r(p_l) = .5139093927369005
r(p) = .972181214526199
r(t) = .0352277513666712
r(df_t) = 24.70634851801296
r(mu_2) = 1.44544792175293
r(N_2) = 28
r(mu_1) = 1.452287175258001
r(N_1) = 15

```

. ttest ln_cd if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	1.073647	.3566298	1.381221	.4455109	1.701782
UP_SSD	28	-.0549277	.0997233	.527686	-.2247852	.1149298
combined	43	.338761	.1607493	1.054103	.0683884	.6091336
diff		1.128574	.3703101		.4826018	1.774547

Satterthwaite's degrees of freedom: 16.2235

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.0476	t = 3.0476	t = 3.0476
P < t = 0.9962	P > t = 0.0076	P > t = 0.0038

. return list

scalars:

```

r(sd) = 1.054103380816799
r(sd_2) = .5276860203161229
r(sd_1) = 1.381221316292974
r(se) = .3703100796207169
r(p_u) = .0037908433084808

```

```

                                ttestuneq_Run4_122006
r(p_l) = .9962091566915192
r(p) = .0075816866169616
r(t) = 3.047646658677897
r(df_t) = 16.22351659600559
r(mu_2) = -.0549276916842375
r(N_2) = 28
r(mu_1) = 1.073646585146586
r(N_1) = 15

```

```
. ttest ln_cr if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	4.431153	.2690909	1.042184	3.9572	4.905105
UP_SSD	28	3.367017	.0937222	.4959313	3.207381	3.526653
combined	43	3.738227	.1349853	.8851576	3.511188	3.965266
diff		1.064135	.2849452		.5692078	1.559063

Satterthwaite's degrees of freedom: 17.4693

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.7345	t = 3.7345	t = 3.7345
P < t = 0.9992	P > t = 0.0016	P > t = 0.0008

```
. return list
```

scalars:

```

r(sd) = .8851575536145355
r(sd_2) = .4959313052537723
r(sd_1) = 1.042184421742198
r(se) = .2849451585613825
r(p_u) = .0007923730548012
r(p_l) = .9992076269451988
r(p) = .0015847461096024
r(t) = 3.734526680544567
r(df_t) = 17.46932721334567
r(mu_2) = 3.367017269134522
r(N_2) = 28
r(mu_1) = 4.431152566274007
r(N_1) = 15

```

```
. ttest ln_cu if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	3.999794	.2356181	.912545	3.584798	4.414791
UP_SSD	28	3.522811	.1078883	.5708914	3.339046	3.706576
combined	43	3.6892	.1120639	.7348521	3.500714	3.877686
diff		.4769833	.2591443		.0300644	.9239023

Satterthwaite's degrees of freedom: 20.0296

ttestuneq_Run4_122006

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.8406	t = 1.8406	t = 1.8406
P < t = 0.0597	P > t = 0.0805	P > t = 0.0403

. return list

scalars:

```
r(sd) = .7348520515623332
r(sd_2) = .5708913604705675
r(sd_1) = .9125450391285399
r(se) = .2591443371401813
r(p_u) = .040271700789014
r(p_l) = .959728299210986
r(p) = .0805434015780279
r(t) = 1.840608661930405
r(df_t) = 20.02958208951479
r(mu_2) = 3.522810774190085
r(N_2) = 28
r(mu_1) = 3.999794085820516
r(N_1) = 15
```

. ttest ln_fe if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	9.967287	.0588473	.2279148	9.863639	10.07094
UP_SSD	28	10.16632	.0489178	.2588488	10.083	10.24964
combined	43	10.09689	.0402322	.2638201	10.02922	10.16456
diff		-.1990357	.0765243		-.3286486	-.0694227

Satterthwaite's degrees of freedom: 32.0883

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -2.6009	t = -2.6009	t = -2.6009
P < t = 0.0070	P > t = 0.0139	P > t = 0.9930

. return list

scalars:

```
r(sd) = .2638200907230567
r(sd_2) = .2588487556964191
r(sd_1) = .2279147969244602
r(se) = .0765242648302931
r(p_u) = .9930275948192444
r(p_l) = .0069724051807556
r(p) = .0139448103615111
r(t) = -2.60094870712004
r(df_t) = 32.0883111127961
r(mu_2) = 10.16632287842887
r(N_2) = 28
r(mu_1) = 9.967287190755208
r(N_1) = 15
```

```

ttestuneq_Run4_122006
. ttest ln_hg if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	14	-.746347	.3163952	1.183842	-1.306662	-.1860322
UP_SSD	28	-1.982132	.1635442	.8653946	-2.260695	-1.703569
combined	42	-1.570204	.1749288	1.133668	-1.864588	-1.27582
diff		1.235785	.3561638		.6217706	1.8498

Satterthwaite's degrees of freedom: 20.1812

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 3.4697	t = 3.4697	t = 3.4697
P < t = 0.9988	P > t = 0.0024	P > t = 0.0012

```

. return list

```

scalars:

```

r(sd) = 1.133668031462022
r(sd_2) = .8653945974159339
r(sd_1) = 1.183842388598777
r(se) = .3561637570457885
r(p_u) = .0011971410064348
r(p_l) = .9988028589935653
r(p) = .0023942820128695
r(t) = 3.469711141604643
r(df_t) = 20.18116124783736
r(mu_2) = -1.982132386948381
r(N_2) = 28
r(mu_1) = -.7463470308908394
r(N_1) = 14

```

```

. ttest ln_mn if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.939122	.0845277	.3273746	5.790242	6.088001
UP_SSD	28	6.53671	.0978288	.5176613	6.370079	6.70334
combined	43	6.328249	.0822704	.5394834	6.189874	6.466624
diff		-.5975878	.1292881		-.8153294	-.3798462

Satterthwaite's degrees of freedom: 39.6949

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6221	t = -4.6221	t = -4.6221
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```

. return list

```

ttestuneq_Run4_122006

scalars:

```

r(sd) = .5394833717734814
r(sd_2) = .5176612990743834
r(sd_1) = .327374560683609
r(se) = .129288098298673
r(p_u) = .9999801655176862
r(p_l) = .0000198344823138
r(p) = .0000396689646275
r(t) = -4.622140766797361
r(df_t) = 39.69492827740541
r(mu_2) = 6.53670951298305
r(N_2) = 28
r(mu_1) = 5.939121723175049
r(N_1) = 15

```

. ttest ln_ni if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	3.025496	.0855654	.3313933	2.874789	3.176204
UP_SSD	28	3.132565	.0661815	.3501997	3.019838	3.245291
combined	43	3.095215	.0524101	.3436757	3.007064	3.183366
diff		-.1070682	.1081731		-.2906345	.0764981

Satterthwaite's degrees of freedom: 30.1637

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.9898	t = -0.9898	t = -0.9898
P < t = 0.1651	P > t = 0.3302	P > t = 0.8349

. return list

scalars:

```

r(sd) = .3436757181114249
r(sd_2) = .3501996737117437
r(sd_1) = .3313932789957432
r(se) = .1081731341767027
r(p_u) = .8349235294262066
r(p_l) = .1650764705737934
r(p) = .3301529411475868
r(t) = -.9897852435373853
r(df_t) = 30.16369068765982
r(mu_2) = 3.132564527647836
r(N_2) = 28
r(mu_1) = 3.025496355692546
r(N_1) = 15

```

. ttest ln_pb if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	4.512137	.285321	1.105043	4.009598	5.014676
UP_SSD	28	3.914792	.1423443	.7532151	3.672338	4.157245

ttestuneq_Run4_122006						
combined	43	4.123168	.1409879	.9245194	3.886033	4.360303
diff		.5973456	.3188572		.0488615	1.14583

Satterthwaite's degrees of freedom: 21.1567

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 1.8734	t = 1.8734	t = 1.8734
P < t = 0.9626	P > t = 0.0749	P > t = 0.0374

. return list

scalars:

```

r(sd) = .9245193919503948
r(sd_2) = .7532151173757485
r(sd_1) = 1.105043294128813
r(se) = .3188572388748834
r(p_u) = .0374477150473327
r(p_l) = .9625522849526673
r(p) = .0748954300946653
r(t) = 1.873395055431848
r(df_t) = 21.15669721964659
r(mu_2) = 3.914791584014893
r(N_2) = 28
r(mu_1) = 4.512137158711751
r(N_1) = 15

```

. ttest ln_sb if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	-.9037629	.3843439	1.488557	-1.580712	-.2268142
UP_SSD	28	.8881052	.3179855	1.682621	.3464842	1.429726
combined	43	.2630349	.2772524	1.818066	-.2032904	.7293603
diff		-1.791868	.4988336		-2.636868	-.9468686

Satterthwaite's degrees of freedom: 31.9608

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.5921	t = -3.5921	t = -3.5921
P < t = 0.0005	P > t = 0.0011	P > t = 0.9995

. return list

scalars:

```

r(sd) = 1.818065652658619
r(sd_2) = 1.68262105380143
r(sd_1) = 1.488557491400668
r(se) = .4988336384249117
r(p_u) = .9994571391767709
r(p_l) = .0005428608232291
r(p) = .0010857216464582
r(t) = -3.592115710809838

```



```

                                ttestuneq_Run4_122006
r(df_t) = 31.960828430913
r(mu_2) = .8881052125777517
r(N_2) = 28
r(mu_1) = -.9037629370888074
r(N_1) = 15

```

```
. ttest ln_zn if area=="UP_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
UNC	15	5.336396	.172063	.6663971	5.03334	5.639453
UP_SSD	28	4.859804	.0781653	.4136119	4.726666	4.992942
combined	43	5.026057	.085021	.5575199	4.883056	5.169058
diff		.4765925	.1889854		.1505939	.8025911

Satterthwaite's degrees of freedom: 19.9345

Ho: mean(UNC) - mean(UP_SSD) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.5218	t = 2.5218	t = 2.5218
P < t = 0.9899	P > t = 0.0203	P > t = 0.0101

```
. return list
```

scalars:

```

r(sd) = .5575198849609063
r(sd_2) = .4136119464945405
r(sd_1) = .6663971412230149
r(se) = .1889854292033348
r(p_u) = .0101476077462122
r(p_l) = .9898523922537879
r(p) = .0202952154924243
r(t) = 2.521847933302905
r(df_t) = 19.93447965688497
r(mu_2) = 4.85980395759855
r(N_2) = 28
r(mu_1) = 5.336396471659342
r(N_1) = 15

```

```
. ttest ag if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.2131037	.0333736	.1454721	.1552318	.2709756
UNC	15	.7823333	.1543102	.5976408	.5105452	1.054121
combined	34	.4642344	.0849527	.4953552	.3204638	.608005
diff		-.5692296	.1578779		-.8456251	-.2928342

Satterthwaite's degrees of freedom: 15.3143

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

ttestuneq_Run4_122006

Ha: diff < 0
t = -3.6055
P < t = 0.0013

Ha: diff != 0
t = -3.6055
P > |t| = 0.0025

Ha: diff > 0
t = -3.6055
P > t = 0.9987

. return list

scalars:

r(sd) = .4953551513688335
r(sd_2) = .5976408066610546
r(sd_1) = .1454721127310928
r(se) = .1578779028089985
r(p_u) = .9987394301929176
r(p_l) = .0012605698070824
r(p) = .0025211396141648
r(t) = -3.605505501716793
r(df_t) = 15.31427900189454
r(mu_2) = .7823333407441775
r(N_2) = 15
r(mu_1) = .2131036935668243
r(N_1) = 19

. ttest as if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	16.11905	2.347764	9.960721	12.03487	20.20324
UNC	15	5.283333	1.103842	4.275164	3.339124	7.227542
combined	33	11.19373	1.658084	9.524968	8.385117	14.00234
diff		10.83572	2.594314		6.396611	15.27483

Satterthwaite's degrees of freedom: 23.9269

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0
t = 4.1767
P < t = 0.9998

Ha: diff != 0
t = 4.1767
P > |t| = 0.0003

Ha: diff > 0
t = 4.1767
P > t = 0.0002

. return list

scalars:

r(sd) = 9.524967540180917
r(sd_2) = 4.275163592900167
r(sd_1) = 9.960720878951873
r(se) = 2.594314177449287
r(p_u) = .0001692921781097
r(p_l) = .9998307078218903
r(p) = .0003385843562193
r(t) = 4.176718802291002
r(df_t) = 23.92691283212147
r(mu_2) = 5.28333330154419
r(N_2) = 15
r(mu_1) = 16.11905410554674
r(N_1) = 18

. ttest cd if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)

ttestuneq_Run4_122006

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	.594173	.0149638	.0652257	.5682249	.6201212
UNC	15	5.806667	1.435509	5.559704	3.278289	8.335044
combined	34	2.893803	.7672962	4.474067	1.595261	4.192344
diff		-5.212494	1.435587		-7.74097	-2.684018

Satterthwaite's degrees of freedom: 14.003

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.6309	t = -3.6309	t = -3.6309
P < t = 0.0014	P > t = 0.0027	P > t = 0.9986

. return list

scalars:

```

r(sd) = 4.474067398126661
r(sd_2) = 5.559704163073937
r(sd_1) = .0652256531109017
r(se) = 1.435587431600783
r(p_u) = .9986373944034713
r(p_l) = .0013626055965287
r(p) = .0027252111930573
r(t) = -3.630913415008668
r(df_t) = 14.00304252696329
r(mu_2) = 5.806666692097982
r(N_2) = 15
r(mu_1) = .5941730282808605
r(N_1) = 19

```

. ttest cr if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.42642	.6550671	2.855371	11.2905	13.56235
UNC	15	127.1333	25.47328	98.65758	82.26699	171.9997
combined	34	63.03241	14.82836	86.46342	37.93749	88.12733
diff		-114.7069	25.4817		-159.5839	-69.82992

Satterthwaite's degrees of freedom: 14.0185

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.5015	t = -4.5015	t = -4.5015
P < t = 0.0002	P > t = 0.0005	P > t = 0.9998

. return list

scalars:

```

r(sd) = 86.46342487347418

```

```

ttestuneq_Run4_122006
r(sd_2) = 98.65758017936282
r(sd_1) = 2.855371114443928
r(se) = 25.48169907945416
r(p_u) = .9997519295564459
r(p_l) = .0002480704435541
r(p) = .0004961408871081
r(t) = -4.501540854729187
r(df_t) = 14.01851789670143
r(mu_2) = 127.1333330790202
r(N_2) = 15
r(mu_1) = 12.42642362494218
r(N_1) = 19

```

```
. ttest cu if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.9341	.778177	3.391995	11.58469	14.28351
UNC	15	76.76667	15.78356	61.12946	48.96693	104.5664
combined	34	41.09553	8.789333	51.25018	26.22081	55.97024
diff		-63.83257	15.80273		-91.65656	-36.00857

Satterthwaite's degrees of freedom: 14.0681

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.0393	t = -4.0393	t = -4.0393
P < t = 0.0006	P > t = 0.0012	P > t = 0.9994

```
. return list
```

scalars:

```

r(sd) = 51.25017708469895
r(sd_2) = 61.12946069077145
r(sd_1) = 3.391994924514598
r(se) = 15.80273047315712
r(p_u) = .999396368340888
r(p_l) = .000603631659112
r(p) = .0012072633182239
r(t) = -4.039337815919974
r(df_t) = 14.06808010770583
r(mu_2) = 76.76666692097982
r(N_2) = 15
r(mu_1) = 12.93410012596532
r(N_1) = 19

```

```
. ttest fe if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	23147.03	1408.414	6139.134	20704.75	25589.31
UNC	15	21846.67	1324.562	5130.005	19513.7	24179.63
combined	34	22573.34	972.4423	5670.265	20927.62	24219.06

```

-----+-----
ttestuneq_Run4_122006
diff | 1300.361 1933.415 -1975.031 4575.753
-----+-----
Satterthwaite's degrees of freedom: 31.8687

```

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.6726	t = 0.6726	t = 0.6726
P < t = 0.7470	P > t = 0.5061	P > t = 0.2530

. return list

scalars:

```

r(sd) = 5670.264522194141
r(sd_2) = 5130.005105353442
r(sd_1) = 6139.133651282084
r(se) = 1933.414872808029
r(p_u) = .2530336593444053
r(p_l) = .7469663406555946
r(p) = .5060673186888105
r(t) = .672572090431288
r(df_t) = 31.86865742695557
r(mu_2) = 21846.666666666667
r(N_2) = 15
r(mu_1) = 23147.02754934211
r(N_1) = 19

```

. ttest hg if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

```

-----+-----
Group | Obs Mean Std. Err. Std. Dev. [90% Conf. Interval]
-----+-----
ADJFAR_S | 19 .6782663 .1219171 .5314242 .4668543 .8896783
UNC | 14 .8039286 .2184235 .817266 .417115 1.190742
-----+-----
combined | 33 .7315776 .1147036 .6589221 .5372824 .9258727
-----+-----
diff | -.1256623 .2501452 -.5561954 .3048709
-----+-----

```

Satterthwaite's degrees of freedom: 20.8972

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.5024	t = -0.5024	t = -0.5024
P < t = 0.3103	P > t = 0.6207	P > t = 0.6897

. return list

scalars:

```

r(sd) = .6589220556597805
r(sd_2) = .8172660457424509
r(sd_1) = .5314242125132804
r(se) = .2501451887576041
r(p_u) = .6896655863544599
r(p_l) = .3103344136455401
r(p) = .6206688272910802
r(t) = -.5023573038707248
r(df_t) = 20.89724265940214
r(mu_2) = .8039285745471716

```

ttestuneq_Run4_122006

r(N_2) = 14
r(mu_1) = .6782663119466681
r(N_1) = 19

. ttest mn if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	365.0314	19.63434	85.58409	330.9843	399.0786
UNC	15	398.5	32.72901	126.7589	340.8541	456.1459
combined	34	379.797	18.0656	105.3396	349.2235	410.3705
diff		-33.46855	38.16668		-98.82066	31.88356

Satterthwaite's degrees of freedom: 23.5207

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.8769	t = -0.8769	t = -0.8769
P < t = 0.1947	P > t = 0.3894	P > t = 0.8053

. return list

scalars:

r(sd) = 105.3396232833708
r(sd_2) = 126.7589106476205
r(sd_1) = 85.58408889042127
r(se) = 38.1666774478301
r(p_u) = .8052964648718977
r(p_l) = .1947035351281023
r(p) = .3894070702562046
r(t) = -.8769050774115346
r(df_t) = 23.5207094589005
r(mu_2) = 398.5
r(N_2) = 15
r(mu_1) = 365.0314467580695
r(N_1) = 19

. ttest ni if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	12.95485	.520316	2.268005	12.05259	13.85711
UNC	15	21.66333	1.803492	6.984893	18.48683	24.83984
combined	34	16.79683	1.121548	6.539693	14.89876	18.69489
diff		-8.708486	1.877048		-11.98142	-5.43555

Satterthwaite's degrees of freedom: 16.3395

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6395	t = -4.6395	t = -4.6395

```

                                ttestuneq_Run4_122006
P < t = 0.0001                P > |t| = 0.0003                P > t = 0.9999

```

```
. return list
```

```
scalars:
```

```

r(sd) = 6.53969274084826
r(sd_2) = 6.984893309247848
r(sd_1) = 2.26800474325925
r(se) = 1.877048484752319
r(p_u) = .9998706184466838
r(p_l) = .0001293815533162
r(p) = .0002587631066324
r(t) = -4.639457394996541
r(df_t) = 16.33952764995624
r(mu_2) = 21.66333325703939
r(N_2) = 15
r(mu_1) = 12.95484678368819
r(N_1) = 19

```

```
. ttest pb if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	22.34459	1.808123	7.881427	19.20918	25.47999
UNC	15	136.7	24.73585	95.80154	93.1325	180.2675
combined	34	72.7955	14.60186	85.14276	48.08389	97.50712
diff		-114.3554	24.80185		-158.0065	-70.7043

```
Satterthwaite's degrees of freedom: 14.1497
```

```
Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0
```

```

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
t = -4.6108                t = -4.6108                t = -4.6108
P < t = 0.0002                P > |t| = 0.0004                P > t = 0.9998

```

```
. return list
```

```
scalars:
```

```

r(sd) = 85.14276091720146
r(sd_2) = 95.80153569464791
r(sd_1) = 7.881427399939791
r(se) = 24.80184656789164
r(p_u) = .9998033129903804
r(p_l) = .0001966870096196
r(p) = .0003933740192393
r(t) = -4.610762118933617
r(df_t) = 14.14969545781502
r(mu_2) = 136.7000002543132
r(N_2) = 15
r(mu_1) = 22.34458561947471
r(N_1) = 19

```

```
. ttest sb if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)
```

```
Two-sample t test with unequal variances
```

ttestuneq_Run4_122006						
Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	1.067386	.1859515	.8105438	.7449341	1.389838
UNC	15	1.046	.4222401	1.635329	.3023042	1.789696
combined	34	1.057951	.2095528	1.221893	.703312	1.41259
diff		.0213858	.4613726		-.7755685	.8183402

Satterthwaite's degrees of freedom: 19.3898

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 0.0464	t = 0.0464	t = 0.0464
P < t = 0.5182	P > t = 0.9635	P > t = 0.4818

. return list

scalars:

```

r(sd) = 1.221892566224819
r(sd_2) = 1.635328980080292
r(sd_1) = .8105437717069745
r(se) = .4613726076345282
r(p_u) = .4817516335352495
r(p_l) = .5182483664647505
r(p) = .9635032670704991
r(t) = .0463526405054749
r(df_t) = 19.38982115884852
r(mu_2) = 1.046000016853213
r(N_2) = 15
r(mu_1) = 1.06738585547397
r(N_1) = 19

```

. ttest zn if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	71.31882	3.226401	14.06355	65.72403	76.9136
UNC	15	251.4133	38.48909	149.0676	183.6221	319.2046
combined	34	150.7723	22.86381	133.3178	112.0785	189.4661
diff		-180.0945	38.62408		-248.0569	-112.1321

Satterthwaite's degrees of freedom: 14.1969

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.6628	t = -4.6628	t = -4.6628
P < t = 0.0002	P > t = 0.0004	P > t = 0.9998

. return list

scalars:

```

r(sd) = 133.3177776388664
r(sd_2) = 149.067616096243
r(sd_1) = 14.06355483840419
r(se) = 38.62408496953331

```



```

                                ttestuneq_Run4_122006
r(p_u) = .9998234427888154
r(p_l) = .0001765572111846
r(p) = .0003531144223693
r(t) = -4.662751615419621
r(df_t) = 14.19689811975334
r(mu_2) = 251.4133331298828
r(N_2) = 15
r(mu_1) = 71.31881854408665
r(N_1) = 19

```

```

. ttest ln_ag if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	-2.450115	.2832921	1.201907	-2.942932	-1.957298
UNC	15	-.5880407	.2450597	.9491121	-1.019667	-.1564146
combined	33	-1.603718	.2491239	1.431108	-2.025706	-1.18173
diff		-1.862074	.374578		-2.497222	-1.226926

Satterthwaite's degrees of freedom: 30.9305

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.9711	t = -4.9711	t = -4.9711
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.431107958746211
r(sd_2) = .9491120952241725
r(sd_1) = 1.20190668914736
r(se) = .3745780005240083
r(p_u) = .9999882710618797
r(p_l) = .0000117289381203
r(p) = .0000234578762405
r(t) = -4.971126039765479
r(df_t) = 30.93045417010044
r(mu_2) = -.588040737559398
r(N_2) = 15
r(mu_1) = -2.450115189887583
r(N_1) = 18

```

```

. ttest ln_as if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	18	2.154798	.2791581	1.184367	1.669172	2.640423
UNC	15	1.452287	.1654851	.6409209	1.160817	1.743758
combined	33	1.835475	.1784698	1.025231	1.533167	2.137783

```

                                ttestuneq_Run4_122006
diff |                .7025105      .324522      .1497551      1.255266
-----
Satterthwaite's degrees of freedom:  26.9988

```

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = 2.1648	t = 2.1648	t = 2.1648
P < t = 0.9803	P > t = 0.0394	P > t = 0.0197

. return list

scalars:

```

r(sd) = 1.025231059666318
r(sd_2) = .6409209043077792
r(sd_1) = 1.184367421099401
r(se) = .3245220173027203
r(p_u) = .0197068383103484
r(p_l) = .9802931616896516
r(p) = .0394136766206968
r(t) = 2.164754624486747
r(df_t) = 26.99881346887636
r(mu_2) = 1.452287175258001
r(N_2) = 15
r(mu_1) = 2.154797712961833
r(N_1) = 18

```

```

. ttest ln_cd if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
ADJFAR_S	19	-.4969592	.0342148	.149139	-.5562899 - .4376285
UNC	15	1.073647	.3566298	1.381221	.4455109 1.701782
combined	34	.1959551	.2063752	1.203364	-.153306 .5452163
diff		-1.570606	.3582673		-2.20082 -.9403917

Satterthwaite's degrees of freedom: 14.258

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.3839	t = -4.3839	t = -4.3839
P < t = 0.0003	P > t = 0.0006	P > t = 0.9997

. return list

scalars:

```

r(sd) = 1.203363792995896
r(sd_2) = 1.381221316292974
r(sd_1) = .1491390110301696
r(se) = .3582673256359498
r(p_u) = .9997007335772556
r(p_l) = .0002992664227444
r(p) = .0005985328454888
r(t) = -4.38389343640761
r(df_t) = 14.25796867649746
r(mu_2) = 1.073646585146586

```

ttestuneq_Run4_122006

r(N_2) = 15
r(mu_1) = -.4969591921881625
r(N_1) = 19

```
. ttest ln_cr if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90  
> )
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.507064	.066123	.2882237	2.392403	2.621726
UNC	15	4.431153	.2690909	1.042184	3.9572	4.905105
combined	34	3.355927	.2062608	1.202697	3.006859	3.704994
diff		-1.924088	.2770959		-2.408438	-1.439738

Satterthwaite's degrees of freedom: 15.6972

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -6.9438	t = -6.9438	t = -6.9438
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```
. return list
```

scalars:

r(sd) = 1.20269675070648
r(sd_2) = 1.042184421742198
r(sd_1) = .2882236642825249
r(se) = .2770959186598012
r(p_u) = .9999981644097604
r(p_l) = 1.83559023954e-06
r(p) = 3.67118047907e-06
r(t) = -6.943761843288494
r(df_t) = 15.6972272264241
r(mu_2) = 4.431152566274007
r(N_2) = 15
r(mu_1) = 2.507064499353108
r(N_1) = 19

```
. ttest ln_cu if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90  
> )
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.577846	.0892394	.3889854	2.423099	2.732592
UNC	15	3.999794	.2356181	.912545	3.584798	4.414791
combined	34	3.205176	.1671042	.9743763	2.922375	3.487976
diff		-1.421948	.2519515		-1.858827	-.9850698

Satterthwaite's degrees of freedom: 18.0163

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

```

                                ttestuneq_Run4_122006
      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
      t = -5.6437                t = -5.6437                t = -5.6437
P < t = 0.0000                P > |t| = 0.0000                P > t = 1.0000

```

```
. return list
```

```
scalars:
```

```

r(sd) = .9743763083078467
r(sd_2) = .9125450391285399
r(sd_1) = .388985427887002
r(se) = .2519515093067152
r(p_u) = .999988256290465
r(p_l) = .0000117437095351
r(p) = .0000234874190702
r(t) = -5.643738266447111
r(df_t) = 18.01629438483306
r(mu_2) = 3.999794085820516
r(N_2) = 15
r(mu_1) = 2.577845711457102
r(N_1) = 19

```

```
. ttest ln_fe if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )
```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	9.986097	.0665427	.2900528	9.870708	10.10149
UNC	15	9.967287	.0588473	.2279148	9.863639	10.07094
combined	34	9.977799	.0447268	.2608	9.902105	10.05349
diff		.0188102	.088831		-.1316595	.16928

Satterthwaite's degrees of freedom: 31.9998

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

```

      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
      t = 0.2118                t = 0.2118                t = 0.2118
P < t = 0.5832                P > |t| = 0.8336                P > t = 0.4168

```

```
. return list
```

```
scalars:
```

```

r(sd) = .2608000336253992
r(sd_2) = .2279147969244602
r(sd_1) = .2900528347234936
r(se) = .0888309579838229
r(p_u) = .4168212351925712
r(p_l) = .5831787648074288
r(p) = .8336424703851424
r(t) = .2117532656849011
r(df_t) = 31.99975981864998
r(mu_2) = 9.967287190755208
r(N_2) = 15
r(mu_1) = 9.986097436202201
r(N_1) = 19

```

```
. ttest ln_hg if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )
```

ttestuneq_Run4_122006

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	-2.392305	.2929487	1.276934	-2.900297	-1.884314
UNC	14	-.746347	.3163952	1.183842	-1.306662	-.1860322
combined	33	-1.69402	.2563714	1.472742	-2.128285	-1.259755
diff		-1.645958	.43119		-2.378362	-.9135546

Satterthwaite's degrees of freedom: 29.2944

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -3.8172	t = -3.8172	t = -3.8172
P < t = 0.0003	P > t = 0.0006	P > t = 0.9997

. return list

scalars:

```

r(sd) = 1.472741702225262
r(sd_2) = 1.183842388598777
r(sd_1) = 1.276933774109744
r(se) = .4311900445771578
r(p_u) = .9996761995286544
r(p_l) = .0003238004713456
r(p) = .0006476009426911
r(t) = -3.817245903038381
r(df_t) = 29.29442103317675
r(mu_2) = -.7463470308908394
r(N_2) = 14
r(mu_1) = -2.392305461983932
r(N_1) = 19

```

. ttest ln_mn if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
>)

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	5.906737	.0734888	.3203301	5.779303	6.034171
UNC	15	5.939122	.0845277	.3273746	5.790242	6.088001
combined	34	5.921024	.0546927	.3189107	5.828465	6.013584
diff		-.0323846	.1120069		-.2225131	.1577438

Satterthwaite's degrees of freedom: 29.8835

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -0.2891	t = -0.2891	t = -0.2891
P < t = 0.3872	P > t = 0.7745	P > t = 0.6128

. return list

ttestuneq_Run4_122006

scalars:

```

r(sd) = .3189107243424801
r(sd_2) = .327374560683609
r(sd_1) = .3203301326918442
r(se) = .1120068742459399
r(p_u) = .6127611928534157
r(p_l) = .3872388071465843
r(p) = .7744776142931685
r(t) = -.2891308840132604
r(df_t) = 29.88352580185888
r(mu_2) = 5.939121723175049
r(N_2) = 15
r(mu_1) = 5.906737076608758
r(N_1) = 19

```

```

. ttest ln_ni if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	2.551069	.0463231	.2019176	2.470742	2.631396
UNC	15	3.025496	.0855654	.3313933	2.874789	3.176204
combined	34	2.760375	.0608766	.3549684	2.65735	2.8634
diff		-.4744273	.0972998		-.6415242	-.3073304

Satterthwaite's degrees of freedom: 21.943

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -4.8759	t = -4.8759	t = -4.8759
P < t = 0.0000	P > t = 0.0001	P > t = 1.0000

. return list

scalars:

```

r(sd) = .3549683912974032
r(sd_2) = .3313932789957432
r(sd_1) = .2019175718315225
r(se) = .0972998474444366
r(p_u) = .9999641704602688
r(p_l) = .0000358295397313
r(p) = .0000716590794625
r(t) = -4.875930660033167
r(df_t) = 21.94303198922032
r(mu_2) = 3.025496355692546
r(N_2) = 15
r(mu_1) = 2.551069046321668
r(N_1) = 19

```

```

. ttest ln_pb if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	

```

ttestuneq_Run4_122006
ADJFAR_S |      19      2.989771      .0957076      .4171796      2.823808      3.155734
UNC |      15      4.512137      .285321      1.105043      4.009598      5.014676
-----+-----
combined |      34      3.661403      .1879985      1.09621      3.343242      3.979564
-----+-----
diff |              -1.522366      .3009452              -2.045614      -.9991184
-----+-----

```

Satterthwaite's degrees of freedom: 17.1588

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.0586	t = -5.0586	t = -5.0586
P < t = 0.0000	P > t = 0.0001	P > t = 1.0000

. return list

scalars:

```

r(sd) = 1.096209926413948
r(sd_2) = 1.105043294128813
r(sd_1) = .4171796114446753
r(se) = .3009451507941656
r(p_u) = .9999528531027145
r(p_l) = .0000471468972855
r(p) = .000094293794571
r(t) = -5.058616127718054
r(df_t) = 17.15881057390236
r(mu_2) = 4.512137158711751
r(N_2) = 15
r(mu_1) = 2.989771165345844
r(N_1) = 19

```

```

. ttest ln_sb if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )

```

Two-sample t test with unequal variances

```

-----+-----
Group |      Obs      Mean      Std. Err.      Std. Dev.      [90% Conf. Interval]
-----+-----
ADJFAR_S |      19      -1.470544      .2622958      1.143321      -1.925382      -1.015706
UNC |      15      -.9037629      .3843439      1.488557      -1.580712      -.2268142
-----+-----
combined |      34      -1.220493      .2258738      1.317059      -1.602753      -.8382337
-----+-----
diff |              -.566781      .4653164              -1.360734      .2271721
-----+-----

```

Satterthwaite's degrees of freedom: 25.7356

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -1.2181	t = -1.2181	t = -1.2181
P < t = 0.1171	P > t = 0.2343	P > t = 0.8829

. return list

scalars:

```

r(sd) = 1.317059240784356
r(sd_2) = 1.488557491400668
r(sd_1) = 1.143320840591967
r(se) = .4653163529308032
r(p_u) = .8828736307293458

```

```

ttestuneq_Run4_122006
r(p_l) = .1171263692706542
r(p) = .2342527385413084
r(t) = -1.21805519870006
r(df_t) = 25.73561776315741
r(mu_2) = -.9037629370888074
r(N_2) = 15
r(mu_1) = -1.470543939816324
r(N_1) = 19

```

```

. ttest ln_zn if area=="ADJFAR_SSD"|area=="UNC", by(area) unequal level (90
> )

```

Two-sample t test with unequal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]	
ADJFAR_S	19	4.256543	.0541443	.2360096	4.162653	4.350433
UNC	15	5.336396	.172063	.6663971	5.03334	5.639453
combined	34	4.732949	.1230709	.7176208	4.524669	4.941229
diff		-1.079854	.1803809		-1.39388	-.7658269

Satterthwaite's degrees of freedom: 16.7819

Ho: mean(ADJFAR_S) - mean(UNC) = diff = 0

Ha: diff < 0	Ha: diff != 0	Ha: diff > 0
t = -5.9865	t = -5.9865	t = -5.9865
P < t = 0.0000	P > t = 0.0000	P > t = 1.0000

```

. return list

```

scalars:

```

r(sd) = .7176207831914011
r(sd_2) = .6663971412230149
r(sd_1) = .2360095918909634
r(se) = .1803809395806749
r(p_u) = .999992226561079
r(p_l) = 7.77343892105e-06
r(p) = .0000155468778421
r(t) = -5.986516871211603
r(df_t) = 16.78189941937384
r(mu_2) = 5.336396471659342
r(N_2) = 15
r(mu_1) = 4.256542933614631
r(N_1) = 19

```

```

. log close
log: C:\KDW\BASF_Ren\Run4\ttestuneq_Run4_122006.smcl
log type: smcl
closed on: 20 Dec 2006, 11:59:55

```



```

log: C:\DATA\ranksum_sd_Run4_122006.smcl
log type: smcl
opened on: 21 Dec 2006, 11:23:50

```

```

. ranksum ag if area2==1|area2==3, by(area2)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1351	1176
3	55	2135	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -19.46

```

```

adjusted variance      10760.54

```

```

Ho: ag(area2==1) = ag(area2==3)
    z = 1.687
    Prob > |z| = 0.0916

```

```

. return list

```

scalars:

```

    r(N_2) = 55
    r(N_1) = 28
    r(Var_a) = 10760.5406993829
    r(z) = 1.687022991768602
    r(sum_exp) = 1176
    r(sum_obs) = 1351
    r(group1) = 1

```

```

. ranksum as if area2==1|area2==3, by(area2)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1011	1162
3	54	2392	2241
combined	82	3403	3403

```

unadjusted variance    10458.00
adjustment for ties    -1.82

```

```

adjusted variance      10456.18

```

```

Ho: as(area2==1) = as(area2==3)
    z = -1.477
    Prob > |z| = 0.1398

```

```

. return list

```

scalars:

```

    r(N_2) = 54
    r(N_1) = 28
    r(Var_a) = 10456.17886178862

```

```

                                ranksum_sd_Run4_122006
      r(z) = -1.476693779663906
r(sum_exp) = 1162
r(sum_obs) = 1011
r(group1) = 1

```

```
. ranksum cd if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1407	1176
3	55	2079	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -55.32
-----
adjusted variance      10724.68

```

```

Ho: cd(area2==1) = cd(area2==3)
      z = 2.231
Prob > |z| = 0.0257

```

```
. return list
```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10724.6767558037
      r(z) = 2.230590633578552
r(sum_exp) = 1176
r(sum_obs) = 1407
r(group1) = 1

```

```
. ranksum cr if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1276	1176
3	55	2210	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -0.34
-----
adjusted variance      10779.66

```

```

Ho: cr(area2==1) = cr(area2==3)
      z = 0.963
Prob > |z| = 0.3355

```

```
. return list
```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10779.66059359389
      r(z) = .9631578232085484

```

ranksum_sd_Run4_122006

```
r(sum_exp) = 1176
r(sum_obs) = 1276
r(group1) = 1
```

```
. ranksum cu if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1156	1176
3	55	2330	2310
combined	83	3486	3486

```
unadjusted variance    10780.00
adjustment for ties      -0.11
-----
adjusted variance      10779.89
```

```
Ho: cu(area2==1) = cu(area2==3)
      z = -0.193
Prob > |z| = 0.8472
```

```
. return list
```

scalars:

```
r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.8868645313
r(z) = -.1926295429528933
r(sum_exp) = 1176
r(sum_obs) = 1156
r(group1) = 1
```

```
. ranksum fe if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1478	1176
3	55	2008	2310
combined	83	3486	3486

```
unadjusted variance    10780.00
adjustment for ties      -0.68
-----
adjusted variance      10779.32
```

```
Ho: fe(area2==1) = fe(area2==3)
      z = 2.909
Prob > |z| = 0.0036
```

```
. return list
```

scalars:

```
r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.32118718778
r(z) = 2.90878241914377
r(sum_exp) = 1176
```

ranksum_sd_Run4_122006

```
r(sum_obs) = 1478
r(group1) = 1
```

```
. ranksum hg if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1190	1176
3	55	2296	2310
combined	83	3486	3486

```
unadjusted variance    10780.00
adjustment for ties    -15.95
-----
adjusted variance      10764.05
```

```
Ho: hg(area2==1) = hg(area2==3)
      z = 0.135
      Prob > |z| = 0.8927
```

```
. return list
```

scalars:

```
      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10764.04789891272
      r(z) = .1349398505568508
      r(sum_exp) = 1176
      r(sum_obs) = 1190
      r(group1) = 1
```

```
. ranksum mn if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1546	1176
3	55	1940	2310
combined	83	3486	3486

```
unadjusted variance    10780.00
adjustment for ties    -0.23
-----
adjusted variance      10779.77
```

```
Ho: mn(area2==1) = mn(area2==3)
      z = 3.564
      Prob > |z| = 0.0004
```

```
. return list
```

scalars:

```
      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10779.77372906259
      r(z) = 3.563665245102878
      r(sum_exp) = 1176
      r(sum_obs) = 1546
```

```
r(group1) = 1
```

```
. ranksum ni if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1399	1176
3	55	2087	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.68

adjusted variance 10779.32

Ho: ni(area2==1) = ni(area2==3)

z = 2.148

Prob > |z| = 0.0317

```
. return list
```

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.32118718778
r(z) = 2.147875759831327
r(sum_exp) = 1176
r(sum_obs) = 1399
r(group1) = 1

```

```
. ranksum pb if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1583	1176
3	55	1903	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -6.67

adjusted variance 10773.33

Ho: pb(area2==1) = pb(area2==3)

z = 3.921

Prob > |z| = 0.0001

```
. return list
```

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10773.32500734646
r(z) = 3.921204824923185
r(sum_exp) = 1176
r(sum_obs) = 1583
r(group1) = 1

```

```
. ranksum sb if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
-----+-----			
1	28	1582	1176
3	55	1904	2310
-----+-----			
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -5.20

adjusted variance 10774.80

Ho: sb(area2==1) = sb(area2==3)

z = 3.911
Prob > |z| = 0.0001

```
. return list
```

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10774.79576843961
r(z) = 3.911303440975338
r(sum_exp) = 1176
r(sum_obs) = 1582
r(group1) = 1

```

```
. ranksum zn if area2==1|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
-----+-----			
1	28	1234	1176
3	55	2252	2310
-----+-----			
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.68

adjusted variance 10779.32

Ho: zn(area2==1) = zn(area2==3)

z = 0.559
Prob > |z| = 0.5764

```
. return list
```

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.32118718778
r(z) = .5586403321534392
r(sum_exp) = 1176
r(sum_obs) = 1234
r(group1) = 1

```

```

ranksum_sd_Run4_122006
. ranksum ln_ag if area2==1|area2==3, by(area2)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1385	1176
3	55	2101	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -19.46

```

```

adjusted variance      10760.54

```

```

Ho: ln_ag(area2==1) = ln_ag(area2==3)
      z = 2.015
      Prob > |z| = 0.0439

```

```

. return list

```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10760.5406993829
      r(z) = 2.014787458740788
      r(sum_exp) = 1176
      r(sum_obs) = 1385
      r(group1) = 1

```

```

. ranksum ln_as if area2==1|area2==3, by(area2)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1043	1162
3	54	2360	2241
combined	82	3403	3403

```

unadjusted variance    10458.00
adjustment for ties    -1.82

```

```

adjusted variance      10456.18

```

```

Ho: ln_as(area2==1) = ln_as(area2==3)
      z = -1.164
      Prob > |z| = 0.2445

```

```

. return list

```

scalars:

```

      r(N_2) = 54
      r(N_1) = 28
      r(Var_a) = 10456.17886178862
      r(z) = -1.163752051523211
      r(sum_exp) = 1162
      r(sum_obs) = 1043
      r(group1) = 1

```

```

. ranksum ln_cd if area2==1|area2==3, by(area2)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
-----+-----			
1	28	1298	1176
3	55	2188	2310
-----+-----			
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -55.32

adjusted variance 10724.68

Ho: $\ln\_cd(\text{area2}==1) = \ln\_cd(\text{area2}==3)$

$z = 1.178$

Prob > |z| = 0.2388

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10724.6767558037
r(z) = 1.178060854097763
r(sum_exp) = 1176
r(sum_obs) = 1298
r(group1) = 1

```

. ranksum ln_cr if area2==1|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
-----+-----			
1	28	1280	1176
3	55	2206	2310
-----+-----			
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.34

adjusted variance 10779.66

Ho: $\ln\_cr(\text{area2}==1) = \ln\_cr(\text{area2}==3)$

$z = 1.002$

Prob > |z| = 0.3165

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.66059359389
r(z) = 1.00168413613689
r(sum_exp) = 1176
r(sum_obs) = 1280
r(group1) = 1

```

. ranksum ln_cu if area2==1|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1223	1176
3	55	2263	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -0.11

adjusted variance 10779.89

Ho: $\ln_{cu}(\text{area2}==1) = \ln_{cu}(\text{area2}==3)$

$z = 0.453$
 Prob > $|z| = 0.6508$

. return list

scalars:

$r(N_2) = 55$
 $r(N_1) = 28$
 $r(\text{Var}_a) = 10779.8868645313$
 $r(z) = .4526794259392993$
 $r(\text{sum\_exp}) = 1176$
 $r(\text{sum\_obs}) = 1223$
 $r(\text{group1}) = 1$

. ranksum $\ln_{fe}$ if $\text{area2}==1|\text{area2}==3$, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1491	1176
3	55	1995	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -0.68

adjusted variance 10779.32

Ho: $\ln_{fe}(\text{area2}==1) = \ln_{fe}(\text{area2}==3)$

$z = 3.034$
 Prob > $|z| = 0.0024$

. return list

scalars:

$r(N_2) = 55$
 $r(N_1) = 28$
 $r(\text{Var}_a) = 10779.32118718778$
 $r(z) = 3.033994907385058$
 $r(\text{sum\_exp}) = 1176$
 $r(\text{sum\_obs}) = 1491$
 $r(\text{group1}) = 1$

. ranksum $\ln_{hg}$ if $\text{area2}==1|\text{area2}==3$, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_sd_Run4_122006

area2	obs	rank sum	expected
1	28	1202	1176
3	55	2284	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -15.95

adjusted variance 10764.05

Ho: ln_hg(area2==1) = ln_hg(area2==3)

z = 0.251

Prob > |z| = 0.8021

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10764.04789891272
r(z) = .25060257960558
r(sum_exp) = 1176
r(sum_obs) = 1202
r(group1) = 1

```

. ranksum ln_mn if area2==1|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1510	1176
3	55	1976	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.23

adjusted variance 10779.77

Ho: ln_mn(area2==1) = ln_mn(area2==3)

z = 3.217

Prob > |z| = 0.0013

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.77372906259
r(z) = 3.216930248282058
r(sum_exp) = 1176
r(sum_obs) = 1510
r(group1) = 1

```

. ranksum ln_ni if area2==1|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_sd_Run4_122006			
area2	obs	rank sum	expected
1	28	1444	1176
3	55	2042	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -0.68

 adjusted variance 10779.32

Ho: ln_ni(area2==1) = ln_ni(area2==3)
 $z = 2.581$
 Prob > |z| = 0.0098

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10779.32118718778
 r(z) = 2.581303603743478
 r(sum_exp) = 1176
 r(sum_obs) = 1444
 r(group1) = 1

. ranksum ln_pb if area2==1|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1316	1176
3	55	2170	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -6.67

 adjusted variance 10773.33

Ho: ln_pb(area2==1) = ln_pb(area2==3)
 $z = 1.349$
 Prob > |z| = 0.1774

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10773.32500734646
 r(z) = 1.348817384494462
 r(sum_exp) = 1176
 r(sum_obs) = 1316
 r(group1) = 1

. ranksum ln_sb if area2==1|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected

ranksum_sd_Run4_122006			
1	28	1528	1176
3	55	1958	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -5.20

adjusted variance 10774.80

Ho: ln_sb(area2==1) = ln_sb(area2==3)

z = 3.391

Prob > |z| = 0.0007

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10774.79576843961
 r(z) = 3.391080815820982
 r(sum_exp) = 1176
 r(sum_obs) = 1528
 r(group1) = 1

. ranksum ln_zn if area2==1|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
1	28	1280	1176
3	55	2206	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.68

adjusted variance 10779.32

Ho: ln_zn(area2==1) = ln_zn(area2==3)

z = 1.002

Prob > |z| = 0.3165

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10779.32118718778
 r(z) = 1.001699905930305
 r(sum_exp) = 1176
 r(sum_obs) = 1280
 r(group1) = 1

. ranksum ag if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

ranksum_sd_Run4_122006			
1	28	842	910
10	36	1238	1170
combined	64	2080	2080

unadjusted variance 5460.00

adjustment for ties -4.88

adjusted variance 5455.13

Ho: ag(area3==1) = ag(area3==10)

z = -0.921

Prob > |z| = 0.3572

. return list

scalars:

```

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5455.125
r(z) = -.9206754429416288
r(sum_exp) = 910
r(sum_obs) = 842
r(group1) = 1

```

. ranksum as if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	627	910
10	36	1453	1170
combined	64	2080	2080

unadjusted variance 5460.00

adjustment for ties -1.13

adjusted variance 5458.88

Ho: as(area3==1) = as(area3==10)

z = -3.830

Prob > |z| = 0.0001

. return list

scalars:

```

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5458.875
r(z) = -3.830318258164524
r(sum_exp) = 910
r(sum_obs) = 627
r(group1) = 1

```

. ranksum cd if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

			ranksum_sd_Run4_122006
1		28	875
10		36	1205
-----+-----			
combined		64	2080

unadjusted variance 5460.00
adjustment for ties -10.13

adjusted variance 5449.88

Ho: cd(area3==1) = cd(area3==10)
z = -0.474
Prob > |z| = 0.6354

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5449.875
r(z) = -.4741052600531204
r(sum_exp) = 910
r(sum_obs) = 875
r(group1) = 1

. ranksum cr if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
-----+-----				
1		28	746	910
10		36	1334	1170
-----+-----				
combined		64	2080	2080

unadjusted variance 5460.00
adjustment for ties -0.38

adjusted variance 5459.63

Ho: cr(area3==1) = cr(area3==10)
z = -2.220
Prob > |z| = 0.0265

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5459.625
r(z) = -2.219537265721054
r(sum_exp) = 910
r(sum_obs) = 746
r(group1) = 1

. ranksum cu if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
-----+-----				
1		28	624	910

	10		36		ranksum_sd_Run4_122006
		+			1456 1170
	combined		64		2080 2080

```

unadjusted variance      5460.00
adjustment for ties      0.00
-----
adjusted variance        5460.00

```

```

Ho: cu(area3==1) = cu(area3==10)
      z = -3.871
      Prob > |z| = 0.0001

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5460
      r(z) = -3.870523528019482
      r(sum_exp) = 910
      r(sum_obs) = 624
      r(group1) = 1

```

```
. ranksum fe if area3==1|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3		obs	rank sum	expected
	+			
1		28	992	910
10		36	1088	1170
	+			
combined		64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -0.50
-----
adjusted variance        5459.50

```

```

Ho: fe(area3==1) = fe(area3==10)
      z = 1.110
      Prob > |z| = 0.2671

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.5
      r(z) = 1.109781337346751
      r(sum_exp) = 910
      r(sum_obs) = 992
      r(group1) = 1

```

```
. ranksum hg if area3==1|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3		obs	rank sum	expected
	+			
1		28	686	910
10		36	1394	1170

```

-----+-----ranksum_sd_Run4_122006
combined |      64      2080      2080
unadjusted variance      5460.00
adjustment for ties      -7.38
-----
adjusted variance      5452.63
Ho: hg(area3==1) = hg(area3==10)
      z = -3.034
Prob > |z| = 0.0024

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5452.625
      r(z) = -3.033508408620363
r(sum_exp) = 910
r(sum_obs) = 686
r(group1) = 1

```

. ranksum mn if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3 |      obs      rank sum      expected
-----+-----
      1 |      28      1019      910
      10 |      36      1061      1170
-----+-----
combined |      64      2080      2080

```

```

unadjusted variance      5460.00
adjustment for ties      -0.25
-----
adjusted variance      5459.75

```

```

Ho: mn(area3==1) = mn(area3==10)
      z = 1.475
Prob > |z| = 0.1402

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.75
      r(z) = 1.475163368784829
r(sum_exp) = 910
r(sum_obs) = 1019
r(group1) = 1

```

. ranksum ni if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3 |      obs      rank sum      expected
-----+-----
      1 |      28      874      910
      10 |      36      1206      1170
-----+-----

```



```

ranksum_sd_Run4_122006
combined |      64      2080      2080
unadjusted variance      5460.00
adjustment for ties      -0.63
-----
adjusted variance      5459.38
Ho: ni(area3==1) = ni(area3==10)
      z = -0.487
      Prob > |z| = 0.6261

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.375
      r(z) = -.4872266527035964
      r(sum_exp) = 910
      r(sum_obs) = 874
      r(group1) = 1

```

. ranksum pb if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
1	28	1051	910
10	36	1029	1170
-----+-----			
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -1.50
-----
adjusted variance      5458.50

```

```

Ho: pb(area3==1) = pb(area3==10)
      z = 1.908
      Prob > |z| = 0.0563

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5458.5
      r(z) = 1.908457334651816
      r(sum_exp) = 910
      r(sum_obs) = 1051
      r(group1) = 1

```

. ranksum sb if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
1	28	1070	910
10	36	1010	1170
-----+-----			
combined	64	2080	2080

ranksum_sd_Run4_122006

unadjusted variance 5460.00
adjustment for ties -0.50

adjusted variance 5459.50

Ho: sb(area3==1) = sb(area3==10)

 z = 2.165
 Prob > |z| = 0.0304

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 28
 r(Var_a) = 5459.5
 r(z) = 2.165426999700978
 r(sum_exp) = 910
 r(sum_obs) = 1070
 r(group1) = 1

. ranksum zn if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
1	28	709	910
10	36	1371	1170
-----+-----			
combined	64	2080	2080

unadjusted variance 5460.00
adjustment for ties -0.63

adjusted variance 5459.38

Ho: zn(area3==1) = zn(area3==10)

 z = -2.720
 Prob > |z| = 0.0065

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 28
 r(Var_a) = 5459.375
 r(z) = -2.720348810928414
 r(sum_exp) = 910
 r(sum_obs) = 709
 r(group1) = 1

. ranksum ln_ag if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
1	28	882	910
10	36	1198	1170
-----+-----			
combined	64	2080	2080

```

ranksum_sd_Run4_122006
unadjusted variance      5460.00
adjustment for ties      -4.88
-----
adjusted variance        5455.13
Ho: ln_ag(area3==1) = ln_ag(area3==10)
      z = -0.379
Prob > |z| = 0.7046

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5455.125
      r(z) = -.3791016529759648
r(sum_exp) = 910
r(sum_obs) = 882
r(group1) = 1

```

. ranksum ln_as if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	667	910
10	36	1413	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -1.13
-----
adjusted variance        5458.88

```

```

Ho: ln_as(area3==1) = ln_as(area3==10)
      z = -3.289
Prob > |z| = 0.0010

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5458.875
      r(z) = -3.288930518494627
r(sum_exp) = 910
r(sum_obs) = 667
r(group1) = 1

```

. ranksum ln_cd if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	850	910
10	36	1230	1170
combined	64	2080	2080

```

unadjusted variance      5460.00

```

```

ranksum_sd_Run4_122006
adjustment for ties      -10.13
-----
adjusted variance      5449.88
Ho: ln_cd(area3==1) = ln_cd(area3==10)
      z = -0.813
      Prob > |z| = 0.4164

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5449.875
      r(z) = -.8127518743767779
      r(sum_exp) = 910
      r(sum_obs) = 850
      r(group1) = 1

```

```
. ranksum ln_cr if area3==1|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	764	910
10	36	1316	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -0.38
-----
adjusted variance      5459.63

```

```

Ho: ln_cr(area3==1) = ln_cr(area3==10)
      z = -1.976
      Prob > |z| = 0.0482

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.625
      r(z) = -1.975929517044353
      r(sum_exp) = 910
      r(sum_obs) = 764
      r(group1) = 1

```

```
. ranksum ln_cu if area3==1|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	706	910
10	36	1374	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      0.00

```

```

ranksum_sd_Run4_122006
-----
adjusted variance      5460.00

```

```

Ho: ln_cu(area3==1) = ln_cu(area3==10)
      z = -2.761
      Prob > |z| = 0.0058

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5460
      r(z) = -2.76079300599991
      r(sum_exp) = 910
      r(sum_obs) = 706
      r(group1) = 1

```

```

. ranksum ln_fe if area3==1|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
1	28	1020	910
10	36	1060	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -0.50

```

```

adjusted variance      5459.50

```

```

Ho: ln_fe(area3==1) = ln_fe(area3==10)
      z = 1.489
      Prob > |z| = 0.1366

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.5
      r(z) = 1.488731062294422
      r(sum_exp) = 910
      r(sum_obs) = 1020
      r(group1) = 1

```

```

. ranksum ln_hg if area3==1|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
1	28	716	910
10	36	1364	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -7.38

```

```

ranksum_sd_Run4_122006
adjusted variance      5452.63

```

```

Ho: ln_hg(area3==1) = ln_hg(area3==10)
      z = -2.627
      Prob > |z| = 0.0086

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5452.625
      r(z) = -2.627234961037278
      r(sum_exp) = 910
      r(sum_obs) = 716
      r(group1) = 1

```

```

. ranksum ln_mn if area3==1|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
1	28	1002	910
10	36	1078	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -0.25

```

```

adjusted variance      5459.75

```

```

Ho: ln_mn(area3==1) = ln_mn(area3==10)
      z = 1.245
      Prob > |z| = 0.2131

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.75
      r(z) = 1.245092017689948
      r(sum_exp) = 910
      r(sum_obs) = 1002
      r(group1) = 1

```

```

. ranksum ln_ni if area3==1|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
1	28	936	910
10	36	1144	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -0.63

```

```

adjusted variance      5459.38

```

Ho: ln_ni(area3==1) = ln_ni(area3==10)

z = 0.352
Prob > |z| = 0.7249

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5459.375
r(z) = .3518859158414863
r(sum_exp) = 910
r(sum_obs) = 936
r(group1) = 1

. ranksum ln_pb if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	821	910
10	36	1259	1170
combined	64	2080	2080

unadjusted variance 5460.00
adjustment for ties -1.50

adjusted variance 5458.50

Ho: ln_pb(area3==1) = ln_pb(area3==10)

z = -1.205
Prob > |z| = 0.2283

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5458.5
r(z) = -1.204629097758948
r(sum_exp) = 910
r(sum_obs) = 821
r(group1) = 1

. ranksum ln_sb if area3==1|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	1018	910
10	36	1062	1170
combined	64	2080	2080

unadjusted variance 5460.00
adjustment for ties -0.50

adjusted variance 5459.50

```

ranksum_sd_Run4_122006
Ho: ln_sb(area3==1) = ln_sb(area3==10)
      z = 1.462
Prob > |z| = 0.1438

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.5
      r(z) = 1.46166322479816
r(sum_exp) = 910
r(sum_obs) = 1018
r(group1) = 1

```

```
. ranksum ln_zn if area3==1|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	771	910
10	36	1309	1170
combined	64	2080	2080

```

unadjusted variance    5460.00
adjustment for ties    -0.63

```

```
adjusted variance      5459.38
```

```
Ho: ln_zn(area3==1) = ln_zn(area3==10)
```

```

      z = -1.881
Prob > |z| = 0.0599

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.375
      r(z) = -1.881236242383331
r(sum_exp) = 910
r(sum_obs) = 771
r(group1) = 1

```

```
. ranksum ag if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	915	672
5	19	213	456
combined	47	1128	1128

```

unadjusted variance    2128.00
adjustment for ties    -18.46

```

```
adjusted variance      2109.54
```



```

ranksum_sd_Run4_122006
Ho: ag(area3==1) = ag(area3==5)
      z = 5.291
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2109.54486586494
      r(z) = 5.290684821914209
      r(sum_exp) = 672
      r(sum_obs) = 915
      r(group1) = 1

```

```
. ranksum as if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	790	658
5	18	291	423
combined	46	1081	1081

```

unadjusted variance      1974.00
adjustment for ties      -1.10

```

```
adjusted variance      1972.90
```

```

Ho: as(area3==1) = as(area3==5)
      z = 2.972
      Prob > |z| = 0.0030

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 18
      r(N_1) = 28
      r(Var_a) = 1972.904347826087
      r(z) = 2.971809154970666
      r(sum_exp) = 658
      r(sum_obs) = 790
      r(group1) = 1

```

```
. ranksum cd if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	938	672
5	19	190	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -28.17

```

```
adjusted variance      2099.83
```

```
Ho: cd(area3==1) = cd(area3==5)
```

```

      z = 5.805
Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2099.825161887142
      r(z) = 5.804837529792724
      r(sum_exp) = 672
      r(sum_obs) = 938
      r(group1) = 1

```

```
. ranksum cr if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	936	672
5	19	192	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.12

```

```
adjusted variance      2127.88
```

```
Ho: cr(area3==1) = cr(area3==5)
```

```

      z = 5.723
Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.723091246765411
      r(sum_exp) = 672
      r(sum_obs) = 936
      r(group1) = 1

```

```
. ranksum cu if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	938	672
5	19	190	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.12

```

```
adjusted variance      2127.88
```

```
Ho: cu(area3==1) = cu(area3==5)
```

```
      z = 5.766
```

Prob > |z| = 0.0000

. return list

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.766447998634845
      r(sum_exp) = 672
      r(sum_obs) = 938
      r(group1) = 1

```

. ranksum fe if area3==1|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	892	672
5	19	236	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -0.37

adjusted variance 2127.63

Ho: fe(area3==1) = fe(area3==5)

z = 4.770

Prob > |z| = 0.0000

. return list

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299
      r(z) = 4.769518488024845
      r(sum_exp) = 672
      r(sum_obs) = 892
      r(group1) = 1

```

. ranksum hg if area3==1|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	910	672
5	19	218	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -15.50

adjusted variance 2112.50

Ho: hg(area3==1) = hg(area3==5)

z = 5.178

Prob > |z| = 0.0000

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2112.49768732655
      r(z) = 5.178200185893764
      r(sum_exp) = 672
      r(sum_obs) = 910
      r(group1) = 1

```

```
. ranksum mn if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	933	672
5	19	195	456
combined	47	1128	1128

```
unadjusted variance      2128.00
```

```
adjustment for ties      0.00
```

```
adjusted variance      2128.00
```

```
Ho: mn(area3==1) = mn(area3==5)
```

```
      z = 5.658
```

```
Prob > |z| = 0.0000
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2128
      r(z) = 5.657892551144883
      r(sum_exp) = 672
      r(sum_obs) = 933
      r(group1) = 1

```

```
. ranksum ni if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	931	672
5	19	197	456
combined	47	1128	1128

```
unadjusted variance      2128.00
```

```
adjustment for ties      -0.37
```

```
adjusted variance      2127.63
```

```
Ho: ni(area3==1) = ni(area3==5)
```

```
      z = 5.615
```

```
Prob > |z| = 0.0000
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299
      r(z) = 5.615024038174704
      r(sum_exp) = 672
      r(sum_obs) = 931
      r(group1) = 1

```

```
. ranksum pb if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	938	672
5	19	190	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -7.26
-----
adjusted variance        2120.74

```

```

Ho: pb(area3==1) = pb(area3==5)
      z = 5.776
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2120.740980573543
      r(z) = 5.776141480940681
      r(sum_exp) = 672
      r(sum_obs) = 938
      r(group1) = 1

```

```
. ranksum sb if area3==1|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	918	672
5	19	210	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -5.41
-----
adjusted variance        2122.59

```

```

Ho: sb(area3==1) = sb(area3==5)
      z = 5.340
      Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2122.586493987049
      r(z) = 5.339522351875961
      r(sum_exp) = 672
      r(sum_obs) = 918
      r(group1) = 1

```

. ranksum zn if area3==1|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	931	672
5	19	197	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -0.12

adjusted variance 2127.88

Ho: zn(area3==1) = zn(area3==5)

z = 5.615
 Prob > |z| = 0.0000

. return list

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.614699367091824
      r(sum_exp) = 672
      r(sum_obs) = 931
      r(group1) = 1

```

. ranksum ln_ag if area3==1|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	909	672
5	19	219	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -18.46

adjusted variance 2109.54

Ho: ln_ag(area3==1) = ln_ag(area3==5)

z = 5.160
 Prob > |z| = 0.0000

. return list

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2109.54486586494
      r(z) = 5.160050628780526
      r(sum_exp) = 672
      r(sum_obs) = 909
      r(group1) = 1

```

. ranksum ln_as if area3==1|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	782	658
5	18	299	423
combined	46	1081	1081

unadjusted variance 1974.00

adjustment for ties -1.10

adjusted variance 1972.90

Ho: ln_as(area3==1) = ln_as(area3==5)

z = 2.792

Prob > |z| = 0.0052

. return list

scalars:

```

      r(N_2) = 18
      r(N_1) = 28
      r(Var_a) = 1972.904347826087
      r(z) = 2.791699509214868
      r(sum_exp) = 658
      r(sum_obs) = 782
      r(group1) = 1

```

. ranksum ln_cd if area3==1|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	854	672
5	19	274	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -28.17

adjusted variance 2099.83

Ho: ln_cd(area3==1) = ln_cd(area3==5)

z = 3.972

Prob > |z| = 0.0001

. return list

scalars:

```

                                ranksum_sd_Run4_122006
      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2099.825161887142
      r(z) = 3.971730941437127
      r(sum_exp) = 672
      r(sum_obs) = 854
      r(group1) = 1

```

```
. ranksum ln_cr if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	922	672
5	19	206	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -0.12

adjusted variance 2127.88

Ho: ln_cr(area3==1) = ln_cr(area3==5)

z = 5.420
Prob > |z| = 0.0000

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.419593983679366
      r(sum_exp) = 672
      r(sum_obs) = 922
      r(group1) = 1

```

```
. ranksum ln_cu if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	923	672
5	19	205	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -0.12

adjusted variance 2127.88

Ho: ln_cu(area3==1) = ln_cu(area3==5)

z = 5.441
Prob > |z| = 0.0000

```
. return list
```

scalars:

```
      r(N_2) = 19
```



```

                                ranksum_sd_Run4_122006
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.441272359614083
      r(sum_exp) = 672
      r(sum_obs) = 923
      r(group1) = 1

```

```
. ranksum ln_fe if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	877	672
5	19	251	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.37

```

```
adjusted variance      2127.63
```

```
Ho: ln_fe(area3==1) = ln_fe(area3==5)
```

```

      z = 4.444
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299
      r(z) = 4.444324045659514
      r(sum_exp) = 672
      r(sum_obs) = 877
      r(group1) = 1

```

```
. ranksum ln_hg if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	892	672
5	19	236	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -15.50

```

```
adjusted variance      2112.50
```

```
Ho: ln_hg(area3==1) = ln_hg(area3==5)
```

```

      z = 4.787
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28

```

```

                                ranksum_sd_Run4_122006
      r(Var_a) = 2112.49768732655
      r(z) = 4.786571600406
      r(sum_exp) = 672
      r(sum_obs) = 892
      r(group1) = 1

```

```
. ranksum ln_mn if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	914	672
5	19	214	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      0.00

```

```
adjusted variance      2128.00
```

```
Ho: ln_mn(area3==1) = ln_mn(area3==5)
```

```

      z = 5.246
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2128
      r(z) = 5.246015315620926
      r(sum_exp) = 672
      r(sum_obs) = 914
      r(group1) = 1

```

```
. ranksum ln_ni if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	914	672
5	19	214	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.37

```

```
adjusted variance      2127.63
```

```
Ho: ln_ni(area3==1) = ln_ni(area3==5)
```

```

      z = 5.246
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299

```

```

ranksum_sd_Run4_122006
r(z) = 5.246470336827329
r(sum_exp) = 672
r(sum_obs) = 914
r(group1) = 1

```

```
. ranksum ln_pb if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	901	672
5	19	227	456
combined	47	1128	1128

```

unadjusted variance    2128.00
adjustment for ties    -7.26
-----
adjusted variance      2120.74

```

```

Ho: ln_pb(area3==1) = ln_pb(area3==5)
z = 4.973
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

r(N_2) = 19
r(N_1) = 28
r(Var_a) = 2120.740980573543
r(z) = 4.97269322983239
r(sum_exp) = 672
r(sum_obs) = 901
r(group1) = 1

```

```
. ranksum ln_sb if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	916	672
5	19	212	456
combined	47	1128	1128

```

unadjusted variance    2128.00
adjustment for ties    -5.41
-----
adjusted variance      2122.59

```

```

Ho: ln_sb(area3==1) = ln_sb(area3==5)
z = 5.296
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

r(N_2) = 19
r(N_1) = 28
r(Var_a) = 2122.586493987049
r(z) = 5.2961116010477

```

ranksum_sd_Run4_122006

```
r(sum_exp) = 672
r(sum_obs) = 916
r(group1) = 1
```

```
. ranksum ln_zn if area3==1|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	915	672
5	19	213	456
combined	47	1128	1128

```
unadjusted variance    2128.00
adjustment for ties    -0.12
```

```
adjusted variance      2127.88
```

Ho: ln_zn(area3==1) = ln_zn(area3==5)

```
z = 5.268
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
r(N_2) = 19
r(N_1) = 28
r(Var_a) = 2127.876965772433
r(z) = 5.267845352136344
r(sum_exp) = 672
r(sum_obs) = 915
r(group1) = 1
```

```
. ranksum ag if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	246	532
10	36	1294	1008
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -17.16
```

```
adjusted variance      3174.84
```

Ho: ag(area3==3) = ag(area3==10)

```
z = -5.076
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3174.842424242424
r(z) = -5.075805191934583
```

ranksum_sd_Run4_122006

```
r(sum_exp) = 532
r(sum_obs) = 246
r(group1) = 3
```

```
. ranksum as if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	18	753	495
10	36	732	990
combined	54	1485	1485

```
unadjusted variance    2970.00
adjustment for ties    -0.91
```

```
adjusted variance      2969.09
```

```
Ho: as(area3==3) = as(area3==10)
```

```
z = 4.735
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
r(N_2) = 36
r(N_1) = 18
r(Var_a) = 2969.094339622642
r(z) = 4.734866161024717
r(sum_exp) = 495
r(sum_obs) = 753
r(group1) = 3
```

```
. ranksum cd if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	457	532
10	36	1083	1008
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -19.58
```

```
adjusted variance      3172.42
```

```
Ho: cd(area3==3) = cd(area3==10)
```

```
z = -1.332
Prob > |z| = 0.1830
```

```
. return list
```

scalars:

```
r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3172.424242424242
r(z) = -1.331575001966853
r(sum_exp) = 532
```

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```
r(sum_obs) = 457
r(group1) = 3
```

```
. ranksum cr if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	190	532
10	36	1350	1008
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -0.23
-----
adjusted variance      3191.77
```

```
Ho: cr(area3==3) = cr(area3==10)
      z = -6.054
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
      r(N_2) = 36
      r(N_1) = 19
      r(Var_a) = 3191.769696969697
      r(z) = -6.053552768284655
      r(sum_exp) = 532
      r(sum_obs) = 190
      r(group1) = 3
```

```
. ranksum cu if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	191	532
10	36	1349	1008
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -0.12
-----
adjusted variance      3191.88
```

```
Ho: cu(area3==3) = cu(area3==10)
      z = -6.036
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
      r(N_2) = 36
      r(N_1) = 19
      r(Var_a) = 3191.884848484848
      r(z) = -6.035743444888969
      r(sum_exp) = 532
      r(sum_obs) = 191
```

```
r(group1) = 3
```

```
. ranksum fe if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	411	532
10	36	1129	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.35

adjusted variance 3191.65

Ho: fe(area3==3) = fe(area3==10)

z = -2.142

Prob > |z| = 0.0322

```
. return list
```

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.654545454546
r(z) = -2.141792685358005
r(sum_exp) = 532
r(sum_obs) = 411
r(group1) = 3

```

```
. ranksum hg if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	676	532
10	36	864	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -10.48

adjusted variance 3181.52

Ho: hg(area3==3) = hg(area3==10)

z = 2.553

Prob > |z| = 0.0107

```
. return list
```

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3181.521212121212
r(z) = 2.552966291239355
r(sum_exp) = 532
r(sum_obs) = 676
r(group1) = 3

```

```
. ranksum mn if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
3	19	267	532
10	36	1273	1008
-----+-----			
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.23

adjusted variance 3191.77

Ho: mn(area3==3) = mn(area3==10)

z = -4.691
Prob > |z| = 0.0000

```
. return list
```

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.769696969697
r(z) = -4.690618373086063
r(sum_exp) = 532
r(sum_obs) = 267
r(group1) = 3

```

```
. ranksum ni if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
3	19	198	532
10	36	1342	1008
-----+-----			
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.46

adjusted variance 3191.54

Ho: ni(area3==3) = ni(area3==10)

z = -5.912
Prob > |z| = 0.0000

```
. return list
```

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.539393939394
r(z) = -5.912162495469981
r(sum_exp) = 532
r(sum_obs) = 198
r(group1) = 3

```



```
ranksum_sd_Run4_122006
. ranksum pb if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
3	19	241	532
10	36	1299	1008
-----+-----			
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -5.41
```

```
adjusted variance      3186.59
```

```
Ho: pb(area3==3) = pb(area3==10)
      z = -5.155
      Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
      r(N_2) = 36
      r(N_1) = 19
      r(Var_a) = 3186.587878787879
      r(z) = -5.155016255192265
      r(sum_exp) = 532
      r(sum_obs) = 241
      r(group1) = 3
```

```
. ranksum sb if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
3	19	556	532
10	36	984	1008
-----+-----			
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -4.84
```

```
adjusted variance      3187.16
```

```
Ho: sb(area3==3) = sb(area3==10)
      z = 0.425
      Prob > |z| = 0.6708
```

```
. return list
```

scalars:

```
      r(N_2) = 36
      r(N_1) = 19
      r(Var_a) = 3187.163636363636
      r(z) = .4251175760971078
      r(sum_exp) = 532
      r(sum_obs) = 556
      r(group1) = 3
```

```
. ranksum zn if area3==3|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
3	19	194	532
10	36	1346	1008
-----+-----			
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -0.69

adjusted variance 3191.31

Ho: zn(area3==3) = zn(area3==10)

z = -5.983

Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3191.309090909091
 r(z) = -5.983182715310687
 r(sum_exp) = 532
 r(sum_obs) = 194
 r(group1) = 3

. ranksum ln_ag if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
3	18	241	495
10	36	1244	990
-----+-----			
combined	54	1485	1485

unadjusted variance 2970.00
 adjustment for ties -12.79

adjusted variance 2957.21

Ho: ln_ag(area3==3) = ln_ag(area3==10)

z = -4.671

Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
 r(N_1) = 18
 r(Var_a) = 2957.207547169811
 r(z) = -4.670816585537734
 r(sum_exp) = 495
 r(sum_obs) = 241
 r(group1) = 3

. ranksum ln_as if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	18	458	495
10	36	1027	990
combined	54	1485	1485

unadjusted variance 2970.00
 adjustment for ties -0.91

adjusted variance 2969.09

Ho: $\ln\_as(\text{area3}==3) = \ln\_as(\text{area3}==10)$

$z = -0.679$
 Prob > $|z| = 0.4971$

. return list

scalars:

$r(N\_2) = 36$
 $r(N\_1) = 18$
 $r(\text{Var\_a}) = 2969.094339622642$
 $r(z) = -.6790311936353277$
 $r(\text{sum\_exp}) = 495$
 $r(\text{sum\_obs}) = 458$
 $r(\text{group1}) = 3$

. ranksum $\ln\_cd$ if $\text{area3}==3|\text{area3}==10$, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	454	532
10	36	1086	1008
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -19.58

adjusted variance 3172.42

Ho: $\ln\_cd(\text{area3}==3) = \ln\_cd(\text{area3}==10)$

$z = -1.385$
 Prob > $|z| = 0.1661$

. return list

scalars:

$r(N\_2) = 36$
 $r(N\_1) = 19$
 $r(\text{Var\_a}) = 3172.424242424242$
 $r(z) = -1.384838002045527$
 $r(\text{sum\_exp}) = 532$
 $r(\text{sum\_obs}) = 454$
 $r(\text{group1}) = 3$

. ranksum $\ln\_cr$ if $\text{area3}==3|\text{area3}==10$, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_sd_Run4_122006

area3	obs	rank sum	expected
3	19	193	532
10	36	1347	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.23

adjusted variance 3191.77

Ho: ln_cr(area3==3) = ln_cr(area3==10)

z = -6.000

Prob > |z| = 0.0000

. return list

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.769696969697
r(z) = -6.000451428211983
r(sum_exp) = 532
r(sum_obs) = 193
r(group1) = 3

```

. ranksum ln_cu if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	194	532
10	36	1346	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.12

adjusted variance 3191.88

Ho: ln_cu(area3==3) = ln_cu(area3==10)

z = -5.983

Prob > |z| = 0.0000

. return list

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.884848484848
r(z) = -5.982643062675869
r(sum_exp) = 532
r(sum_obs) = 194
r(group1) = 3

```

. ranksum ln_fe if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_sd_Run4_122006

area3	obs	rank sum	expected
3	19	398	532
10	36	1142	1008
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -0.35

 adjusted variance 3191.65

Ho: ln_fe(area3==3) = ln_fe(area3==10)

z = -2.372
 Prob > |z| = 0.0177

. return list

scalars:

r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3191.654545454546
 r(z) = -2.37190264328903
 r(sum_exp) = 532
 r(sum_obs) = 398
 r(group1) = 3

. ranksum ln_hg if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	307	532
10	36	1233	1008
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -10.48

 adjusted variance 3181.52

Ho: ln_hg(area3==3) = ln_hg(area3==10)

z = -3.989
 Prob > |z| = 0.0001

. return list

scalars:

r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3181.521212121212
 r(z) = -3.989009830061493
 r(sum_exp) = 532
 r(sum_obs) = 307
 r(group1) = 3

. ranksum ln_mn if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

ranksum_sd_Run4_122006			
3	19	296	532
10	36	1244	1008
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -0.23

 adjusted variance 3191.77

Ho: ln_mn(area3==3) = ln_mn(area3==10)
 z = -4.177
 Prob > |z| = 0.0000

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3191.769696969697
 r(z) = -4.17730541905023
 r(sum_exp) = 532
 r(sum_obs) = 296
 r(group1) = 3

. ranksum ln_ni if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	206	532
10	36	1334	1008
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -0.46

 adjusted variance 3191.54

Ho: ln_ni(area3==3) = ln_ni(area3==10)
 z = -5.771
 Prob > |z| = 0.0000

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3191.539393939394
 r(z) = -5.770553812943754
 r(sum_exp) = 532
 r(sum_obs) = 206
 r(group1) = 3

. ranksum ln_pb if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

		ranksum_sd_Run4_122006	
3		19	258 532
10		36	1282 1008
-----+-----			
combined		55	1540 1540

unadjusted variance 3192.00
adjustment for ties -5.41

adjusted variance 3186.59

Ho: ln_pb(area3==3) = ln_pb(area3==10)
z = -4.854
Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3186.587878787879
r(z) = -4.853864102827081
r(sum_exp) = 532
r(sum_obs) = 258
r(group1) = 3

. ranksum ln_sb if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
-----+-----				
3		19	292	532
10		36	1248	1008
-----+-----				
combined		55	1540	1540

unadjusted variance 3192.00
adjustment for ties -4.84

adjusted variance 3187.16

Ho: ln_sb(area3==3) = ln_sb(area3==10)
z = -4.251
Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3187.163636363636
r(z) = -4.251175760971077
r(sum_exp) = 532
r(sum_obs) = 292
r(group1) = 3

. ranksum ln_zn if area3==3|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
-----+-----				
3		19	204	532

	10	36	ranksum_sd_Run4_122006
	1336	1008	
combined	1540	1540	

unadjusted variance 3192.00
adjustment for ties -0.69

adjusted variance 3191.31

Ho: ln_zn(area3==3) = ln_zn(area3==10)
z = -5.806
Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.309090909091
r(z) = -5.806165475212738
r(sum_exp) = 532
r(sum_obs) = 204
r(group1) = 3

. ranksum ag if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
7	15	577	390
10	36	749	936
combined	51	1326	1326

unadjusted variance 2340.00
adjustment for ties -2.01

adjusted variance 2337.99

Ho: ag(area3==7) = ag(area3==10)
z = 3.867
Prob > |z| = 0.0001

. return list

scalars:

r(N_2) = 36
r(N_1) = 15
r(Var_a) = 2337.988235294118
r(z) = 3.867412047692992
r(sum_exp) = 390
r(sum_obs) = 577
r(group1) = 7

. ranksum as if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
7	15	485	390

	10		36		ranksum_sd_Run4_122006
		+			841 936
combined			51		1326 1326

```

unadjusted variance      2340.00
adjustment for ties      -0.42
-----
adjusted variance        2339.58

```

```

Ho: as(area3==7) = as(area3==10)
      z = 1.964
      Prob > |z| = 0.0495

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.576470588236
      r(z) = 1.964061048787207
      r(sum_exp) = 390
      r(sum_obs) = 485
      r(group1) = 7

```

```
. ranksum cd if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3		obs	rank sum	expected
	+			
7		15	612	390
10		36	714	936
	+			
combined		51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -1.59
-----
adjusted variance        2338.41

```

```

Ho: cd(area3==7) = cd(area3==10)
      z = 4.591
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2338.411764705882
      r(z) = 4.590843422790487
      r(sum_exp) = 390
      r(sum_obs) = 612
      r(group1) = 7

```

```
. ranksum cr if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3		obs	rank sum	expected
	+			
7		15	586	390
10		36	740	936

```

-----+-----ranksum_sd_Run4_122006
combined |      51      1326      1326
unadjusted variance      2340.00
adjustment for ties      -0.21
-----
adjusted variance      2339.79
Ho: cr(area3==7) = cr(area3==10)
      z =      4.052
Prob > |z| =      0.0001

```

```

. return list

```

```

scalars:
      r(N_2) =      36
      r(N_1) =      15
      r(Var_a) = 2339.788235294118
      r(z) = 4.051984681785627
      r(sum_exp) =      390
      r(sum_obs) =      586
      r(group1) =      7

```

```

. ranksum cu if area3==7|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

```

area3 |      obs      rank sum      expected
-----+-----
      7 |      15          567          390
      10 |      36          759          936
-----+-----
combined |      51      1326      1326

```

```

unadjusted variance      2340.00
adjustment for ties      -0.11
-----
adjusted variance      2339.89

```

```

Ho: cu(area3==7) = cu(area3==10)
      z =      3.659
Prob > |z| =      0.0003

```

```

. return list

```

```

scalars:
      r(N_2) =      36
      r(N_1) =      15
      r(Var_a) = 2339.894117647059
      r(z) = 3.659107456554729
      r(sum_exp) =      390
      r(sum_obs) =      567
      r(group1) =      7

```

```

. ranksum fe if area3==7|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

```

area3 |      obs      rank sum      expected
-----+-----
      7 |      15          478          390
      10 |      36          848          936
-----+-----

```

```

combined |      51      ranksum_sd_Run4_122006
1326      1326
unadjusted variance      2340.00
adjustment for ties      -0.32
-----
adjusted variance      2339.68
Ho: fe(area3==7) = fe(area3==10)
      z =      1.819
      Prob > |z| =      0.0689

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.682352941177
      r(z) = 1.81929959337209
      r(sum_exp) = 390
      r(sum_obs) = 478
      r(group1) = 7

```

. ranksum hg if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
7	14	553	357
10	36	722	918
combined	50	1275	1275

```

unadjusted variance      2142.00
adjustment for ties      -1.34
-----
adjusted variance      2140.66

```

```

Ho: hg(area3==7) = hg(area3==10)
      z =      4.236
      Prob > |z| =      0.0000

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 14
      r(Var_a) = 2140.662857142857
      r(z) = 4.236253440259898
      r(sum_exp) = 357
      r(sum_obs) = 553
      r(group1) = 7

```

. ranksum mn if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
7	15	332	390
10	36	994	936
combined	51	1326	1326

ranksum_sd_Run4_122006

unadjusted variance 2340.00
adjustment for ties -0.21

adjusted variance 2339.79

Ho: mn(area3==7) = mn(area3==10)

 z = -1.199
 Prob > |z| = 0.2305

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 15
 r(Var_a) = 2339.788235294118
 r(z) = -1.199056691548808
 r(sum_exp) = 390
 r(sum_obs) = 332
 r(group1) = 7

. ranksum ni if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
7	15	498	390
10	36	828	936
-----+-----			
combined	51	1326	1326

unadjusted variance 2340.00
adjustment for ties -0.42

adjusted variance 2339.58

Ho: ni(area3==7) = ni(area3==10)

 z = 2.233
 Prob > |z| = 0.0256

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 15
 r(Var_a) = 2339.576470588236
 r(z) = 2.232827297568614
 r(sum_exp) = 390
 r(sum_obs) = 498
 r(group1) = 7

. ranksum pb if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
7	15	593	390
10	36	733	936
-----+-----			
combined	51	1326	1326

```

ranksum_sd_Run4_122006
unadjusted variance      2340.00
adjustment for ties      0.00
-----
adjusted variance        2340.00
Ho: pb(area3==7) = pb(area3==10)
      z = 4.197
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2340
      r(z) = 4.196508520268219
      r(sum_exp) = 390
      r(sum_obs) = 593
      r(group1) = 7

```

```
. ranksum sb if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	15	445	390
10	36	881	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.11
-----
adjusted variance        2339.89

```

```

Ho: sb(area3==7) = sb(area3==10)
      z = 1.137
      Prob > |z| = 0.2555

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.894117647059
      r(z) = 1.137010791584803
      r(sum_exp) = 390
      r(sum_obs) = 445
      r(group1) = 7

```

```
. ranksum zn if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	15	608	390
10	36	718	936
combined	51	1326	1326

```
unadjusted variance      2340.00
```

```

                                ranksum_sd_Run4_122006
adjustment for ties          -0.53
-----
adjusted variance            2339.47
Ho: zn(area3==7) = zn(area3==10)
      z = 4.507
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.470588235294
      r(z) = 4.50710523911621
      r(sum_exp) = 390
      r(sum_obs) = 608
      r(group1) = 7

```

```
. ranksum ln_ag if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	15	538	390
10	36	788	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -2.01
-----
adjusted variance        2337.99

```

```

Ho: ln_ag(area3==7) = ln_ag(area3==10)
      z = 3.061
      Prob > |z| = 0.0022

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2337.988235294118
      r(z) = 3.060839481596593
      r(sum_exp) = 390
      r(sum_obs) = 538
      r(group1) = 7

```

```
. ranksum ln_as if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	15	431	390
10	36	895	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.42

```

```

ranksum_sd_Run4_122006
-----
adjusted variance      2339.58

```

```

Ho: ln_as(area3==7) = ln_as(area3==10)
      z = 0.848
      Prob > |z| = 0.3966

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.576470588236
      r(z) = .8476474000028996
      r(sum_exp) = 390
      r(sum_obs) = 431
      r(group1) = 7

```

```

. ranksum ln_cd if area3==7|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
7	15	592	390
10	36	734	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -1.59

```

```

adjusted variance      2338.41

```

```

Ho: ln_cd(area3==7) = ln_cd(area3==10)
      z = 4.177
      Prob > |z| = 0.0000

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2338.411764705882
      r(z) = 4.177253925241795
      r(sum_exp) = 390
      r(sum_obs) = 592
      r(group1) = 7

```

```

. ranksum ln_cr if area3==7|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
7	15	581	390
10	36	745	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.21

```

```

ranksum_sd_Run4_122006
adjusted variance      2339.79

```

```

Ho: ln_cr(area3==7) = ln_cr(area3==10)
      z = 3.949
      Prob > |z| = 0.0001

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.788235294118
      r(z) = 3.948617725617626
      r(sum_exp) = 390
      r(sum_obs) = 581
      r(group1) = 7

```

```

. ranksum ln_cu if area3==7|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
7	15	531	390
10	36	795	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.11

```

```

adjusted variance      2339.89

```

```

Ho: ln_cu(area3==7) = ln_cu(area3==10)
      z = 2.915
      Prob > |z| = 0.0036

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.894117647059
      r(z) = 2.914882211153767
      r(sum_exp) = 390
      r(sum_obs) = 531
      r(group1) = 7

```

```

. ranksum ln_fe if area3==7|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
7	15	478	390
10	36	848	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.32

```

```

adjusted variance      2339.68

```


Ho: ln_fe(area3==7) = ln_fe(area3==10)

z = 1.819
 Prob > |z| = 0.0689

. return list

scalars:

r(N_2) = 36
 r(N_1) = 15
 r(Var_a) = 2339.682352941177
 r(z) = 1.81929959337209
 r(sum_exp) = 390
 r(sum_obs) = 478
 r(group1) = 7

. ranksum ln_hg if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
7	14	536	357
10	36	739	918
combined	50	1275	1275

unadjusted variance 2142.00
 adjustment for ties -1.34

adjusted variance 2140.66

Ho: ln_hg(area3==7) = ln_hg(area3==10)

z = 3.869
 Prob > |z| = 0.0001

. return list

scalars:

r(N_2) = 36
 r(N_1) = 14
 r(Var_a) = 2140.662857142857
 r(z) = 3.868823294931234
 r(sum_exp) = 357
 r(sum_obs) = 536
 r(group1) = 7

. ranksum ln_mn if area3==7|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
7	15	353	390
10	36	973	936
combined	51	1326	1326

unadjusted variance 2340.00
 adjustment for ties -0.21

adjusted variance 2339.79

```

ranksum_sd_Run4_122006
Ho: ln_mn(area3==7) = ln_mn(area3==10)
      z = -0.765
Prob > |z| = 0.4443

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.788235294118
      r(z) = -.7649154756432051
      r(sum_exp) = 390
      r(sum_obs) = 353
      r(group1) = 7

```

```
. ranksum ln_ni if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	14	440	357
10	36	835	918
combined	50	1275	1275

```

unadjusted variance      2142.00
adjustment for ties      -0.41

```

```
adjusted variance      2141.59
```

```

Ho: ln_ni(area3==7) = ln_ni(area3==10)
      z = 1.794
Prob > |z| = 0.0729

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 14
      r(Var_a) = 2141.588571428572
      r(z) = 1.79353589177796
      r(sum_exp) = 357
      r(sum_obs) = 440
      r(group1) = 7

```

```
. ranksum ln_pb if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	15	571	390
10	36	755	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      0.00

```

```
adjusted variance      2340.00
```

```
Ho: ln_pb(area3==7) = ln_pb(area3==10)
```

```

      z = 3.742
Prob > |z| = 0.0002

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2340
      r(z) = 3.741714493441122
      r(sum_exp) = 390
      r(sum_obs) = 571
      r(group1) = 7

```

```
. ranksum ln_sb if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	15	401	390
10	36	925	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.11

```

```
adjusted variance      2339.89
```

```
Ho: ln_sb(area3==7) = ln_sb(area3==10)
```

```

      z = 0.227
Prob > |z| = 0.8201

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.894117647059
      r(z) = .2274021583169606
      r(sum_exp) = 390
      r(sum_obs) = 401
      r(group1) = 7

```

```
. ranksum ln_zn if area3==7|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
7	15	581	390
10	36	745	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.53

```

```
adjusted variance      2339.47
```

```
Ho: ln_zn(area3==7) = ln_zn(area3==10)
```

```
z = 3.949
```

Prob > |z| = 0.0001

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.470588235294
      r(z) = 3.948885782895395
      r(sum_exp) = 390
      r(sum_obs) = 581
      r(group1) = 7

```

.

. ranksum ag if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	590	616
6	15	356	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -2.33

adjusted variance 1537.67

Ho: ag(area3==1) = ag(area3==6)

z = -0.663

Prob > |z| = 0.5073

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1537.674418604651
      r(z) = -.6630421739074487
      r(sum_exp) = 616
      r(sum_obs) = 590
      r(group1) = 1

```

. ranksum as if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	622	616
6	15	324	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -0.58

adjusted variance 1539.42

Ho: as(area3==1) = as(area3==6)

```

      z = 0.153
Prob > |z| = 0.8785

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.418604651163
      r(z) = .1529230266291491
      r(sum_exp) = 616
      r(sum_obs) = 622
      r(group1) = 1

```

```
. ranksum cd if area3==1|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	550	616
6	15	396	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -8.60

```

```
adjusted variance      1531.40
```

```
Ho: cd(area3==1) = cd(area3==6)
```

```

      z = -1.687
Prob > |z| = 0.0917

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1531.395348837209
      r(z) = -1.686554088217427
      r(sum_exp) = 616
      r(sum_obs) = 550
      r(group1) = 1

```

```
. ranksum cr if area3==1|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	507	616
6	15	439	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -0.12

```

```
adjusted variance      1539.88
```

```
Ho: cr(area3==1) = cr(area3==6)
```

```
z = -2.778
```

Prob > |z| = 0.0055

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -2.777682060991953
      r(sum_exp) = 616
      r(sum_obs) = 507
      r(group1) = 1

```

. ranksum cu if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	536	616
6	15	410	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -0.12

adjusted variance 1539.88

Ho: cu(area3==1) = cu(area3==6)

z = -2.039

Prob > |z| = 0.0415

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -2.038665732838131
      r(sum_exp) = 616
      r(sum_obs) = 536
      r(group1) = 1

```

. ranksum fe if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	712	616
6	15	234	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -0.35

adjusted variance 1539.65

Ho: fe(area3==1) = fe(area3==6)

z = 2.447

Prob > |z| = 0.0144

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = 2.446583631804118
      r(sum_exp) = 616
      r(sum_obs) = 712
      r(group1) = 1

```

```
. ranksum hg if area3==1|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	479	602
6	14	424	301
combined	42	903	903

```
unadjusted variance      1404.67
```

```
adjustment for ties      -5.46
```

```
adjusted variance      1399.20
```

```
Ho: hg(area3==1) = hg(area3==6)
```

```
      z = -3.288
```

```
Prob > |z| = 0.0010
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 14
      r(N_1) = 28
      r(Var_a) = 1399.20325203252
      r(z) = -3.288249089321182
      r(sum_exp) = 602
      r(sum_obs) = 479
      r(group1) = 1

```

```
. ranksum mn if area3==1|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	783	616
6	15	163	330
combined	43	946	946

```
unadjusted variance      1540.00
```

```
adjustment for ties      0.00
```

```
adjusted variance      1540.00
```

```
Ho: mn(area3==1) = mn(area3==6)
```

```
      z = 4.256
```

```
Prob > |z| = 0.0000
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1540
      r(z) = 4.255554048504173
      r(sum_exp) = 616
      r(sum_obs) = 783
      r(group1) = 1

```

```
. ranksum ni if area3==1|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	637	616
6	15	309	330
combined	43	946	946

```
unadjusted variance      1540.00
adjustment for ties      -0.35
```

```
adjusted variance      1539.65
```

```
Ho: ni(area3==1) = ni(area3==6)
```

```

      z = 0.535
      Prob > |z| = 0.5925

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = .5351901694571508
      r(sum_exp) = 616
      r(sum_obs) = 637
      r(group1) = 1

```

```
. ranksum pb if area3==1|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
1	28	558	616
6	15	388	330
combined	43	946	946

```
unadjusted variance      1540.00
adjustment for ties      -1.40
```

```
adjusted variance      1538.60
```

```
Ho: pb(area3==1) = pb(area3==6)
```

```

      z = -1.479
      Prob > |z| = 0.1392

```

```
. return list
```


scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1538.604651162791
      r(z) = -1.478646886267455
      r(sum_exp) = 616
      r(sum_obs) = 558
      r(group1) = 1

```

. ranksum sb if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	786	616
6	15	160	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -0.35
-----
adjusted variance        1539.65

```

Ho: sb(area3==1) = sb(area3==6)

```

      z = 4.332
      Prob > |z| = 0.0000

```

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = 4.332491847986459
      r(sum_exp) = 616
      r(sum_obs) = 786
      r(group1) = 1

```

. ranksum zn if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	526	616
6	15	420	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties       0.00
-----
adjusted variance        1540.00

```

Ho: zn(area3==1) = zn(area3==6)

```

      z = -2.293
      Prob > |z| = 0.0218

```

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1540
      r(z) = -2.293412361469315
      r(sum_exp) = 616
      r(sum_obs) = 526
      r(group1) = 1

```

. ranksum ln_ag if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	608	616
6	15	338	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -2.33

adjusted variance 1537.67

Ho: ln_ag(area3==1) = ln_ag(area3==6)

z = -0.204

Prob > |z| = 0.8383

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1537.674418604651
      r(z) = -.2040129765869073
      r(sum_exp) = 616
      r(sum_obs) = 608
      r(group1) = 1

```

. ranksum ln_as if area3==1|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	619	616
6	15	327	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -0.58

adjusted variance 1539.42

Ho: ln_as(area3==1) = ln_as(area3==6)

z = 0.076

Prob > |z| = 0.9391

. return list

scalars:

ranksum_sd_Run4_122006

```
r(N_2) = 15
r(N_1) = 28
r(Var_a) = 1539.418604651163
r(z) = .0764615133145745
r(sum_exp) = 616
r(sum_obs) = 619
r(group1) = 1
```

```
. ranksum ln_cd if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	527	616
6	15	419	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties    -8.60
```

```
adjusted variance      1531.40
```

```
Ho: ln_cd(area3==1) = ln_cd(area3==6)
```

```
z = -2.274
Prob > |z| = 0.0229
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 28
r(Var_a) = 1531.395348837209
r(z) = -2.274292634111379
r(sum_exp) = 616
r(sum_obs) = 527
r(group1) = 1
```

```
. ranksum ln_cr if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	506	616
6	15	440	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties    -0.12
```

```
adjusted variance      1539.88
```

```
Ho: ln_cr(area3==1) = ln_cr(area3==6)
```

```
z = -2.803
Prob > |z| = 0.0051
```

```
. return list
```

scalars:

```
r(N_2) = 15
```

```

                                ranksum_sd_Run4_122006
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -2.80316538265243
      r(sum_exp) = 616
      r(sum_obs) = 506
      r(group1) = 1

```

```
. ranksum ln_cu if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	543	616
6	15	403	330
combined	43	946	946

```

unadjusted variance    1540.00
adjustment for ties    -0.12

```

```
adjusted variance      1539.88
```

Ho: ln_cu(area3==1) = ln_cu(area3==6)

```

      z = -1.860
  Prob > |z| = 0.0628

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -1.860282481214794
      r(sum_exp) = 616
      r(sum_obs) = 543
      r(group1) = 1

```

```
. ranksum ln_fe if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	712	616
6	15	234	330
combined	43	946	946

```

unadjusted variance    1540.00
adjustment for ties    -0.35

```

```
adjusted variance      1539.65
```

Ho: ln_fe(area3==1) = ln_fe(area3==6)

```

      z = 2.447
  Prob > |z| = 0.0144

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28

```

```

                                ranksum_sd_Run4_122006
      r(Var_a) = 1539.651162790698
      r(z) = 2.446583631804118
      r(sum_exp) = 616
      r(sum_obs) = 712
      r(group1) = 1

```

```
. ranksum ln_hg if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	484	602
6	14	419	301
combined	42	903	903

```

unadjusted variance    1404.67
adjustment for ties    -5.46

```

```
adjusted variance      1399.20
```

```

Ho: ln_hg(area3==1) = ln_hg(area3==6)
      z = -3.155
      Prob > |z| = 0.0016

```

```
. return list
```

scalars:

```

      r(N_2) = 14
      r(N_1) = 28
      r(Var_a) = 1399.20325203252
      r(z) = -3.154580427153654
      r(sum_exp) = 602
      r(sum_obs) = 484
      r(group1) = 1

```

```
. ranksum ln_mn if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	753	616
6	15	193	330
combined	43	946	946

```

unadjusted variance    1540.00
adjustment for ties     0.00

```

```
adjusted variance      1540.00
```

```

Ho: ln_mn(area3==1) = ln_mn(area3==6)
      z = 3.491
      Prob > |z| = 0.0005

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1540

```

```

                                ranksum_sd_Run4_122006
      r(z) = 3.491083261347735
r(sum_exp) = 616
r(sum_obs) = 753
r(group1) = 1

```

```
. ranksum ln_ni if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	653	616
6	15	293	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -0.35
-----
adjusted variance        1539.65

```

```

Ho: ln_ni(area3==1) = ln_ni(area3==6)
      z = 0.943
Prob > |z| = 0.3457

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = .9429541080911704
r(sum_exp) = 616
r(sum_obs) = 653
r(group1) = 1

```

```
. ranksum ln_pb if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	524	616
6	15	422	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -1.40
-----
adjusted variance        1538.60

```

```

Ho: ln_pb(area3==1) = ln_pb(area3==6)
      z = -2.345
Prob > |z| = 0.0190

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1538.604651162791
      r(z) = -2.34543988856217

```

ranksum_sd_Run4_122006

```
r(sum_exp) = 616
r(sum_obs) = 524
r(group1) = 1
```

```
. ranksum ln_sb if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	735	616
6	15	211	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties    -0.35
```

```
adjusted variance      1539.65
```

Ho: ln_sb(area3==1) = ln_sb(area3==6)

```
z = 3.033
Prob > |z| = 0.0024
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 28
r(Var_a) = 1539.651162790698
r(z) = 3.032744293590521
r(sum_exp) = 616
r(sum_obs) = 735
r(group1) = 1
```

```
. ranksum ln_zn if area3==1|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
1	28	533	616
6	15	413	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties     0.00
```

```
adjusted variance      1540.00
```

Ho: ln_zn(area3==1) = ln_zn(area3==6)

```
z = -2.115
Prob > |z| = 0.0344
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 28
r(Var_a) = 1540
r(z) = -2.115035844466146
r(sum_exp) = 616
```

ranksum_sd_Run4_122006

```
r(sum_obs) = 533
r(group1) = 1
```

```
. ranksum ag if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	228	332.5
6	15	367	262.5
combined	34	595	595

```
unadjusted variance      831.25
adjustment for ties      -16.51
-----
adjusted variance        814.74
```

```
Ho: ag(area3==3) = ag(area3==6)
      z = -3.661
Prob > |z| = 0.0003
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 19
r(Var_a) = 814.7393048128342
r(z) = -3.661060926608546
r(sum_exp) = 332.5
r(sum_obs) = 228
r(group1) = 3
```

```
. ranksum as if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	18	427	306
6	15	134	255
combined	33	561	561

```
unadjusted variance      765.00
adjustment for ties      -0.51
-----
adjusted variance        764.49
```

```
Ho: as(area3==3) = as(area3==6)
      z = 4.376
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 18
r(Var_a) = 764.4886363636364
r(z) = 4.376227119937544
r(sum_exp) = 306
```


ranksum_sd_Run4_122006

```
r(sum_obs) = 427
r(group1) = 3
```

```
. ranksum cd if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	274	332.5
6	15	321	262.5
combined	34	595	595

```
unadjusted variance      831.25
adjustment for ties      -20.70
-----
adjusted variance        810.55
```

```
Ho: cd(area3==3) = cd(area3==6)
      z = -2.055
Prob > |z| = 0.0399
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 19
r(Var_a) = 810.5481283422461
r(z) = -2.054785358358413
r(sum_exp) = 332.5
r(sum_obs) = 274
r(group1) = 3
```

```
. ranksum cr if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	192	332.5
6	15	403	262.5
combined	34	595	595

```
unadjusted variance      831.25
adjustment for ties       0.00
-----
adjusted variance        831.25
```

```
Ho: cr(area3==3) = cr(area3==6)
      z = -4.873
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 19
r(Var_a) = 831.2500000000001
r(z) = -4.873158028725554
r(sum_exp) = 332.5
r(sum_obs) = 192
```

```
r(group1) = 3
```

```
. ranksum cu if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	208	332.5
6	15	387	262.5
combined	34	595	595

unadjusted variance 831.25

adjustment for ties -0.25

adjusted variance 831.00

Ho: cu(area3==3) = cu(area3==6)

z = -4.319

Prob > |z| = 0.0000

```
. return list
```

scalars:

```

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 830.995989304813
r(z) = -4.318867571462858
r(sum_exp) = 332.5
r(sum_obs) = 208
r(group1) = 3

```

```
. ranksum fe if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	352	332.5
6	15	243	262.5
combined	34	595	595

unadjusted variance 831.25

adjustment for ties -0.25

adjusted variance 831.00

Ho: fe(area3==3) = fe(area3==6)

z = 0.676

Prob > |z| = 0.4988

```
. return list
```

scalars:

```

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 830.995989304813
r(z) = .676449137699002
r(sum_exp) = 332.5
r(sum_obs) = 352
r(group1) = 3

```

```
. ranksum hg if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	329	323
6	14	232	238
combined	33	561	561

unadjusted variance 753.67

adjustment for ties -10.08

adjusted variance 743.59

Ho: hg(area3==3) = hg(area3==6)

z = 0.220

Prob > |z| = 0.8258

```
. return list
```

scalars:

```

r(N_2) = 14
r(N_1) = 19
r(Var_a) = 743.5909090909091
r(z) = .2200311732911475
r(sum_exp) = 323
r(sum_obs) = 329
r(group1) = 3

```

```
. ranksum mn if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	314	332.5
6	15	281	262.5
combined	34	595	595

unadjusted variance 831.25

adjustment for ties 0.00

adjusted variance 831.25

Ho: mn(area3==3) = mn(area3==6)

z = -0.642

Prob > |z| = 0.5211

```
. return list
```

scalars:

```

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 831.2500000000001
r(z) = -.6416613774478487
r(sum_exp) = 332.5
r(sum_obs) = 314
r(group1) = 3

```

```
ranksum_sd_Run4_122006
. ranksum ni if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	220	332.5
6	15	375	262.5
combined	34	595	595

```
unadjusted variance      831.25
adjustment for ties      -0.25
```

```
adjusted variance      831.00
```

```
Ho: ni(area3==3) = ni(area3==6)
      z = -3.903
      Prob > |z| = 0.0001
```

```
. return list
```

scalars:

```
      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 830.995989304813
      r(z) = -3.902591179032704
      r(sum_exp) = 332.5
      r(sum_obs) = 220
      r(group1) = 3
```

```
. ranksum pb if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	231	332.5
6	15	364	262.5
combined	34	595	595

```
unadjusted variance      831.25
adjustment for ties      -5.97
```

```
adjusted variance      825.28
```

```
Ho: pb(area3==3) = pb(area3==6)
      z = -3.533
      Prob > |z| = 0.0004
```

```
. return list
```

scalars:

```
      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 825.2807486631016
      r(z) = -3.533175294769932
      r(sum_exp) = 332.5
      r(sum_obs) = 231
      r(group1) = 3
```

```
. ranksum sb if area3==3|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	413	332.5
6	15	182	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -5.21

adjusted variance 826.04

Ho: sb(area3==3) = sb(area3==6)

z = 2.801
 Prob > |z| = 0.0051

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 826.0427807486631
 r(z) = 2.800880695961708
 r(sum_exp) = 332.5
 r(sum_obs) = 413
 r(group1) = 3

. ranksum zn if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	201	332.5
6	15	394	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -0.13

adjusted variance 831.12

Ho: zn(area3==3) = zn(area3==6)

z = -4.561
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 831.1229946524065
 r(z) = -4.561346913429259
 r(sum_exp) = 332.5
 r(sum_obs) = 201
 r(group1) = 3

. ranksum ln_ag if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	18	204	306
6	15	357	255
combined	33	561	561

unadjusted variance 765.00
 adjustment for ties -12.02

adjusted variance 752.98

Ho: $\ln_{ag}(\text{area3}==3) = \ln_{ag}(\text{area3}==6)$

$z = -3.717$
 Prob > $|z| = 0.0002$

. return list

scalars:

$r(N_2) = 15$
 $r(N_1) = 18$
 $r(\text{Var}_a) = 752.9829545454546$
 $r(z) = -3.717128709152734$
 $r(\text{sum\_exp}) = 306$
 $r(\text{sum\_obs}) = 204$
 $r(\text{group1}) = 3$

. ranksum $\ln_{as}$ if $\text{area3}==3|\text{area3}==6$, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	18	352	306
6	15	209	255
combined	33	561	561

unadjusted variance 765.00
 adjustment for ties -0.51

adjusted variance 764.49

Ho: $\ln_{as}(\text{area3}==3) = \ln_{as}(\text{area3}==6)$

$z = 1.664$
 Prob > $|z| = 0.0962$

. return list

scalars:

$r(N_2) = 15$
 $r(N_1) = 18$
 $r(\text{Var}_a) = 764.4886363636364$
 $r(z) = 1.663689648901876$
 $r(\text{sum\_exp}) = 306$
 $r(\text{sum\_obs}) = 352$
 $r(\text{group1}) = 3$

. ranksum $\ln_{cd}$ if $\text{area3}==3|\text{area3}==6$, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_sd_Run4_122006

area3	obs	rank sum	expected
3	19	274	332.5
6	15	321	262.5
combined	34	595	595

unadjusted variance 831.25

adjustment for ties -20.70

adjusted variance 810.55

Ho: $\ln_{cd}(\text{area3}=3) = \ln_{cd}(\text{area3}=6)$

$z = -2.055$

Prob > |z| = 0.0399

. return list

scalars:

```

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 810.5481283422461
r(z) = -2.054785358358413
r(sum_exp) = 332.5
r(sum_obs) = 274
r(group1) = 3

```

. ranksum ln_cr if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	195	332.5
6	15	400	262.5
combined	34	595	595

unadjusted variance 831.25

adjustment for ties 0.00

adjusted variance 831.25

Ho: $\ln_{cr}(\text{area3}=3) = \ln_{cr}(\text{area3}=6)$

$z = -4.769$

Prob > |z| = 0.0000

. return list

scalars:

```

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 831.2500000000001
r(z) = -4.769104832382659
r(sum_exp) = 332.5
r(sum_obs) = 195
r(group1) = 3

```

. ranksum ln_cu if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_sd_Run4_122006

area3	obs	rank sum	expected
3	19	216	332.5
6	15	379	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -0.25

 adjusted variance 831.00

Ho: ln_cu(area3==3) = ln_cu(area3==6)

z = -4.041
 Prob > |z| = 0.0001

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 830.995989304813
 r(z) = -4.041349976509422
 r(sum_exp) = 332.5
 r(sum_obs) = 216
 r(group1) = 3

. ranksum ln_fe if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	334	332.5
6	15	261	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -0.25

 adjusted variance 831.00

Ho: ln_fe(area3==3) = ln_fe(area3==6)

z = 0.052
 Prob > |z| = 0.9585

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 830.995989304813
 r(z) = .0520345490537694
 r(sum_exp) = 332.5
 r(sum_obs) = 334
 r(group1) = 3

. ranksum ln_hg if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

ranksum_sd_Run4_122006			
3	19	227	323
6	14	334	238
combined	33	561	561

unadjusted variance 753.67
 adjustment for ties -10.08

 adjusted variance 743.59

Ho: ln_hg(area3==3) = ln_hg(area3==6)
 z = -3.520
 Prob > |z| = 0.0004

. return list

scalars:

r(N_2) = 14
 r(N_1) = 19
 r(Var_a) = 743.5909090909091
 r(z) = -3.520498772658359
 r(sum_exp) = 323
 r(sum_obs) = 227
 r(group1) = 3

. ranksum ln_mn if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
3	19	326	332.5
6	15	269	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties 0.00

 adjusted variance 831.25

Ho: ln_mn(area3==3) = ln_mn(area3==6)
 z = -0.225
 Prob > |z| = 0.8216

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 831.2500000000001
 r(z) = -.2254485920762712
 r(sum_exp) = 332.5
 r(sum_obs) = 326
 r(group1) = 3

. ranksum ln_ni if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

		ranksum_sd_Run4_122006	
3		19	221 332.5
6		15	374 262.5
-----+-----			
combined		34	595 595

unadjusted variance 831.25
 adjustment for ties -0.25

adjusted variance 831.00

Ho: ln_ni(area3==3) = ln_ni(area3==6)
 z = -3.868
 Prob > |z| = 0.0001

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 830.995989304813
 r(z) = -3.867901479663524
 r(sum_exp) = 332.5
 r(sum_obs) = 221
 r(group1) = 3

. ranksum ln_pb if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
3		19	234	332.5
6		15	361	262.5
-----+-----				
combined		34	595	595

unadjusted variance 831.25
 adjustment for ties -5.97

adjusted variance 825.28

Ho: ln_pb(area3==3) = ln_pb(area3==6)
 z = -3.429
 Prob > |z| = 0.0006

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 825.2807486631016
 r(z) = -3.428746468323531
 r(sum_exp) = 332.5
 r(sum_obs) = 234
 r(group1) = 3

. ranksum ln_sb if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
3		19	276	332.5

	6	15	ranksum_sd_Run4_122006
			319 262.5
-----+-----			
combined		34	595 595

unadjusted variance 831.25
adjustment for ties -5.21

adjusted variance 826.04

Ho: ln_sb(area3==3) = ln_sb(area3==6)
z = -1.966
Prob > |z| = 0.0493

. return list

scalars:

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 826.0427807486631
r(z) = -1.965835519525919
r(sum_exp) = 332.5
r(sum_obs) = 276
r(group1) = 3

. ranksum ln_zn if area3==3|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
3	19	204	332.5
6	15	391	262.5
-----+-----			
combined	34	595	595

unadjusted variance 831.25
adjustment for ties -0.13

adjusted variance 831.12

Ho: ln_zn(area3==3) = ln_zn(area3==6)
z = -4.457
Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 831.1229946524065
r(z) = -4.457285767115283
r(sum_exp) = 332.5
r(sum_obs) = 204
r(group1) = 3

.
.
. log close
log: C:\DATA\ranksum_sd_Run4_122006.smcl
log type: smcl
closed on: 21 Dec 2006, 11:23:56

ranksum_pct_Run4_122006

log: C:\KDW\BASF_Ren\Run4\ranksum_pct_Run4_122006.smcl
log type: smcl
opened on: 21 Dec 2006, 11:58:07

. ranksum ag if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1491	1176
3	55	1995	2310
combined	83	3486	3486

unadjusted variance 10780.00
adjustment for ties -19.80

adjusted variance 10760.20

Ho: ag(area2==2) = ag(area2==3)
z = 3.037
Prob > |z| = 0.0024

. return list

scalars:

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10760.20129297678
r(z) = 3.036689276825278
r(sum_exp) = 1176
r(sum_obs) = 1491
r(group1) = 2

. ranksum as if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	978	1162
3	54	2425	2241
combined	82	3403	3403

unadjusted variance 10458.00
adjustment for ties -1.82

adjusted variance 10456.18

Ho: as(area2==2) = as(area2==3)
z = -1.799
Prob > |z| = 0.0720

. return list

scalars:

r(N_2) = 54
r(N_1) = 28
r(Var_a) = 10456.17886178862

```

                                ranksum_pct_Run4_122006
      r(z) = -1.799414936808998
r(sum_exp) = 1162
r(sum_obs) = 978
r(group1) = 2

```

```
. ranksum cd if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1407	1176
3	55	2079	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -55.32
-----
adjusted variance      10724.68

```

```

Ho: cd(area2==2) = cd(area2==3)
      z = 2.231
Prob > |z| = 0.0257

```

```
. return list
```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10724.6767558037
      r(z) = 2.230590633578552
r(sum_exp) = 1176
r(sum_obs) = 1407
r(group1) = 2

```

```
. ranksum cr if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1286	1176
3	55	2200	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties     -0.34
-----
adjusted variance      10779.66

```

```

Ho: cr(area2==2) = cr(area2==3)
      z = 1.059
Prob > |z| = 0.2894

```

```
. return list
```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10779.66059359389
      r(z) = 1.059473605529403

```

```

                                ranksum_pct_Run4_122006
r(sum_exp) = 1176
r(sum_obs) = 1286
r(group1) = 2

```

```
. ranksum cu if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1248	1176
3	55	2238	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -0.11
-----

```

```
adjusted variance      10779.89
```

```
Ho: cu(area2==2) = cu(area2==3)
```

```

      z = 0.693
Prob > |z| = 0.4880

```

```
. return list
```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10779.8868645313
      r(z) = .693466354630416
      r(sum_exp) = 1176
      r(sum_obs) = 1248
      r(group1) = 2

```

```
. ranksum fe if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1602	1176
3	55	1884	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -0.68
-----

```

```
adjusted variance      10779.32
```

```
Ho: fe(area2==2) = fe(area2==3)
```

```

      z = 4.103
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10779.32118718778
      r(z) = 4.103116922368364
      r(sum_exp) = 1176

```

```

                                ranksum_pct_Run4_122006
r(sum_obs) = 1602
r(group1) = 2

```

```

. ranksum hg if area2==2|area2==3, by(area2)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1260	1176
3	55	2226	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -15.95
-----
adjusted variance      10764.05

```

Ho: hg(area2==2) = hg(area2==3)

```

      z = 0.810
Prob > |z| = 0.4181

```

```

. return list

```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10764.04789891272
      r(z) = .8096391033411046
r(sum_exp) = 1176
r(sum_obs) = 1260
r(group1) = 2

```

```

. ranksum mn if area2==2|area2==3, by(area2)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1733	1176
3	55	1753	2310
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -0.23
-----
adjusted variance      10779.77

```

Ho: mn(area2==2) = mn(area2==3)

```

      z = 5.365
Prob > |z| = 0.0000

```

```

. return list

```

scalars:

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10779.77372906259
      r(z) = 5.364760923033252
r(sum_exp) = 1176
r(sum_obs) = 1733

```

```

                                ranksum_pct_Run4_122006
r(group1) = 2

```

```

. ranksum ni if area2==2|area2==3, by(area2)
Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area2	obs	rank sum	expected
-----+-----			
2	28	1436	1176
3	55	2050	2310
-----+-----			
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -0.68

```

```

adjusted variance      10779.32

```

```

Ho: ni(area2==2) = ni(area2==3)
      z = 2.504
      Prob > |z| = 0.0123

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10779.32118718778
      r(z) = 2.504249764825762
      r(sum_exp) = 1176
      r(sum_obs) = 1436
      r(group1) = 2

```

```

. ranksum pb if area2==2|area2==3, by(area2)
Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area2	obs	rank sum	expected
-----+-----			
2	28	1396	1176
3	55	2090	2310
-----+-----			
combined	83	3486	3486

```

unadjusted variance    10780.00
adjustment for ties    -6.67

```

```

adjusted variance      10773.33

```

```

Ho: pb(area2==2) = pb(area2==3)
      z = 2.120
      Prob > |z| = 0.0340

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10773.32500734646
      r(z) = 2.119570175634154
      r(sum_exp) = 1176
      r(sum_obs) = 1396
      r(group1) = 2

```



```
. ranksum sb if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1660	1176
3	55	1826	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -5.20

adjusted variance 10774.80

Ho: sb(area2==2) = sb(area2==3)

z = 4.663

Prob > |z| = 0.0000

```
. return list
```

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10774.79576843961
r(z) = 4.66273612175385
r(sum_exp) = 1176
r(sum_obs) = 1660
r(group1) = 2

```

```
. ranksum zn if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1315	1176
3	55	2171	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.68

adjusted variance 10779.32

Ho: zn(area2==2) = zn(area2==3)

z = 1.339

Prob > |z| = 0.1806

```
. return list
```

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.32118718778
r(z) = 1.338810451195311
r(sum_exp) = 1176
r(sum_obs) = 1315
r(group1) = 2

```

```
ranksum_pct_Run4_122006
. ranksum ln_ag if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1421	1176
3	55	2065	2310
combined	83	3486	3486

```
unadjusted variance    10780.00
adjustment for ties    -19.46
```

```
adjusted variance      10760.54
```

```
Ho: ln_ag(area2==2) = ln_ag(area2==3)
      z = 2.362
Prob > |z| = 0.0182
```

```
. return list
```

scalars:

```
      r(N_2) = 55
      r(N_1) = 28
      r(Var_a) = 10760.5406993829
      r(z) = 2.361832188476043
      r(sum_exp) = 1176
      r(sum_obs) = 1421
      r(group1) = 2
```

```
. ranksum ln_as if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	967	1162
3	54	2436	2241
combined	82	3403	3403

```
unadjusted variance    10458.00
adjustment for ties    -1.82
```

```
adjusted variance      10456.18
```

```
Ho: ln_as(area2==2) = ln_as(area2==3)
      z = -1.907
Prob > |z| = 0.0565
```

```
. return list
```

scalars:

```
      r(N_2) = 54
      r(N_1) = 28
      r(Var_a) = 10456.17886178862
      r(z) = -1.906988655857362
      r(sum_exp) = 1162
      r(sum_obs) = 967
      r(group1) = 2
```

```
. ranksum ln_cd if area2==2|area2==3, by(area2)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1333	1176
3	55	2153	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -55.32

adjusted variance 10724.68

Ho: $\ln\_cd(\text{area2}=2) = \ln\_cd(\text{area2}=3)$

$z = 1.516$

Prob > $|z| = 0.1295$

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10724.6767558037
r(z) = 1.516029131912696
r(sum_exp) = 1176
r(sum_obs) = 1333
r(group1) = 2

```

. ranksum ln_cr if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1279	1176
3	55	2207	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.34

adjusted variance 10779.66

Ho: $\ln\_cr(\text{area2}=2) = \ln\_cr(\text{area2}=3)$

$z = 0.992$

Prob > $|z| = 0.3212$

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.66059359389
r(z) = .9920525579048048
r(sum_exp) = 1176
r(sum_obs) = 1279
r(group1) = 2

```

. ranksum ln_cu if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1256	1176
3	55	2230	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -0.11

adjusted variance 10779.89

Ho: ln_cu(area2==2) = ln_cu(area2==3)

z = 0.771
 Prob > |z| = 0.4410

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10779.8868645313
 r(z) = .7705181718115732
 r(sum_exp) = 1176
 r(sum_obs) = 1256
 r(group1) = 2

. ranksum ln_fe if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1557	1176
3	55	1929	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -0.68

adjusted variance 10779.32

Ho: ln_fe(area2==2) = ln_fe(area2==3)

z = 3.670
 Prob > |z| = 0.0002

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10779.32118718778
 r(z) = 3.669689078456213
 r(sum_exp) = 1176
 r(sum_obs) = 1557
 r(group1) = 2

. ranksum ln_hg if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_pct_Run4_122006

area2	obs	rank sum	expected
2	28	1202	1176
3	55	2284	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -15.95

adjusted variance 10764.05

Ho: ln_hg(area2==2) = ln_hg(area2==3)

z = 0.251

Prob > |z| = 0.8021

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10764.04789891272
r(z) = .25060257960558
r(sum_exp) = 1176
r(sum_obs) = 1202
r(group1) = 2

```

. ranksum ln_mn if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1627	1176
3	55	1859	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.23

adjusted variance 10779.77

Ho: ln_mn(area2==2) = ln_mn(area2==3)

z = 4.344

Prob > |z| = 0.0000

. return list

scalars:

```

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.77372906259
r(z) = 4.343818987949724
r(sum_exp) = 1176
r(sum_obs) = 1627
r(group1) = 2

```

. ranksum ln_ni if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1412	1176
3	55	2074	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -0.68

 adjusted variance 10779.32

Ho: ln_ni(area2==2) = ln_ni(area2==3)
 $z = 2.273$
 Prob > |z| = 0.0230

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10779.32118718778
 r(z) = 2.273088248072615
 r(sum_exp) = 1176
 r(sum_obs) = 1412
 r(group1) = 2

. ranksum ln_pb if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1267	1176
3	55	2219	2310
combined	83	3486	3486

unadjusted variance 10780.00
 adjustment for ties -6.67

 adjusted variance 10773.33

Ho: ln_pb(area2==2) = ln_pb(area2==3)
 $z = 0.877$
 Prob > |z| = 0.3806

. return list

scalars:

r(N_2) = 55
 r(N_1) = 28
 r(Var_a) = 10773.32500734646
 r(z) = .8767312999214
 r(sum_exp) = 1176
 r(sum_obs) = 1267
 r(group1) = 2

. ranksum ln_sb if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected

ranksum_pct_Run4_122006			
area2	obs	rank sum	expected
2	28	1634	1176
3	55	1852	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -5.20

adjusted variance 10774.80

Ho: ln_sb(area2==2) = ln_sb(area2==3)

z = 4.412

Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10774.79576843961
r(z) = 4.412258561494347
r(sum_exp) = 1176
r(sum_obs) = 1634
r(group1) = 2

. ranksum ln_zn if area2==2|area2==3, by(area2)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area2	obs	rank sum	expected
2	28	1287	1176
3	55	2199	2310
combined	83	3486	3486

unadjusted variance 10780.00

adjustment for ties -0.68

adjusted variance 10779.32

Ho: ln_zn(area2==2) = ln_zn(area2==3)

z = 1.069

Prob > |z| = 0.2850

. return list

scalars:

r(N_2) = 55
r(N_1) = 28
r(Var_a) = 10779.32118718778
r(z) = 1.069122014983306
r(sum_exp) = 1176
r(sum_obs) = 1287
r(group1) = 2

. ranksum ag if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

ranksum_pct_Run4_122006			
2		28	973
10		36	1107
combined		64	2080

unadjusted variance 5460.00

adjustment for ties -5.25

adjusted variance 5454.75

Ho: ag(area3==2) = ag(area3==10)

z = 0.853

Prob > |z| = 0.3937

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5454.75
r(z) = .8530080387359895
r(sum_exp) = 910
r(sum_obs) = 973
r(group1) = 2

. ranksum as if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
2		28	595	910
10		36	1485	1170
combined		64	2080	2080

unadjusted variance 5460.00

adjustment for ties -1.13

adjusted variance 5458.88

Ho: as(area3==2) = as(area3==10)

z = -4.263

Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5458.875
r(z) = -4.263428449900442
r(sum_exp) = 910
r(sum_obs) = 595
r(group1) = 2

. ranksum cd if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected

		ranksum_pct_Run4_122006	
2		28	875
10		36	910
-----+-----		1205	1170
combined		64	2080

unadjusted variance 5460.00
adjustment for ties -10.13

adjusted variance 5449.88

Ho: cd(area3==2) = cd(area3==10)

z = -0.474
Prob > |z| = 0.6354

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5449.875
r(z) = -.4741052600531204
r(sum_exp) = 910
r(sum_obs) = 875
r(group1) = 2

. ranksum cr if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
2		28	755	910
10		36	1325	1170
-----+-----				
combined		64	2080	2080

unadjusted variance 5460.00
adjustment for ties -0.38

adjusted variance 5459.63

Ho: cr(area3==2) = cr(area3==10)

z = -2.098
Prob > |z| = 0.0359

. return list

scalars:

r(N_2) = 36
r(N_1) = 28
r(Var_a) = 5459.625
r(z) = -2.097733391382703
r(sum_exp) = 910
r(sum_obs) = 755
r(group1) = 2

. ranksum cu if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
2		28	716	910

	10		36		ranksum_pct_Run4_122006
		+			1364 1170
-----				-----	
combined			64		2080 2080

```
unadjusted variance      5460.00
adjustment for ties      0.00
-----
adjusted variance        5460.00
```

```
Ho: cu(area3==2) = cu(area3==10)
      z = -2.625
      Prob > |z| = 0.0087
```

```
. return list
```

```
scalars:
```

```
      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5460
      r(z) = -2.625460015509719
      r(sum_exp) = 910
      r(sum_obs) = 716
      r(group1) = 2
```

```
. ranksum fe if area3==2|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3		obs	rank sum	expected
	+			
2		28	1108	910
10		36	972	1170

combined		64	2080	2080

```
unadjusted variance      5460.00
adjustment for ties      -0.50
-----
adjusted variance        5459.50
```

```
Ho: fe(area3==2) = fe(area3==10)
      z = 2.680
      Prob > |z| = 0.0074
```

```
. return list
```

```
scalars:
```

```
      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.5
      r(z) = 2.67971591212996
      r(sum_exp) = 910
      r(sum_obs) = 1108
      r(group1) = 2
```

```
. ranksum hg if area3==2|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3		obs	rank sum	expected
	+			
2		28	756	910
10		36	1324	1170

```

-----+-----ranksum_pct_Run4_122006
combined |      64      2080      2080

```

```

unadjusted variance      5460.00
adjustment for ties      -7.38
-----

```

```

adjusted variance      5452.63

```

```

Ho: hg(area3==2) = hg(area3==10)

```

```

      z = -2.086
Prob > |z| = 0.0370

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5452.625
      r(z) = -2.085537030926499
      r(sum_exp) = 910
      r(sum_obs) = 756
      r(group1) = 2

```

```

. ranksum mn if area3==2|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

```

area3 |      obs      rank sum      expected
-----+-----
      2 |      28      1201      910
      10 |      36      879      1170
-----+-----
combined |      64      2080      2080

```

```

unadjusted variance      5460.00
adjustment for ties      -0.25
-----

```

```

adjusted variance      5459.75

```

```

Ho: mn(area3==2) = mn(area3==10)

```

```

      z = 3.938
Prob > |z| = 0.0001

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.75
      r(z) = 3.938280186388856
      r(sum_exp) = 910
      r(sum_obs) = 1201
      r(group1) = 2

```

```

. ranksum ni if area3==2|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

```

area3 |      obs      rank sum      expected
-----+-----
      2 |      28      910      910
      10 |      36      1170      1170
-----+-----

```

```

combined |      64      ranksum_pct_Run4_122006
2080      2080
unadjusted variance      5460.00
adjustment for ties      -0.63
-----
adjusted variance      5459.38
Ho: ni(area3==2) = ni(area3==10)
      z =      0.000
      Prob > |z| =      1.0000

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.375
      r(z) = 0
      r(sum_exp) = 910
      r(sum_obs) = 910
      r(group1) = 2

```

. ranksum pb if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
2	28	875	910
10	36	1205	1170
-----+-----			
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -1.50
-----
adjusted variance      5458.50

```

```

Ho: pb(area3==2) = pb(area3==10)
      z =      -0.474
      Prob > |z| =      0.6357

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5458.5
      r(z) = -.4737305440625076
      r(sum_exp) = 910
      r(sum_obs) = 875
      r(group1) = 2

```

. ranksum sb if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
2	28	1128	910
10	36	952	1170
-----+-----			
combined	64	2080	2080

ranksum_pct_Run4_122006

unadjusted variance 5460.00
adjustment for ties -0.50

adjusted variance 5459.50

Ho: sb(area3==2) = sb(area3==10)

 z = 2.950
 Prob > |z| = 0.0032

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 28
 r(Var_a) = 5459.5
 r(z) = 2.950394287092582
 r(sum_exp) = 910
 r(sum_obs) = 1128
 r(group1) = 2

. ranksum zn if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
2	28	785	910
10	36	1295	1170
-----+-----			
combined	64	2080	2080

unadjusted variance 5460.00
adjustment for ties -0.63

adjusted variance 5459.38

Ho: zn(area3==2) = zn(area3==10)

 z = -1.692
 Prob > |z| = 0.0907

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 28
 r(Var_a) = 5459.375
 r(z) = -1.691759210776377
 r(sum_exp) = 910
 r(sum_obs) = 785
 r(group1) = 2

. ranksum ln_ag if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
2	28	916	910
10	36	1164	1170
-----+-----			
combined	64	2080	2080

```

                                ranksum_pct_Run4_122006
unadjusted variance      5460.00
adjustment for ties      -4.88
-----
adjusted variance      5455.13
Ho: ln_ag(area3==2) = ln_ag(area3==10)
      z = 0.081
Prob > |z| = 0.9353

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5455.125
      r(z) = .0812360684948496
r(sum_exp) = 910
r(sum_obs) = 916
r(group1) = 2

```

. ranksum ln_as if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	606	910
10	36	1474	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -1.13
-----
adjusted variance      5458.88

```

```

Ho: ln_as(area3==2) = ln_as(area3==10)
      z = -4.115
Prob > |z| = 0.0000

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5458.875
      r(z) = -4.114546821491221
r(sum_exp) = 910
r(sum_obs) = 606
r(group1) = 2

```

. ranksum ln_cd if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	867	910
10	36	1213	1170
combined	64	2080	2080

```

unadjusted variance      5460.00

```

```

                                ranksum_pct_Run4_122006
adjustment for ties          -10.13
-----
adjusted variance            5449.88
Ho: ln_cd(area3==2) = ln_cd(area3==10)
      z = -0.582
      Prob > |z| = 0.5602

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5449.875
      r(z) = -.5824721766366908
      r(sum_exp) = 910
      r(sum_obs) = 867
      r(group1) = 2

```

```
. ranksum ln_cr if area3==2|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	763	910
10	36	1317	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -0.38
-----
adjusted variance        5459.63

```

```

Ho: ln_cr(area3==2) = ln_cr(area3==10)
      z = -1.989
      Prob > |z| = 0.0467

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.625
      r(z) = -1.989463280859725
      r(sum_exp) = 910
      r(sum_obs) = 763
      r(group1) = 2

```

```
. ranksum ln_cu if area3==2|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	737	910
10	36	1343	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      0.00

```

```

ranksum_pct_Run4_122006
-----
adjusted variance      5460.00

```

```

Ho: ln_cu(area3==2) = ln_cu(area3==10)
      z = -2.341
      Prob > |z| = 0.0192

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5460
      r(z) = -2.341260735480316
      r(sum_exp) = 910
      r(sum_obs) = 737
      r(group1) = 2

```

```

. ranksum ln_fe if area3==2|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
2	28	1076	910
10	36	1004	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -0.50

```

```

adjusted variance      5459.50

```

```

Ho: ln_fe(area3==2) = ln_fe(area3==10)
      z = 2.247
      Prob > |z| = 0.0247

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.5
      r(z) = 2.246630512189765
      r(sum_exp) = 910
      r(sum_obs) = 1076
      r(group1) = 2

```

```

. ranksum ln_hg if area3==2|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
2	28	716	910
10	36	1364	1170
combined	64	2080	2080

```

unadjusted variance      5460.00
adjustment for ties      -7.38

```



```
ranksum_pct_Run4_122006
adjusted variance      5452.63
```

```
Ho: ln_hg(area3==2) = ln_hg(area3==10)
      z = -2.627
      Prob > |z| = 0.0086
```

```
. return list
```

```
scalars:
```

```
      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5452.625
      r(z) = -2.627234961037278
      r(sum_exp) = 910
      r(sum_obs) = 716
      r(group1) = 2
```

```
. ranksum ln_mn if area3==2|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	1107	910
10	36	973	1170
combined	64	2080	2080

```
unadjusted variance      5460.00
adjustment for ties      -0.25
```

```
adjusted variance      5459.75
```

```
Ho: ln_mn(area3==2) = ln_mn(area3==10)
      z = 2.666
      Prob > |z| = 0.0077
```

```
. return list
```

```
scalars:
```

```
      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.75
      r(z) = 2.66612095092304
      r(sum_exp) = 910
      r(sum_obs) = 1107
      r(group1) = 2
```

```
. ranksum ln_ni if area3==2|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	906	910
10	36	1174	1170
combined	64	2080	2080

```
unadjusted variance      5460.00
adjustment for ties      -0.63
```

```
adjusted variance      5459.38
```

Ho: ln_ni(area3==2) = ln_ni(area3==10)

z = -0.054
 Prob > |z| = 0.9568

. return list

scalars:

r(N_2) = 36
 r(N_1) = 28
 r(Var_a) = 5459.375
 r(z) = -.054136294744844
 r(sum_exp) = 910
 r(sum_obs) = 906
 r(group1) = 2

. ranksum ln_pb if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	781	910
10	36	1299	1170
combined	64	2080	2080

unadjusted variance 5460.00
 adjustment for ties -1.50

adjusted variance 5458.50

Ho: ln_pb(area3==2) = ln_pb(area3==10)

z = -1.746
 Prob > |z| = 0.0808

. return list

scalars:

r(N_2) = 36
 r(N_1) = 28
 r(Var_a) = 5458.5
 r(z) = -1.746035433830385
 r(sum_exp) = 910
 r(sum_obs) = 781
 r(group1) = 2

. ranksum ln_sb if area3==2|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	1113	910
10	36	967	1170
combined	64	2080	2080

unadjusted variance 5460.00
 adjustment for ties -0.50

adjusted variance 5459.50

```

ranksum_pct_Run4_122006
Ho: ln_sb(area3==2) = ln_sb(area3==10)
      z = 2.747
      Prob > |z| = 0.0060

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.5
      r(z) = 2.747385505870616
      r(sum_exp) = 910
      r(sum_obs) = 1113
      r(group1) = 2

```

```
. ranksum ln_zn if area3==2|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	778	910
10	36	1302	1170
combined	64	2080	2080

```
unadjusted variance      5460.00
```

```
adjustment for ties      -0.63
```

```
adjusted variance      5459.38
```

```
Ho: ln_zn(area3==2) = ln_zn(area3==10)
```

```

      z = -1.786
      Prob > |z| = 0.0740

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 28
      r(Var_a) = 5459.375
      r(z) = -1.786497726579854
      r(sum_exp) = 910
      r(sum_obs) = 778
      r(group1) = 2

```

```
. ranksum ag if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	924	672
5	19	204	456
combined	47	1128	1128

```
unadjusted variance      2128.00
```

```
adjustment for ties      -18.46
```

```
adjusted variance      2109.54
```

```

ranksum_pct_Run4_122006
Ho: ag(area3==2) = ag(area3==5)
      z = 5.487
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2109.54486586494
      r(z) = 5.486636111614736
      r(sum_exp) = 672
      r(sum_obs) = 924
      r(group1) = 2

```

```
. ranksum as if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	789	658
5	18	292	423
combined	46	1081	1081

```

unadjusted variance      1974.00
adjustment for ties      -1.10

```

```
adjusted variance      1972.90
```

```

Ho: as(area3==2) = as(area3==5)
      z = 2.949
      Prob > |z| = 0.0032

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 18
      r(N_1) = 28
      r(Var_a) = 1972.904347826087
      r(z) = 2.949295449251191
      r(sum_exp) = 658
      r(sum_obs) = 789
      r(group1) = 2

```

```
. ranksum cd if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	938	672
5	19	190	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -28.17

```

```
adjusted variance      2099.83
```

```
Ho: cd(area3==2) = cd(area3==5)
```

```

      z = 5.805
Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2099.825161887142
      r(z) = 5.804837529792724
      r(sum_exp) = 672
      r(sum_obs) = 938
      r(group1) = 2

```

```
. ranksum cr if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	937	672
5	19	191	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.12

```

```
adjusted variance      2127.88
```

```
Ho: cr(area3==2) = cr(area3==5)
```

```

      z = 5.745
Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.744769622700128
      r(sum_exp) = 672
      r(sum_obs) = 937
      r(group1) = 2

```

```
. ranksum cu if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	938	672
5	19	190	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.12

```

```
adjusted variance      2127.88
```

```
Ho: cu(area3==2) = cu(area3==5)
```

```

      z = 5.766

```

Prob > |z| = 0.0000

. return list

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.766447998634845
      r(sum_exp) = 672
      r(sum_obs) = 938
      r(group1) = 2

```

. ranksum fe if area3==2|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	900	672
5	19	228	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -0.37

adjusted variance 2127.63

Ho: fe(area3==2) = fe(area3==5)

z = 4.943

Prob > |z| = 0.0000

. return list

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299
      r(z) = 4.942955523953021
      r(sum_exp) = 672
      r(sum_obs) = 900
      r(group1) = 2

```

. ranksum hg if area3==2|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	910	672
5	19	218	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -15.50

adjusted variance 2112.50

Ho: hg(area3==2) = hg(area3==5)

z = 5.178

Prob > |z| = 0.0000

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2112.49768732655
      r(z) = 5.178200185893764
      r(sum_exp) = 672
      r(sum_obs) = 910
      r(group1) = 2

```

```
. ranksum mn if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	938	672
5	19	190	456
combined	47	1128	1128

```
unadjusted variance      2128.00
```

```
adjustment for ties      0.00
```

```
adjusted variance      2128.00
```

```
Ho: mn(area3==2) = mn(area3==5)
```

```
      z = 5.766
```

```
Prob > |z| = 0.0000
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2128
      r(z) = 5.766281297335397
      r(sum_exp) = 672
      r(sum_obs) = 938
      r(group1) = 2

```

```
. ranksum ni if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	932	672
5	19	196	456
combined	47	1128	1128

```
unadjusted variance      2128.00
```

```
adjustment for ties      -0.37
```

```
adjusted variance      2127.63
```

```
Ho: ni(area3==2) = ni(area3==5)
```

```
      z = 5.637
```

```
Prob > |z| = 0.0000
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299
      r(z) = 5.636703667665726
      r(sum_exp) = 672
      r(sum_obs) = 932
      r(group1) = 2

```

```
. ranksum pb if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	927	672
5	19	201	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -7.26
-----
adjusted variance        2120.74

```

```

Ho: pb(area3==2) = pb(area3==5)
      z = 5.537
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2120.740980573543
      r(z) = 5.537278487367946
      r(sum_exp) = 672
      r(sum_obs) = 927
      r(group1) = 2

```

```
. ranksum sb if area3==2|area3==5, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	938	672
5	19	190	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -5.41
-----
adjusted variance        2122.59

```

```

Ho: sb(area3==2) = sb(area3==5)
      z = 5.774
      Prob > |z| = 0.0000

```

```
. return list
```


ranksum_pct_Run4_122006

scalars:

```
      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2122.586493987049
      r(z) = 5.773629860158559
      r(sum_exp) = 672
      r(sum_obs) = 938
      r(group1) = 2
```

. ranksum zn if area3==2|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	936	672
5	19	192	456
combined	47	1128	1128

```
unadjusted variance    2128.00
adjustment for ties    -0.12
-----
adjusted variance      2127.88
```

Ho: zn(area3==2) = zn(area3==5)

```
      z = 5.723
      Prob > |z| = 0.0000
```

. return list

scalars:

```
      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.723091246765411
      r(sum_exp) = 672
      r(sum_obs) = 936
      r(group1) = 2
```

. ranksum ln_ag if area3==2|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	911	672
5	19	217	456
combined	47	1128	1128

```
unadjusted variance    2128.00
adjustment for ties    -18.46
-----
adjusted variance      2109.54
```

Ho: ln_ag(area3==2) = ln_ag(area3==5)

```
      z = 5.204
      Prob > |z| = 0.0000
```

. return list

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2109.54486586494
      r(z) = 5.203595359825087
      r(sum_exp) = 672
      r(sum_obs) = 911
      r(group1) = 2

```

. ranksum ln_as if area3==2|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	767	658
5	18	314	423
combined	46	1081	1081

unadjusted variance 1974.00

adjustment for ties -1.10

adjusted variance 1972.90

Ho: ln_as(area3==2) = ln_as(area3==5)

z = 2.454

Prob > |z| = 0.0141

. return list

scalars:

```

      r(N_2) = 18
      r(N_1) = 28
      r(Var_a) = 1972.904347826087
      r(z) = 2.453993923422746
      r(sum_exp) = 658
      r(sum_obs) = 767
      r(group1) = 2

```

. ranksum ln_cd if area3==2|area3==5, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	872	672
5	19	256	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -28.17

adjusted variance 2099.83

Ho: ln_cd(area3==2) = ln_cd(area3==5)

z = 4.365

Prob > |z| = 0.0000

. return list

scalars:

```

                                ranksum_pct_Run4_122006
      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2099.825161887142
      r(z) = 4.364539496084754
      r(sum_exp) = 672
      r(sum_obs) = 872
      r(group1) = 2

```

```
. ranksum ln_cr if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	922	672
5	19	206	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -0.12

adjusted variance 2127.88

Ho: ln_cr(area3==2) = ln_cr(area3==5)

 z = 5.420
 Prob > |z| = 0.0000

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.419593983679366
      r(sum_exp) = 672
      r(sum_obs) = 922
      r(group1) = 2

```

```
. ranksum ln_cu if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	925	672
5	19	203	456
combined	47	1128	1128

unadjusted variance 2128.00

adjustment for ties -0.12

adjusted variance 2127.88

Ho: ln_cu(area3==2) = ln_cu(area3==5)

 z = 5.485
 Prob > |z| = 0.0000

```
. return list
```

scalars:

```

      r(N_2) = 19

```

```

                                ranksum_pct_Run4_122006
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.484629111483518
      r(sum_exp) = 672
      r(sum_obs) = 925
      r(group1) = 2

```

```
. ranksum ln_fe if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	887	672
5	19	241	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.37

```

```
adjusted variance      2127.63
```

Ho: ln_fe(area3==2) = ln_fe(area3==5)

```

      z = 4.661
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299
      r(z) = 4.661120340569735
      r(sum_exp) = 672
      r(sum_obs) = 887
      r(group1) = 2

```

```
. ranksum ln_hg if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	892	672
5	19	236	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -15.50

```

```
adjusted variance      2112.50
```

Ho: ln_hg(area3==2) = ln_hg(area3==5)

```

      z = 4.787
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28

```

```

                                ranksum_pct_Run4_122006
      r(Var_a) = 2112.49768732655
      r(z) = 4.786571600406
      r(sum_exp) = 672
      r(sum_obs) = 892
      r(group1) = 2

```

```
. ranksum ln_mn if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	926	672
5	19	202	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      0.00

```

```
adjusted variance      2128.00
```

```
Ho: ln_mn(area3==2) = ln_mn(area3==5)
```

```

      z = 5.506
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2128
      r(z) = 5.506148306478162
      r(sum_exp) = 672
      r(sum_obs) = 926
      r(group1) = 2

```

```
. ranksum ln_ni if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	912	672
5	19	216	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -0.37

```

```
adjusted variance      2127.63
```

```
Ho: ln_ni(area3==2) = ln_ni(area3==5)
```

```

      z = 5.203
  Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.630897317299

```

```

                                ranksum_pct_Run4_122006
      r(z) = 5.203111077845286
r(sum_exp) = 672
r(sum_obs) = 912
r(group1) = 2

```

```
. ranksum ln_pb if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	892	672
5	19	236	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -7.26
-----
adjusted variance        2120.74

```

```

Ho: ln_pb(area3==2) = ln_pb(area3==5)
      z = 4.777
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2120.740980573543
      r(z) = 4.777259871454699
r(sum_exp) = 672
r(sum_obs) = 892
r(group1) = 2

```

```
. ranksum ln_sb if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	927	672
5	19	201	456
combined	47	1128	1128

```

unadjusted variance      2128.00
adjustment for ties      -5.41
-----
adjusted variance        2122.59

```

```

Ho: ln_sb(area3==2) = ln_sb(area3==5)
      z = 5.535
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2122.586493987049
      r(z) = 5.53487073060313

```

```

ranksum_pct_Run4_122006
r(sum_exp) = 672
r(sum_obs) = 927
r(group1) = 2

```

```
. ranksum ln_zn if area3==2|area3==5, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	915	672
5	19	213	456
combined	47	1128	1128

```

unadjusted variance    2128.00
adjustment for ties    -0.12

```

```
adjusted variance      2127.88
```

```
Ho: ln_zn(area3==2) = ln_zn(area3==5)
```

```

      z = 5.268
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 19
      r(N_1) = 28
      r(Var_a) = 2127.876965772433
      r(z) = 5.267845352136344
      r(sum_exp) = 672
      r(sum_obs) = 915
      r(group1) = 2

```

```
. ranksum ag if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	218	532
10	36	1322	1008
combined	55	1540	1540

```

unadjusted variance    3192.00
adjustment for ties    -17.16

```

```
adjusted variance      3174.84
```

```
Ho: ag(area3==4) = ag(area3==10)
```

```

      z = -5.573
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 36
      r(N_1) = 19
      r(Var_a) = 3174.842424242424
      r(z) = -5.57273716876734

```

ranksum_pct_Run4_122006

```
r(sum_exp) = 532
r(sum_obs) = 218
r(group1) = 4
```

```
. ranksum as if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	18	799	495
10	36	686	990
combined	54	1485	1485

```
unadjusted variance    2970.00
adjustment for ties    -0.91
```

```
adjusted variance      2969.09
```

```
Ho: as(area3==4) = as(area3==10)
```

```
z = 5.579
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
r(N_2) = 36
r(N_1) = 18
r(Var_a) = 2969.094339622642
r(z) = 5.579067104463233
r(sum_exp) = 495
r(sum_obs) = 799
r(group1) = 4
```

```
. ranksum cd if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	427	532
10	36	1113	1008
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -19.58
```

```
adjusted variance      3172.42
```

```
Ho: cd(area3==4) = cd(area3==10)
```

```
z = -1.864
Prob > |z| = 0.0623
```

```
. return list
```

scalars:

```
r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3172.424242424242
r(z) = -1.864205002753594
r(sum_exp) = 532
```



```

                                ranksum_pct_Run4_122006
r(sum_obs) = 427
r(group1) = 4

```

```

. ranksum cr if area3==4|area3==10, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	191	532
10	36	1349	1008
combined	55	1540	1540

```

unadjusted variance      3192.00
adjustment for ties      -0.23
-----
adjusted variance        3191.77

```

```

Ho: cr(area3==4) = cr(area3==10)
    z = -6.036
    Prob > |z| = 0.0000

```

```

. return list

```

scalars:

```

    r(N_2) = 36
    r(N_1) = 19
    r(Var_a) = 3191.769696969697
    r(z) = -6.035852321593764
    r(sum_exp) = 532
    r(sum_obs) = 191
    r(group1) = 4

```

```

. ranksum cu if area3==4|area3==10, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	191	532
10	36	1349	1008
combined	55	1540	1540

```

unadjusted variance      3192.00
adjustment for ties      -0.12
-----
adjusted variance        3191.88

```

```

Ho: cu(area3==4) = cu(area3==10)
    z = -6.036
    Prob > |z| = 0.0000

```

```

. return list

```

scalars:

```

    r(N_2) = 36
    r(N_1) = 19
    r(Var_a) = 3191.884848484848
    r(z) = -6.035743444888969
    r(sum_exp) = 532
    r(sum_obs) = 191

```

```

                                ranksum_pct_Run4_122006
r(group1) = 4

```

```

. ranksum fe if area3==4|area3==10, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	376	532
10	36	1164	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.35

adjusted variance 3191.65

Ho: fe(area3==4) = fe(area3==10)

z = -2.761

Prob > |z| = 0.0058

```

. return list

```

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.654545454546
r(z) = -2.761319495172304
r(sum_exp) = 532
r(sum_obs) = 376
r(group1) = 4

```

```

. ranksum hg if area3==4|area3==10, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	250	532
10	36	1290	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -10.48

adjusted variance 3181.52

Ho: hg(area3==4) = hg(area3==10)

z = -5.000

Prob > |z| = 0.0000

```

. return list

```

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3181.521212121212
r(z) = -4.999558987010405
r(sum_exp) = 532
r(sum_obs) = 250
r(group1) = 4

```

ranksum_pct_Run4_122006

```
. ranksum mn if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	319	532
10	36	1221	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.23

adjusted variance 3191.77

Ho: mn(area3==4) = mn(area3==10)

z = -3.770

Prob > |z| = 0.0002

```
. return list
```

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.769696969697
r(z) = -3.770195145159741
r(sum_exp) = 532
r(sum_obs) = 319
r(group1) = 4

```
. ranksum ni if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	213	532
10	36	1327	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.46

adjusted variance 3191.54

Ho: ni(area3==4) = ni(area3==10)

z = -5.647

Prob > |z| = 0.0000

```
. return list
```

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.539393939394
r(z) = -5.646646215733305
r(sum_exp) = 532
r(sum_obs) = 213
r(group1) = 4

```
ranksum_pct_Run4_122006
. ranksum pb if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	276	532
10	36	1264	1008
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -5.41
```

```
adjusted variance      3186.59
```

```
Ho: pb(area3==4) = pb(area3==10)
      z = -4.535
      Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
      r(N_2) = 36
      r(N_1) = 19
      r(Var_a) = 3186.587878787879
      r(z) = -4.534997117969827
      r(sum_exp) = 532
      r(sum_obs) = 276
      r(group1) = 4
```

```
. ranksum sb if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	224	532
10	36	1316	1008
combined	55	1540	1540

```
unadjusted variance    3192.00
adjustment for ties    -4.84
```

```
adjusted variance      3187.16
```

```
Ho: sb(area3==4) = sb(area3==10)
      z = -5.456
      Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
      r(N_2) = 36
      r(N_1) = 19
      r(Var_a) = 3187.163636363636
      r(z) = -5.455675559912883
      r(sum_exp) = 532
      r(sum_obs) = 224
      r(group1) = 4
```

```
. ranksum zn if area3==4|area3==10, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
4	19	198	532
10	36	1342	1008
-----+-----			
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -0.69

adjusted variance 3191.31

Ho: zn(area3==4) = zn(area3==10)

z = -5.912
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3191.309090909091
 r(z) = -5.912375819271507
 r(sum_exp) = 532
 r(sum_obs) = 198
 r(group1) = 4

. ranksum ln_ag if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
4	18	225	495
10	36	1260	990
-----+-----			
combined	54	1485	1485

unadjusted variance 2970.00
 adjustment for ties -12.79

adjusted variance 2957.21

Ho: ln_ag(area3==4) = ln_ag(area3==10)

z = -4.965
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
 r(N_1) = 18
 r(Var_a) = 2957.207547169811
 r(z) = -4.96504125234326
 r(sum_exp) = 495
 r(sum_obs) = 225
 r(group1) = 4

. ranksum ln_as if area3==4|area3==10, by(area3)

ranksum_pct_Run4_122006

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
4	18	765	495
10	36	720	990
-----+-----			
combined	54	1485	1485

unadjusted variance 2970.00
 adjustment for ties -0.91

adjusted variance 2969.09

Ho: ln_as(area3==4) = ln_as(area3==10)

z = 4.955
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
 r(N_1) = 18
 r(Var_a) = 2969.094339622642
 r(z) = 4.955092494095634
 r(sum_exp) = 495
 r(sum_obs) = 765
 r(group1) = 4

. ranksum ln_cd if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+-----			
4	19	427	532
10	36	1113	1008
-----+-----			
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -19.58

adjusted variance 3172.42

Ho: ln_cd(area3==4) = ln_cd(area3==10)

z = -1.864
 Prob > |z| = 0.0623

. return list

scalars:

r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3172.424242424242
 r(z) = -1.864205002753594
 r(sum_exp) = 532
 r(sum_obs) = 427
 r(group1) = 4

. ranksum ln_cr if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_pct_Run4_122006

area3	obs	rank sum	expected
4	19	197	532
10	36	1343	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.23

adjusted variance 3191.77

Ho: $\ln_{cr}(\text{area3}=4) = \ln_{cr}(\text{area3}=10)$

$z = -5.930$

Prob > |z| = 0.0000

. return list

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.769696969697
r(z) = -5.929649641448419
r(sum_exp) = 532
r(sum_obs) = 197
r(group1) = 4

```

. ranksum ln_cu if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	194	532
10	36	1346	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.12

adjusted variance 3191.88

Ho: $\ln_{cu}(\text{area3}=4) = \ln_{cu}(\text{area3}=10)$

$z = -5.983$

Prob > |z| = 0.0000

. return list

scalars:

```

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.884848484848
r(z) = -5.982643062675869
r(sum_exp) = 532
r(sum_obs) = 194
r(group1) = 4

```

. ranksum ln_fe if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	409	532
10	36	1131	1008
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -0.35

 adjusted variance 3191.65

Ho: ln_fe(area3==4) = ln_fe(area3==10)
 z = -2.177
 Prob > |z| = 0.0295

. return list

scalars:

r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3191.654545454546
 r(z) = -2.177194217347394
 r(sum_exp) = 532
 r(sum_obs) = 409
 r(group1) = 4

. ranksum ln_hg if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	286	532
10	36	1254	1008
combined	55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -10.48

 adjusted variance 3181.52

Ho: ln_hg(area3==4) = ln_hg(area3==10)
 z = -4.361
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3181.521212121212
 r(z) = -4.361317414200566
 r(sum_exp) = 532
 r(sum_obs) = 286
 r(group1) = 4

. ranksum ln_mn if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

ranksum_pct_Run4_122006			
4	19	358	532
10	36	1182	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.23

adjusted variance 3191.77

Ho: ln_mn(area3==4) = ln_mn(area3==10)

z = -3.080

Prob > |z| = 0.0021

. return list

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.769696969697
r(z) = -3.079877724215
r(sum_exp) = 532
r(sum_obs) = 358
r(group1) = 4

. ranksum ln_ni if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	229	532
10	36	1311	1008
combined	55	1540	1540

unadjusted variance 3192.00

adjustment for ties -0.46

adjusted variance 3191.54

Ho: ln_ni(area3==4) = ln_ni(area3==10)

z = -5.363

Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.539393939394
r(z) = -5.363428850680851
r(sum_exp) = 532
r(sum_obs) = 229
r(group1) = 4

. ranksum ln_pb if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

ranksum_pct_Run4_122006			
4		19	308
10		36	1232
-----+-----			
combined		55	1540

unadjusted variance 3192.00
 adjustment for ties -5.41

adjusted variance 3186.59

Ho: ln_pb(area3==4) = ln_pb(area3==10)
 z = -3.968
 Prob > |z| = 0.0001

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3186.587878787879
 r(z) = -3.968122478223599
 r(sum_exp) = 532
 r(sum_obs) = 308
 r(group1) = 4

. ranksum ln_sb if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
4		19	238	532
10		36	1302	1008
-----+-----				
combined		55	1540	1540

unadjusted variance 3192.00
 adjustment for ties -4.84

adjusted variance 3187.16

Ho: ln_sb(area3==4) = ln_sb(area3==10)
 z = -5.208
 Prob > |z| = 0.0000

. return list

scalars:

 r(N_2) = 36
 r(N_1) = 19
 r(Var_a) = 3187.163636363636
 r(z) = -5.20769030718957
 r(sum_exp) = 532
 r(sum_obs) = 238
 r(group1) = 4

. ranksum ln_zn if area3==4|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
4		19	204	532

	10	36	ranksum_pct_Run4_122006
	1336	1008	
combined	1540	1540	

unadjusted variance 3192.00
adjustment for ties -0.69

adjusted variance 3191.31

Ho: ln_zn(area3==4) = ln_zn(area3==10)
z = -5.806
Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
r(N_1) = 19
r(Var_a) = 3191.309090909091
r(z) = -5.806165475212738
r(sum_exp) = 532
r(sum_obs) = 204
r(group1) = 4

. ranksum ag if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	15	592	390
10	36	734	936
combined	51	1326	1326

unadjusted variance 2340.00
adjustment for ties -2.01

adjusted variance 2337.99

Ho: ag(area3==8) = ag(area3==10)
z = 4.178
Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
r(N_1) = 15
r(Var_a) = 2337.988235294118
r(z) = 4.177632265422377
r(sum_exp) = 390
r(sum_obs) = 592
r(group1) = 8

. ranksum as if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	15	434	390

	10		36	ranksum_pct_Run4_122006
		+		892 936
-----				-----
combined			51	1326 1326

unadjusted variance 2340.00
 adjustment for ties -0.42

 adjusted variance 2339.58

Ho: as(area3==8) = as(area3==10)
 z = 0.910
 Prob > |z| = 0.3630

. return list

scalars:

r(N_2) = 36
 r(N_1) = 15
 r(Var_a) = 2339.576470588236
 r(z) = .9096703804909168
 r(sum_exp) = 390
 r(sum_obs) = 434
 r(group1) = 8

. ranksum cd if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
	+			-----
8		15	627	390
10		36	699	936
-----				-----
combined		51	1326	1326

unadjusted variance 2340.00
 adjustment for ties -1.59

 adjusted variance 2338.41

Ho: cd(area3==8) = cd(area3==10)
 z = 4.901
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 36
 r(N_1) = 15
 r(Var_a) = 2338.411764705882
 r(z) = 4.901035545952007
 r(sum_exp) = 390
 r(sum_obs) = 627
 r(group1) = 8

. ranksum cr if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3		obs	rank sum	expected
	+			-----
8		15	605	390
10		36	721	936

```

-----+-----ranksum_pct_Run4_122006
combined |      51      1326      1326
unadjusted variance      2340.00
adjustment for ties      -0.21
-----
adjusted variance      2339.79
Ho: cr(area3==8) = cr(area3==10)
      z =      4.445
Prob > |z| =      0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.788235294118
      r(z) = 4.444779115224029
      r(sum_exp) = 390
      r(sum_obs) = 605
      r(group1) = 8

```

```
. ranksum cu if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

```

-----+-----
area3 |      obs      rank sum      expected
-----+-----
      8 |      15      568      390
      10 |      36      758      936
-----+-----
combined |      51      1326      1326

```

```

unadjusted variance      2340.00
adjustment for ties      -0.11
-----
adjusted variance      2339.89

```

```

Ho: cu(area3==8) = cu(area3==10)
      z =      3.680
Prob > |z| =      0.0002

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.894117647059
      r(z) = 3.679780380038089
      r(sum_exp) = 390
      r(sum_obs) = 568
      r(group1) = 8

```

```
. ranksum fe if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

```

-----+-----
area3 |      obs      rank sum      expected
-----+-----
      8 |      15      485      390
      10 |      36      841      936
-----+-----

```

```

combined |      51      ranksum_pct_Run4_122006
1326      1326
unadjusted variance      2340.00
adjustment for ties      -0.32
-----
adjusted variance      2339.68
Ho: fe(area3==8) = fe(area3==10)
      z =      1.964
      Prob > |z| =      0.0495

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.682352941177
      r(z) = 1.964016606481233
      r(sum_exp) = 390
      r(sum_obs) = 485
      r(group1) = 8

```

```
. ranksum hg if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	14	543	357
10	36	732	918
combined	50	1275	1275

```

unadjusted variance      2142.00
adjustment for ties      -1.34
-----
adjusted variance      2140.66

```

```

Ho: hg(area3==8) = hg(area3==10)
      z =      4.020
      Prob > |z| =      0.0001

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 14
      r(Var_a) = 2140.662857142857
      r(z) = 4.020118060654801
      r(sum_exp) = 357
      r(sum_obs) = 543
      r(group1) = 8

```

```
. ranksum mn if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	15	343	390
10	36	983	936
combined	51	1326	1326

ranksum_pct_Run4_122006

unadjusted variance 2340.00
adjustment for ties -0.21

adjusted variance 2339.79

Ho: mn(area3==8) = mn(area3==10)

z = -0.972
Prob > |z| = 0.3312

. return list

scalars:

r(N_2) = 36
r(N_1) = 15
r(Var_a) = 2339.788235294118
r(z) = -.9716493879792064
r(sum_exp) = 390
r(sum_obs) = 343
r(group1) = 8

. ranksum ni if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+			
8	15	524	390
10	36	802	936
-----+			
combined	51	1326	1326

unadjusted variance 2340.00
adjustment for ties -0.42

adjusted variance 2339.58

Ho: ni(area3==8) = ni(area3==10)

z = 2.770
Prob > |z| = 0.0056

. return list

scalars:

r(N_2) = 36
r(N_1) = 15
r(Var_a) = 2339.576470588236
r(z) = 2.770359795131428
r(sum_exp) = 390
r(sum_obs) = 524
r(group1) = 8

. ranksum pb if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
-----+			
8	15	604	390
10	36	722	936
-----+			
combined	51	1326	1326

```

                                ranksum_pct_Run4_122006
unadjusted variance      2340.00
adjustment for ties      0.00
-----
adjusted variance      2340.00

Ho: pb(area3==8) = pb(area3==10)
      z = 4.424
      Prob > |z| = 0.0000

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2340
      r(z) = 4.423905533681769
      r(sum_exp) = 390
      r(sum_obs) = 604
      r(group1) = 8

```

. ranksum sb if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	15	447	390
10	36	879	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.11
-----
adjusted variance      2339.89

```

```

Ho: sb(area3==8) = sb(area3==10)
      z = 1.178
      Prob > |z| = 0.2387

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.894117647059
      r(z) = 1.178356638551523
      r(sum_exp) = 390
      r(sum_obs) = 447
      r(group1) = 8

```

. ranksum zn if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	15	620	390
10	36	706	936
combined	51	1326	1326

```

unadjusted variance      2340.00

```



```

                                ranksum_pct_Run4_122006
adjustment for ties            -0.53
-----
adjusted variance              2339.47
Ho: zn(area3==8) = zn(area3==10)
      z = 4.755
      Prob > |z| = 0.0000

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.470588235294
      r(z) = 4.755202775214349
      r(sum_exp) = 390
      r(sum_obs) = 620
      r(group1) = 8

```

```
. ranksum ln_ag if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	15	501	390
10	36	825	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -2.01
-----
adjusted variance        2337.99

```

```

Ho: ln_ag(area3==8) = ln_ag(area3==10)
      z = 2.296
      Prob > |z| = 0.0217

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2337.988235294118
      r(z) = 2.295629611197445
      r(sum_exp) = 390
      r(sum_obs) = 501
      r(group1) = 8

```

```
. ranksum ln_as if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	15	420	390
10	36	906	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.42

```

```

ranksum_pct_Run4_122006
-----
adjusted variance      2339.58

```

Ho: $\ln\_as(\text{area3}==8) = \ln\_as(\text{area3}==10)$

```

      z = 0.620
  Prob > |z| = 0.5351

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.576470588236
      r(z) = .6202298048801704
  r(sum_exp) = 390
  r(sum_obs) = 420
  r(group1) = 8

```

. ranksum ln_cd if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	15	553	390
10	36	773	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -1.59

```

```

-----
adjusted variance      2338.41

```

Ho: $\ln\_cd(\text{area3}==8) = \ln\_cd(\text{area3}==10)$

```

      z = 3.371
  Prob > |z| = 0.0007

```

. return list

scalars:

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2338.411764705882
      r(z) = 3.370754405021844
  r(sum_exp) = 390
  r(sum_obs) = 553
  r(group1) = 8

```

. ranksum ln_cr if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	15	556	390
10	36	770	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.21

```

```

                                ranksum_pct_Run4_122006
adjusted variance                2339.79

```

```

Ho: ln_cr(area3==8) = ln_cr(area3==10)
      z = 3.432
Prob > |z| = 0.0006

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.788235294118
      r(z) = 3.431782944777623
      r(sum_exp) = 390
      r(sum_obs) = 556
      r(group1) = 8

```

```

. ranksum ln_cu if area3==8|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
8	15	498	390
10	36	828	936
combined	51	1326	1326

```

unadjusted variance    2340.00

```

```

adjustment for ties    -0.11

```

```

adjusted variance      2339.89

```

```

Ho: ln_cu(area3==8) = ln_cu(area3==10)
      z = 2.233
Prob > |z| = 0.0256

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.894117647059
      r(z) = 2.232675736202885
      r(sum_exp) = 390
      r(sum_obs) = 498
      r(group1) = 8

```

```

. ranksum ln_fe if area3==8|area3==10, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
8	15	477	390
10	36	849	936
combined	51	1326	1326

```

unadjusted variance    2340.00

```

```

adjustment for ties    -0.32

```

```

adjusted variance      2339.68

```

Ho: ln_fe(area3==8) = ln_fe(area3==10)
 $z = 1.799$
 Prob > |z| = 0.0721

. return list

scalars:

$r(N_2) = 36$
 $r(N_1) = 15$
 $r(Var_a) = 2339.682352941177$
 $r(z) = 1.798625734356498$
 $r(sum\_exp) = 390$
 $r(sum\_obs) = 477$
 $r(group1) = 8$

. ranksum ln_hg if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	14	500	357
10	36	775	918
combined	50	1275	1275

unadjusted variance 2142.00
 adjustment for ties -1.34

adjusted variance 2140.66

Ho: ln_hg(area3==8) = ln_hg(area3==10)
 $z = 3.091$
 Prob > |z| = 0.0020

. return list

scalars:

$r(N_2) = 36$
 $r(N_1) = 14$
 $r(Var_a) = 2140.662857142857$
 $r(z) = 3.090735928352885$
 $r(sum\_exp) = 357$
 $r(sum\_obs) = 500$
 $r(group1) = 8$

. ranksum ln_mn if area3==8|area3==10, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
8	15	340	390
10	36	986	936
combined	51	1326	1326

unadjusted variance 2340.00
 adjustment for ties -0.21

adjusted variance 2339.79

```

ranksum_pct_Run4_122006
Ho: ln_mn(area3==8) = ln_mn(area3==10)
      z = -1.034
      Prob > |z| = 0.3013

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.788235294118
      r(z) = -1.033669561680007
      r(sum_exp) = 390
      r(sum_obs) = 340
      r(group1) = 8

```

```
. ranksum ln_ni if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	14	440	357
10	36	835	918
combined	50	1275	1275

```

unadjusted variance      2142.00
adjustment for ties      -0.41

```

```
adjusted variance      2141.59
```

```

Ho: ln_ni(area3==8) = ln_ni(area3==10)
      z = 1.794
      Prob > |z| = 0.0729

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 14
      r(Var_a) = 2141.588571428572
      r(z) = 1.79353589177796
      r(sum_exp) = 357
      r(sum_obs) = 440
      r(group1) = 8

```

```
. ranksum ln_pb if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	15	523	390
10	36	803	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      0.00

```

```
adjusted variance      2340.00
```

```
Ho: ln_pb(area3==8) = ln_pb(area3==10)
```

```

      z = 2.749
Prob > |z| = 0.0060

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2340
      r(z) = 2.749436616727454
      r(sum_exp) = 390
      r(sum_obs) = 523
      r(group1) = 8

```

```
. ranksum ln_sb if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	15	382	390
10	36	944	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.11

```

```
adjusted variance      2339.89
```

```
Ho: ln_sb(area3==8) = ln_sb(area3==10)
```

```

      z = -0.165
Prob > |z| = 0.8686

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.894117647059
      r(z) = -.1653833878668804
      r(sum_exp) = 390
      r(sum_obs) = 382
      r(group1) = 8

```

```
. ranksum ln_zn if area3==8|area3==10, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
8	15	581	390
10	36	745	936
combined	51	1326	1326

```

unadjusted variance      2340.00
adjustment for ties      -0.53

```

```
adjusted variance      2339.47
```

```
Ho: ln_zn(area3==8) = ln_zn(area3==10)
```

```
z = 3.949
```

```

ranksum_pct_Run4_122006
Prob > |z| = 0.0001

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 36
      r(N_1) = 15
      r(Var_a) = 2339.470588235294
      r(z) = 3.948885782895395
      r(sum_exp) = 390
      r(sum_obs) = 581
      r(group1) = 8

```

```

.

```

```

. ranksum ag if area3==2|area3==6, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
2	28	623.5	616
6	15	322.5	330
combined	43	946	946

```

unadjusted variance      1540.00

```

```

adjustment for ties      -2.44

```

```

adjusted variance      1537.56

```

```

Ho: ag(area3==2) = ag(area3==6)

```

```

      z = 0.191

```

```

Prob > |z| = 0.8483

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1537.558139534884
      r(z) = .1912693975909727
      r(sum_exp) = 616
      r(sum_obs) = 623.5
      r(group1) = 2

```

```

. ranksum as if area3==2|area3==6, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

area3	obs	rank sum	expected
2	28	595	616
6	15	351	330
combined	43	946	946

```

unadjusted variance      1540.00

```

```

adjustment for ties      -0.58

```

```

adjusted variance      1539.42

```

```

Ho: as(area3==2) = as(area3==6)

```

```

      z = -0.535
Prob > |z| = 0.5925

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.418604651163
      r(z) = -.5352305932020218
      r(sum_exp) = 616
      r(sum_obs) = 595
      r(group1) = 2

```

```
. ranksum cd if area3==2|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	550	616
6	15	396	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -8.60

```

```
adjusted variance      1531.40
```

```
Ho: cd(area3==2) = cd(area3==6)
```

```

      z = -1.687
Prob > |z| = 0.0917

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1531.395348837209
      r(z) = -1.686554088217427
      r(sum_exp) = 616
      r(sum_obs) = 550
      r(group1) = 2

```

```
. ranksum cr if area3==2|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	510	616
6	15	436	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -0.12

```

```
adjusted variance      1539.88
```

```
Ho: cr(area3==2) = cr(area3==6)
```

```
z = -2.701
```


Prob > |z| = 0.0069

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -2.701232096010523
      r(sum_exp) = 616
      r(sum_obs) = 510
      r(group1) = 2

```

. ranksum cu if area3==2|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	551	616
6	15	395	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -0.12

adjusted variance 1539.88

Ho: cu(area3==2) = cu(area3==6)

z = -1.656

Prob > |z| = 0.0976

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -1.656415907930981
      r(sum_exp) = 616
      r(sum_obs) = 551
      r(group1) = 2

```

. ranksum fe if area3==2|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	745	616
6	15	201	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -0.35

adjusted variance 1539.65

Ho: fe(area3==2) = fe(area3==6)

z = 3.288

Prob > |z| = 0.0010

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = 3.287596755236784
      r(sum_exp) = 616
      r(sum_obs) = 745
      r(group1) = 2

```

```
. ranksum hg if area3==2|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	488	602
6	14	415	301
combined	42	903	903

```
unadjusted variance      1404.67
```

```
adjustment for ties      -5.46
```

```
adjusted variance      1399.20
```

```
Ho: hg(area3==2) = hg(area3==6)
```

```
      z = -3.048
```

```
Prob > |z| = 0.0023
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 14
      r(N_1) = 28
      r(Var_a) = 1399.20325203252
      r(z) = -3.047645497419631
      r(sum_exp) = 602
      r(sum_obs) = 488
      r(group1) = 2

```

```
. ranksum mn if area3==2|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	814	616
6	15	132	330
combined	43	946	946

```
unadjusted variance      1540.00
```

```
adjustment for ties      0.00
```

```
adjusted variance      1540.00
```

```
Ho: mn(area3==2) = mn(area3==6)
```

```
      z = 5.046
```

```
Prob > |z| = 0.0000
```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1540
      r(z) = 5.045507195232493
      r(sum_exp) = 616
      r(sum_obs) = 814
      r(group1) = 2

```

```
. ranksum ni if area3==2|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	646	616
6	15	300	330
combined	43	946	946

```
unadjusted variance      1540.00
adjustment for ties      -0.35
```

```
adjusted variance      1539.65
```

```
Ho: ni(area3==2) = ni(area3==6)
```

```

      z = 0.765
      Prob > |z| = 0.4445

```

```
. return list
```

```
scalars:
```

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = .7645573849387868
      r(sum_exp) = 616
      r(sum_obs) = 646
      r(group1) = 2

```

```
. ranksum pb if area3==2|area3==6, by(area3)
```

```
Two-sample Wilcoxon rank-sum (Mann-Whitney) test
```

area3	obs	rank sum	expected
2	28	515	616
6	15	431	330
combined	43	946	946

```
unadjusted variance      1540.00
adjustment for ties      -1.40
```

```
adjusted variance      1538.60
```

```
Ho: pb(area3==2) = pb(area3==6)
```

```

      z = -2.575
      Prob > |z| = 0.0100

```

```
. return list
```

ranksum_pct_Run4_122006

scalars:

```
      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1538.604651162791
      r(z) = -2.574885095051948
      r(sum_exp) = 616
      r(sum_obs) = 515
      r(group1) = 2
```

. ranksum sb if area3==2|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	786	616
6	15	160	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties    -0.35
-----
adjusted variance      1539.65
```

Ho: sb(area3==2) = sb(area3==6)

```
      z = 4.332
      Prob > |z| = 0.0000
```

. return list

scalars:

```
      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = 4.332491847986459
      r(sum_exp) = 616
      r(sum_obs) = 786
      r(group1) = 2
```

. ranksum zn if area3==2|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	541	616
6	15	405	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties     0.00
-----
adjusted variance      1540.00
```

Ho: zn(area3==2) = zn(area3==6)

```
      z = -1.911
      Prob > |z| = 0.0560
```

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1540
      r(z) = -1.911176967891096
      r(sum_exp) = 616
      r(sum_obs) = 541
      r(group1) = 2

```

. ranksum ln_ag if area3==2|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	619	616
6	15	327	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -2.33

adjusted variance 1537.67

Ho: ln_ag(area3==2) = ln_ag(area3==6)

z = 0.077

Prob > |z| = 0.9390

. return list

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1537.674418604651
      r(z) = .0765048662200902
      r(sum_exp) = 616
      r(sum_obs) = 619
      r(group1) = 2

```

. ranksum ln_as if area3==2|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	593	616
6	15	353	330
combined	43	946	946

unadjusted variance 1540.00

adjustment for ties -0.58

adjusted variance 1539.42

Ho: ln_as(area3==2) = ln_as(area3==6)

z = -0.586

Prob > |z| = 0.5577

. return list

scalars:

```

                                ranksum_pct_Run4_122006
      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.418604651163
      r(z) = -.5862049354117381
      r(sum_exp) = 616
      r(sum_obs) = 593
      r(group1) = 2

```

```
. ranksum ln_cd if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	537	616
6	15	409	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -8.60

```

```
adjusted variance      1531.40
```

```
Ho: ln_cd(area3==2) = ln_cd(area3==6)
```

```

      z = -2.019
      Prob > |z| = 0.0435

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1531.395348837209
      r(z) = -2.018754135896617
      r(sum_exp) = 616
      r(sum_obs) = 537
      r(group1) = 2

```

```
. ranksum ln_cr if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	502	616
6	15	444	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -0.12

```

```
adjusted variance      1539.88
```

```
Ho: ln_cr(area3==2) = ln_cr(area3==6)
```

```

      z = -2.905
      Prob > |z| = 0.0037

```

```
. return list
```

scalars:

```
r(N_2) = 15
```

```

                                ranksum_pct_Run4_122006
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -2.905098669294336
      r(sum_exp) = 616
      r(sum_obs) = 502
      r(group1) = 2

```

```
. ranksum ln_cu if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	554	616
6	15	392	330
combined	43	946	946

```

unadjusted variance    1540.00
adjustment for ties    -0.12

```

```
adjusted variance      1539.88
```

```
Ho: ln_cu(area3==2) = ln_cu(area3==6)
```

```

      z = -1.580
  Prob > |z| = 0.1141

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.883720930233
      r(z) = -1.579965942949551
      r(sum_exp) = 616
      r(sum_obs) = 554
      r(group1) = 2

```

```
. ranksum ln_fe if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	736	616
6	15	210	330
combined	43	946	946

```

unadjusted variance    1540.00
adjustment for ties    -0.35

```

```
adjusted variance      1539.65
```

```
Ho: ln_fe(area3==2) = ln_fe(area3==6)
```

```

      z = 3.058
  Prob > |z| = 0.0022

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28

```

```

                                ranksum_pct_Run4_122006
      r(Var_a) = 1539.651162790698
      r(z) = 3.058229539755147
      r(sum_exp) = 616
      r(sum_obs) = 736
      r(group1) = 2

```

```
. ranksum ln_hg if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	484	602
6	14	419	301
combined	42	903	903

```

unadjusted variance    1404.67
adjustment for ties    -5.46
-----

```

```
adjusted variance      1399.20
```

```
Ho: ln_hg(area3==2) = ln_hg(area3==6)
```

```

      z = -3.155
      Prob > |z| = 0.0016

```

```
. return list
```

scalars:

```

      r(N_2) = 14
      r(N_1) = 28
      r(Var_a) = 1399.20325203252
      r(z) = -3.154580427153654
      r(sum_exp) = 602
      r(sum_obs) = 484
      r(group1) = 2

```

```
. ranksum ln_mn if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	782	616
6	15	164	330
combined	43	946	946

```

unadjusted variance    1540.00
adjustment for ties     0.00
-----

```

```
adjusted variance      1540.00
```

```
Ho: ln_mn(area3==2) = ln_mn(area3==6)
```

```

      z = 4.230
      Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1540

```



```

                                ranksum_pct_Run4_122006
      r(z) = 4.230071688932292
r(sum_exp) = 616
r(sum_obs) = 782
r(group1) = 2

```

```
. ranksum ln_ni if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	644	616
6	15	302	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -0.35
-----
adjusted variance        1539.65

```

```

Ho: ln_ni(area3==2) = ln_ni(area3==6)
      z = 0.714
Prob > |z| = 0.4755

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1539.651162790698
      r(z) = .7135868926095343
r(sum_exp) = 616
r(sum_obs) = 644
r(group1) = 2

```

```
. ranksum ln_pb if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	522	616
6	15	424	330
combined	43	946	946

```

unadjusted variance      1540.00
adjustment for ties      -1.40
-----
adjusted variance        1538.60

```

```

Ho: ln_pb(area3==2) = ln_pb(area3==6)
      z = -2.396
Prob > |z| = 0.0166

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 28
      r(Var_a) = 1538.604651162791
      r(z) = -2.396427712226565

```

ranksum_pct_Run4_122006

```
r(sum_exp) = 616
r(sum_obs) = 522
r(group1) = 2
```

```
. ranksum ln_sb if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	777	616
6	15	169	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties    -0.35
```

```
adjusted variance      1539.65
```

```
Ho: ln_sb(area3==2) = ln_sb(area3==6)
```

```
z = 4.103
Prob > |z| = 0.0000
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 28
r(Var_a) = 1539.651162790698
r(z) = 4.103124632504823
r(sum_exp) = 616
r(sum_obs) = 777
r(group1) = 2
```

```
. ranksum ln_zn if area3==2|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
2	28	536	616
6	15	410	330
combined	43	946	946

```
unadjusted variance    1540.00
adjustment for ties     0.00
```

```
adjusted variance      1540.00
```

```
Ho: ln_zn(area3==2) = ln_zn(area3==6)
```

```
z = -2.039
Prob > |z| = 0.0415
```

```
. return list
```

scalars:

```
r(N_2) = 15
r(N_1) = 28
r(Var_a) = 1540
r(z) = -2.038588765750502
r(sum_exp) = 616
```

```

                                ranksum_pct_Run4_122006
r(sum_obs) = 536
r(group1) = 2

```

```

. ranksum ag if area3==4|area3==6, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	203	332.5
6	15	392	262.5
combined	34	595	595

```

unadjusted variance      831.25
adjustment for ties      -16.51
-----
adjusted variance        814.74

```

```

Ho: ag(area3==4) = ag(area3==6)
      z = -4.537
Prob > |z| = 0.0000

```

```

. return list

```

scalars:

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 814.7393048128342
      r(z) = -4.53691282292638
      r(sum_exp) = 332.5
      r(sum_obs) = 203
      r(group1) = 4

```

```

. ranksum as if area3==4|area3==6, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	18	427	306
6	15	134	255
combined	33	561	561

```

unadjusted variance      765.00
adjustment for ties      -0.51
-----
adjusted variance        764.49

```

```

Ho: as(area3==4) = as(area3==6)
      z = 4.376
Prob > |z| = 0.0000

```

```

. return list

```

scalars:

```

      r(N_2) = 15
      r(N_1) = 18
      r(Var_a) = 764.4886363636364
      r(z) = 4.376227119937544
      r(sum_exp) = 306

```

```

                                ranksum_pct_Run4_122006
r(sum_obs) = 427
r(group1) = 4

```

```
. ranksum cd if area3==4|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	253	332.5
6	15	342	262.5
combined	34	595	595

```

unadjusted variance      831.25
adjustment for ties      -20.70

```

```
adjusted variance      810.55
```

Ho: cd(area3==4) = cd(area3==6)

```

      z = -2.792
Prob > |z| = 0.0052

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 810.5481283422461
      r(z) = -2.792400615205023
      r(sum_exp) = 332.5
      r(sum_obs) = 253
      r(group1) = 4

```

```
. ranksum cr if area3==4|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	192	332.5
6	15	403	262.5
combined	34	595	595

```

unadjusted variance      831.25
adjustment for ties      0.00

```

```
adjusted variance      831.25
```

Ho: cr(area3==4) = cr(area3==6)

```

      z = -4.873
Prob > |z| = 0.0000

```

```
. return list
```

scalars:

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 831.2500000000001
      r(z) = -4.873158028725554
      r(sum_exp) = 332.5
      r(sum_obs) = 192

```

```

                                ranksum_pct_Run4_122006
r(group1) = 4

```

```

. ranksum cu if area3==4|area3==6, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	211	332.5
6	15	384	262.5
combined	34	595	595

```

unadjusted variance      831.25
adjustment for ties      -0.25

```

```

adjusted variance      831.00

```

Ho: cu(area3==4) = cu(area3==6)

```

      z = -4.215
Prob > |z| = 0.0000

```

```

. return list

```

scalars:

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 830.995989304813
      r(z) = -4.214798473355319
      r(sum_exp) = 332.5
      r(sum_obs) = 211
      r(group1) = 4

```

```

. ranksum fe if area3==4|area3==6, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	333	332.5
6	15	262	262.5
combined	34	595	595

```

unadjusted variance      831.25
adjustment for ties      -0.25

```

```

adjusted variance      831.00

```

Ho: fe(area3==4) = fe(area3==6)

```

      z = 0.017
Prob > |z| = 0.9862

```

```

. return list

```

scalars:

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 830.995989304813
      r(z) = .0173448496845898
      r(sum_exp) = 332.5
      r(sum_obs) = 333
      r(group1) = 4

```

ranksum_pct_Run4_122006

```
. ranksum hg if area3==4|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	223	323
6	14	338	238
combined	33	561	561

unadjusted variance 753.67

adjustment for ties -10.08

adjusted variance 743.59

Ho: hg(area3==4) = hg(area3==6)

z = -3.667

Prob > |z| = 0.0002

```
. return list
```

scalars:

r(N_2) = 14
r(N_1) = 19
r(Var_a) = 743.5909090909091
r(z) = -3.667186221519124
r(sum_exp) = 323
r(sum_obs) = 223
r(group1) = 4

```
. ranksum mn if area3==4|area3==6, by(area3)
```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	359	332.5
6	15	236	262.5
combined	34	595	595

unadjusted variance 831.25

adjustment for ties 0.00

adjusted variance 831.25

Ho: mn(area3==4) = mn(area3==6)

z = 0.919

Prob > |z| = 0.3580

```
. return list
```

scalars:

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 831.2500000000001
r(z) = .9191365676955671
r(sum_exp) = 332.5
r(sum_obs) = 359
r(group1) = 4

```

ranksum_pct_Run4_122006
. ranksum ni if area3==4|area3==6, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	238	332.5
6	15	357	262.5
combined	34	595	595

```

unadjusted variance      831.25
adjustment for ties      -0.25
-----

```

```

adjusted variance      831.00

```

```

Ho: ni(area3==4) = ni(area3==6)
      z = -3.278
      Prob > |z| = 0.0010

```

```

. return list

```

scalars:

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 830.995989304813
      r(z) = -3.278176590387471
      r(sum_exp) = 332.5
      r(sum_obs) = 238
      r(group1) = 4

```

```

. ranksum pb if area3==4|area3==6, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	236	332.5
6	15	359	262.5
combined	34	595	595

```

unadjusted variance      831.25
adjustment for ties      -5.97
-----

```

```

adjusted variance      825.28

```

```

Ho: pb(area3==4) = pb(area3==6)
      z = -3.359
      Prob > |z| = 0.0008

```

```

. return list

```

scalars:

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 825.2807486631016
      r(z) = -3.359127250692596
      r(sum_exp) = 332.5
      r(sum_obs) = 236
      r(group1) = 4

```

```

. ranksum sb if area3==4|area3==6, by(area3)

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	274	332.5
6	15	321	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -5.21

adjusted variance 826.04

Ho: sb(area3==4) = sb(area3==6)

z = -2.035

Prob > |z| = 0.0418

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 826.0427807486631
 r(z) = -2.035422617562235
 r(sum_exp) = 332.5
 r(sum_obs) = 274
 r(group1) = 4

. ranksum zn if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	201	332.5
6	15	394	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -0.13

adjusted variance 831.12

Ho: zn(area3==4) = zn(area3==6)

z = -4.561

Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 831.1229946524065
 r(z) = -4.561346913429259
 r(sum_exp) = 332.5
 r(sum_obs) = 201
 r(group1) = 4

. ranksum ln_ag if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	18	197	306
6	15	364	255
combined	33	561	561

unadjusted variance 765.00
 adjustment for ties -12.02

adjusted variance 752.98

Ho: ln_ag(area3==4) = ln_ag(area3==6)

z = -3.972
 Prob > |z| = 0.0001

. return list

scalars:

r(N_2) = 15
 r(N_1) = 18
 r(Var_a) = 752.9829545454546
 r(z) = -3.972225777427922
 r(sum_exp) = 306
 r(sum_obs) = 197
 r(group1) = 4

. ranksum ln_as if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	18	431	306
6	15	130	255
combined	33	561	561

unadjusted variance 765.00
 adjustment for ties -0.51

adjusted variance 764.49

Ho: ln_as(area3==4) = ln_as(area3==6)

z = 4.521
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 15
 r(N_1) = 18
 r(Var_a) = 764.4886363636364
 r(z) = 4.520895785059446
 r(sum_exp) = 306
 r(sum_obs) = 431
 r(group1) = 4

. ranksum ln_cd if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ranksum_pct_Run4_122006

area3	obs	rank sum	expected
4	19	253	332.5
6	15	342	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -20.70

 adjusted variance 810.55

Ho: ln_cd(area3==4) = ln_cd(area3==6)
 z = -2.792
 Prob > |z| = 0.0052

. return list

scalars:

 r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 810.5481283422461
 r(z) = -2.792400615205023
 r(sum_exp) = 332.5
 r(sum_obs) = 253
 r(group1) = 4

. ranksum ln_cr if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	195	332.5
6	15	400	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties 0.00

 adjusted variance 831.25

Ho: ln_cr(area3==4) = ln_cr(area3==6)
 z = -4.769
 Prob > |z| = 0.0000

. return list

scalars:

 r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 831.2500000000001
 r(z) = -4.769104832382659
 r(sum_exp) = 332.5
 r(sum_obs) = 195
 r(group1) = 4

. ranksum ln_cu if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	214	332.5
6	15	381	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -0.25

 adjusted variance 831.00

Ho: ln_cu(area3==4) = ln_cu(area3==6)

z = -4.111
 Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 830.995989304813
 r(z) = -4.110729375247781
 r(sum_exp) = 332.5
 r(sum_obs) = 214
 r(group1) = 4

. ranksum ln_fe if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	337	332.5
6	15	258	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties -0.25

 adjusted variance 831.00

Ho: ln_fe(area3==4) = ln_fe(area3==6)

z = 0.156
 Prob > |z| = 0.8760

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 830.995989304813
 r(z) = .1561036471613082
 r(sum_exp) = 332.5
 r(sum_obs) = 337
 r(group1) = 4

. ranksum ln_hg if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

ranksum_pct_Run4_122006			
4	19	225	323
6	14	336	238
combined	33	561	561

unadjusted variance 753.67
 adjustment for ties -10.08

 adjusted variance 743.59

Ho: ln_hg(area3==4) = ln_hg(area3==6)
 z = -3.594
 Prob > |z| = 0.0003

. return list

scalars:

r(N_2) = 14
 r(N_1) = 19
 r(Var_a) = 743.5909090909091
 r(z) = -3.593842497088742
 r(sum_exp) = 323
 r(sum_obs) = 225
 r(group1) = 4

. ranksum ln_mn if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	357	332.5
6	15	238	262.5
combined	34	595	595

unadjusted variance 831.25
 adjustment for ties 0.00

 adjusted variance 831.25

Ho: ln_mn(area3==4) = ln_mn(area3==6)
 z = 0.850
 Prob > |z| = 0.3955

. return list

scalars:

r(N_2) = 15
 r(N_1) = 19
 r(Var_a) = 831.2500000000001
 r(z) = .8497677701336375
 r(sum_exp) = 332.5
 r(sum_obs) = 357
 r(group1) = 4

. ranksum ln_ni if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected

```

                                ranksum_pct_Run4_122006
      4 |      19      241      332.5
      6 |      15      354      262.5
-----+-----
combined |      34      595      595

```

```

unadjusted variance      831.25
adjustment for ties      -0.25
-----
adjusted variance      831.00

```

```

Ho: ln_ni(area3==4) = ln_ni(area3==6)
      z = -3.174
      Prob > |z| = 0.0015

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 830.995989304813
      r(z) = -3.174107492279932
      r(sum_exp) = 332.5
      r(sum_obs) = 241
      r(group1) = 4

```

```

. ranksum ln_pb if area3==4|area3==6, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

```

      area3 |      obs      rank sum      expected
-----+-----
      4 |      19      241      332.5
      6 |      15      354      262.5
-----+-----
combined |      34      595      595

```

```

unadjusted variance      831.25
adjustment for ties      -5.97
-----
adjusted variance      825.28

```

```

Ho: ln_pb(area3==4) = ln_pb(area3==6)
      z = -3.185
      Prob > |z| = 0.0014

```

```

. return list

```

```

scalars:

```

```

      r(N_2) = 15
      r(N_1) = 19
      r(Var_a) = 825.2807486631016
      r(z) = -3.185079206615259
      r(sum_exp) = 332.5
      r(sum_obs) = 241
      r(group1) = 4

```

```

. ranksum ln_sb if area3==4|area3==6, by(area3)

```

```

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

```

```

      area3 |      obs      rank sum      expected
-----+-----
      4 |      19      267      332.5

```

	6	15	ranksum_pct_Run4_122006	
			328	262.5
combined		34	595	595

unadjusted variance 831.25
adjustment for ties -5.21

adjusted variance 826.04

Ho: ln_sb(area3==4) = ln_sb(area3==6)
 $z = -2.279$
Prob > |z| = 0.0227

. return list

scalars:

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 826.0427807486631
r(z) = -2.27897746068934
r(sum_exp) = 332.5
r(sum_obs) = 267
r(group1) = 4

. ranksum ln_zn if area3==4|area3==6, by(area3)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

area3	obs	rank sum	expected
4	19	206	332.5
6	15	389	262.5
combined	34	595	595

unadjusted variance 831.25
adjustment for ties -0.13

adjusted variance 831.12

Ho: ln_zn(area3==4) = ln_zn(area3==6)
 $z = -4.388$
Prob > |z| = 0.0000

. return list

scalars:

r(N_2) = 15
r(N_1) = 19
r(Var_a) = 831.1229946524065
r(z) = -4.387911669572633
r(sum_exp) = 332.5
r(sum_obs) = 206
r(group1) = 4

.
. log close
log: C:\KDW\BASF_Ren\Run4\ranksum_pct_Run4_122006.smcl
log type: smcl
closed on: 21 Dec 2006, 11:58:13

power_Run4_122106

log: C:\KDW\BASF_Ren\Run4\power_Run4_122106.smcl
log type: smcl
opened on: 21 Dec 2006, 13:01:19

. *Power_calc as UP-ADJALL
. sampsi 8.8712962380162 4.49397154365267, n1(54)n2(28)sd1(15.9987221841653)sd2
> (1.64040012569459)a(0.1) onesided

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 8.8713
m2 = 4.49397
sd1 = 15.9987
sd2 = 1.6404
sample size n1 = 54
n2 = 28
n2/n1 = 0.52

Estimated power:

power = 0.7608

. *Power_calc fe UP-ADJALL
. sampsi 22107.2727272727 25864.6462053571, n1(55)n2(28)sd1(6443.46796851505)sd
> 2(5149.64567590671)a(0.1) onesided

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 22107.3
m2 = 25864.6
sd1 = 6443.47
sd2 = 5149.65
sample size n1 = 55
n2 = 28
n2/n1 = 0.51

Estimated power:

power = 0.9450

. *Power_calc hg UP-ADJALL
. sampsi 0.386000000448389 0.144763890653848, n1(55)n2(28)sd1(0.590604207779565
>)sd2(0.0645853196035577)a(0.1) onesided

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = .386

power_Run4_122106

```
m2 = .144764
sd1 = .590604
sd2 = .064585
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.9566
```

```
. *Power_calc ln_as UP-ADJALL
. sampsi 1.62441921951594 1.44544792175293, n1(54)n2(28)sd1(0.983900043468103)s
> d2(0.537199642868945)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 1.62442
m2 = 1.44545
sd1 = .9839
sd2 = .5372
sample size n1 = 54
n2 = 28
n2/n1 = 0.52
```

Estimated power:

```
power = 0.4143
```

```
. *Power_calc ln_fe UP-ADJALL
. sampsi 9.96217666972767 10.1663228784288, n1(55)n2(28)sd1(0.293417773506346)s
> d2(0.258848755696419)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 9.96218
m2 = 10.1663
sd1 = .293418
sd2 = .258849
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.9752
```

```
. *Power_calc ln_hg UP-ADJALL
. sampsi -2.06673500795256 -1.98213238694838, n1(55)n2(28)sd1(1.62058704566617)
> sd2(0.865394597415933)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test $H_0: m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

```
alpha = 0.1000 (one-sided)
m1 = -2.06674
m2 = -1.98213
sd1 = 1.62059
sd2 = .865395
sample size n1 = 55
           n2 = 28
           n2/n1 = 0.51
```

```
. *Power_calc ln_mn UP-ADJALL
. sampsi 6.09457385323264 6.53670951298305, n1(55)n2(28)sd1(0.500383907194448)s
> d2(0.517661299074383)a(0.1) onesided
```

Test $H_0: m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

```

alpha = 0.1000 (one-sided)
m1 = 6.09457
m2 = 6.53671
sd1 = .500384
sd2 = .517661
sample size n1 = 55
           n2 = 28
           n2/n1 = 0.51

```

```
. *Power_calc mn UP-ADJALL
. sampsi 499.963636363636 707.543938773019, n1(55)n2(28)sd1(257.068387906031)sd
> 2(240.508207318362)a(0.1) onesided
```

Test $H_0: \mu_1 = \mu_2$, where μ_1 is the mean in population 1
and μ_2 is the mean in population 2

```
alpha = 0.1000 (one-sided)
m1 = 499.964
m2 = 707.544
sd1 = 257.068
sd2 = 240.508
sample size n1 = 55
           n2 = 28
           n2/n1 = 0.51
```

power_Run4_122106

```
. *Power_calc ag UP-ADJALL  
. sampsi 0.483818182789466 0.541214790727411, n1(55)n2(28)sd1(0.515649509061979  
> )sd2(0.283000505442838)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = .483818  
m2 = .541215  
sd1 = .515649  
sd2 = .283  
sample size n1 = 55  
n2 = 28  
n2/n1 = 0.51
```

Estimated power:

```
power = 0.2653
```

```
. *Power_calc cd UP-ADJALL  
. sampsi 2.25627273429523 1.15257121409688, n1(55)n2(28)sd1(4.48998083418086)sd  
> 2(0.495339061928811)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 2.25627  
m2 = 1.15257  
sd1 = 4.48998  
sd2 = .495339  
sample size n1 = 55  
n2 = 28  
n2/n1 = 0.51
```

Estimated power:

```
power = 0.6985
```

```
. *Power_calc cu UP-ADJALL  
. sampsi 53.336363697052 33.5091654913766, n1(55)n2(28)sd1(62.284268698477)sd2(  
> 11.4055939707361)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 53.3364  
m2 = 33.5092  
sd1 = 62.2843  
sd2 = 11.4056  
sample size n1 = 55  
n2 = 28
```

power_Run4_122106

n2/n1 = 0.51

Estimated power:

power = 0.8426

```
. *Power_calc ni UP-ADJALL
. sampsi 19.5627273993058 22.5882604122161, n1(55)n2(28)sd1(8.64510803357284)sd
> 2(5.52040356818507)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 19.5627
m2 = 22.5883
sd1 = 8.64511
sd2 = 5.5204
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

power = 0.7430

```
. *Power_calc pb UP-ADJALL
. sampsi 73.0563635392622 69.5612748009817, n1(55)n2(28)sd1(134.979195610677)sd
> 2(36.9291333106309)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 73.0564
m2 = 69.5613
sd1 = 134.979
sd2 = 36.9291
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

power = 0.1352

```
. *Power_calc sb UP-ADJALL
. sampsi 1.87036362507126 3.8464503458568, n1(55)n2(28)sd1(2.51554992526225)sd2
> (2.28448603590679)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
```

power_Run4_122106

```
m1 = 1.87036
m2 = 3.84645
sd1 = 2.51555
sd2 = 2.28449
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.9898
```

```
. *Power_calc zn UP-ADJALL
. sampsi 147.704545454545 127.978185381208, n1(55)n2(28)sd1(126.160278097354)sd
> 2(35.7621141063825)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 147.705
m2 = 127.978
sd1 = 126.16
sd2 = 35.7621
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.4192
```

```
. *Power_calc ln_ag UP-ADJALL
. sampsi -1.64371465031396 -0.711628399789333, n1(55)n2(28)sd1(1.73694834557578
> )sd2(1.42256554372168)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -1.64371
m2 = -.711628
sd1 = 1.73695
sd2 = 1.42257
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.9087
```

```
. *Power_calc ln_cd UP-ADJALL
. sampsi 0.0002389845522967 -0.0549276916842375, n1(55)n2(28)sd1(1.076589843022
> 62)sd2(0.527686020316122)a(0.1) onesided
```

Estimated power for two-sample comparison of means

power_Run4_122106

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .000239
m2 = -.054928
sd1 = 1.07659
sd2 = .527686
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.1664
```

```
. *Power_calc ln_cu UP-ADJALL
. sampsi 3.42182233550331 3.52281077419008, n1(55)n2(28)sd1(1.08465090095737)sd
> 2(0.570891360470567)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 3.42182
m2 = 3.52281
sd1 = 1.08465
sd2 = .570891
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.2340
```

```
. *Power_calc ln_ni UP-ADJALL
. sampsi 2.87653402631933 3.13256452764783, n1(55)n2(28)sd1(0.452443782106619)s
> d2(0.350199673711743)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.87653
m2 = 3.13256
sd1 = .452444
sd2 = .3502
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.9410
```

power_Run4_122106

```
. *Power_calc ln_pb UP-ADJALL
. sampsi 3.57808055877685 3.91479158401489, n1(55)n2(28)sd1(1.06060612205446)sd
> 2(0.753215117375748)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 3.57808
m2 = 3.91479
sd1 = 1.06061
sd2 = .753215
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.6507
```

```
. *Power_calc ln_sb UP-ADJALL
. sampsi -0.746424454924735 0.888105212577751, n1(55)n2(28)sd1(1.88435352574118
> )sd2(1.68262105380143)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -.746424
m2 = .888105
sd1 = 1.88435
sd2 = 1.68262
sample size n1 = 55
n2 = 28
n2/n1 = 0.51
```

Estimated power:

```
power = 0.9969
```

```
. *Power_calc ln_zn UP-ADJALL
. sampsi 4.74969377951188 4.85980395759855, n1(55)n2(28)sd1(0.677101845199333)s
> d2(0.41361194649454)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.74969
m2 = 4.8598
sd1 = .677102
sd2 = .413612
sample size n1 = 55
```

power_Run4_122106

n2 = 28
n2/n1 = 0.51

Estimated power:

power = 0.3574

```
. *Power_calc cr UP-ADJALL  
. sampsi 69.3436363653703 29.8665595054626, n1(55)n2(28)sd1(130.74784046058)sd2  
> (10.0576312645979)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 69.3436
m2 = 29.8666
sd1 = 130.748
sd2 = 10.0576
sample size n1 = 55
n2 = 28
n2/n1 = 0.51

Estimated power:

power = 0.8276

```
. *Power_calc ln_cr UP-ADJALL  
. sampsi 3.38549570603804 3.36701726913452, n1(55)n2(28)sd1(1.18149752943977)sd  
> 2(0.495931305253772)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 3.3855
m2 = 3.36702
sd1 = 1.1815
sd2 = .495931
sample size n1 = 55
n2 = 28
n2/n1 = 0.51

Estimated power:

power = 0.1187

```
. *Power_calc as UP-ADJNEAR  
. sampsi 10.2277777393659 4.49397154365267, n1(36)n2(28)sd1(18.2681903234744)sd  
> 2(1.64040012569459)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

                                power_Run4_122106
alpha = 0.1000 (one-sided)
  m1 = 10.2278
  m2 = 4.49397
  sd1 = 18.2682
  sd2 = 1.6404
sample size n1 = 36
              n2 = 28
              n2/n1 = 0.78

```

Estimated power:

```
power = 0.7231
```

```

. *Power_calc fe UP-ADJNEAR
. sampsi 24798.611111111 25864.6462053571, n1(36)n2(28)sd1(4807.01104208531)sd
> 2(5149.64567590671)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
  m1 = 24798.6
  m2 = 25864.6
  sd1 = 4807.01
  sd2 = 5149.65
sample size n1 = 36
              n2 = 28
              n2/n1 = 0.78

```

Estimated power:

```
power = 0.3315
```

```

. *Power_calc hg UP-ADJNEAR
. sampsi 0.512222225467364 0.144763890653848, n1(36)n2(28)sd1(0.587785732507117
> )sd2(0.0645853196035577)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
  m1 = .512222
  m2 = .144764
  sd1 = .587786
  sd2 = .064585
sample size n1 = 36
              n2 = 28
              n2/n1 = 0.78

```

Estimated power:

```
power = 0.9927
```

```

. *Power_calc ln_as UP-ADJNEAR
. sampsi 1.95141369932227 1.44544792175293, n1(36)n2(28)sd1(0.674279542896597)s
> d2(0.537199642868945)a(0.1) onesided

```


power_Run4_122106

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 1.95141
m2 = 1.44545
sd1 = .67428
sd2 = .5372
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

```
power = 0.9803
```

```
. *Power_calc ln_fe UP-ADJNEAR
. sampsi 10.1026352246602 10.1663228784288, n1(36)n2(28)sd1(0.175564047278958)s
> d2(0.258848755696419)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 10.1026
m2 = 10.1663
sd1 = .175564
sd2 = .258849
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

```
power = 0.4348
```

```
. *Power_calc ln_hg UP-ADJNEAR
. sampsi -1.22096893253425 -1.98213238694838, n1(36)n2(28)sd1(1.04096592069093)
> sd2(0.865394597415933)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -1.22097
m2 = -1.98213
sd1 = 1.04097
sd2 = .865395
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

power_Run4_122106

power = 0.9720

```
. *Power_calc ln_mn UP-ADJNEAR  
. sampsi 6.36277307404412 6.53670951298305, n1(36)n2(28)sd1(0.345492808956618)s  
> d2(0.517661299074383)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 6.36277  
m2 = 6.53671  
sd1 = .345493  
sd2 = .517661  
sample size n1 = 36  
n2 = 28  
n2/n1 = 0.78
```

Estimated power:

power = 0.5990

```
. *Power_calc mn UP-ADJNEAR  
. sampsi 616.3472222222222 707.543938773019, n1(36)n2(28)sd1(240.544317848512)sd  
> 2(240.508207318362)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 616.347  
m2 = 707.544  
sd1 = 240.544  
sd2 = 240.508  
sample size n1 = 36  
n2 = 28  
n2/n1 = 0.78
```

Estimated power:

power = 0.5883

```
. *Power_calc ag UP-ADJNEAR  
. sampsi 0.703472223132848 0.541214790727411, n1(36)n2(28)sd1(0.505666215169987  
> )sd2(0.283000505442838)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = .703472  
m2 = .541215  
sd1 = .505666  
sd2 = .283
```

power_Run4_122106

sample size n1 = 36
n2 = 28
n2/n1 = 0.78

Estimated power:

power = 0.6346

```
. *Power_calc cd UP-ADJNEAR  
. sampsi 3.16791667209731 1.15257121409688, n1(36)n2(28)sd1(5.35043580138229)sd  
> 2(0.495339061928811)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 3.16792
m2 = 1.15257
sd1 = 5.35044
sd2 = .495339
sample size n1 = 36
n2 = 28
n2/n1 = 0.78

Estimated power:

power = 0.8330

```
. *Power_calc cu UP-ADJNEAR  
. sampsi 76.4500000741746 33.5091654913766, n1(36)n2(28)sd1(66.246999830932)sd2  
> (11.4055939707361)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 76.45
m2 = 33.5092
sd1 = 66.247
sd2 = 11.4056
sample size n1 = 36
n2 = 28
n2/n1 = 0.78

Estimated power:

power = 0.9944

```
. *Power_calc ni UP-ADJNEAR  
. sampsi 24.2472224235534 22.5882604122161, n1(36)n2(28)sd1(6.87938903498046)sd  
> 2(5.52040356818507)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

power_Run4_122106

alpha = 0.1000 (one-sided)
m1 = 24.2472
m2 = 22.5883
sd1 = 6.87939
sd2 = 5.5204
sample size n1 = 36
n2 = 28
n2/n1 = 0.78

Estimated power:

power = 0.4163

```
. *Power_calc pb UP-ADJNEAR  
. sampsi 103.980555428399 69.5612748009817, n1(36)n2(28)sd1(158.841473239832)sd  
> 2(36.9291333106309)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 103.981
m2 = 69.5613
sd1 = 158.842
sd2 = 36.9291
sample size n1 = 36
n2 = 28
n2/n1 = 0.78

Estimated power:

power = 0.4903

```
. *Power_calc sb UP-ADJNEAR  
. sampsi 2.72194442960123 3.8464503458568, n1(36)n2(28)sd1(2.69557022571776)sd2  
> (2.28448603590679)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 2.72194
m2 = 3.84645
sd1 = 2.69557
sd2 = 2.28449
sample size n1 = 36
n2 = 28
n2/n1 = 0.78

Estimated power:

power = 0.6996

```
. *Power_calc zn UP-ADJNEAR  
. sampsi 195.441666709052 127.978185381208, n1(36)n2(28)sd1(132.928335922908)sd  
> 2(35.7621141063825)a(0.1) onesided
```

power_Run4_122106

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 195.442
m2 = 127.978
sd1 = 132.928
sd2 = 35.7621
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

```
power = 0.9486
```

```
. *Power_calc ln_ag UP-ADJNEAR
. sampsi -0.563807459651596 -0.711628399789333, n1(36)n2(28)sd1(0.6749595667155
> 16)sd2(1.42256554372168)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -.563807
m2 = -.711628
sd1 = .67496
sd2 = 1.42257
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

```
power = 0.2194
```

```
. *Power_calc ln_cd UP-ADJNEAR
. sampsi 0.341361380699608 -0.0549276916842375, n1(36)n2(28)sd1(1.1959658208317
> 9)sd2(0.527686020316122)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .341361
m2 = -.054928
sd1 = 1.19597
sd2 = .527686
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

power_Run4_122106

power = 0.6902

```
. *Power_calc ln_cu UP-ADJNEAR
. sampsi 4.07255230347315 3.52281077419008, n1(36)n2(28)sd1(0.690295611089809)s
> d2(0.570891360470567)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.07255
m2 = 3.52281
sd1 = .690296
sd2 = .570891
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

power = 0.9862

```
. *Power_calc ln_ni UP-ADJNEAR
. sampsi 3.15487478176752 3.13256452764783, n1(36)n2(28)sd1(0.253357767748313)s
> d2(0.350199673711743)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 3.15487
m2 = 3.13256
sd1 = .253358
sd2 = .3502
sample size n1 = 36
n2 = 28
n2/n1 = 0.78
```

Estimated power:

power = 0.1593

```
. *Power_calc ln_pb UP-ADJNEAR
. sampsi 4.10875530375374 3.91479158401489, n1(36)n2(28)sd1(0.898630566713301)s
> d2(0.753215117375748)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.10876
m2 = 3.91479
sd1 = .898631
```

power_Run4_122106

```
sd2 = .753215
sample size n1 = 36
           n2 = 28
           n2/n1 = 0.78
```

Estimated power:

```
power = 0.3659
```

```
. *Power_calc ln_sb UP-ADJNEAR
. sampsi 0.239169105990893 0.888105212577751, n1(36)n2(28)sd1(1.38340909610748)
> sd2(1.68262105380143)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .239169
m2 = .888105
sd1 = 1.38341
sd2 = 1.68262
sample size n1 = 36
           n2 = 28
           n2/n1 = 0.78
```

Estimated power:

```
power = 0.6445
```

```
. *Power_calc ln_zn UP-ADJNEAR
. sampsi 5.1345284514957 4.85980395759855, n1(36)n2(28)sd1(0.487596493156651)sd
> 2(0.41361194649454)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.13453
m2 = 4.8598
sd1 = .487596
sd2 = .413612
sample size n1 = 36
           n2 = 28
           n2/n1 = 0.78
```

Estimated power:

```
power = 0.8759
```

```
. *Power_calc cr UP-ADJNEAR
. sampsi 100.890277756585 29.8665595054626, n1(36)n2(28)sd1(152.996152086419)sd
> 2(10.0576312645979)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 100.89
m2 = 29.8666
sd1 = 152.996
sd2 = 10.0576
sample size n1 = 36
n2 = 28
n2/n1 = 0.78

```

Estimated power:

```
power = 0.9327
```

```

. *Power_calc ln_cr UP-ADJNEAR
. sampsi 4.00123020675447 3.36701726913452, n1(36)n2(28)sd1(0.991045975223018)s
> d2(0.495931305253772)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 4.00123
m2 = 3.36702
sd1 = .991046
sd2 = .495931
sample size n1 = 36
n2 = 28
n2/n1 = 0.78

```

Estimated power:

```
power = 0.9802
```

```

. *Power_calc as UP-ADJFAR
. sampsi 6.1583332353168 4.49397154365267, n1(18)n2(28)sd1(9.96072035167032)sd2
> (1.64040012569459)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 6.15833
m2 = 4.49397
sd1 = 9.96072
sd2 = 1.6404
sample size n1 = 18
n2 = 28
n2/n1 = 1.56

```

Estimated power:

```
power = 0.2814
```

```

. *Power_calc fe UP-ADJFAR
. sampsi 17007.8947368421 25864.6462053571, n1(19)n2(28)sd1(6139.13365128208)sd

```



```

                                power_Run4_122106
> 2(5149.64567590671)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

        alpha =    0.1000    (one-sided)
          m1 =   17007.9
          m2 =   25864.6
          sd1 =    6139.13
          sd2 =   5149.65
sample size n1 =         19
          n2 =         28
        n2/n1 =         1.47

```

Estimated power:

```

        power =    1.0000

```

```

. *Power_calc hg UP-ADJFAR
. sampsi 0.146842100412437 0.144763890653848, n1(19)n2(28)sd1(0.531424195045436
> )sd2(0.0645853196035577)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

        alpha =    0.1000    (one-sided)
          m1 =    .146842
          m2 =    .144764
          sd1 =    .531424
          sd2 =    .064585
sample size n1 =         19
          n2 =         28
        n2/n1 =         1.47

```

Estimated power:

```

        power =    0.1030

```

```

. *Power_calc ln_as UP-ADJFAR
. sampsi 0.970430259903272 1.44544792175293, n1(18)n2(28)sd1(1.18436751533701)s
> d2(0.537199642868945)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

        alpha =    0.1000    (one-sided)
          m1 =    .97043
          m2 =    1.44545
          sd1 =    1.18437
          sd2 =    .5372
sample size n1 =         18
          n2 =         28
        n2/n1 =         1.56

```

power_Run4_122106

Estimated power:

power = 0.6246

```
. *Power_calc ln_fe UP-ADJFAR
. sampsi 9.69604467090807 10.1663228784288, n1(19)n2(28)sd1(0.290052807132837)s
> d2(0.258848755696419)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 9.69604
m2 = 10.1663
sd1 = .290053
sd2 = .258849
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

power = 1.0000

```
. *Power_calc ln_hg UP-ADJFAR
. sampsi -3.66923915085039 -1.98213238694838, n1(19)n2(28)sd1(1.27693374599864)
> sd2(0.865394597415933)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -3.66924
m2 = -1.98213
sd1 = 1.27693
sd2 = .865395
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

power = 0.9999

```
. *Power_calc ln_mn UP-ADJFAR
. sampsi 5.58640690853721 6.53670951298305, n1(19)n2(28)sd1(0.32033014976996)sd
> 2(0.517661299074383)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.58641
m2 = 6.53671
```

power_Run4_122106

```
sd1 = .32033
sd2 = .517661
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc mn UP-ADJFAR
. sampsi 279.447368421052 707.543938773019, n1(19)n2(28)sd1(85.5840871010042)sd
> 2(240.508207318362)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 279.447
m2 = 707.544
sd1 = 85.5841
sd2 = 240.508
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ag UP-ADJFAR
. sampsi 0.0676315800335846 0.541214790727411, n1(19)n2(28)sd1(0.14547211417736
> 1)sd2(0.283000505442838)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .067632
m2 = .541215
sd1 = .145472
sd2 = .283
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc cd UP-ADJFAR
. sampsi 0.528947378459729 1.15257121409688, n1(19)n2(28)sd1(0.0652256581208895
> )sd2(0.495339061928811)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1

power_Run4_122106
and m2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .528947
m2 = 1.15257
sd1 = .065226
sd2 = .495339
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc cu UP-ADJFAR
. sampsi 9.54210529829326 33.5091654913766, n1(19)n2(28)sd1(3.39199483696212)sd
> 2(11.4055939707361)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 9.54211
m2 = 33.5092
sd1 = 3.392
sd2 = 11.4056
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ni UP-ADJFAR
. sampsi 10.6868420902051 22.5882604122161, n1(19)n2(28)sd1(2.26800467615905)sd
> 2(5.52040356818507)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 10.6868
m2 = 22.5883
sd1 = 2.26801
sd2 = 5.5204
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc pb UP-ADJFAR
```

```

                                power_Run4_122106
. sampsi 14.4631578545821 69.5612748009817, n1(19)n2(28)sd1(7.88142739993979)sd
> 2(36.9291333106309)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 14.4632
m2 = 69.5613
sd1 = 7.88143
sd2 = 36.9291
sample size n1 = 19
n2 = 28
n2/n1 = 1.47

```

Estimated power:

```
power = 1.0000
```

```

. *Power_calc sb UP-ADJFAR
. sampsi 0.256842100698697 3.8464503458568, n1(19)n2(28)sd1(0.810543709366749)s
> d2(2.28448603590679)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = .256842
m2 = 3.84645
sd1 = .810544
sd2 = 2.28449
sample size n1 = 19
n2 = 28
n2/n1 = 1.47

```

Estimated power:

```
power = 1.0000
```

```

. *Power_calc zn UP-ADJFAR
. sampsi 57.2552630775853 127.978185381208, n1(19)n2(28)sd1(14.0635552515799)sd
> 2(35.7621141063825)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 57.2553
m2 = 127.978
sd1 = 14.0636
sd2 = 35.7621
sample size n1 = 19
n2 = 28
n2/n1 = 1.47

```

Estimated power:

power = 1.0000

```
. *Power_calc ln_ag UP-ADJFAR
. sampsi -3.68985459051634 -0.711628399789333, n1(19)n2(28)sd1(1.18888845138963
> )sd2(1.42256554372168)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -3.68985
m2 = -.711628
sd1 = 1.18889
sd2 = 1.42257
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

power = 1.0000

```
. *Power_calc ln_cd UP-ADJFAR
. sampsi -0.64609818709524 -0.0549276916842375, n1(19)n2(28)sd1(0.1491390189115
> 59)sd2(0.527686020316122)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -.646098
m2 = -.054928
sd1 = .149139
sd2 = .527686
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

power = 1.0000

```
. *Power_calc ln_cu UP-ADJFAR
. sampsi 2.18886029092889 3.52281077419008, n1(19)n2(28)sd1(0.388985413426992)s
> d2(0.570891360470567)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.18886
```

power_Run4_122106

```
m2 = 3.52281
sd1 = .388985
sd2 = .570891
sample size n1 = 19
           n2 = 28
           n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ln_ni UP-ADJFAR
. sampsi 2.34915154231222 3.13256452764783, n1(19)n2(28)sd1(0.201917558808438)s
> d2(0.350199673711743)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.34915
m2 = 3.13256
sd1 = .201918
sd2 = .3502
sample size n1 = 19
           n2 = 28
           n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ln_pb UP-ADJFAR
. sampsi 2.57259156829432 3.91479158401489, n1(19)n2(28)sd1(0.417179591180133)s
> d2(0.753215117375748)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.57259
m2 = 3.91479
sd1 = .41718
sd2 = .753215
sample size n1 = 19
           n2 = 28
           n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ln_sb UP-ADJFAR
. sampsi -2.61386488613329 0.888105212577751, n1(19)n2(28)sd1(1.14332090239125)
> sd2(1.68262105380143)a(0.1) onesided
```

Estimated power for two-sample comparison of means

power_Run4_122106

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -2.61386
m2 = .888105
sd1 = 1.14332
sd2 = 1.68262
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ln_zn UP-ADJFAR
. sampsi 4.02053334838465 4.85980395759855, n1(19)n2(28)sd1(0.236009571998667)s
> d2(0.41361194649454)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.02053
m2 = 4.8598
sd1 = .23601
sd2 = .413612
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc cr UP-ADJFAR
. sampsi 9.57105267675299 29.8665595054626, n1(19)n2(28)sd1(2.85537102174128)sd
> 2(10.0576312645979)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 9.57105
m2 = 29.8666
sd1 = 2.85537
sd2 = 10.0576
sample size n1 = 19
n2 = 28
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```


power_Run4_122106

```
. *Power_calc ln_cr UP-ADJFAR  
. sampsi 2.21884086257533 3.36701726913452, n1(19)n2(28)sd1(0.288223660410413)s  
> d2(0.495931305253772)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 2.21884  
m2 = 3.36702  
sd1 = .288224  
sd2 = .495931  
sample size n1 = 19  
n2 = 28  
n2/n1 = 1.47
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc as ADJFAR-ADJNEAR  
. sampsi 16.1190541055467 10.2277777393659, n1(18)n2(36)sd1(9.96072087895187)sd  
> 2(18.2681903234744)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 16.1191  
m2 = 10.2278  
sd1 = 9.96072  
sd2 = 18.2682  
sample size n1 = 18  
n2 = 36  
n2/n1 = 2.00
```

Estimated power:

```
power = 0.5990
```

```
. *Power_calc fe ADJFAR-ADJNEAR  
. sampsi 23147.0275493421 24798.6111111111, n1(19)n2(36)sd1(6139.13365128208)sd  
> 2(4807.01104208531)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 23147  
m2 = 24798.6  
sd1 = 6139.13  
sd2 = 4807.01  
sample size n1 = 19  
n2 = 36
```

power_Run4_122106

n2/n1 = 1.89

Estimated power:

power = 0.3966

```
. *Power_calc hg ADJFAR-ADJNEAR
. sampsi 0.678266311946668 0.512222225467364, n1(19)n2(36)sd1(0.53142421251328)
> sd2(0.587785732507117)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .678266
m2 = .512222
sd1 = .531424
sd2 = .587786
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

power = 0.4130

```
. *Power_calc ln_as ADJFAR-ADJNEAR
. sampsi 2.15479771296183 1.95141369932227, n1(18)n2(36)sd1(1.1843674210994)sd2
> (0.674279542896597)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.1548
m2 = 1.95141
sd1 = 1.18437
sd2 = .67428
sample size n1 = 18
n2 = 36
n2/n1 = 2.00
```

Estimated power:

power = 0.2724

```
. *Power_calc ln_fe ADJFAR-ADJNEAR
. sampsi 9.9860974362022 10.1026352246602, n1(19)n2(36)sd1(0.290052834723493)sd
> 2(0.175564047278958)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
```

power_Run4_122106

```
m1 = 9.9861
m2 = 10.1026
sd1 = .290053
sd2 = .175564
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 0.6261
```

```
. *Power_calc ln_hg ADJFAR-ADJNEAR
. sampsi -2.39230546198393 -1.22096893253425, n1(19)n2(36)sd1(1.27693377410974)
> sd2(1.04096592069093)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -2.39231
m2 = -1.22097
sd1 = 1.27693
sd2 = 1.04097
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 0.9846
```

```
. *Power_calc ln_mn ADJFAR-ADJNEAR
. sampsi 5.90673707660875 6.36277307404412, n1(19)n2(36)sd1(0.320330132691844)s
> d2(0.345492808956618)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.90674
m2 = 6.36277
sd1 = .32033
sd2 = .345493
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 0.9998
```

```
. *Power_calc mn ADJFAR-ADJNEAR
. sampsi 365.031446758069 616.347222222222, n1(19)n2(36)sd1(85.5840888904212)sd
> 2(240.544317848512)a(0.1) onesided
```

Estimated power for two-sample comparison of means

power_Run4_122106

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 365.031
m2 = 616.347
sd1 = 85.5841
sd2 = 240.544
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ag ADJFAR-ADJNEAR
. sampsi 0.213103693566824 0.703472223132848, n1(19)n2(36)sd1(0.145472112731092
> )sd2(0.505666215169987)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .213104
m2 = .703472
sd1 = .145472
sd2 = .505666
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc cd ADJFAR-ADJNEAR
. sampsi 0.59417302828086 3.16791667209731, n1(19)n2(36)sd1(0.0652256531109017)
> sd2(5.35043580138229)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .594173
m2 = 3.16792
sd1 = .065226
sd2 = 5.35044
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 0.9457
```

power_Run4_122106

```
. *Power_calc cu ADJFAR-ADJNEAR
. sampsi 12.9341001259653 76.4500000741746, n1(19)n2(36)sd1(3.39199492451459)sd
> 2(66.246999830932)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 12.9341
m2 = 76.45
sd1 = 3.392
sd2 = 66.247
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ni ADJFAR-ADJNEAR
. sampsi 12.9548467836881 24.2472224235534, n1(19)n2(36)sd1(2.26800474325925)sd
> 2(6.87938903498046)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 12.9548
m2 = 24.2472
sd1 = 2.26801
sd2 = 6.87939
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc pb ADJFAR-ADJNEAR
. sampsi 22.3445856194747 103.980555428399, n1(19)n2(36)sd1(7.88142739993979)sd
> 2(158.841473239832)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 22.3446
m2 = 103.981
sd1 = 7.88143
sd2 = 158.842
sample size n1 = 19
```

power_Run4_122106

n2 = 36
n2/n1 = 1.89

Estimated power:

power = 0.9637

```
. *Power_calc sb ADJFAR-ADJNEAR  
. sampsi 1.06738585547397 2.72194442960123, n1(19)n2(36)sd1(0.810543771706974)s  
> d2(2.69557022571776)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 1.06739
m2 = 2.72194
sd1 = .810544
sd2 = 2.69557
sample size n1 = 19
n2 = 36
n2/n1 = 1.89

Estimated power:

power = 0.9831

```
. *Power_calc zn ADJFAR-ADJNEAR  
. sampsi 71.3188185440866 195.441666709052, n1(19)n2(36)sd1(14.0635548384041)sd  
> 2(132.928335922908)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 71.3188
m2 = 195.442
sd1 = 14.0635
sd2 = 132.928
sample size n1 = 19
n2 = 36
n2/n1 = 1.89

Estimated power:

power = 1.0000

```
. *Power_calc ln_ag ADJFAR-ADJNEAR  
. sampsi -2.45011518988758 -0.563807459651596, n1(18)n2(36)sd1(1.20190668914736  
> )sd2(0.674959566715516)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

                                power_Run4_122106
alpha = 0.1000 (one-sided)
m1 = -2.45012
m2 = -.563807
sd1 = 1.20191
sd2 = .67496
sample size n1 = 18
n2 = 36
n2/n1 = 2.00

```

Estimated power:

```
power = 1.0000
```

```

. *Power_calc ln_cd ADJFAR-ADJNEAR
. sampsi -0.496959192188162 0.341361380699608, n1(19)n2(36)sd1(0.14913901103016
> 9)sd2(1.19596582083179)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = -.496959
m2 = .341361
sd1 = .149139
sd2 = 1.19597
sample size n1 = 19
n2 = 36
n2/n1 = 1.89

```

Estimated power:

```
power = 0.9979
```

```

. *Power_calc ln_cu ADJFAR-ADJNEAR
. sampsi 2.5778457114571 4.07255230347315, n1(19)n2(36)sd1(0.388985427887002)sd
> 2(0.690295611089809)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 2.57785
m2 = 4.07255
sd1 = .388985
sd2 = .690296
sample size n1 = 19
n2 = 36
n2/n1 = 1.89

```

Estimated power:

```
power = 1.0000
```

```

. *Power_calc ln_ni ADJFAR-ADJNEAR
. sampsi 2.55106904632166 3.15487478176752, n1(19)n2(36)sd1(0.201917571831522)s
> d2(0.253357767748313)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 2.55107
m2 = 3.15487
sd1 = .201918
sd2 = .253358
sample size n1 = 19
n2 = 36
n2/n1 = 1.89

```

Estimated power:

```
power = 1.0000
```

```

. *Power_calc ln_pb ADJFAR-ADJNEAR
. sampsi 2.98977116534584 4.10875530375374, n1(19)n2(36)sd1(0.417179611444675)s
> d2(0.898630566713301)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 2.98977
m2 = 4.10876
sd1 = .41718
sd2 = .898631
sample size n1 = 19
n2 = 36
n2/n1 = 1.89

```

Estimated power:

```
power = 1.0000
```

```

. *Power_calc ln_sb ADJFAR-ADJNEAR
. sampsi -1.47054393981632 0.239169105990893, n1(19)n2(36)sd1(1.14332084059196)
> sd2(1.38340909610748)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = -1.47054
m2 = .239169
sd1 = 1.14332
sd2 = 1.38341
sample size n1 = 19
n2 = 36
n2/n1 = 1.89

```

Estimated power:

power_Run4_122106

power = 0.9998

```
. *Power_calc ln_zn ADJFAR-ADJNEAR
. sampsi 4.25654293361463 5.1345284514957, n1(19)n2(36)sd1(0.236009591890963)sd
> 2(0.487596493156651)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.25654
m2 = 5.13453
sd1 = .23601
sd2 = .487596
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

power = 1.0000

```
. *Power_calc cr ADJFAR-ADJNEAR
. sampsi 12.4264236249421 100.890277756585, n1(19)n2(36)sd1(2.85537111444392)sd
> 2(152.996152086419)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 12.4264
m2 = 100.89
sd1 = 2.85537
sd2 = 152.996
sample size n1 = 19
n2 = 36
n2/n1 = 1.89
```

Estimated power:

power = 0.9856

```
. *Power_calc ln_cr ADJFAR-ADJNEAR
. sampsi 2.5070644993531 4.00123020675447, n1(19)n2(36)sd1(0.288223664282524)sd
> 2(0.991045975223018)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.50706
m2 = 4.00123
sd1 = .288224
sd2 = .991046
```

power_Run4_122106

sample size n1 = 19
n2 = 36
n2/n1 = 1.89

Estimated power:

power = 1.0000

```
. *Power_calc as UNC-ADJNEAR  
. sampsi 10.2277777393659 9.55849701563517, n1(36)n2(15)sd1(18.2681903234744)sd  
> 2(4.27516361567222)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 10.2278
m2 = 9.5585
sd1 = 18.2682
sd2 = 4.27516
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

Estimated power:

power = 0.1412

```
. *Power_calc fe UNC-ADJNEAR  
. sampsi 24798.6111111111 26976.6723958333, n1(36)n2(15)sd1(4807.01104208531)sd  
> 2(5130.00475581096)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 24798.6
m2 = 26976.7
sd1 = 4807.01
sd2 = 5130.01
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

Estimated power:

power = 0.5499

```
. *Power_calc hg UNC-ADJNEAR  
. sampsi 0.512222225467364 1.62119459680148, n1(36)n2(14)sd1(0.587785732507117)  
> sd2(0.817266024576589)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

power_Run4_122106

```
alpha = 0.1000 (one-sided)
m1 = .512222
m2 = 1.62119
sd1 = .587786
sd2 = .817266
sample size n1 = 36
n2 = 14
n2/n1 = 0.39
```

Estimated power:

```
power = 0.9996
```

```
. *Power_calc ln_as UNC-ADJNEAR
. sampsi 1.95141369932227 2.09320805867513, n1(36)n2(15)sd1(0.674279542896597)s
> d2(0.640920880769081)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 1.95141
m2 = 2.09321
sd1 = .67428
sd2 = .640921
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 0.2834
```

```
. *Power_calc ln_fe UNC-ADJNEAR
. sampsi 10.1026352246602 10.1952018737793, n1(36)n2(15)sd1(0.175564047278958)s
> d2(0.227914627306391)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 10.1026
m2 = 10.1952
sd1 = .175564
sd2 = .227915
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 0.5505
```

```
. *Power_calc ln_hg UNC-ADJNEAR
. sampsi -1.22096893253425 0.437495367867606, n1(36)n2(14)sd1(1.04096592069093)
> sd2(1.18384239011734)a(0.1) onesided
```

power_Run4_122106

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -1.22097
m2 = .437495
sd1 = 1.04097
sd2 = 1.18384
sample size n1 = 36
n2 = 14
n2/n1 = 0.39
```

Estimated power:

```
power = 0.9995
```

```
. *Power_calc ln_mn UNC-ADJNEAR
. sampsi 6.36277307404412 6.26649640401204, n1(36)n2(15)sd1(0.345492808956618)s
> d2(0.327374584542825)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 6.36277
m2 = 6.2665
sd1 = .345493
sd2 = .327375
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 0.3668
```

```
. *Power_calc mn UNC-ADJNEAR
. sampsi 616.347222222222 525.258911132812, n1(36)n2(15)sd1(240.544317848512)sd
> 2(126.75891064762)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 616.347
m2 = 525.259
sd1 = 240.544
sd2 = 126.759
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

power_Run4_122106

power = 0.6838

```
. *Power_calc ag UNC-ADJNEAR
. sampsi 0.703472223132848 1.37997412284215, n1(36)n2(15)sd1(0.505666215169987)
> sd2(0.597640792424433)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .703472
m2 = 1.37997
sd1 = .505666
sd2 = .597641
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

power = 0.9949

```
. *Power_calc cd UNC-ADJNEAR
. sampsi 3.16791667209731 11.3663707733154, n1(36)n2(15)sd1(5.35043580138229)sd
> 2(5.55970414321998)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 3.16792
m2 = 11.3664
sd1 = 5.35044
sd2 = 5.5597
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

power = 0.9998

```
. *Power_calc cu UNC-ADJNEAR
. sampsi 76.4500000741746 137.89612528483, n1(36)n2(15)sd1(66.246999830932)sd2(
> 61.129458639328)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 76.45
m2 = 137.896
sd1 = 66.247
```

power_Run4_122106

sd2 = 61.1295
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

Estimated power:

power = 0.9718

```
. *Power_calc ni UNC-ADJNEAR  
. sampsi 24.2472224235534 28.6482269287109, n1(36)n2(15)sd1(6.87938903498046)sd  
> 2(6.98489332316129)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 24.2472
m2 = 28.6482
sd1 = 6.87939
sd2 = 6.98489
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

Estimated power:

power = 0.7817

```
. *Power_calc pb UNC-ADJNEAR  
. sampsi 103.980555428399 232.50153910319, n1(36)n2(15)sd1(158.841473239832)sd2  
> (95.8015383093177)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 103.981
m2 = 232.502
sd1 = 158.842
sd2 = 95.8015
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

Estimated power:

power = 0.9883

```
. *Power_calc sb UNC-ADJNEAR  
. sampsi 2.72194442960123 2.68132890860239, n1(36)n2(15)sd1(2.69557022571776)sd  
> 2(1.63532892707571)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 2.72194
m2 = 2.68133
sd1 = 2.69557
sd2 = 1.63533
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

```

Estimated power:

```
power = 0.1121
```

```

. *Power_calc zn UNC-ADJNEAR
. sampsi 195.441666709052 400.480956013997, n1(36)n2(15)sd1(132.928335922908)sd
> 2(149.067620881303)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = 195.442
m2 = 400.481
sd1 = 132.928
sd2 = 149.068
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

```

Estimated power:

```
power = 0.9996
```

```

. *Power_calc ln_ag UNC-ADJNEAR
. sampsi -0.563807459651596 0.361071340243021, n1(36)n2(15)sd1(0.67495956671551
> 6)sd2(0.949112090465071)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
m1 = -.563807
m2 = .361071
sd1 = .67496
sd2 = .949112
sample size n1 = 36
n2 = 15
n2/n1 = 0.42

```

Estimated power:

```
power = 0.9842
```

```

. *Power_calc ln_cd UNC-ADJNEAR
. sampsi 0.341361380699608 2.45486787557601, n1(36)n2(15)sd1(1.19596582083179)s

```

```
power_Run4_122106
> d2(1.38122130997546)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .341361
m2 = 2.45487
sd1 = 1.19597
sd2 = 1.38122
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ln_cu UNC-ADJNEAR
. sampsi 4.07255230347315 4.91233914693196, n1(36)n2(15)sd1(0.690295611089809)s
> d2(0.912545005069981)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.07255
m2 = 4.91234
sd1 = .690296
sd2 = .912545
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 0.9726
```

```
. *Power_calc ln_ni UNC-ADJNEAR
. sampsi 3.15487478176752 3.35621419974735, n1(36)n2(14)sd1(0.253357767748313)s
> d2(0.343892321176545)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 3.15487
m2 = 3.35621
sd1 = .253358
sd2 = .343892
sample size n1 = 36
n2 = 14
n2/n1 = 0.39
```


Estimated power:

power = 0.7609

```
. *Power_calc ln_pb UNC-ADJNEAR
. sampsi 4.10875530375374 5.61718049049377, n1(36)n2(15)sd1(0.898630566713301)s
> d2(1.10504334991725)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.10876
m2 = 5.61718
sd1 = .898631
sd2 = 1.10504
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

power = 0.9997

```
. *Power_calc ln_sb UNC-ADJNEAR
. sampsi 0.239169105990893 0.584794557094574, n1(36)n2(15)sd1(1.38340909610748)
> sd2(1.48855746067613)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .239169
m2 = .584795
sd1 = 1.38341
sd2 = 1.48856
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

power = 0.3049

```
. *Power_calc ln_zn UNC-ADJNEAR
. sampsi 5.1345284514957 6.00279369354248, n1(36)n2(15)sd1(0.487596493156651)sd
> 2(0.666397194759471)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.13453
m2 = 6.00279
```

power_Run4_122106

```
sd1 = .487596
sd2 = .666397
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 0.9995
```

```
. *Power_calc cr UNC-ADJNEAR
. sampsi 100.890277756585 225.790918477376, n1(36)n2(15)sd1(152.996152086419)sd
> 2(98.657585544321)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 100.89
m2 = 225.791
sd1 = 152.996
sd2 = 98.6576
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 0.9855
```

```
. *Power_calc ln_cr UNC-ADJNEAR
. sampsi 4.00123020675447 5.47333698272705, n1(36)n2(15)sd1(0.991045975223018)s
> d2(1.04218436918918)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.00123
m2 = 5.47334
sd1 = .991046
sd2 = 1.04218
sample size n1 = 36
n2 = 15
n2/n1 = 0.42
```

Estimated power:

```
power = 0.9996
```

```
. *Power_calc as UP-UNC
. sampsi 5.28333330154419 4.49397154365267, n1(15)n2(28)sd1(4.27516359290016)sd
> 2(1.64040012569459)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1

power_Run4_122106
and m2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.28333
m2 = 4.49397
sd1 = 4.27516
sd2 = 1.6404
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.2766
```

```
. *Power_calc fe UP-UNC
. sampsi 21846.666666666666 25864.6462053571, n1(15)n2(28)sd1(5130.00510535344)sd
> 2(5149.64567590671)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 21846.7
m2 = 25864.6
sd1 = 5130.01
sd2 = 5149.65
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.8776
```

```
. *Power_calc hg UP-UNC
. sampsi 0.803928574547171 0.144763890653848, n1(14)n2(28)sd1(0.81726604574245)
> sd2(0.0645853196035577)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .803929
m2 = .144764
sd1 = .817266
sd2 = .064585
sample size n1 = 14
n2 = 28
n2/n1 = 2.00
```

Estimated power:

```
power = 0.9583
```

```
. *Power_calc ln_as UP-UNC
```

```

                                power_Run4_122106
. sampsi 1.452287175258 1.44544792175293, n1(15)n2(28)sd1(0.640920904307779)sd2
> (0.537199642868945)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

        alpha =    0.1000    (one-sided)
          m1 =    1.45229
          m2 =    1.44545
          sd1 =    .640921
          sd2 =    .5372
sample size n1 =         15
          n2 =         28
        n2/n1 =         1.87

```

Estimated power:

```

        power =    0.1063

```

```

. *Power_calc ln_fe UP-UNC
. sampsi 9.9672871907552 10.1663228784288, n1(15)n2(28)sd1(0.22791479692446)sd2
> (0.258848755696419)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

        alpha =    0.1000    (one-sided)
          m1 =    9.96729
          m2 =   10.1663
          sd1 =    .227915
          sd2 =    .258849
sample size n1 =         15
          n2 =         28
        n2/n1 =         1.87

```

Estimated power:

```

        power =    0.9065

```

```

. *Power_calc ln_hg UP-UNC
. sampsi -0.746347030890839 -1.98213238694838, n1(14)n2(28)sd1(1.18384238859877
> )sd2(0.865394597415933)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

        alpha =    0.1000    (one-sided)
          m1 =   -.746347
          m2 =  -1.98213
          sd1 =    1.18384
          sd2 =    .865395
sample size n1 =         14
          n2 =         28
        n2/n1 =         2.00

```

Estimated power:

power = 0.9857

```
. *Power_calc ln_mn UP-UNC
. sampsi 5.93912172317504 6.53670951298305, n1(15)n2(28)sd1(0.327374560683609)s
> d2(0.517661299074383)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.93912
m2 = 6.53671
sd1 = .327375
sd2 = .517661
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

power = 0.9996

```
. *Power_calc mn UP-UNC
. sampsi 398.5 707.543938773019, n1(15)n2(28)sd1(126.75891064762)sd2(240.508207
> 318362)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 398.5
m2 = 707.544
sd1 = 126.759
sd2 = 240.508
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

power = 1.0000

```
. *Power_calc ag UP-UNC
. sampsi 0.782333340744177 0.541214790727411, n1(15)n2(28)sd1(0.597640806661054
> )sd2(0.283000505442838)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .782333
```

power_Run4_122106

```
m2 = .541215
sd1 = .597641
sd2 = .283
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.5772
```

```
. *Power_calc cd UP-UNC
. sampsi 5.8066669209798 1.15257121409688, n1(15)n2(28)sd1(5.55970416307393)sd
> 2(0.495339061928811)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.80667
m2 = 1.15257
sd1 = 5.5597
sd2 = .495339
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9746
```

```
. *Power_calc cu UP-UNC
. sampsi 76.7666669209798 33.5091654913766, n1(15)n2(28)sd1(61.1294606907714)sd
> 2(11.4055939707361)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 76.7667
m2 = 33.5092
sd1 = 61.1295
sd2 = 11.4056
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9242
```

```
. *Power_calc ni UP-UNC
. sampsi 21.6633332570393 22.5882604122161, n1(15)n2(28)sd1(6.98489330924784)sd
> 2(5.52040356818507)a(0.1) onesided
```

Estimated power for two-sample comparison of means

power_Run4_122106

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 21.6633
m2 = 22.5883
sd1 = 6.98489
sd2 = 5.5204
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.2011
```

```
. *Power_calc pb UP-UNC
. sampsi 136.700000254313 69.5612748009817, n1(15)n2(28)sd1(95.8015356946479)sd
> 2(36.9291333106309)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 136.7
m2 = 69.5613
sd1 = 95.8015
sd2 = 36.9291
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9084
```

```
. *Power_calc sb UP-UNC
. sampsi 1.04600001685321 3.8464503458568, n1(15)n2(28)sd1(1.63532898008029)sd2
> (2.28448603590679)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 1.046
m2 = 3.84645
sd1 = 1.63533
sd2 = 2.28449
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9996
```

power_Run4_122106

```
. *Power_calc zn UP-UNC  
. sampsi 251.41333129882 127.978185381208, n1(15)n2(28)sd1(149.067616096243)sd  
> 2(35.7621141063825)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 251.413  
m2 = 127.978  
sd1 = 149.068  
sd2 = 35.7621  
sample size n1 = 15  
n2 = 28  
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9698
```

```
. *Power_calc ln_ag UP-UNC  
. sampsi -0.588040737559398 -0.711628399789333, n1(15)n2(28)sd1(0.9491120952241  
> 72)sd2(1.42256554372168)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = -.588041  
m2 = -.711628  
sd1 = .949112  
sd2 = 1.42257  
sample size n1 = 15  
n2 = 28  
n2/n1 = 1.87
```

Estimated power:

```
power = 0.1731
```

```
. *Power_calc ln_cd UP-UNC  
. sampsi 1.07364658514658 -0.0549276916842375, n1(15)n2(28)sd1(1.38122131629297  
> )sd2(0.527686020316122)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)  
m1 = 1.07365  
m2 = -.054928  
sd1 = 1.38122  
sd2 = .527686  
sample size n1 = 15  
n2 = 28
```


power_Run4_122106

n2/n1 = 1.87

Estimated power:

power = 0.9613

```
. *Power_calc ln_cu UP-UNC
. sampsi 3.99979408582051 3.52281077419008, n1(15)n2(28)sd1(0.912545039128539)s
> d2(0.570891360470567)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 3.99979
m2 = 3.52281
sd1 = .912545
sd2 = .570891
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

power = 0.7119

```
. *Power_calc ln_ni UP-UNC
. sampsi 3.02549635569254 3.13256452764783, n1(15)n2(28)sd1(0.331393278995743)s
> d2(0.350199673711743)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 3.0255
m2 = 3.13256
sd1 = .331393
sd2 = .3502
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

power = 0.3852

```
. *Power_calc ln_pb UP-UNC
. sampsi 4.51213715871175 3.91479158401489, n1(15)n2(28)sd1(1.10504329412881)sd
> 2(0.753215117375748)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
```

power_Run4_122106

```
m1 = 4.51214
m2 = 3.91479
sd1 = 1.10504
sd2 = .753215
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.7230
```

```
. *Power_calc ln_sb UP-UNC
. sampsi -0.903762937088807 0.888105212577751, n1(15)n2(28)sd1(1.48855749140066
> )sd2(1.68262105380143)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -.903763
m2 = .888105
sd1 = 1.48856
sd2 = 1.68262
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9896
```

```
. *Power_calc ln_zn UP-UNC
. sampsi 5.33639647165934 4.85980395759855, n1(15)n2(28)sd1(0.666397141223014)s
> d2(0.41361194649454)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 5.3364
m2 = 4.8598
sd1 = .666397
sd2 = .413612
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.8926
```

```
. *Power_calc cr UP-UNC
. sampsi 127.13333307902 29.8665595054626, n1(15)n2(28)sd1(98.6575801793628)sd2
> (10.0576312645979)a(0.1) onesided
```

Estimated power for two-sample comparison of means

power_Run4_122106

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 127.133
m2 = 29.8666
sd1 = 98.6576
sd2 = 10.0576
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9942
```

```
. *Power_calc ln_cr UP-UNC
. sampsi 4.431152566274 3.36701726913452, n1(15)n2(28)sd1(1.04218442174219)sd2(
> 0.495931305253772)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.43115
m2 = 3.36702
sd1 = 1.04218
sd2 = .495931
sample size n1 = 15
n2 = 28
n2/n1 = 1.87
```

Estimated power:

```
power = 0.9929
```

```
. *Power_calc as ADJFAR-UNC
. sampsi 16.1190541055467 5.28333330154419, n1(18)n2(15)sd1(9.96072087895187)sd
> 2(4.27516359290016)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 16.1191
m2 = 5.28333
sd1 = 9.96072
sd2 = 4.27516
sample size n1 = 18
n2 = 15
n2/n1 = 0.83
```

Estimated power:

```
power = 0.9981
```

power_Run4_122106

```
. *Power_calc fe ADJFAR-UNC
. sampsi 23147.0275493421 21846.6666666666, n1(19)n2(15)sd1(6139.13365128208)sd
> 2(5130.00510535344)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 23147
m2 = 21846.7
sd1 = 6139.13
sd2 = 5130.01
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 0.2713
```

```
. *Power_calc hg ADJFAR-UNC
. sampsi 0.678266311946668 0.803928574547171, n1(19)n2(14)sd1(0.53142421251328)
> sd2(0.81726604574245)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .678266
m2 = .803929
sd1 = .531424
sd2 = .817266
sample size n1 = 19
n2 = 14
n2/n1 = 0.74
```

Estimated power:

```
power = 0.2179
```

```
. *Power_calc ln_as ADJFAR-UNC
. sampsi 2.15479771296183 1.452287175258, n1(18)n2(15)sd1(1.1843674210994)sd2(0
> .640920904307779)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.1548
m2 = 1.45229
sd1 = 1.18437
sd2 = .640921
sample size n1 = 18
```

power_Run4_122106

n2 = 15
n2/n1 = 0.83

Estimated power:

power = 0.8114

```
. *Power_calc ln_fe ADJFAR-UNC  
. sampsi 9.9860974362022 9.9672871907552, n1(19)n2(15)sd1(0.290052834723493)sd2  
> (0.22791479692446)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = 9.9861
m2 = 9.96729
sd1 = .290053
sd2 = .227915
sample size n1 = 19
n2 = 15
n2/n1 = 0.79

Estimated power:

power = 0.1424

```
. *Power_calc ln_hg ADJFAR-UNC  
. sampsi -2.39230546198393 -0.746347030890839, n1(19)n2(14)sd1(1.27693377410974  
> )sd2(1.18384238859877)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = -2.39231
m2 = -.746347
sd1 = 1.27693
sd2 = 1.18384
sample size n1 = 19
n2 = 14
n2/n1 = 0.74

Estimated power:

power = 0.9944

```
. *Power_calc ln_mn ADJFAR-UNC  
. sampsi 5.90673707660875 5.93912172317504, n1(19)n2(15)sd1(0.320330132691844)s  
> d2(0.327374560683609)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

                                power_Run4_122106
alpha = 0.1000 (one-sided)
  m1 = 5.90674
  m2 = 5.93912
  sd1 = .32033
  sd2 = .327375
sample size n1 = 19
              n2 = 15
              n2/n1 = 0.79

```

Estimated power:

```
power = 0.1605
```

```

. *Power_calc mn ADJFAR-UNC
. sampsi 365.031446758069 398.5, n1(19)n2(15)sd1(85.5840888904212)sd2(126.75891
> 064762)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
  m1 = 365.031
  m2 = 398.5
  sd1 = 85.5841
  sd2 = 126.759
sample size n1 = 19
              n2 = 15
              n2/n1 = 0.79

```

Estimated power:

```
power = 0.3429
```

```

. *Power_calc ag ADJFAR-UNC
. sampsi 0.213103693566824 0.782333340744177, n1(19)n2(15)sd1(0.145472112731092
> )sd2(0.597640806661054)a(0.1) onesided

```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```

alpha = 0.1000 (one-sided)
  m1 = .213104
  m2 = .782333
  sd1 = .145472
  sd2 = .597641
sample size n1 = 19
              n2 = 15
              n2/n1 = 0.79

```

Estimated power:

```
power = 0.9899
```

```

. *Power_calc cd ADJFAR-UNC
. sampsi 0.59417302828086 5.80666669209798, n1(19)n2(15)sd1(0.0652256531109017)
> sd2(5.55970416307393)a(0.1) onesided

```

power_Run4_122106

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = .594173
m2 = 5.80667
sd1 = .065226
sd2 = 5.5597
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 0.9906
```

```
. *Power_calc cu ADJFAR-UNC
. sampsi 12.9341001259653 76.7666669209798, n1(19)n2(15)sd1(3.39199492451459)sd
> 2(61.1294606907714)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 12.9341
m2 = 76.7667
sd1 = 3.392
sd2 = 61.1295
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 0.9971
```

```
. *Power_calc ni ADJFAR-UNC
. sampsi 12.9548467836881 21.6633332570393, n1(19)n2(15)sd1(2.26800474325925)sd
> 2(6.98489330924784)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 12.9548
m2 = 21.6633
sd1 = 2.26801
sd2 = 6.98489
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

power_Run4_122106

power = 0.9996

```
. *Power_calc pb ADJFAR-UNC
. sampsi 22.3445856194747 136.700000254313, n1(19)n2(15)sd1(7.88142739993979)sd
> 2(95.8015356946479)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 22.3446
m2 = 136.7
sd1 = 7.88143
sd2 = 95.8015
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

power = 0.9996

```
. *Power_calc sb ADJFAR-UNC
. sampsi 1.06738585547397 1.04600001685321, n1(19)n2(15)sd1(0.810543771706974)s
> d2(1.63532898008029)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 1.06739
m2 = 1.046
sd1 = .810544
sd2 = 1.63533
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

power = 0.1084

```
. *Power_calc zn ADJFAR-UNC
. sampsi 71.3188185440866 251.413333129882, n1(19)n2(15)sd1(14.0635548384041)sd
> 2(149.067616096243)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 71.3188
m2 = 251.413
sd1 = 14.0635
sd2 = 149.068
```


power_Run4_122106

sample size n1 = 19
n2 = 15
n2/n1 = 0.79

Estimated power:

power = 0.9996

```
. *Power_calc ln_ag ADJFAR-UNC  
. sampsi -2.45011518988758 -0.588040737559398, n1(18)n2(15)sd1(1.20190668914736  
> )sd2(0.949112095224172)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = -2.45012
m2 = -.588041
sd1 = 1.20191
sd2 = .949112
sample size n1 = 18
n2 = 15
n2/n1 = 0.83

Estimated power:

power = 0.9999

```
. *Power_calc ln_cd ADJFAR-UNC  
. sampsi -0.496959192188162 1.07364658514658, n1(19)n2(15)sd1(0.149139011030169  
> )sd2(1.38122131629297)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

alpha = 0.1000 (one-sided)
m1 = -.496959
m2 = 1.07365
sd1 = .149139
sd2 = 1.38122
sample size n1 = 19
n2 = 15
n2/n1 = 0.79

Estimated power:

power = 0.9990

```
. *Power_calc ln_cu ADJFAR-UNC  
. sampsi 2.5778457114571 3.99979408582051, n1(19)n2(15)sd1(0.388985427887002)sd  
> 2(0.912545039128539)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

power_Run4_122106

```
alpha = 0.1000 (one-sided)
m1 = 2.57785
m2 = 3.99979
sd1 = .388985
sd2 = .912545
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc ln_ni ADJFAR-UNC
. sampsi 2.55106904632166 3.02549635569254, n1(19)n2(15)sd1(0.201917571831522)s
> d2(0.331393278995743)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.55107
m2 = 3.0255
sd1 = .201918
sd2 = .331393
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 0.9998
```

```
. *Power_calc ln_pb ADJFAR-UNC
. sampsi 2.98977116534584 4.51213715871175, n1(19)n2(15)sd1(0.417179611444675)s
> d2(1.10504329412881)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.98977
m2 = 4.51214
sd1 = .41718
sd2 = 1.10504
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 0.9999
```

```
. *Power_calc ln_sb ADJFAR-UNC
. sampsi -1.47054393981632 -0.903762937088807, n1(19)n2(15)sd1(1.14332084059196
> )sd2(1.48855749140066)a(0.1) onesided
```

power_Run4_122106

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = -1.47054
m2 = -.903763
sd1 = 1.14332
sd2 = 1.48856
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 0.4747
```

```
. *Power_calc ln_zn ADJFAR-UNC
. sampsi 4.25654293361463 5.33639647165934, n1(19)n2(15)sd1(0.236009591890963)s
> d2(0.666397141223014)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 4.25654
m2 = 5.3364
sd1 = .23601
sd2 = .666397
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

```
power = 1.0000
```

```
. *Power_calc cr ADJFAR-UNC
. sampsi 12.4264236249421 127.13333307902, n1(19)n2(15)sd1(2.85537111444392)sd2
> (98.6575801793628)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 12.4264
m2 = 127.133
sd1 = 2.85537
sd2 = 98.6576
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

power_Run4_122106

power = 0.9994

```
. *Power_calc ln_cr ADJFAR-UNC
. sampsi 2.5070644993531 4.431152566274, n1(19)n2(15)sd1(0.288223664282524)sd2(
> 1.04218442174219)a(0.1) onesided
```

Estimated power for two-sample comparison of means

Test Ho: $m_1 = m_2$, where m_1 is the mean in population 1
and m_2 is the mean in population 2

Assumptions:

```
alpha = 0.1000 (one-sided)
m1 = 2.50706
m2 = 4.43115
sd1 = .288224
sd2 = 1.04218
sample size n1 = 19
n2 = 15
n2/n1 = 0.79
```

Estimated power:

power = 1.0000

```
. log close
log: C:\KDW\BASF_Ren\Run4\power_Run4_122106.smcl
log type: smcl
closed on: 21 Dec 2006, 13:01:23
```
