CHAPTER 5 ASDA ANALYSIS EXAMPLES REPLICATION-IVEware

GENERAL NOTES ABOUT ANALYSIS EXAMPLES REPLICATION

These examples are intended to provide guidance on how to use the commands/procedures for analysis of complex sample survey data and assume all data management and other preliminary work is done. The relevant syntax for the procedure of interest is shown first along with the associated output for that procedure(s). In some examples, there may be more than one block of syntax and in this case all syntax is first presented followed by the output produced.

In some software packages certain procedures or options are not available but we have made every attempt to demonstrate how to match the output produced by Stata 10+ in the textbook. Check the ASDA website for updates to the various software tools we cover.

NOTES ABOUT DESCRIPTIVE ANALYSES IN IVEware

Special note: IVEware MUST BE RUN IN THE REGULAR PROGRAM EDITOR IF RUNNING UNDER SAS!! THE ENHANCED EDITOR DOES NOT WORK WITH SAS BASED IVEware!!

IVEware does not offer the ability to perform weighted histograms or box plots/bar charts therefore these are not included in this output. IVEware %describe can perform nearly all of the descriptive analyses presented in Chapter 5 of ASDA. Some of the fine points of this procedure are the use of a BY statement for subpopulation analyses, use of either a MEAN/TABLES statement for a means or table analysis, a CONTRAST statement for linear contrasts with the MEAN keyword. %describe includes 3 variance estimation methods: MULT, PAIR or DIFF. The MULT is the default. A few statistics that are not available in %describe are totals and ratios and therefore are not included in the examples. The ability to label variable values is not included in the IVEware software package and as a result, value label codes (as needed) are included in the output as a convenience to the analyst.

```
* exampes 5.1 - 5.2 are weighted histogram and bar chart, not available in IVEware ;
* examples 5.3 and 5.4 are totals which are not available in IVEware ;

* example 5.5 Mean Household Income in the NCSR data ;
%describe (name=ex5_5, setup=new, dir=. ) ;
title  "Analysis Example 5.5: Mean HH Income NCSR " ;
datain  ncsr ;
stratum sestrat ;
cluster seclustr ;
weight  ncsrwtlg ;
mean    hhinc ;
run ;

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Setup listing:

title  "Analysis Example 5.5: Mean HH Income NCSR " ;
datain  ncsr ;
stratum sestrat ;
cluster seclustr ;
weight  ncsrwtlg ;
mean    hhinc ;
run ;
```

"Analysis Example 5.5: Mean HH Income NCSR "

Stratum variable: SESTRAT SAMPLING ERROR STRATUM
Cluster variable: SECLUSTR SAMPLING ERROR CLUSTER
Weight variable: NCSRWTLG NCSR sample part 2 weight

Analysis description:

4	Variables
42	Strata
84	Secus

Strata	Model
42	Multiple PSU
0	Paired Selection
0	Successive Differences

5692 Cases Read

"Analysis Example 5.5: Mean HH Income NCSR "

Problem 1

Degrees of freedom
42

Factor	Covariance of denominator
None	0.04411

Mean HHINC	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	5692	5692	59277.06	1596.343

Lower Bound	Upper Bound	T Test	Prob > |T|
56055.51	62498.6	37.13303	0.00000

Unweighted Mean	Bias	Design Effect
59461.82	0.31169	6.09381

```
%describe (name=ex5_6 , setup=new, dir=. ) ;
title  "Analysis Example 5.6: Systolic Blood Pressure: NHANES" ;
datain  nhanes0506 ;
stratum sdmvstra ;
cluster sdmvpsu ;
weight  wtmec2yr ;
mean    bpxsy1 ;
by      age18p ;
run ;

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Setup listing:

title  "Analysis Example 5.6: Systolic Blood Pressure: NHANES" ;
datain  nhanes0506 ;
stratum sdmvstra ;
cluster sdmvpsu ;
weight  wtmec2yr ;
mean    bpxsy1 ;
by      age18p ;
run ;

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"Analysis Example 5.6: Systolic Blood Pressure: NHANES "

By variables:           age18p
Stratum variable:       SDMVSTRA  Masked Variance Pseudo-Stratum
Cluster variable:       SDMVPSU  Masked Variance Pseudo-PSU
Weight variable:        WTMEC2YR  Full Sample 2 Year MEC Exam Weight

Analysis description:

         5  Variables
        15  Strata
        30  Secus

    Strata  Model
        15  Multiple PSU
         0  Paired Selection
         0  Successive Differences

      9950  Cases Read

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"Analysis Example 5.6: Systolic Blood Pressure: NHANES "

By Condition
         age18p
              0

     Problem  1

                 Degrees of freedom
                           15

         Factor   Covariance of denominator
           None        0.07976

           Mean      Number of         Sum of       Weighted       Standard
         BPXSY1          Cases        Weights           Mean          Error
                          2053  3.667538e+007       107.8661      0.6298714

                         Lower          Upper         T Test     Prob > |T|
```

Bound	Bound		
106.5235	109.2086	171.25097	0.00000

Unweighted Mean	Bias	Design Effect
108.5777	0.65972	6.70059

By Condition
age18p
1

Problem 2

Degrees of freedom
15

Factor	Covariance of denominator
None	0.06539

Mean BPXSY1	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	4615	1.91046e+008	123.1109	0.5416936

Lower Bound	Upper Bound	T Test	Prob > |T|
121.9563	124.2655	227.27030	0.00000

Unweighted Mean	Bias	Design Effect
123.6997	0.47827	3.94354

```
%describe (name=ex5_7, setup=new, dir=. ) ;
title  "Analysis Example 5.7: Means of HH Total Assets: HRS 2006" ;
datain  hrs ;
stratum stratum ;
cluster secu ;
weight  kwgthh ;
by      kfinr ;
mean    h8atota ;
run ;

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Setup listing:

title  "Analysis Example 5.7: Means of HH Total Assets: HRS 2006" ;
datain  hrs ;
stratum stratum ;
cluster secu ;
weight  kwgthh ;
by      kfinr ;
mean    h8atota ;
run ;

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"Analysis Example 5.7: Means of HH Total Assets: HRS 2006"

By variables:           KFINR  2006 whether financial respondent
Stratum variable:       STRATUM  stratum id
Cluster variable:       SECU  sampling error computation unit
Weight variable:        KWGTHH  2006 weight: household level

Analysis description:

         5  Variables
        56  Strata
       112  Secus

    Strata  Model
        56  Multiple PSU
         0  Paired Selection
         0  Successive Differences

     17826  Cases Read

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"Analysis Example 5.7: Means of HH Total Assets: HRS 2006"

By Condition
          KFINR
              1

     Problem  1

                 Degrees of freedom
                           56

          Factor   Covariance of denominator
            None        0.01826

            Mean      Number of         Sum of       Weighted       Standard
         H8ATOTA          Cases        Weights           Mean          Error
                          11942  5.385317e+007       527313.2       28012.78
```

Lower Bound	Upper Bound	T Test	Prob > |T|
471196.7	583429.7	18.82402	0.00000

Unweighted Mean	Bias	Design Effect
483108	-8.38309	1.56054

By Condition

KFINR
5

Problem 2

Degrees of freedom
56

Factor	Covariance of denominator
None	0.02064

Mean H8ATOTA	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	5884	2.839612e+007	714161.2	44891.87

Lower Bound	Upper Bound	T Test	Prob > |T|
624231.7	804090.6	15.90848	0.00000

Unweighted Mean	Bias	Design Effect
674981.5	-5.48611	1.28204

```
* IVEware does not provide the ability to perform quantile analysis (example 5.8) ;

* IVEware does not provide the ability to do ratio analysis (example 5.9)  ;

* Example 5.10: note: IVEware will return a log message stating "Bad Strata, due to 1 cluster per stratum" and fail
to execute ;


/*

%describe (name=ex5_10, setup=new, dir=. ) ;
title  "Analysis Example 5.10: Mean of Diabetes by Gender and Age > 70 Years: HRS data " ;
datain  hrs ;
stratum stratum ;
cluster secu ;
weight  kwgtr ;
mean    diabetes ;
by      oldfemale ;
run ;
*/
```

```
%describe (name=ex5_11, setup=new, dir=. ) ;
title  "Analysis Example 5.11: Mean Blood Pressure by Gender and Age > 45 Years:  NHANES " ;
datain  nhanes0506 ;
stratum sdmvstra ;
cluster sdmvpsu ;
weight  wtmec2yr ;
mean    bpxsy1 ;
by      age45 female ;
run ;

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Setup listing:

title  "Analysis Example 5.11: Mean Blood Pressure by Gender and Age > 45 Years:
 NHANES " ;
datain  nhanes0506 ;
stratum sdmvstra ;
cluster sdmvpsu ;
weight  wtmec2yr ;
mean    bpxsy1 ;
by      age45 female ;
run ;
```

"Analysis Example 5.11: Mean Blood Pressure by Gender and Age > 45 Years: NHANES "

By variables: age45
By variables: female
Stratum variable: SDMVSTRA Masked Variance Pseudo-Stratum
Cluster variable: SDMVPSU Masked Variance Pseudo-PSU
Weight variable: WTMEC2YR Full Sample 2 Year MEC Exam Weight
Analysis description:

6	Variables
15	Strata
30	Secus

Strata	Model
15	Multiple PSU
0	Paired Selection
0	Successive Differences

9950 Cases Read

"Analysis Example 5.11: Mean Blood Pressure by Gender and Age > 45 Years: NHANES "

By Condition

age45	female
0	0

Problem 1

Degrees of freedom: 15

Factor	Covariance of denominator
None	0.05923

Mean BPXSY1	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	2148	6.755737e+007	117.5648	0.5528347

Lower Bound	Upper Bound	T Test	Prob > |T|
116.3865	118.7432	212.65819	0.00000

Unweighted Mean	Bias	Design Effect
115.5931	-1.67713	3.91527

By Condition

age45	female
0	1

Problem 2

Degrees of freedom: 15

Factor	Covariance of denominator
None	0.06315

Mean BPXSY1	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	2426	6.987165e+007	110.8361	0.3921783

Lower Bound	Upper Bound	T Test	Prob > |T|
110.0001	111.672	282.61647	0.00000

Unweighted Mean	Bias	Design Effect
109.7395	-0.98936	2.50089

By Condition

age45	female
1	0

"Analysis Example 5.11: Mean Blood Pressure by Gender and Age > 45 Years: NHANES "

Problem 3

Degrees of freedom
15

Factor	Covariance of denominator
None	0.10975

Mean BPXSY1	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	1093	4.393574e+007	128.9629	0.7566666

Lower Bound	Upper Bound	T Test	Prob > |T|
127.3501	130.5757	170.43561	0.00000

Unweighted Mean	Bias	Design Effect
131.7036	2.12514	1.82060

By Condition

age45	female
1	1

Problem 4

Degrees of freedom
15

Factor	Covariance of denominator
None	0.08942

Mean BPXSY1	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	1001	4.635665e+007	132.0873	1.064538

Lower Bound	Upper Bound	T Test	Prob > |T|
129.8183	134.3563	124.07939	0.00000

Unweighted Mean	Bias	Design Effect
135.1748	2.33752	2.19868

```
* example 5.12 : difference in means using HRS data ;
%describe (name=ex5_12 , setup=new, dir=. ) ;
title  "Analysis Example 5.12: Difference of Means for Total HH Assets: HRS" ;
datain  hrs ;
stratum stratum ;
cluster secu ;
weight  kwgthh ;
by      kfinr ;
mean    h8atota ;
table   edcat ;
contrast edcat (1 0 0 -1)  ;
run ;


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Setup listing:

title  "Analysis Example 5.12: Difference of Means for Total HH Assets: HRS" ;
datain  hrs ;
stratum stratum ;
cluster secu ;
weight  kwgthh ;
by      kfinr ;
mean    h8atota ;
table   edcat ;
contrast edcat (1 0 0 -1)  ;
run ;


NOTE: CODES FOR EDCAT 1=0-11 2=12 3=13-15 4=16+ YEARS OF EDUCATION.


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"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

By variables:           KFINR  2006 whether financial respondent
Stratum variable:       STRATUM  stratum id
Cluster variable:       SECU  sampling error computation unit
Weight variable:        KWGTHH  2006 weight: household level

Analysis description:

         6  Variables
        56  Strata
       112  Secus

    Strata  Model
        56  Multiple PSU
         0  Paired Selection
         0  Successive Differences

     17826  Cases Read


IVEware Design-Based Descriptive Statistics Procedure, Tue Mar 09 15:31:28 2010    2

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

By Condition
          KFINR
              1
```

Problem 1

Degrees of freedom
56

Factor EDCAT	Covariance of denominator
1	0.04390

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	2901	1.04171e+007	1.00000	0.00000
2	0	0	0.00000	0.00000
3	0	0	0.00000	0.00000
4	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	1.00000	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
1	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000

Factor EDCAT	Covariance of denominator
2	0.02680

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	0	0	0.00000	0.00000
2	3919	1.722309e+007	1.00000	0.00000
3	0	0	0.00000	0.00000
4	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	0.00000	0.00000	0.00000	0.00000
2	1.00000	1.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000	0.00000

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

	Unweighted Proportion	Bias	Design Effect
1	0.00000	0.00000	0.00000
2	1.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000

Factor EDCAT	Covariance of denominator
3	0.02896

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	0	0	0.00000	0.00000

2	0	0	0.00000	0.00000
3	2484	1.21888e+007	1.00000	0.00000
4	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	0.00000	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	1.00000	1.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
1	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	1.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000

Factor	Covariance of denominator
EDCAT	0.03691
4	

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	0	0	0.00000	0.00000
2	0	0	0.00000	0.00000
3	0	0	0.00000	0.00000
4	2610	1.381896e+007	1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	0.00000	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	1.00000	1.00000	0.00000	0.00000

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

	Unweighted Proportion	Bias	Design Effect
1	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	1.00000	0.00000	0.00000

Contrast	Code	Nonzero coef
EDCAT	1	1
	4	-1

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	2901	1.04171e+007	1.00000	0.00000
2	0	0	0.00000	0.00000
3	0	0	0.00000	0.00000
4	2610	1.381896e+007	-1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	1.00000	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	-1.00000	-1.00000	0.00000	0.00000

	Unweighted	Bias	Design

	Proportion		Effect
1	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	-1.00000	0.00000	0.00000

By Condition
KFINR
1

Problem 2

Degrees of freedom
56

Factor	Covariance of denominator
EDCAT	0.04390
1	

Mean	Number of	Sum of	Weighted	Standard
H8ATOTA	Cases	Weights	Mean	Error
	2901	1.04171e+007	178386.1	24561.12

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

Lower Bound	Upper Bound	T Test	Prob > |T|
129184.1	227588	7.26294	0.00000

Unweighted Mean	Bias	Design Effect
164775.3	-7.62997	1.64926

Factor	Covariance of denominator
EDCAT	0.02680
2	

Mean	Number of	Sum of	Weighted	Standard
H8ATOTA	Cases	Weights	Mean	Error
	3919	1.722309e+007	328392	17082.72

Lower Bound	Upper Bound	T Test	Prob > |T|
294171.1	362612.8	19.22364	0.00000

Unweighted Mean	Bias	Design Effect
331978.1	1.09204	1.61059

Factor	Covariance of denominator
EDCAT	0.02896
3	

Mean	Number of	Sum of	Weighted	Standard
H8ATOTA	Cases	Weights	Mean	Error
	2484	1.21888e+007	455457.6	27000.33

Lower Bound	Upper Bound	T Test	Prob > |T|
401369.3	509545.9	16.86859	0.00000

Unweighted Mean	Bias	Design Effect
470620.6	3.32919	1.08725

Factor	Covariance of denominator
EDCAT	0.03691
4	

Mean	Number of	Sum of	Weighted	Standard
H8ATOTA	Cases	Weights	Mean	Error
	2610	1.381896e+007	1107204	102113.5

Lower Bound	Upper Bound	T Test	Prob > |T|
902645.6	1311763	10.84287	0.00000

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

Unweighted Mean	Bias	Design Effect
1079170	-2.53200	1.37656

Contrast	Code	Nonzero coef
EDCAT	1	1
	4	-1

Mean H8ATOTA	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	5511	2.423605e+007	-928818	108250.1

Lower Bound	Upper Bound	T Test	Prob > |T|
-1145670	-711966.5	-8.58030	0.00000

Unweighted Mean	Bias	Design Effect
-914394.5	-1.55289	1.47572

By Condition
KFINR
5

Problem 3

Degrees of freedom
56

Factor	Covariance of denominator
EDCAT	0.05580
1	

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	1339	5094119	1.00000	0.00000
2	0	0	0.00000	0.00000
3	0	0	0.00000	0.00000
4	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	1.00000	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
1	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

	Unweighted Proportion	Bias	Design Effect
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000

Factor EDCAT	Covariance of denominator
2	0.03073

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	0	0	0.00000	0.00000
2	2007	9426507	1.00000	0.00000
3	0	0	0.00000	0.00000
4	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	0.00000	0.00000	0.00000	0.00000
2	1.00000	1.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
1	0.00000	0.00000	0.00000
2	1.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000

Factor EDCAT	Covariance of denominator
3	0.03607

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	0	0	0.00000	0.00000
2	0	0	0.00000	0.00000
3	1247	6643824	1.00000	0.00000
4	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	0.00000	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	1.00000	1.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
1	0.00000	0.00000	0.00000

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

	Unweighted Proportion	Bias	Design Effect
2	0.00000	0.00000	0.00000
3	1.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000

Factor	Covariance of denominator
EDCAT	0.04270
4	

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	0	0	0.00000	0.00000
2	0	0	0.00000	0.00000
3	0	0	0.00000	0.00000
4	1221	6852279	1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	0.00000	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	1.00000	1.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
1	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	1.00000	0.00000	0.00000

Contrast EDCAT	Code	Nonzero coef
	1	1
	4	-1

Table EDCAT	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	1339	5094119	1.00000	0.00000
2	0	0	0.00000	0.00000
3	0	0	0.00000	0.00000
4	1221	6852279	-1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
1	1.00000	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000	0.00000
4	-1.00000	-1.00000	0.00000	0.00000

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

	Unweighted Proportion	Bias	Design Effect
1	1.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	-1.00000	0.00000	0.00000

By Condition
KFINR
5

Problem 4

Degrees of freedom
56

Factor	Covariance of denominator
EDCAT	0.05580
1	

Mean	Number of	Sum of	Weighted	Standard
H8ATOTA	Cases	Weights	Mean	Error
	1339	5094119	255742.3	21601.95

Lower Bound	Upper Bound	T Test	Prob > |T|
212468.3	299016.4	11.83885	0.00000

Unweighted Mean	Bias	Design Effect
239436.4	-6.37592	2.88417

Factor	Covariance of denominator
EDCAT	0.03073
2	

Mean	Number of	Sum of	Weighted	Standard
H8ATOTA	Cases	Weights	Mean	Error
	2007	9426507	479707.5	35777.86

Lower Bound	Upper Bound	T Test	Prob > |T|
408035.7	551379.4	13.40794	0.00000

Unweighted Mean	Bias	Design Effect
510691.8	6.45900	1.25072

Factor	Covariance of denominator
EDCAT	0.03607
3	

"Analysis Example 5.12: Difference of Means for Total HH Assets: HRS"

Mean H8ATOTA	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	1247	6643824	860052.4	126499.5

Lower Bound	Upper Bound	T Test	Prob > |T|
606642.6	1113462	6.79886	0.00000

Unweighted Mean	Bias	Design Effect
846514.2	-1.57410	1.23273

Factor	Covariance of denominator
EDCAT 4	0.04270

Mean H8ATOTA	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	1221	6852279	1258384	147709.9

Lower Bound	Upper Bound	T Test	Prob > |T|
962485	1554284	8.51929	0.00000

Unweighted Mean	Bias	Design Effect
1270256	0.94340	1.39439

Contrast	Code	Nonzero coef
EDCAT	1	1
	4	-1

Mean H8ATOTA	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	2560	1.19464e+007	-1002642	147547.9

Lower Bound	Upper Bound	T Test	Prob > |T|
-1298217	-707067.4	-6.79537	0.00000

Unweighted Mean	Bias	Design Effect
-1030820	2.81032	1.37709

```
* example 5.13 : comparing means over time using HRS total assets, 2004 and 2006 ;
data hrspanel ;
set d.d2004_2006_dec2008 ;
if year=2006 then weight=kwgthh ;
else weight=jwgthh ;
if year=2006 then finr=kfinr ; else finr=jfinr ;
proc sort ;
by stratum secu ;
run ;

%describe (name=ex5_13 , setup=new, dir=. ) ;
title  "Analysis Example 5.13: Difference of Means for Panel Data : HRS" ;
datain  hrspanel ;
stratum stratum ;
cluster secu ;
weight  weight ;
by      finr ;
mean    totassets ;
table   year ;
contrast year (1 -1)  ;
run ;

IVEware Setup Checker, Tue Mar 09 15:47:30 2010                                    1

Setup listing:

title  "Analysis Example 5.13: Difference of Means for Panel Data : HRS" ;
datain  hrspanel ;
stratum stratum ;
cluster secu ;
weight  weight ;
by      finr ;
mean    totassets ;
table   year ;
contrast year (1 -1)  ;
run ;

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"Analysis Example 5.13: Difference of Means for Panel Data : HRS"

By variables:           finr
Stratum variable:       STRATUM  stratum id
Cluster variable:       SECU  sampling error computation unit
Weight variable:        weight

Analysis description:

         6  Variables
        56  Strata
       112  Secus

    Strata  Model
        56  Multiple PSU
         0  Paired Selection
         0  Successive Differences

     35268  Cases Read
```

"Analysis Example 5.13: Difference of Means for Panel Data : HRS"

By Condition

finr
1

Problem 1

Degrees of freedom
56

Factor	Covariance of denominator
year	0.01840
2004	

Table year	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
2004	11563	5.123129e+007	1.00000	0.00000
2006	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
2004	1.00000	1.00000	0.00000	0.00000
2006	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
2004	1.00000	0.00000	0.00000
2006	0.00000	0.00000	0.00000

Factor	Covariance of denominator
year	0.01826
2006	

Table year	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
2004	0	0	0.00000	0.00000
2006	11942	5.385317e+007	1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
2004	0.00000	0.00000	0.00000	0.00000
2006	1.00000	1.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
2004	0.00000	0.00000	0.00000
2006	1.00000	0.00000	0.00000

Contrast year	Code	Nonzero coef
	2004	1
	2006	-1

"Analysis Example 5.13: Difference of Means for Panel Data : HRS"

Table year	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
2004	11563	5.123129e+007	1.00000	0.00000
2006	11942	5.385317e+007	-1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
2004	1.00000	1.00000	0.00000	0.00000
2006	-1.00000	-1.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
2004	1.00000	0.00000	0.00000
2006	-1.00000	0.00000	0.00000

By Condition
finr
1

Problem 2

Degrees of freedom
56

Factor year	Covariance of denominator
2004	0.01840

Mean totassets	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	11563	5.123129e+007	411786.4	20639.72

	Lower Bound	Upper Bound	T Test	Prob > |T|
	370439.9	453132.8	19.95117	0.00000

	Unweighted Mean	Bias	Design Effect
	383966.7	-6.75585	2.01812

Factor year	Covariance of denominator
2006	0.01826

Mean totassets	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	11942	5.385317e+007	527313.2	28012.78

	Lower Bound	Upper Bound	T Test	Prob > |T|
	471196.7	583429.7	18.82402	0.00000

"Analysis Example 5.13: Difference of Means for Panel Data : HRS"

Unweighted Mean	Bias	Design Effect
483108	-8.38309	1.56054

Contrast	Code	Nonzero coef
year	2004	1
	2006	-1

Mean totassets	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	23505	1.050845e+008	-115526.8	20025.41

Lower Bound	Upper Bound	T Test	Prob > |T|
-155642.6	-75410.94	-5.76901	0.00000

Unweighted Mean	Bias	Design Effect
-99141.32	-14.18325	0.56170

By Condition
finr
5

Problem 3

Degrees of freedom
56

Factor	Covariance of denominator
year	0.01990
2004	

Table year	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
2004	5879	2.645417e+007	1.00000	0.00000
2006	0	0	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
2004	1.00000	1.00000	0.00000	0.00000
2006	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
2004	1.00000	0.00000	0.00000
2006	0.00000	0.00000	0.00000

Factor	Covariance of denominator
year	0.02064
2006	

"Analysis Example 5.13: Difference of Means for Panel Data : HRS"

Table year	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
2004	0	0	0.00000	0.00000
2006	5884	2.839612e+007	1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
2004	0.00000	0.00000	0.00000	0.00000
2006	1.00000	1.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
2004	0.00000	0.00000	0.00000
2006	1.00000	0.00000	0.00000

Contrast year	Code	Nonzero coef
	2004	1
	2006	-1

Table year	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
2004	5879	2.645417e+007	1.00000	0.00000
2006	5884	2.839612e+007	-1.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob > |T|
2004	1.00000	1.00000	0.00000	0.00000
2006	-1.00000	-1.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
2004	1.00000	0.00000	0.00000
2006	-1.00000	0.00000	0.00000

By Condition
finr
5

Problem 4

Degrees of freedom
56

Factor year	Covariance of denominator
2004	0.01990

Mean totassets	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	5879	2.645417e+007	556184.6	31625.62

"Analysis Example 5.13: Difference of Means for Panel Data : HRS"

Lower Bound	Upper Bound	T Test	Prob > |T|
492830.7	619538.5	17.58652	0.00000

Unweighted Mean	Bias	Design Effect
521197.8	-6.29051	1.80344

Factor	Covariance of denominator
year 2006	0.02064

Mean totassets	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	5884	2.839612e+007	714161.2	44891.87

Lower Bound	Upper Bound	T Test	Prob > |T|
624231.7	804090.6	15.90848	0.00000

Unweighted Mean	Bias	Design Effect
674981.5	-5.48611	1.28204

Contrast	Code	Nonzero coef
year	2004	1
	2006	-1

Mean totassets	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	11763	5.485029e+007	-157976.5	31021.65

Lower Bound	Upper Bound	T Test	Prob > |T|
-220120.5	-95832.55	-5.09246	0.00000

Unweighted Mean	Bias	Design Effect
-153783.7	-2.65407	0.45254