**IBES Exercise solutions**

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\*EXERCISE 1;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*;

rsubmit;

**data** ibis2; set ibes.statsum\_epsus;

if year(fpedats) = **2005** ;

if fpi ='1' /\*current year, annual period\*/;

surprise =abs(actual - meanest);

age = ANNDATS\_act - statpers;

if surprise = **.** then delete;

**run**;

**proc** **download** data=ibis2; **run**;

endrsubmit;

\*51,658 observations;

\*let's just look at estimates that are created less than 30

days before the earnings announcment date;

**data** ibis3;

set ibis2;

if age<**30**;

**run**;

\*5601 observations;

**PROC** **reg**

data=ibis3;

model surprise = numest;

**run**;

\*hard to see much here--too many

extreme values;

\*remove extreme values before performing analysis;

%include 'C:\Users\Russ Hamilton\Documents\My SAS Files\9.4\macros\macros.sas';

%***WT***(data=ibis3, out=ibis3W,

vars=surprise,

type = t,

pctl = **1** **99**,

drop = n);

**run**;

**PROC** **reg**

data=ibis3w;

model surprise = numest;

**run**;

\*now we can see the results-- negative

coefficient means more analysts mean

smaller earnings surprises;

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Exercise 3

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*;

rsubmit;

**data** forecast; set ibes.det\_epsus;

keep

ticker cusip oftic actdats estimator analys value actual anndats\_act fpedats;

if year(fpedats) ge **2000** and year(fpedats) le **2006**;

if fpi ='1';

**run**;

**proc** **download** data=forecast; **run**;

endrsubmit;

\*991,488 observations;

\* we need the LAST forecast for each analyst for each firm for each period;

**proc** **sort** data = forecast;

by cusip fpedats analys actdats;

**run**; **quit**;

\*991,488 observations;

**data** forecast1; set forecast;

by cusip fpedats analys actdats;

if last.analys;

**run**; **quit**;

\*280,038 observations remaining;

**data** forecast2; set forecast1;

AV\_age = ANNDATS\_ACT - ACTDATS;

if AV\_age = **.** then delete;

year = year(fpedats);

**run**; **quit**;

\*269,976 observations remaining;

**proc** **sort** data=forecast2; by year;

**run**;

\*269,976 observations remaining;

**proc** **means** data = forecast2; output out = age;

var AV\_age;

by year;

**run**; **quit**;

**data** age\_mean; set age;

if \_STAT\_ = 'MEAN';

**run**;

\*\*\*or, using our favorite, PROC SQL, after the data download;

**PROC** **SQL**;

CREATE TABLE forecast1\_alt

AS SELECT DISTINCT \*, ANNDATS\_ACT - ACTDATS AS AV\_age, year(fpedats) as Year

FROM forecast

GROUP BY cusip, fpedats, analys

HAVING ACTDATS = max(ACTDATS)

;

**QUIT**;

\*281,545 records;

**PROC** **SORT** data=forecast1\_alt NODUPKEY; BY cusip fpedats analys actdats; **RUN**;

\*there are 707 observations with identical cusip fpedats analys actdats. Hmmm....;

\*280,838 records remaining;

**PROC** **SQL**;

CREATE TABLE forecast2\_alt

AS SELECT \*

FROM forecast1\_alt

WHERE AV\_age IS NOT MISSING

;

**QUIT**;

\*269,977 records remaining;

**PROC** **SQL**;

CREATE TABLE Age\_mean\_alt

AS SELECT year, mean(av\_age) as mean\_age

FROM forecast2\_alt

GROUP BY year

ORDER BY year

;

**QUIT**;

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\*EXERCISE 4;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*;

rsubmit;

**data** ibes; set ibes.det\_epsus;

surprise = abs(actual - value);

if surprise = **.** then delete;

if year(fpedats) = **2005**;

if fpi='1';

keep

ticker cusip oftic actdats estimator analys value actual fpi fpedats anndats\_act surprise;

**run**;

**proc** **download** data = ibes; **run**;

endrsubmit;

\*154,041 records;

\*the below steps eliminate duplicate analyst forecasts for the same quarter, taking only the last analyst estimate;

**proc** **sort** data = ibes;

by cusip fpedats analys actdats;

**run**; **quit**;

**data** forecast1; set ibes;

by cusip fpedats analys actdats;

if last.analys;

**run**;

\*39,457 records remaining;

\*compute analyst performance;

**proc** **sql**;

create table analy\_summary

as select analys, avg(surprise) as avg\_surprise

from forecast1

group by analys

order by avg\_surprise

;

**quit**;

\*4,499 records;

\*determine number of companies following;

**PROC** **SQL**;

CREATE TABLE followings

AS SELECT analys, count(cusip) as follows

FROM ibes

GROUP BY analys

;

**QUIT**;

\*4,499 records;

\*put the two tables together;

**PROC** **SQL**;

CREATE TABLE final\_table

AS SELECT a.\*, follows

FROM analy\_summary as a, followings as b

WHERE a.analys =b.analys

;

**QUIT**;

\*4,499 records;

\*remove extreme values before performing analysis;

%include 'C:\Users\Russ Hamilton\Documents\My SAS Files\9.4\macros\macros.sas';

%***WT***(**data**=final\_table, out=final\_tablew,

vars=avg\_surprise,

type = t,

pctl = **1** **99**,

drop = n);

**run**;

**PROC** **REG** data=final\_tablew;

model avg\_surprise = follows;

**RUN**;

\*so there seems to be a positive relationsihp between

the number of firms followed and the average forecast

error, based on this simple model.