Replication code "Solving Serial Acquirer Puzzles" to get Tables

Macias, A. J., P. R. Rau, and A. Stouraitis. 2023. Solving serial acquirer puzzles. Review of Corporate Finance Studies. Forthcoming.

From main text:

3.1. Data

We obtain our sample of acquisitions of U.S. targets (public, private, and subsidiary firms) announced by U.S. public acquirers during 1989-2018 from the Thomson One's Securities Data Company (SDC) database. We require that the bidder seeks to acquire more than 50% ownership of the target, and that the Center for Research in Security Prices (CRSP) and COMPUSTAT provide information for the acquirer. We obtain stock return and accounting data for the universe of U.S. publicly listed firms from CRSP and COMPUSTAT as of the quarter prior to the announcement date. To alleviate truncation concerns at the start and end of our sampling window, and to avoid concerns about the coverage of SDC in the early 1980s (Netter, Stegemoller, and Wintoki 2011), we require that (i) the acquirer has not conducted any acquisition in the 4 years prior to the start of our sample period (1985-1988); and (ii) that the acquirer conducts its first acquisition at the latest by the year 2016. Our initial sample consists of 55,482 mergers and acquisitions conducted by 8,640 unique acquirers. Our sample increases to 27,813 unique firms (239,120 firm-year observations) when we include firms that do not conduct any acquisitions within our sample period.

3.2. Classifying serial acquirers

We use cluster analysis to classify acquirers into one of four distinct types that we denote as loners, occasional acquirers, sprinters, and marathoners. Our classification is based on three common-sense dimensions. We perform the cluster analysis (and reclassify acquirers) annually, using data for the past 5 years. Based on three dimensions (total number of acquisitions over the past 5 years, number of acquisition blocks and average intensity), we conduct a *k*-median cluster analysis to classify acquirers into different categories, within 5-year rolling windows (starting with 1989-1993 and ending with 2014-2018) as depicted in Figure 1.

0. **Preliminary code to set up the dataset that contains the serial acquirer classification used in the rest of the analysis.**

Since our data comes from proprietary databases (e.g., Compustat, CRSP, SDC) we will focus on submitting the replication code assuming that any reader with access to such databases would be able to create the original merged dataset from such sources instead of us uploading such data that our licenses do not allow us to upload open to the public for people without such licenses. The paper describes the commonly used filters and merging methods used to generate the dataset from such proprietary databases. First, we run the other replication code ["**Replication code Serial Acquirers to get the serial acquirer classification** "] with selected extracts of the original whole dataset where convenient to exemplify how the code would work with the whole dataset in order to get the serial acquirer classification. Once anyone runs such replication code, the replication code in this file for the actual tables should be straightforward (e.g., running OLS or logit regressions in Stata, getting descriptive statistics in SAS, etc.)

In general, we handle and clean the data in SAS and run the econometric analysis in Stata. Depending on the type of descriptive statistics, we use either SAS or Stata. In several tables we build the tables in Excel with the appropriate format using the output from the SAS or Stata. The analysis is based on two levels, namely, deal and firm-year level. To avoid sharing an individual dataset for each table, the shared datasets might already contain some of the defined variables, hence dropping some of them to be used in the provided shared sub-sample would be needed to see how such variable is used. We left in the dataset several variables used in the robustness and ancillary analyses. The main variables of interest are defined in the appendix or its labels are self-explanatory based on the analysis and corresponding code.

Table 1. Acquisition activity by serial acquirer type

Panel A. Unique acquirers and serial acquirer type classification

```
*First get in Stata the different of serial acquirer types for each firm

/*Stata

Note how the original whole dataset is called “sdc1980gszall5flxrwadj”, yet I build a sub-sample to avoid issues of making public whole dataset for SDC, Compustat and CRSP datasets. The subsequent code could simply change the name of the whole data set and instead use the sub-sample created for a sub-set of years

*/

use "D:\BoxSync\Documents Tonio\data\serialac\sdc1980gszall5flxrwadj.dta", clear

drop if annyear <1995 & annyear >2001

save "D:\sdc19952001gszall5flxrwadj.dta", replace

*deal-level observations

renvars , lower

compress

sort bdrcusip6 anndate

global ifstataftr1989 "if  calyear>=1989  "

*stats by individual bidder

bysort bdrcusip6: egen nbidloner          =count(anndate) if srw5acqtype==1

bysort bdrcusip6: egen nbidoccsnl         =count(anndate) if srw5acqtype==2

bysort bdrcusip6: egen nbidsprntr         =count(anndate) if srw5acqtype==3

bysort bdrcusip6: egen nbidmrthnr         =count(anndate) if srw5acqtype==4


gen idbidloner = 0

replace idbidloner = 1 if  !missing(nbidloner)

gen idbidoccsnl = 0

replace idbidoccsnl= 1 if  !missing(nbidoccsnl)

gen idbidsprntr = 0

replace idbidsprntr = 1 if  !missing(nbidsprntr)

gen idbidmrthnr = 0

replace idbidmrthnr = 1 if  !missing(nbidmrthnr)
```

```
*stats by individual bidder
drop sumbidloner sumbidoccsnl sumbidsprntr sumbidmrthnr
bysort bdrcusip6: egen sumbidloner       =sum(idbidloner)
bysort bdrcusip6: egen sumbidoccsnl      =sum(idbidoccsnl)
bysort bdrcusip6: egen sumbidsprntr      =sum(idbidsprntr)
bysort bdrcusip6: egen sumbidmrthnr      =sum(idbidmrthnr)

/*gen count by each type
T1000 - Loner only
T0200 - Occasional only
T0030 - Sprinter only
T0004 - Marathoner only
T1200 - Loner+occasional
T1030 - Loner+sprinter
T1004 - Loner+marathoner
T1230 - Loner+occasional+sprinter
T1204 - Loner+occasional+marathoner
T1034 - Loner+sprinter+marathoner
T1234 - Loner+occasional+sprinter+marathoner
T0230 - Occasional+sprinter
T0204 - Occasional+marathoner
T0234 - Occasional+sprinter+marathoner
T0034 - Sprinter+marathoner*/

gen       npath = 90000 if sumbidloner ==0 & sumbidoccsnl ==0 & sumbidsprntr ==0 & sumbidmrthnr ==0
replace npath = 91000 if sumbidloner >0 & sumbidoccsnl ==0 & sumbidsprntr ==0 & sumbidmrthnr ==0
replace npath = 90200 if sumbidloner ==0 & sumbidoccsnl >0 & sumbidsprntr ==0 & sumbidmrthnr ==0
replace npath = 90030 if sumbidloner ==0 & sumbidoccsnl ==0 & sumbidsprntr >0 & sumbidmrthnr ==0
replace npath = 90004 if sumbidloner ==0 & sumbidoccsnl ==0 & sumbidsprntr ==0 & sumbidmrthnr >0

replace npath = 91200 if sumbidloner >0 & sumbidoccsnl >0 & sumbidsprntr ==0 & sumbidmrthnr ==0
```

```
replace npath = 91030 if sumbidloner >0 & sumbidoccsnl ==0 & sumbidsprntr >0 & sumbidmrthnr ==0
replace npath = 91004 if sumbidloner >0 & sumbidoccsnl ==0 & sumbidsprntr ==0 & sumbidmrthnr >0
replace npath = 91230 if sumbidloner >0 & sumbidoccsnl >0 & sumbidsprntr >0 & sumbidmrthnr ==0
replace npath = 91204 if sumbidloner >0 & sumbidoccsnl >0 & sumbidsprntr ==0 & sumbidmrthnr >0
replace npath = 91034 if sumbidloner >0 & sumbidoccsnl ==0 & sumbidsprntr >0 & sumbidmrthnr >0
replace npath = 91234 if sumbidloner >0 & sumbidoccsnl >0 & sumbidsprntr >0 & sumbidmrthnr >0

replace npath = 90230 if sumbidloner ==0 & sumbidoccsnl >0 & sumbidsprntr >0 & sumbidmrthnr ==0
replace npath = 90204 if sumbidloner ==0 & sumbidoccsnl >0 & sumbidsprntr ==0 & sumbidmrthnr >0
replace npath = 90234 if sumbidloner ==0 & sumbidoccsnl >0 & sumbidsprntr >0 & sumbidmrthnr >0

replace npath = 90034 if sumbidloner ==0 & sumbidoccsnl ==0 & sumbidsprntr >0 & sumbidmrthnr >0

tabstat anndate $iflogitafter1989, by(npath) stat(    n   )  long varwidth(30) columns(statistics)
bysort bdrcusip6: egen maxpath          =max(npath)
saveold "D:\AcqTypepath", version(12) replace

*Second, get summary statistics in SAS
```

```
proc import out= AcqTypepath datafile='d:\AcqTypepath.dta' dbms=DTA replace;
run;

proc sql;
  create table sumAcqTypepathbybdr as
  select distinct
      mnaxAcqTypepath,
      count(bdrcusip6)              as    countbdrsnpath
      from   AcqTypepathbybdr
      group by  mnaxAcqTypepath;
      quit; *9500 rows and 3 columns;

proc   means   data=sumAcqTypepathbybdr   max;   var   countbdrsnpath;   class
mnaxAcqTypepath; run;
```

```
*Then arrange in Excel
XL file "20230605_RCFS_SerialAcq NEw TablesV2"
Tab "Stats by Act type Combinations"
```

Panel B. Acquirer types and acquisition characteristics (acquisition--year observations)

/* We follow same approach of sharing just a sub-sample of just some years. The subsequent code could simply change the name of the whole data set and instead use the sub-sample created for a sub-set of years*/

```
/* To get excerpts of data for additional computations in Table */
data sdc1980mar201913yrsrw6A; set serialac.sdc1980mar201913yrsrw6A; run; *
deal level;
data sdc19952001;  set sdc1980mar201913yrsrw6A; if annyear ge 1995 and
annyear le 2001; run;
data  serialac.sdc19952001; set sdc19952001; run; * deal level;


proc sql;
        create table sdc1980mar201913yrsrw7BYACQ as
select distinct
  gvkey,
  totdealsoverall,
  compactnessmnrw,
  compactnessmnrwsustnd,
  meancompactnessmnin13yrrw,
  maxtotblocks75pin13yrrw,
  nyrsinrwbdrcusip6,
    yrswithdealsdivbytotyrs,
      totalmnablocks,
      maxainblocklevel,
      maxdealsinday,
      n(compltd)                          as    totanndealsallyrs,
      n(dealsinday)                       as    totdealsallyrs,
      n(anndate)                          as    totanndatesallyrs,

      sum(trgpublic)                      as    tottrgpublic,
      avg(trgpublic)                      as    prprtntrgpublic,
      sum(trgprivate)                     as    tottrgprivate,
      avg(trgprivate)                     as    prprtntrgprivate,
      sum(trgsubsid)                      as    tottrgsubsid,
      avg(trgsubsid)                      as    prprtntrgsubsid,

      sum(trgprivate)                     as    totdrelsizege1mm,
      avg(drelsizege1mm)                  as    avgdrelsizege1mm,
      avg(relsizemilusd)                  as    avgrelsizemilusd

      from   sdc1980mar201913yrsrw6a
group by  gvkey ;  quit;
```

- Input:firm level observation;

```
      proc means data=sdc1980mar201913yrsrw7BYACQ n mean min p25 median p75
max; var totdealsoverall totanndealsallyrs totdealsallyrs totanndatesallyrs
                          tottrgpublic  tottrgprivate tottrgsubsid
totdrelsizege1mm;       class  srw5acqtype; run;
      proc means data=sdc1980mar201913yrsrw7BYACQ n mean min p25 median p75
max; var totdealsoverall totanndealsallyrs totdealsallyrs totanndatesallyrs
                          tottrgpublic  tottrgprivate tottrgsubsid
totdrelsizege1mm;                                     ; run;
```

*then, build table in Excel with the output from SAS

Panel C. Descriptive statistics on acquisition dynamics (firm-year observations)

*to get various statistics reported in the table (and then arranged in Excel for formatted Table

```
proc means data=xold_serlacqbygszallflx5rwbwlmbd n mean  ;
      var         totdealsinyr   totalmnablocks maxmnadealinblockindx75pall
      dealinyr dlsacqinpryr     ; class srw5acqtype; run;
proc means data=xold_serlacqbygszallflx5rwbwlmbd n mean  ;
      var         totdealsinyr   totalmnablocks maxmnadealinblockindx75pall
      dealinyr dlsacqinpryr     ;  run;
```

*to get time since last deal

tabstat timesincelastdeal $ifstatemenusdgain, by(srw7acqtypegsz) stat(n mean sd min median max) long varwidth(30) columns(statistics)

Table 2. Acquirer characteristics and acquirer types at the time of the *first* acquisition

Panel A. Univariate analysis

```
proc means data=sdc1980gszall5flxrwadj1 mean;
   var wiawat wiawltleverage trgpublic trgprivate trgsubsid w5iawebitdmargin wiawsalesgrwth
wiawrndtoassets wlrgrwthopp3wlog wfirmsperrm3wlog wsectorerrorwlogh dotcom deregulannyear
;  run;
proc means data=sdc1980gszall5flxrwadj1 mean n std; class maxsrw5acqtype ;
  var wiawat wiawltleverage trgpublic trgprivate trgsubsid w5iawebitdmargin wiawsalesgrwth
wiawrndtoassets wlrgrwthopp3wlog wfirmsperrm3wlog wsectorerrorwlogh dotcom deregulannyear
;  run;
```

Panel B. Multinomial logistic regression

```
use "D:\BoxSync\Documents Tonio\data\serialac\sdc1980gszall5flxrwadj.dta", clear
---------------------------------------------------------------------------------------------
        *Data set at deal level
global ifstataftr1989NnmssngSrlAcqtype "if  calyear>=1989  & !missing(srw5acqtype)"
sort bdrcusip6 anndate
by bdrcusip6, sort: gen indxfirstbdrcusip6 = _n == 1 $ifstataftr1989NnmssngSrlAcqtype
        global rfirmchars       logwmktcap wltleverage trgpublic       trgprivate
        global reffic           webitdmargin wsalesgrwth    wrndtoassets  wlrgrwthopp3wlog
        global rovervalnred     wfirmsperrm3wlog      wsectorerrorwlogh
        global rpeereff         dotcom                deregulannyear
set more off
 mlogit maxsrw5acqtype          $rfirmchars  $reffic $rovervalnred       $rpeereff     i.ffind12 i.annyear
        $ifstataftr1989NnmssngSrlAcqtype & indxfirstbdrcusip6==1, $stderr
  estimates store lgtmmaxserialacq
 set more off
estout   lgtmmaxserialacq , ///
cells(b(star      fmt(%9.3f))     p(par) se(par fmt(3)))    stats(r2_p       p        N )      style(fixed)
starlevels(* 0.10          ** 0.05 ***      0.01) label legend numbers  varwidth(40) modelwidth(10)
---------------------------------------------------------------------------------------------
```

Table 3. Hazard analysis on the time between two subsequent acquisitions by acquirer type

```
*  Duration hazard analysis [at the deal level dataset]

/* Since I focus on series of acquisitions I use as ID the joint Id measure: Cusip6-block*/

stset anndate, id(acqcusip6mnablockindx75p ) time0(laganndate) origin(time laganndate ) failure
(lastdealever2 == 1)

global iflogitafter1989 "if  calyear>=1989  "

egen finalanndate         = max(anndate)  $iflogitafter1989 , by(bdrcusip6)

egen initialanndate       = min(anndate)  $iflogitafter1989 , by(bdrcusip6)

gen dlastdealever=0

replace  dlastdealever= 1 if anndate == lastanndate

gen currentduration   = anndate - initialanndate

stset currentduration if  ainblocklevel > 0, id(bdrcusip6 )   failure (dlastdealever == 1)

global firmchars          logwmktcap wltleverage trgpublic trgprivate

global effic              webitdmargin wsalesgrwth    wcashequivtoa wlrgrwthopp3wlog

global peereff             dotcom deregulannyear financeind

global overvaln           wfirmsperrm3wlog wsectorerrorwlogh

global pathdepall          lagdlwstcarew11 wchwroaebitd

global learningforredoccs1 logtimesincelastdeal mnablockindx75p

global firmbey2           $firmchars  $effic $peereff        $overvaln $pathdepall   $learningforredoccs1

set more off

stcox     $firmbey2        i.ffind12  i.annyear , hr  robust cluster(ffind12) nolog

  estimates store stPHcoxacq

stcox     $firmbey2   i.ffind12  i.annyear    $iflogitafter1989  & srw5acqtype ==2,   hr robust
cluster(ffind12) nolog

  estimates store stPHcoxacq2

stcox     $firmbey2   i.ffind12  i.annyear    $iflogitafter1989  & srw5acqtype ==3,   hr  robust
cluster(ffind12) nolog

  estimates store stPHcoxacq3

stcox     $firmbey2  i.ffind12   i.annyear    $iflogitafter1989  & srw5acqtype ==4,   hr robust
cluster(ffind12) nolog
```

```
  estimates store stPHcoxacq4

estout  stPHcoxacq  stPHcoxacq2 stPHcoxacq3 stPHcoxacq4 , ///

        cells(b(star fmt(3)) p(par fmt(3))) style(tab) starl(* 0.10 ** 0.05 *** 0.01) stats(N ll, fmt(%9.0g %9.3f) labels(N ll)) varwidth(27) modelwidth(8)
```

Table 4. Annual transition matrix from ex-ante to ex-post acquirer type

```
/*transition matrix at firm-yr level */
sort ngvkey anndate
by ngvkey: gen l1srw5acqtype = srw5acqtype[_n-1]
by ngvkey: gen f1srw5acqtype = srw5acqtype[_n+1]
*transition from year-2 to prior yr (yr-1)
table     l1srw5acqtype   srw5acqtype $ifstatemenpssn    , c(n wat) col row scol format(%9.0f)
*transition from year-1 to current yr classif
table     srw5acqtype f1srw5acqtype $ifstatemenpssn, c(n wat )  col row scol format(%9.0f)
```

Table 5. Predicting the probability of an acquisition

Panel A. Logit models on probability of conducting an acquisition in the current year

```
/*Stata

Note how the original whole dataset is called "serlacqbygsznallflx5rwlmbd3v", yet I build a sub-sample to avoid issues of making public whole dataset for SDC, Compustat and CRSP datasets. The subsequent code could simply change the name of the whole data set and instead use the sub-sample created for a sub-set of years.

use "D:\BoxSync\Documents Tonio\data\serialac\serlacqbygsznallflx5rwlmbd3v.dta", clear          drop if calyear <1995 | calyear > 1997

save "D:\serlacq19951997firmyrlevel.dta", replace

*/

use "D:\serlacq19951997firmyrlevel.dta", clear

global mainctrlspssnmore loggat  yrindxnmagn yrindxnmagnsqr  wltleverage  wrndtoassets

        webitdmargin logwsalesgrwth wfirmsperrm3wlog  wlrgrwthopp3wlog wsectorerrorwlogh

        dotcom deregulannyear

global indfe i.ffind12

global yrfe i.calyear

global stderr robust cluster(calyear)

global ifstatemenpssn "if  calyear>=1989 &!missing(loggat,totdealsinyr) "

set more off

logit dealinyr  loggat  $indfe       $yrfe $ifstatemenpssn,    $stderr

  estimates store lgt1

logit dealinyr $mainctrlspssnmore          $indfe  $yrfe $ifstatemenpssn,    $stderr

  estimates store lgt2

logit dealinyr  i.dlsacqinpryr $mainctrlspssnmore  $indfe $yrfe $ifstatemenpssn,    $stderr

  estimates store lgt3

logit dealinyr i.dlsacqinpryr  $indfe $yrfe $ifstatemenpssn,    $stderr

  estimates store lgt3a

logit dealinyr i.srw5acqtype $mainctrlspssnmore  $indfe $yrfe $ifstatemenpssn,    $stderr

  estimates store lgt4

logit dealinyr i.srw5acqtype $indfe $yrfe $ifstatemenpssn,    $stderr
```

```
  estimates store lgt4a

logit dealinyr i.srw5acqtype##i.dlsacqinpryr $mainctrlspssnmore $indfe  $yrfe $ifstatemenpssn, $stderr

  estimates store lgt5

xtlogit  dealinyr i.srw5acqtype##i.dlsacqinpryr $mainctrlspssnmore $indfe          $yrfe $ifstatemenpssn,

  estimates store xtlogitgszacqinyr2

set more off

estout lgt1 lgt2 lgt3 lgt4 lgt5 xtlogitgszacqinyr2, ///

  cells(b(star fmt(%9.3f)) p(par) se(par fmt(3)))    stats(p ll chi2 aic bic r2_p N, fmt(%9.3f %9.0g)) style(fixed) starlevels(* 0.10 ** 0.05 *** 0.01) label legend numbers varwidth(45) modelwidth(17)
```

Panel B. Observed and predicted probability of an acquisition in the current year

```
*To get actual observed prob

table    mxsbdrtp5yrrw dlsacqinpryr $ifstatementprdlinyr & e(sample), c( n  dealinyr ) col row format(%9.0f)  scol

table    mxsbdrtp55yrrw dlsacqinpryr $ifstatementprdlinyr & e(sample), c( sum  dealinyr ) col row format(%9.0f)  scol

*Calculate in Excel observed probability by dividing [sum dealinyr] by [n dealinyr]

*After logit calculate predicted probability using Stata's margin function

marginsi.srw5acqtype##i.dlsacqinpryr
```

Table 6. Estimating acquisition intensity

Panel A. Poisson count models on number of acquisitions per year

```
global ifstatemenpssn "if  calyear>=1989 &!missing(loggat,totdealsinyr) "

xtset ngvkey calyear

sort ngvkey calyear

/* Generate indicators for some additional controls:

justchangedtoMarathoner: if srialAcType in yr -2 was Sprinter and then in yr-1 became a marathoner

stayedasSprinter: if srialAcType in yr -2 was Sprinter and then in yr-1 did not aquire (i.e., ended up block)

stayedasOccasional: if srialAcType in yr -2 was Occasional and then in yr-1 did not aquire (i.e., ended up block) */

by ngvkey: gen l1srw5acqtype = srw5acqtype[_n-1]

by ngvkey: gen l2srw5acqtype = srw5acqtype[_n-2]

gen       sprntrtomrthnrinprryr = 0

replace sprntrtomrthnrinprryr = 1 if (l2srw5acqtype==3)&(l1srw5acqtype==4)

gen       occstospntrinprryr = 0

replace occstospntrinprryr = 1 if (l2srw5acqtype==2)&(l1srw5acqtype==3)

gen       occstomrthnrinprryr = 0

replace occstomrthnrinprryr = 1 if (l2srw5acqtype==2)&(l1srw5acqtype==4)

gen       staydassprntr = 0

replace staydassprntr = 1 if (l2srw5acqtype==3)&(l1srw5acqtype==0)

gen       staydasoccsnl = 0

replace staydasoccsnl = 1 if (l2srw5acqtype==2)&(l1srw5acqtype==0)


* Poisson Models

global mainctrlspssnmore loggat yrindxnmagn yrindxnmagnsqr   wltleverage wrndtoassets
webitdmargin logwsalesgrwth wfirmsperrm3wlog  wlrgrwthopp3wlog wsectorerrorwlogh dotcom
deregulannyear

global mainctrlspssnmore2 loggat  yrindxnmagn yrindxnmagnsqr  wltleverage wrndtoassets
webitdmargin

global counts l1tottrgpublic        l1tottrgprivate   l1tottrgsubsd
```

```
global l1srlacqtyp i.l1srw5acqtype

global srlacqtypflags sprntrtomrthnrinprryr occstospntrinprryr occstomrthnrinprryr staydassprntr staydasoccsnl

global indfe i.ffind12

global yrfe i.calyear

xtreg totdealsinyr loggat $counts $indfe $yrfe $ifstatemenpssn,     mle

 estimates store xtregmle

 predict  xbxtregmlelogat, xb

 gen t0xbxtregmlelogat = xbxtregmlelogat

 replace t0xbxtregmlelogat = 0.001 if xbxtregmlelogat < 0 & !missing(xbxtregmlelogat)

gen prdlamda = t0xbxtregmlelogat

winsor prdlamda $ifstatemenusdgain, gen(wprdlamda) p(0.01)

gen prdsall5lambdaxtreg          = prdlamda

gen wprdsall5lambdaxtreg         = wprdlamda

xtreg totdealsinyr $mainctrlspssnmore   $counts $indfe $yrfe      $ifstatemenpssn,     mle

 estimates store xtregmlemore

xtreg totdealsinyr $mainctrlspssnmore2              $counts $indfe $yrfe      $ifstatemenpssn,     mle

 estimates store xtregmlemore2

xtreg totdealsinyr $counts $l1srlacqtyp  loggat  $indfe $yrfe $ifstatemenpssn,     mle

 estimates store xtregmlemore5

predict  xbxtregmlelogat5, xb

 gen      t0xbxtregmlelogat5 = xbxtregmlelogat5

 replace t0xbxtregmlelogat5 = 0.001 if xbxtregmlelogat5 < 0 & !missing(xbxtregmlelogat5)

 gen prdlamda5 = t0xbxtregmlelogat5

xtreg totdealsinyr $counts $l1srlacqtyp  $mainctrlspssnmore2  $indfe $yrfe          $ifstatemenpssn,     mle

 estimates store xtregmlemore3

xtreg totdealsinyr $counts $l1srlacqtyp  $mainctrlspssnmore $indfe $yrfe $ifstatemenpssn,     mle

 estimates store xtregmlemore4

xtreg totdealsinyr $counts $srlacqtypflags $mainctrlspssnmore   $indfe $yrfe $ifstatemenpssn,     mle
```

estimates store **xtregmlemore7**

xtreg totdealsinyr $counts $l1srlacqtyp $srlacqtypflags $mainctrlspssnmore $indfe $yrfe $ifstatemenpssn, mle

estimates store **xtregmlemore8**

estout xtregmlemore8 xtregmle xtregmlemore2 xtregmlemore xtregmlemore5 xtregmlemore3 xtregmlemore4 xtregmlemore7 xtregmlemore8, cells(b(star fmt(%9.3f)) p(par) se(par fmt(3))) stats(p ll chi2 aic bic N, fmt(%9.3f %9.0g)) style(fixed) starlevels(* 0.10 ** 0.05 *** 0.01) label legend numbers varwidth(45) modelwidth(17)

Panel B. Predicted acquisition intensity

tabstat prdlamda $ifstatemenpssn, by(srw5acqtype) stat(n mean sd min p1 p5 p10 p25 median p75 p90 p95 p99 max) long varwidth(30) columns(statistics)

tabstat prdlamda5 $ifstatemenpssn, by(srw5acqtype) stat(n mean sd min p1 p5 p10 p25 median p75 p90 p95 p99 max) long varwidth(30) columns(statistics)

Panel C. Predicted acquisition intensity at particular serial acquirer type borders

tabstat prdlamda5 $ifstatemenpssn & sprntrtomrthnrinprryr==1 , stat(n mean median) long varwidth(30) columns(statistics)

tabstat prdlamda5 $ifstatemenpssn & occstospntrinprryr==1 , stat(n mean median) long varwidth(30) columns(statistics)

tabstat prdlamda5 $ifstatemenpssn & occstomrthnrinprryr==1 , stat(n mean median) long varwidth(30) columns(statistics)

tabstat prdlamda5 $ifstatemenpssn & staydassprntr==1 , stat(n mean median) long varwidth(30) columns(statistics)

tabstat prdlamda5 $ifstatemenpssn & staydasoccsnl==1 , stat(n mean median) long varwidth(30) columns(statistics)

Table 7. Anticipation adjustment factors

```
/* Estimate anticipation adjustment factors and anticip adj CARs having brought the predicted lambdas with the Poisson models from analysis at the YR level now calculations based on the deal-level */

/* In the subsequent tables we use the deal-level data. The shared dataset might already contain some of the defined variables, hence dropping some of them to be used in the provided shared sub-sample would be needed to see how such variable is used.

use "D:\BoxSync\Documents Tonio\data\serialac\sdc1980gszall5flxrwadj.dta", clear

drop if annyear <1995 & annyear >2001

save "D:\sdc19952001gszall5flxrwadj.dta", replace */

use  "D:\sdc19952001gszall5flxrwadj.dta",  clear

*deal-level observations

renvars , lower

compress

sort bdrcusip6 anndate


global ifstatemenusdgain "if  calyear>=1989  "

 gen expantcpalladjinday = ( ( exp(prdsall5lambdaxtreg) - 1 ) / (prdsall5lambdaxtreg *   dealsinday ) ) $ifstatemenusdgain

winsor expantcpalladjinday $ifstatemenusdgain, gen(wexpantcpalladjinday) p(0.01)

winsor expantcpalladjinday $ifstatemenusdgain, gen(w2expantcpalladjinday) p(0.02)

gen w5adjfewstcarew11 = w5expantcptnfeadjinday * wstcarew11     $ifstatemenusdgain

gen ainblocklevelclst                =irecode(ainblocklevel              ,0,1,4,9,15)

table    ainblocklevelclst          srw5acqtype     $ifstatemenusdgain      ,          c(          mean
         w2expantcpalladjinday  )          col        row       scol       format(%9.4f)

table    ainblocklevelclst          srw5acqtype     $ifstatemenusdgain      ,          c(          median
         w2expantcpalladjinday  )          col        row       scol       format(%9.4f)
```

Table 8. Acquirer abnormal returns

Panel A. Average unadjusted abnormal returns

```
tabstat wstcarew11, by(ainblocklevelclst) stat( mean sd p25 median p75 ) long varwidth(30) columns(statistics)
```

Panel B Average unadjusted abnormal returns by serial acquirer type

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain , c( mean wstcarew11 ) col row scol format(%9.4f)

table ainblocklevelclst srw5acqtype $ifstatemenusdgain , c( median wstcarew11 ) col row scol format(%9.4f)
```

Panel C. Average anticipation-adjusted abnormal returns

```
tabstat w2adjallfewstcarew11, by(ainblocklevelclst) stat( mean sd p25 median p75 ) long varwidth(30) columns(statistics)
```

Panel D. Average anticipation-adjusted abnormal returns by serial acquirer type

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain , c( mean w2adjallfewstcarew11 ) col row scol format(%9.4f)

table ainblocklevelclst srw5acqtype $ifstatemenusdgain , c( median w2adjallfewstcarew11 ) col row scol format(%9.4f)
```

Table 9. Acquirer abnormal returns for large and small deals

/* in SAS */

```
if relsizemilusd ge 0.01 and transvalmilusd ge 1 and  status = "C" then
drelsizege1mmcmpltd = 1; else drelsizege1mm = 0
```

Panel A. Proportion large-size deals by serial acquirer type

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==1, c(
      n wstcarew11 ) col row scol format(%9.0f)

table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==0, c(
      n wstcarew11 ) col row scol format(%9.0f)
```

*and then in Excel calculate the proportion

Panel B. Large deals: Unadjusted abnormal returns by serial acquirer type

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==1, c(
      mean wstcarew11 ) col row scol format(%9.4f)
```

Panel C. Large deals: Anticipation-adjusted abnormal returns by serial acquirer type

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==1, c(
      mean w2adjallfewstcarew11 ) col row scol format(%9.4f)
```

Panel D. Small deals: Unadjusted abnormal returns by serial acquirer type

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==0, c(
      mean wstcarew11 ) col row scol format(%9.4f)
```

Panel E. Small deals: Anticipation-adjusted abnormal returns by serial acquirer type

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==0, c(
      mean w2adjallfewstcarew11 ) col row scol format(%9.4f)
```

Table 10. Regressions of acquirer abnormal returns

Panel A. OLS regressions of acquirer abnormal returns on acquisition index number by serial acquirer type

```
gen wstcarew11_100     = wstcarew11 *100

gen logainoverall = log(ainoverall)

global logainblocklevel logainoverall

global mainctrls wq  trgprivate  trgsubsid logwatwithmktcap logwsalesgrwth wltleverage wrndtoassets
webitdmargin nnffindyr  wcashequivtoa logagebsdn1yragep1 after2001

global addctrls onlycash onlystock  i.ffind12 i.calyear

$regr   wstcarew11_100                  $logainblocklevel                       $mainctrls
        $addctrls                       $ifstatemenusdgain & srw5acqtype >1, $stderr

        estimates store regstcar11alllognnlnr5

$regr   w2adjallfewstcarew11 $logainblocklevel                  $mainctrls      $addctrls
        $ifstatemenusdgain & srw5acqtype >1, $stderr

        estimates store regadjstcar11alllognnlnr5

$regr   wstcarew11_100                  $logainblocklevel                       $mainctrls
        $addctrls                       $ifstatemenusdgain & srw5acqtype ==2, $stderr

        estimates store regstcar11alllogocc5

$regr   w2adjallfewstcarew11 $logainblocklevel                  $mainctrls      $addctrls
        $ifstatemenusdgain & srw5acqtype ==2, $stderr

        estimates store regadjstcar11alllogocc5

$regr   wstcarew11_100                  $logainblocklevel                       $mainctrls
        $addctrls                       $ifstatemenusdgain & srw5acqtype ==3, $stderr

        estimates store regstcar11alllogspr5

$regr   w2adjallfewstcarew11 $logainblocklevel                  $mainctrls      $addctrls
        $ifstatemenusdgain & srw5acqtype ==3, $stderr

        estimates store regadjstcar11alllogspr5

$regr   wstcarew11_100                  $logainblocklevel                       $mainctrls
        $addctrls                       $ifstatemenusdgain & srw5acqtype ==4, $stderr

        estimates store regstcar11alllogmrt5

$regr   w2adjallfewstcarew11 $logainblocklevel                  $mainctrls      $addctrls
        $ifstatemenusdgain & srw5acqtype ==4, $stderr
```

```
        estimates store regadjstcar11alllogmrt5

estout    regstcar11alllognnlnr5 regadjstcar11alllognnlnr5 regstcar11alllogocc5 regadjstcar11alllogocc5
regstcar11alllogspr5 regadjstcar11alllogspr5 regstcar11alllogmrt5 regadjstcar11alllogmrt5, cells(b(star
        fmt(%9.3f))     p(par) se(par fmt(3)))    stats(r2_a        p        N )     style(fixed) starlevels(*
0.10    ** 0.05 ***     0.01) label legend numbers  varwidth(40) modelwidth(10)
```

Panel B. OLS regressions of acquirer abnormal returns on acquisition index number by deal size

**ONLY large deals And then Small deals

```
$regr   wstcarew11_100                  $logainblocklevel                       $mainctrls
        $addctrls                       $ifstatemenusdgain & srw5acqtype >1, $stderr

        estimates store regstcar11alllognnlnr5

$regr   w2adjallfewstcarew11 $logainblocklevel          $mainctrls      $addctrls
        $ifstatemenusdgain & srw5acqtype >1, $stderr

        estimates store regadjstcar11alllognnlnr5

$regr   wstcarew11_100                  $logainblocklevel                       $mainctrls
        $addctrls                       $ifstatemenusdgain & srw5acqtype >1  &drelsizege1mm==1,
$stderr

        estimates store regstcar11alllognnlnr5lr

$regr   w2adjallfewstcarew11 $logainblocklevel          $mainctrls      $addctrls
        $ifstatemenusdgain & srw5acqtype >1 &drelsizege1mm==1, $stderr

        estimates store regadjstcar11alllognnlnr5lr

$regr   wstcarew11_100                  $logainblocklevel                       $mainctrls
        $addctrls                       $ifstatemenusdgain & srw5acqtype >1  &drelsizege1mm==0,
$stderr

        estimates store regstcar11alllognnlnr5sm

$regr   w2adjallfewstcarew11 $logainblocklevel          $mainctrls      $addctrls
        $ifstatemenusdgain & srw5acqtype >1 &drelsizege1mm==0, $stderr

        estimates store regadjstcar11alllognnlnr5sm
```

*comparing the results for logCARs (ad vs nonadj) for non loners (i.e., occ, sprntr and marathoners)

```
set more off

estout    regstcar11alllognnlnr5 regadjstcar11alllognnlnr5 regstcar11alllognnlnr5lr
regadjstcar11alllognnlnr5lr regstcar11alllognnlnr5sm regadjstcar11alllognnlnr5sm, ///

cells(b(star        fmt(%9.3f))     p(par) se(par fmt(3)))    stats(r2_a        p        N )     style(fixed)
starlevels(* 0.10           ** 0.05 ***     0.01) label legend numbers  varwidth(40) modelwidth(10)
```

Table 11. Dollar gains from acquisitions

```
gen antadjvalgaindlall5yrs = w2adjallfewstcarew11  * wmktcapinfadj2018

winsor antadjvalgaindlall5yrs $ifstatemenpssn, gen(w5antadjvalgaindlall5yrs ) p(0.05)
```

Panel A. All deals

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain , c( mean wantadjvalgaindlall5yrs ) col row scol format(%9.3f)

table ainblocklevelclst srw5acqtype $ifstatemenusdgain , c( median wantadjvalgaindlall5yrs ) col row scol format(%9.3f)
```

Panel B. Large deals

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==1, c( mean wantadjvalgaindlall5yrs ) col row scol format(%9.3f)

table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==1, c( median wantadjvalgaindlall5yrs ) col row scol format(%9.3f)
```

Panel C. Small deals

```
table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==0, c( mean wantadjvalgaindlall5yrs ) col row scol format(%9.3f)

table ainblocklevelclst srw5acqtype $ifstatemenusdgain & drelsizege1mm==0, c( median wantadjvalgaindlall5yrs ) col row scol format(%9.3f)
```

Table 12. Extraordinary acquirers and persistence in cumulative abnormal returns and dollar gains.

Panel A. Proportion of acquisitions conducted by serial acquirer type

```
/*use "D:\BoxSync\Documents Tonio\data\serialac\serlacqbygsznallflx5rwlmbd3v.dta", clear      drop if calyear <1995 | calyear > 1997

save "D:\serlacq19951997firmyrlevel.dta", replace */

use "D:\serlacq19951997firmyrlevel.dta", clear

* We replicate Golubov, Yawson, and Zhang (2015) and after calculating the average unadjusted CAR in the last 3 years, we split the firms in terciles each year to get the avgl3yrswstcar11inyrq3 variable.

* Excluding loners given few observations for extraordinary acquirers analysis

global ifstatementprdlinyr "if  calyear>=1989  "

table    avgl3yrswstcar11inyrq3 srw5acqtype    $ifstatementprdlinyr    &    srw5acqtype>1,c(
         n    dlsacqinpryr)    col    row    scol

*Then, calculate proportion in Excel
```

Panel B. Persistence of average unadjusted abnormal returns

```
tabstat  avgwstcarew11inyr    avgf2ryswstcar11inyr    avgf3ryswstcar11inyr    $ifstatementa    &
         dealinyr==1    &    mxsbdrtp13yrrw>0    ,    by(avgl3yrswstcar11inyrq3)
         stat(mean    n)    long    varwidth(30)    columns(variables)


tabstat  avgwstcarew11inyr    avgf2ryswstcar11inyr    avgf3ryswstcar11inyr    $ifstatementprdlinyr
         &    dealinyr==1    &    srw5acqtype>0    ,    by(avgl3yrswstcar11inyrq3)
         stat(mean    n)    long    varwidth(30)    columns(variables)

table    avgl3yrswstcar11inyrq3 srw5acqtype $ifstatementprdlinyr &    srw5acqtype>1,  c( mean
         avgwstcarew11inyr    mean    avgf2ryswstcar11inyr    )    col    row    scol
```

Panel C. Average cumulative anticipation-adjusted dollar gains over *k* years by past return performance

```
winsor wvalgainyra $ifstatemenusdgain, gen(wwwvalgainyra) p(0.01)

winsor sumf2yrswvalgainyra $ifstatemenusdgain, gen(wsumf2yrswvalgainyra) p(0.01)

table    avgl3yrswstcar11inyrq3 srw5acqtype    $ifstatementprdlinyr    &    srw5acqtype>1    ,
         c(    median wvalgainyra    mean    wvalgainyra    mean    sumf2yrswvalgainyra    mean
         sumf3yrswvalgainyra)    col    row    scol

table    avgl3yrswstcar11inyrq3 srw5acqtype    $ifstatementprdlinyr    &    srw5acqtype>1    ,
         c(    median wvalgainyra    mean    wvalgainyra    mean    sumf2yrswvalgainyra    mean
         sumf3yrswvalgainyra)    col    row    scol

table    avgl3yrswstcar11inyrq3 srw5acqtype    $ifstatementprdlinyr    &    srw5acqtype>1    ,
         c(    median wwwvalgainyra mean    wwwvalgainyra    median wsumf2yrswvalgainyra mean
         wsumf2yrswvalgainyra)    col    row    scol
```