

Stata and L^AT_EX for the Graduate School of Governance Maastricht

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Outline

- 1 Stata and L^AT_EX
- 2 Regression output - from simple to fancy
- 3 Stata graphics...

How can you get your results out of Stata and into your paper?

Stata packages for L^AT_EX

Table: Stata Packages for L^AT_EX

sutex	generates L ^A T _E Xcode for summary statistics tables
outtex	generates L ^A T _E Xcode for results tables after any estimation command
maketex	creates a T _E Xable file from the using file.
outreg	formats regression output as it is presented in most L ^A T _E Xdocuments.
outtable	automates the conversion of a Stata matrix to a L ^A T _E Xtable.
latabstat	latabstat is a modification of tabstat which produces L ^A T _E X.
estout	command to export estimation results from stored estimates in L ^A T _E X

An example of a Stata L^AT_EXpackage (outtex)

outtex , *[below]* *[plain]* *[digits(integer)]* *[level]* *[labels]*
[details] *[legend]* *[nopar]* *[title(string)]* *[key(string)]*
[longtable] *[placement]* *[nocheck]* *[file(string)]* *[append]*
[replace]

sutex

A table generated using **sutex** :

Some summary statistics

Variable	Mean	Std. Dev.	N
profit x-eff	0.75	0.048	2341
profit scale	0.452	0.059	2341
profit scope	1.409	0.732	2341
profit tech	0.027	0	2341
profit LLR	-1348.786	0	2341
profit SSV	0.058	0	2341
profit SSU	0.347	0	2341

The code for this table was:

```
sutex xep sep mep tep LLRp SSVp SSUp if entity==2, ///  
file(C:\Projects\SCO\sumlif2.tex) replace  
nobs labels pl(h) ///  
title(Summary Statistics for Life Insurance Firms) key(sum_lif2)
```

Descriptives table using latabstat

A table generated using **latabstat**:

Table: Descriptives

variable	mean	sd	N
PBT	64839.592	3.30e+05	8,776.000
TOC	8.41e+05	3.14e+06	8,776.000
Y1	2.06e+05	8.64e+05	8,776.000
Y2	8.23e+05	3.10e+06	8,776.000
W1	0.085	0.095	8,776.000

Source: isis.dta

Descriptives table using latabstat (cont.)

The code for this table was:

```
latabstat PBT TOC Y1 Y2 W1 ///  
columns(statistics) s(mean sd n) tf(Descriptives) hw(8) f(%9.3fc) ///  
replace cap(Descriptives) clabel(Descriptives)
```

Frequency table using latabstat

A frequency table using **latabstat** (note: totals do not add up, because i left out some countries)

code used: latab country entity, tf(frequencies) tx(8) replace

country	Type of entity			
	Composite	Life	Non-Life	Total
Austria	96	25	67	188
Belgium	121	15	111	247
Denmark	0	104	165	269
Finland	0	48	92	140
France	153	253	476	882
Total	1,236	2,709	4,831	8,776

Source: isis.dta

Regression table using outtex

Variable	Coefficient	(Std. Err.)
Equation 1 : high		
profit x-eff	-1.148*	(0.508)
profit scale	-0.031	(0.444)
profit scope	-0.163	(0.107)
size	-0.314*	(0.152)
Intercept	0.798	(0.533)
Equation 2 : medium		
profit x-eff	-1.160**	(0.424)
profit scale	-0.754	(0.713)
profit scope	-0.058	(0.075)
size	0.206*	(0.089)
Intercept	0.526	(0.423)
N		
	3581	
Log-likelihood		
	-3754.988	
$\chi^2_{(8)}$		
	294.326	
Significance levels : † : 10% * : 5% ** : 1%		

Regression table using outtex

The code for this table was:

```
mlogit roa xep sep mep size, robust cluster(country) nolog basecategory(3) outtex,  
labels level detail legend key(stab) ///  
file(C:\Projects\BOS\TEXTALK\logitpnon.tex) ///  
title(Logit Results Profit Frontier) replace
```

Regression output - from simple to fancy

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- 1 Select regression output, right click and choose "copy table".
This you can put into excel (then use excel2tex).

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- 1 Select regression output, right click and choose "copy table".
This you can put into excel (then use excel2tex).
- 2 Combine tables, then follow step 1.
- 3 Use outreg or outtex (see previous slide and example do file).
- 4 Make your own "results set" (see example do file).

In the example do file

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- 1 Combining tables.

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- 4 Making your own results tables.
- 5 Combining scalars with graphs....

Conditional marginal effects (example of combining scalars with graphs)

Based on:

Thomas Brambor , William Roberts Clark , and Matt Golder, "Understanding Interaction Models: Improving Empirical Analyses," Political Analysis Advance Access published on May 23, 2005, DOI 10.1093/pan/mpi014.

Web page at <http://homepages.nyu.edu/~mrg217/interaction.html>

Conditional marginal effects (cont.)

Suppose we run the following regression:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \beta_4 X_3 \quad (1)$$

The marginal effect of X_1 on Y is then *conditional* on X_2 , which now is the "modifying variable":

$$\frac{\delta Y}{\delta X_1} = \beta_1 + \beta_3 X_2 \quad (2)$$

Which has the following variance:

$$\sigma_{\frac{\delta Y}{\delta X_1}}^2 = \text{var}(\beta_1) + X_2^2 \text{var}(\beta_3) + 2X_2 \text{cov}(\beta_1, \beta_3) \quad (3)$$

Conditional marginal effects (cont.)

graphically, we can show the conditional marginal effect and its significance (see the stata file for the code):

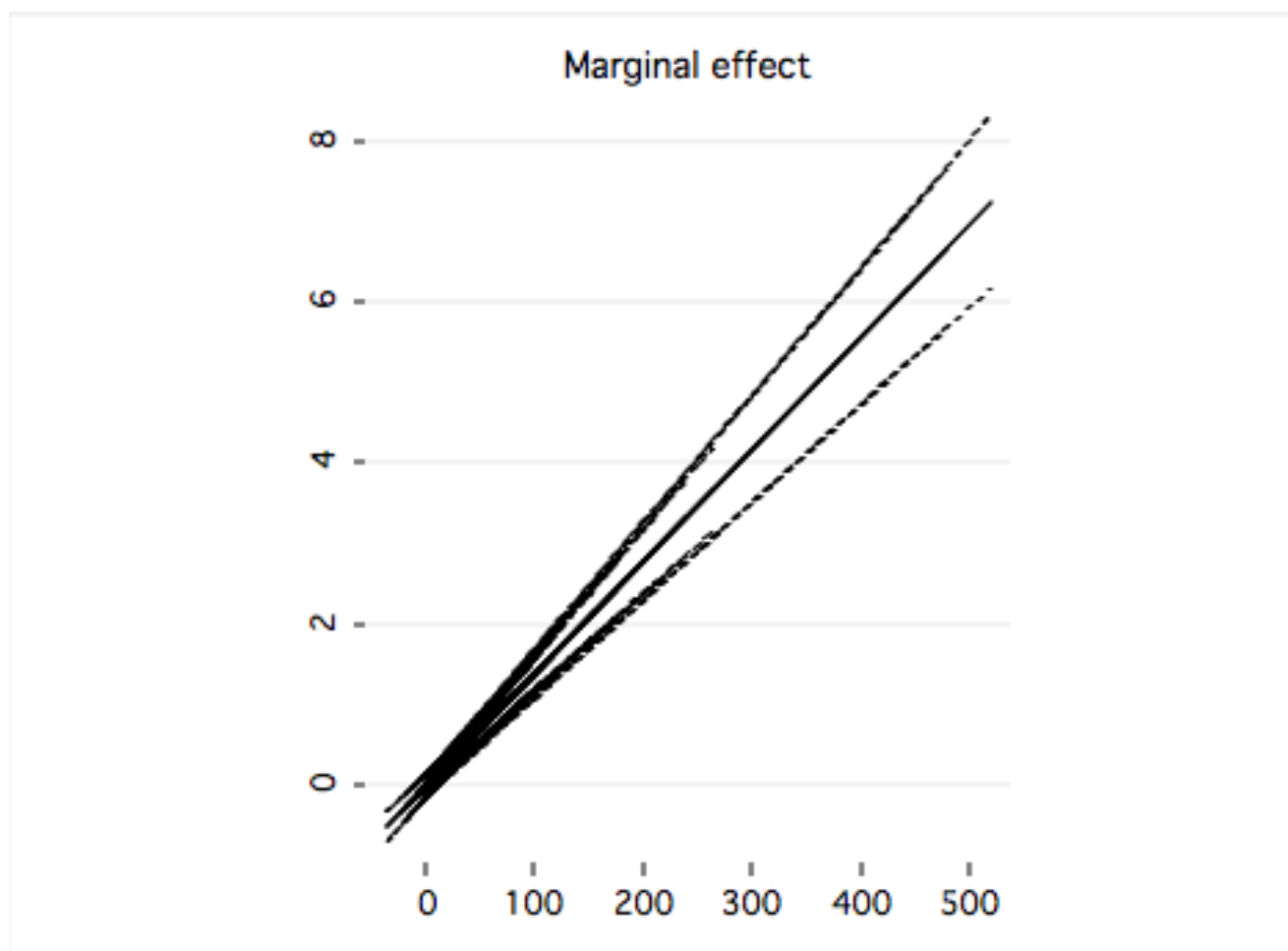


Figure: Conditional marginal effect of X1 on Y (conditional on X2)

Some fun

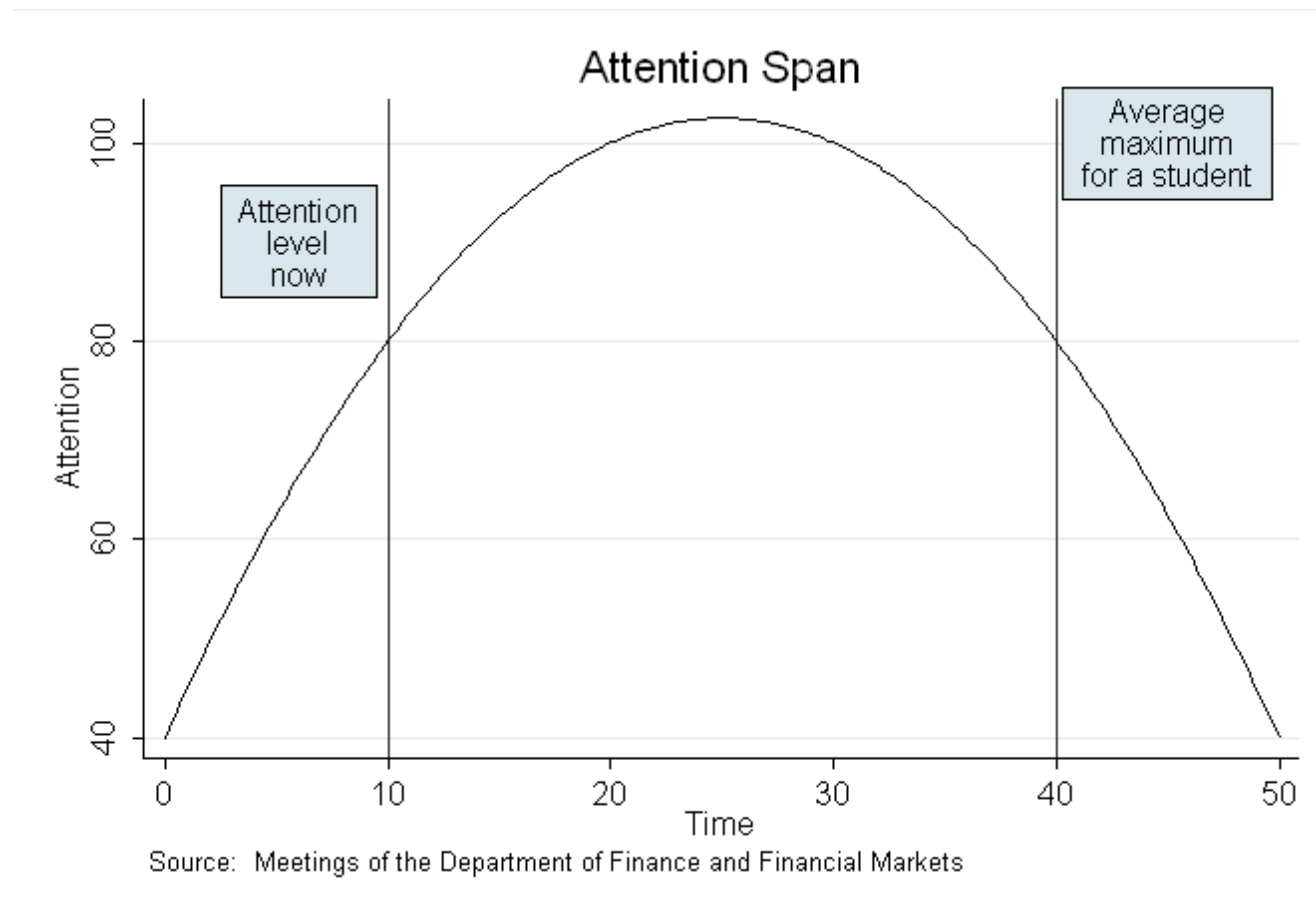


Figure: Functional fun

Some fun (continued)

Hey, now we have also started adding some Stata code. I tried making the graph look a bit fancy, so the Stata code looks like this:

```
twoway function y=40+5*(x)-0.1*(x^2), range(0 50) ///  
ytitle("Attention") xtitle("Time") ///  
note("Source: Meetings of the Department of Finance and Financial Markets") ///  
graphregion(color(white)) title("Attention Span") ///  
xline(10) text(90 6 "Attention" "level" "now", box margin(1 1 1 1)) ///  
xline(40) text(100 45 "Average" "maximum" "for a student", boxmargin(1 1 1 1))  
graph export attentionspangraph.png, replace
```

A bit more serious: theory graphs

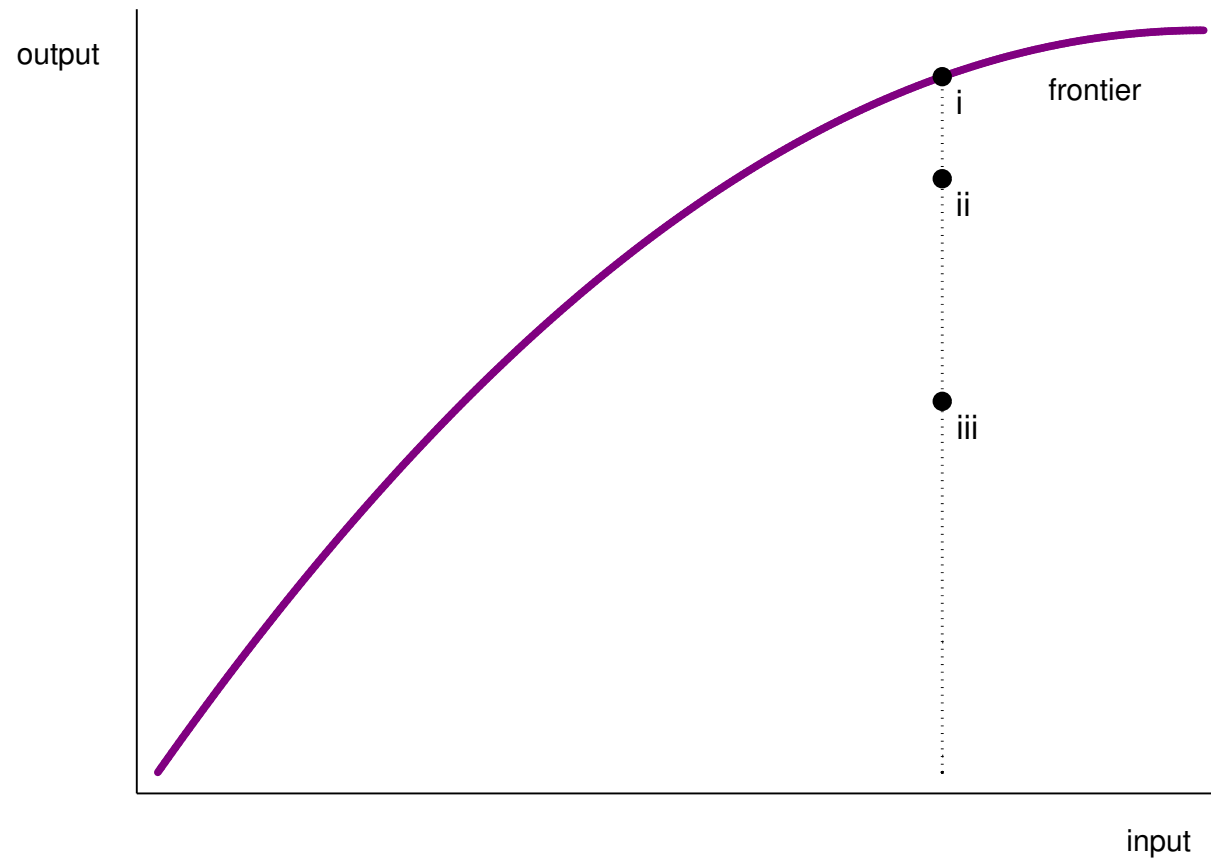


Figure: If you make one graph...

A bit more serious: theory graphs (cont.)

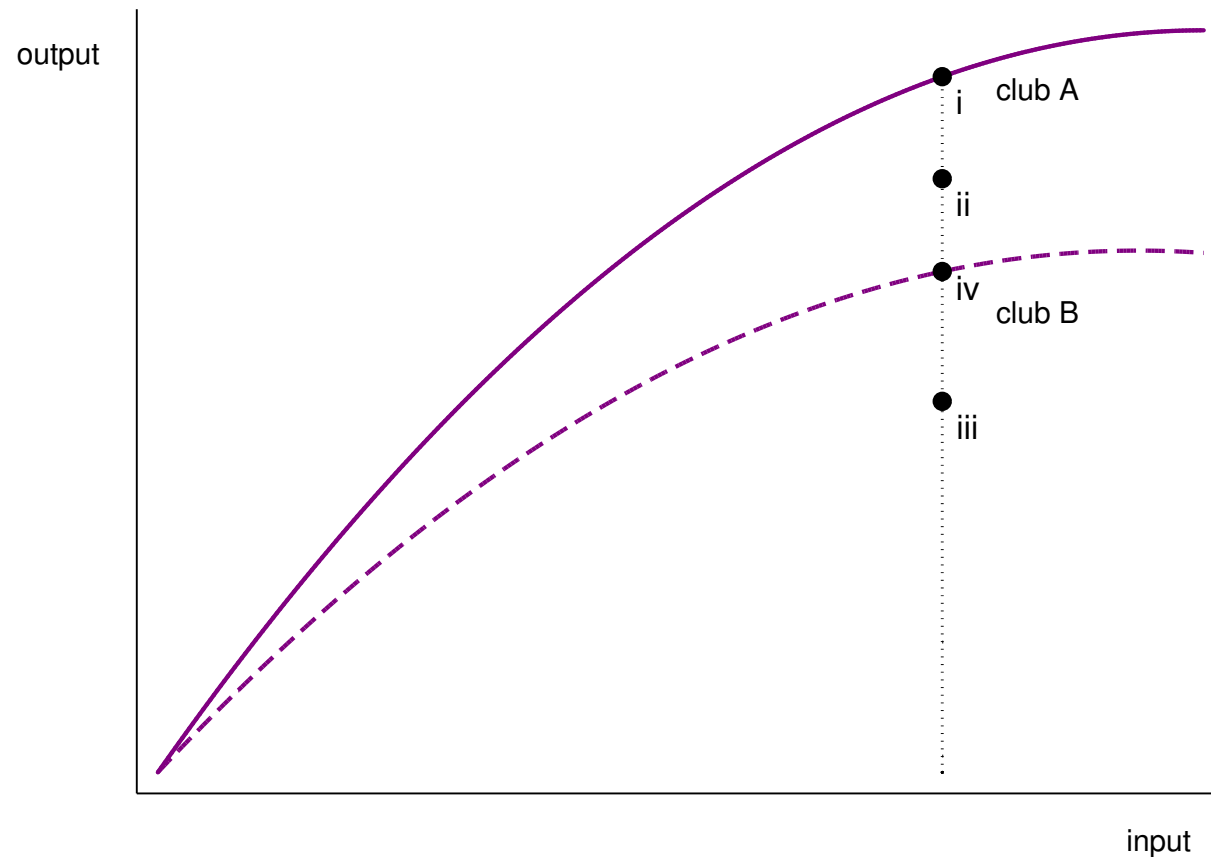


Figure: You can easily make another...