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# Separation brings analysts and their graphs together

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# Overview

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- Stata in the ONS
- Economic Trends
- The solution: use Stata's graphics
- Wishlist

# Stata in the ONS

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- Increasingly wide use in development
- Not a “production” tool
- Key part of the analytical toolkit
- Intensively used in our new virtual Research Lab

# Research Lab – business microdata

[www.statistics.gov.uk/about/bdl/](http://www.statistics.gov.uk/about/bdl/)

The screenshot displays a Citrix ICA Client window titled "Research Desktop - Citrix ICA Client". Inside the client, the Stata/SE 8.2 software is running. The main Stata window shows the "Stata Results" pane with the Stata logo and version information. The "Stata Command" pane at the bottom contains the command: `. use "M:\hard\results\dat2000pdg.dta", clear`. A "Variables" window is open on the left, listing variables such as year, ruref, sic92, fvelu, frm\_type, rec\_date, vet\_date, respstype, awtband, nsamp, npop, gwtband, enforce, region, ullfoc, wowent, acp\_stat, chklet, entrel, empment, turnover, er\_stat, late\_ret, and wq11. A "summarize - Summary statistics" dialog box is open in the foreground, showing options for displaying summary statistics. The dialog has tabs for "Main", "by/i/in", and "Weights". The "Variables" field is empty. Examples provided are "yr\*" for all variables starting with 'yr' and "xyz-abc" for all variables between xyz and abc. Under the "Options" section, "Standard display" is selected, and "Display additional statistics" is unselected. A "Separator line every N variables" is set to 5. The background shows a Windows XP desktop with a Citrix MetaFrame XP application icon and a taskbar with the Start button and several open applications.

**CITRIX**

Office

18:06

# Economic Trends

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- Revamp for 600<sup>th</sup> issue in November 2003
- Higher quality graphing required
- Done by designers for long articles
- Problem for short-term analytical articles

# Short-term articles

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- Solution involving design unit
  - Process slow
  - Prone to errors as designers don't understand analysts intentions
  - Very inefficient
- Need to find an alternative solution
  - Could Stata provide what we needed?

# Using Stata: problems in Summer 2003

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- Need for colour separable EPS files
  - But Stata only supported the RGB colour model when printing needs CMYK
- No documentation of graph styles
  - Styles are critical so non-expert users can produce correctly formatted graphs

# Response: contact Stata Corp!

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- Very helpful
- CMYK added in January 2004 update
- Set up a style for us
- Support to customise styles



# The result...

Stata/SE 8.2

File Edit Prefs Data Graphics Statistics User Window Help

Review

```
discard etrends.scheme
discard
do "P:\matt\Charts\test 220604.do"
sysuse nlsw88
graph dot wage , over(occupation, s
graph dot wage , over(occupation, s
graph dot wage , over(occupation, s
graph dot wage , over(occupation, s
graph dot wage , over(occupation, s
graph dot wage , over(occupation, s
graph dot wage , over(occupation, s
graph dot wage , over(occupation, s
do "P:\matt\Charts\demo\test 22060
do "P:\matt\Charts\demo\test 22060
```

Stata Results

```
local end_date=168
*Bar Series
local bar_series="pabjr"
```

Stata Graph

% change

Quarterly growth

Annual growth

1990q1 1991q1 1992q1 1993q1 1994q1 1995q1 1996q1 1997q1 1998q1 1999q1 2000q1 2001q1 2002q1

cmdlog on

Stata Command

```
te<'end_date') (bar `bar_seri
ame') ymlabel(##2, tlength(1)
(vertical)) xlabel(120(1)168
:_series_label'')) legend(pos
)
```

Variables

Target: Command Window

date

obs

p4abjr

p4abmi

p4abmm

p4abms

p4abng

p4abze

p4aeiu

p4aeiw

p4agbg

p4ajfa

p4ajfo

p4ajhx

p4ajma

p4ajno

p4apin

p4auss

p4avbr

p4bbjv

p4bcaj

p4bcja

p4bqku

P4AJMA

P4AJNO

P4APIN

P4AUSS

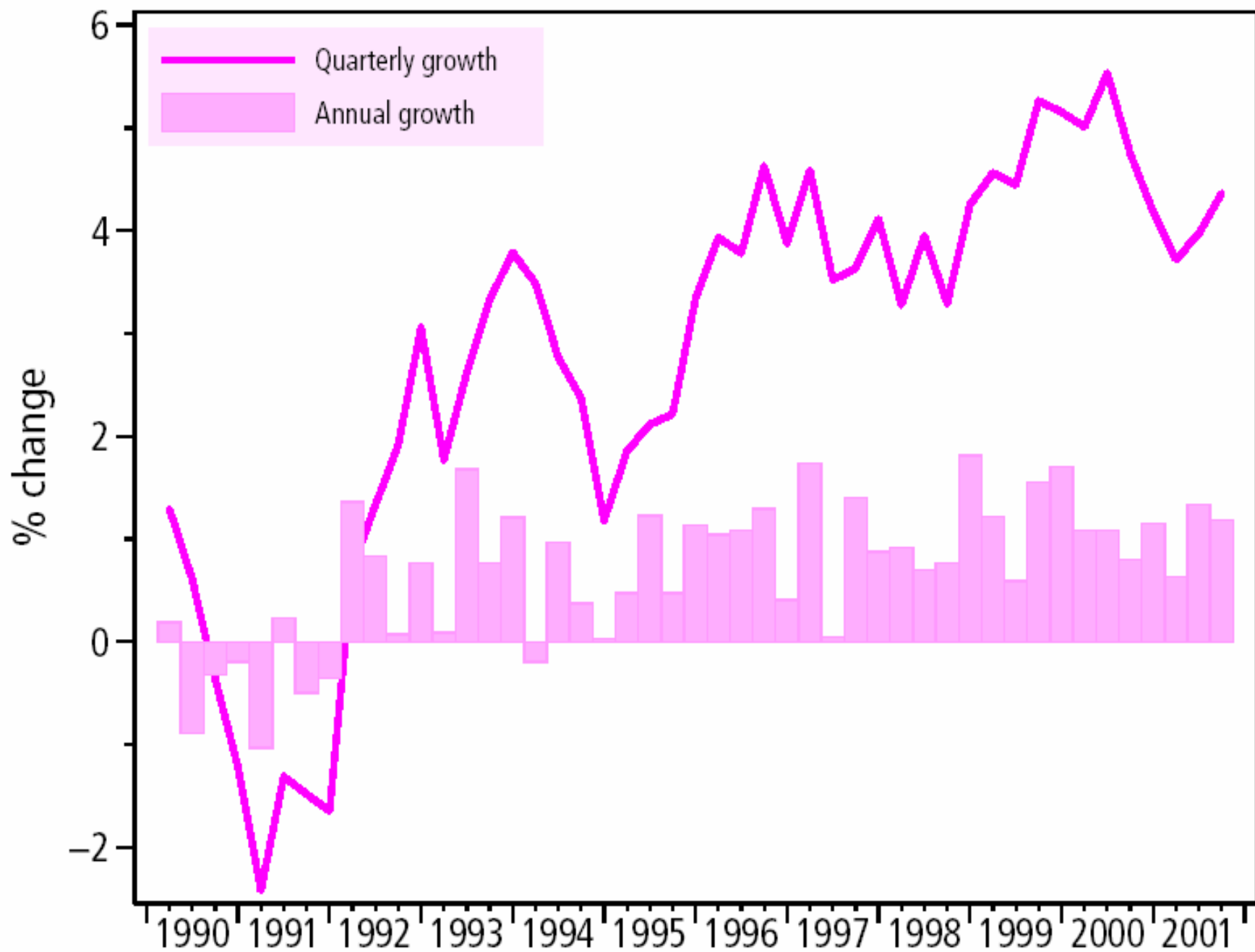
P4AVBR

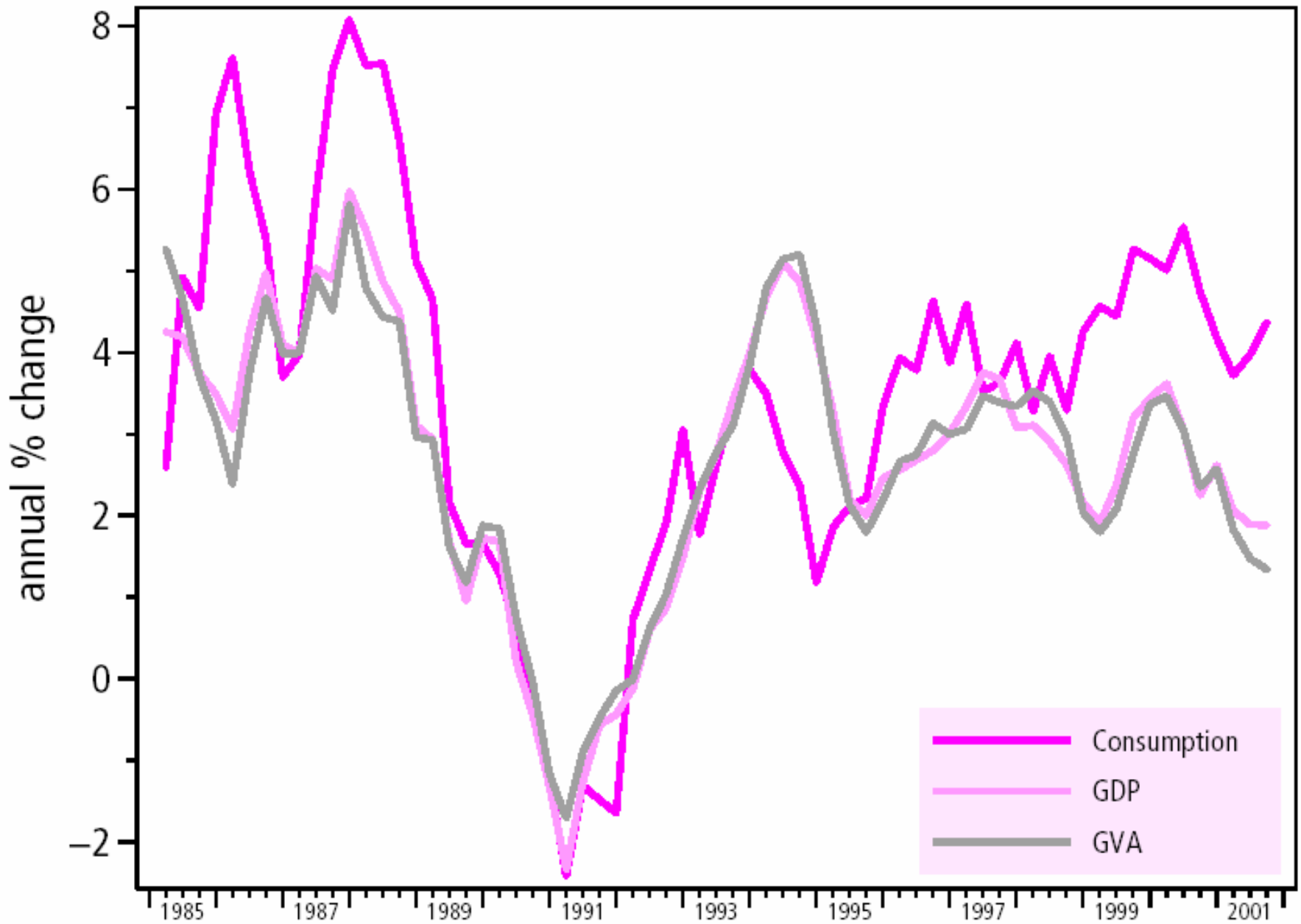
P4BBJV

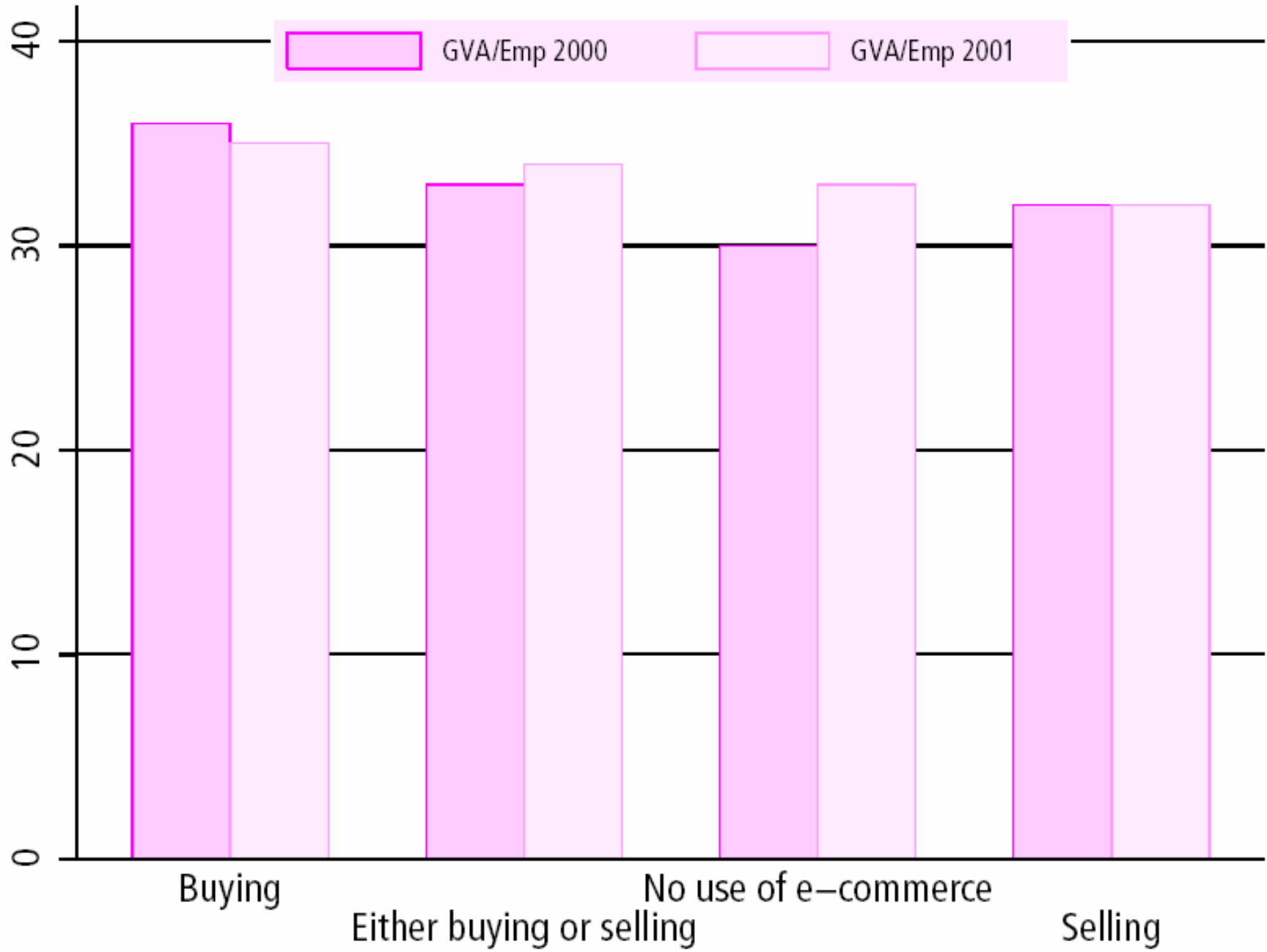
P4BCAJ

P4BCJA

P4BQKU







# Not yet being used in production...

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... but soon

- Proof of concept done
- Still tweaking the style with design
  - e.g. wanted lines 0.4pt rather than 0.33pt!
- Some training of staff who produce graphs needed
  
- Also plan to use Stata in place of Eviews for internal analytical chart packs – adaptation of ET style with more pleasant colours

# Wishlist

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- Speed – currently it is frustratingly slow at times
- Documentation – more would allow additional refinements and applications
  - Diagram showing what elements of scheme files refer to
- Direct use of PostScript fonts for correct previews
- Units other than inches
- Relationship between line widths and chart size makes design work more difficult

# Conclusion

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- Stata can do it and will save time
- Could be a possible corporate solution
- Still some things that could be better...