What can micro-data tell us about the UK’s productivity puzzle?

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The “productivity puzzle”

- Employment and hours worked have fallen less than output
  - Labour productivity (output per hour) has fallen
What do we do?

• Show how different firms have responded to the recession
  – And hence how productivity has changed for different types of firms
• Investigate the role of wages:
  – What contribution have they made to the fall in productivity?
  – Why is this time so different?
What do we find?

• Firms held on to workers but reduced wages and investment
  – More so in small firms and those that invested more in training
    • Hence productivity has fallen more in these firms
  – May provide some evidence of “labour hoarding”

• Firms are not just replacing expensive workers with cheaper ones
  – Wages have fallen dramatically, even amongst workers in the same job
What does this mean?

• Why have wages fallen so far?
  – Perhaps workers prefer lower wages to the risk of unemployment?
    • Higher labour supply may mean there is greater competition for jobs
  – Fewer collective agreements?

• What does this tell us about why productivity has fallen?
  – Perhaps wages are a signal of productivity or vice versa
  – Lower investment may mean they have access to less or poorer quality capital (machines and technology)
Productivity, investment and profits in the Great Recession: evidence from UK firms

Claire Crawford, Wenchao Jin and Helen Simpson
What do we do?

• Use data on a large sample of firms from 1997 to 2009
• Focus on firms that are observed at least twice
  – Hence biased towards larger firms that survive

• Examine how outcomes of interest change over time within firms
• Estimate trend productivity rates prior to the recession
• To what extent did productivity diverge from this trend in 2008-09?

• Repeat for investment (and profits)
Descriptive statistics

- Half of firms saw output fall relative to trend
- Half of firms saw productivity fall relative to trend
  - Three quarters amongst firms whose output fell relative to trend
  - Can think of these firms as “labour hoarding”
- % of firms making a positive investment fell from 77% to 73%

- To what extent did productivity and investment fall relative to trend?
- How did this vary by type of firm?
- Which types of firms were more likely to hoard labour?
What happened to productivity and investment?

Note: All estimates are based on a sample of reporting units (RUs) that appear at least twice between 1997 and 2009, excluding the top and bottom 1 per cent of RUs according to GVA and number of employees.
What might help to explain these changes?

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Which firms were more likely to “hoard labour”?

- Labour hoarding: below trend productivity amongst firms with below trend output (a negative demand shock)
- Before the recession, firms that hoarded more labour had:
  - Higher profits
  - Higher wage bills and more training (more skilled workers)
  - Higher vacancy rates
Summary

- Productivity and investment both fell relative to trend
  - More so in small firms than in larger ones
- Small firms responded differently to the recession than larger ones:
  - Small firms maintained employment but reduced wages and investment
  - Large firms cut their workforce but not so much wages or investment

- Wages might have fallen within firms but how was this achieved?
- To what extent can changes in the composition of the workforce help to explain the falls in wages and productivity that we see?