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

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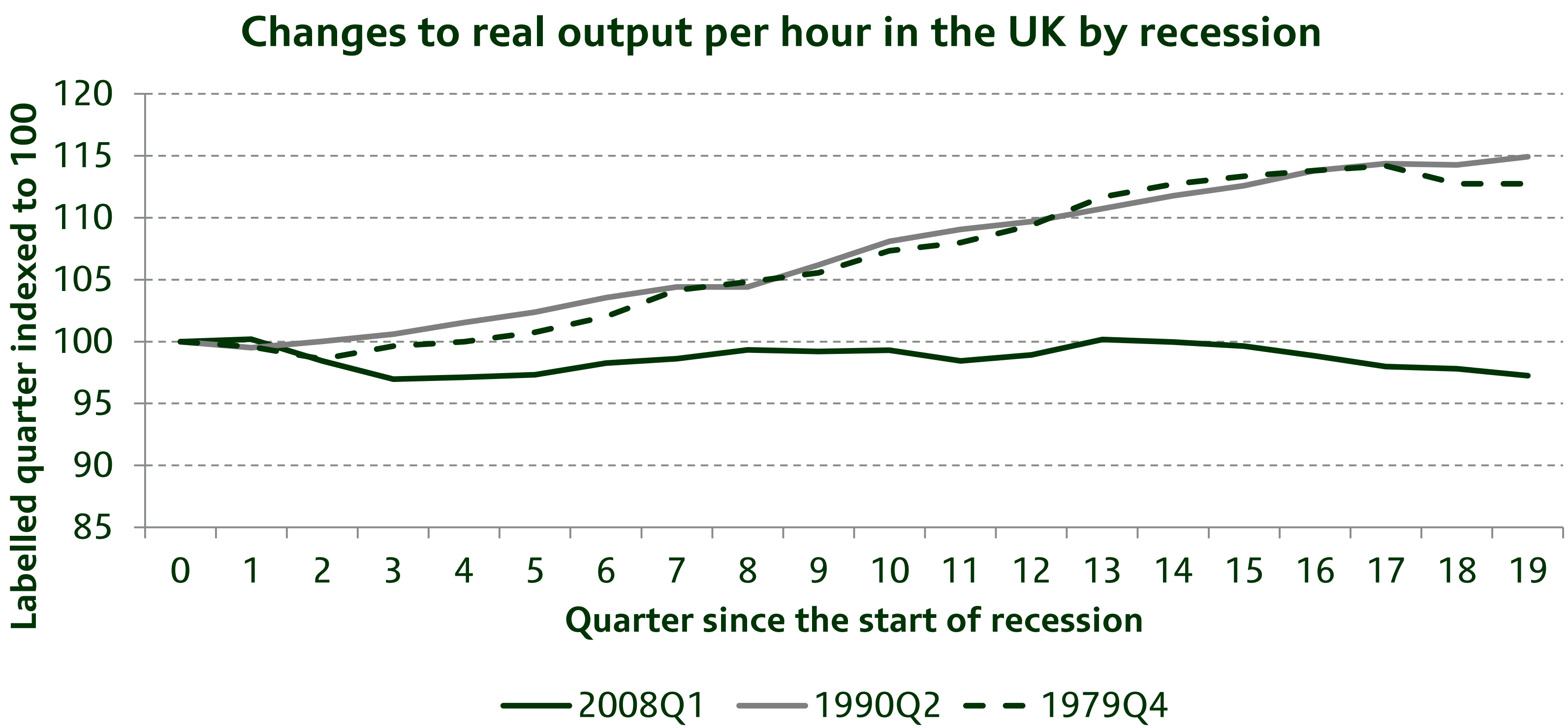
The "productivity puzzle"

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



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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?

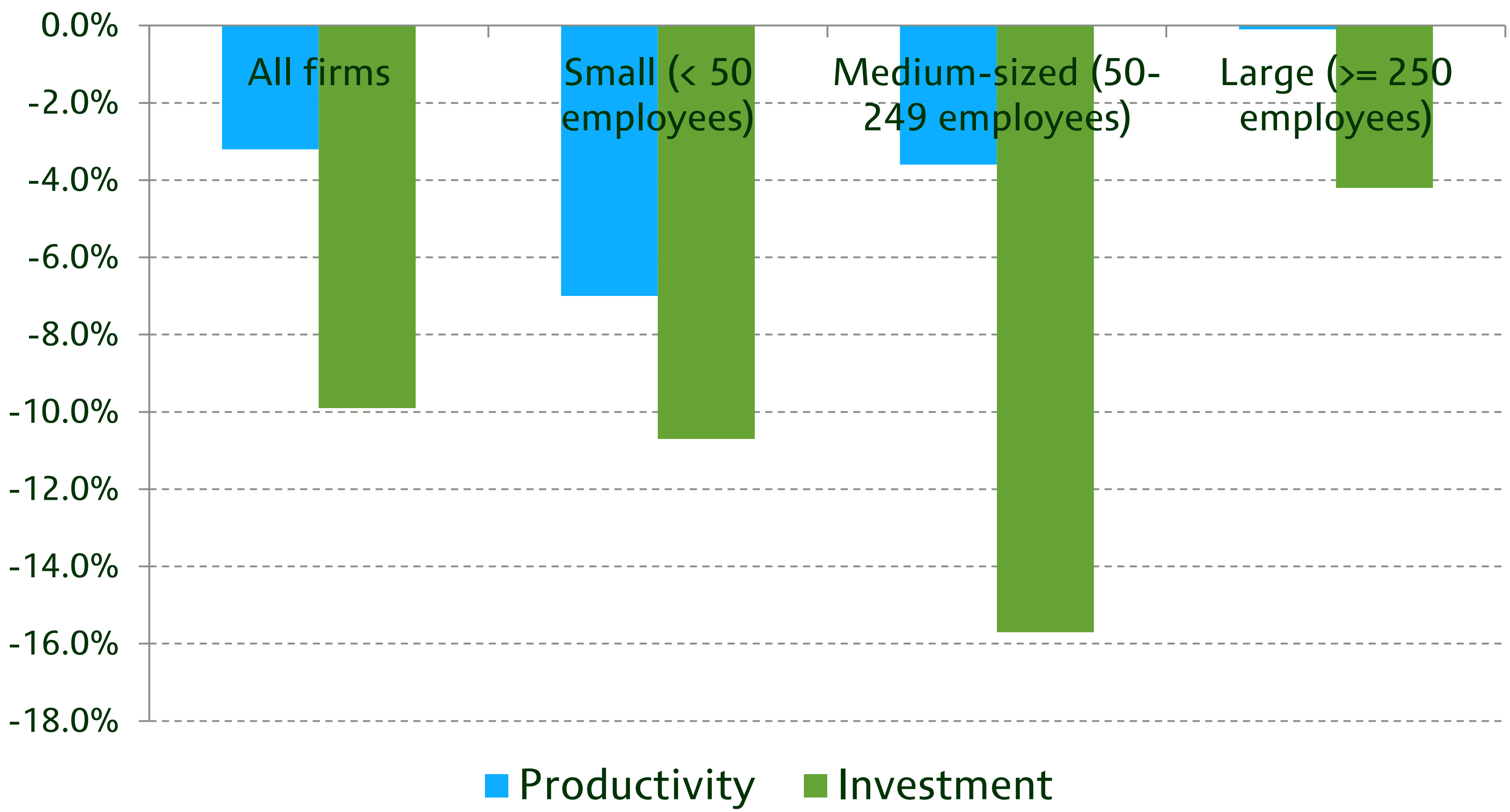
- Repeat for investment (and profits)

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.

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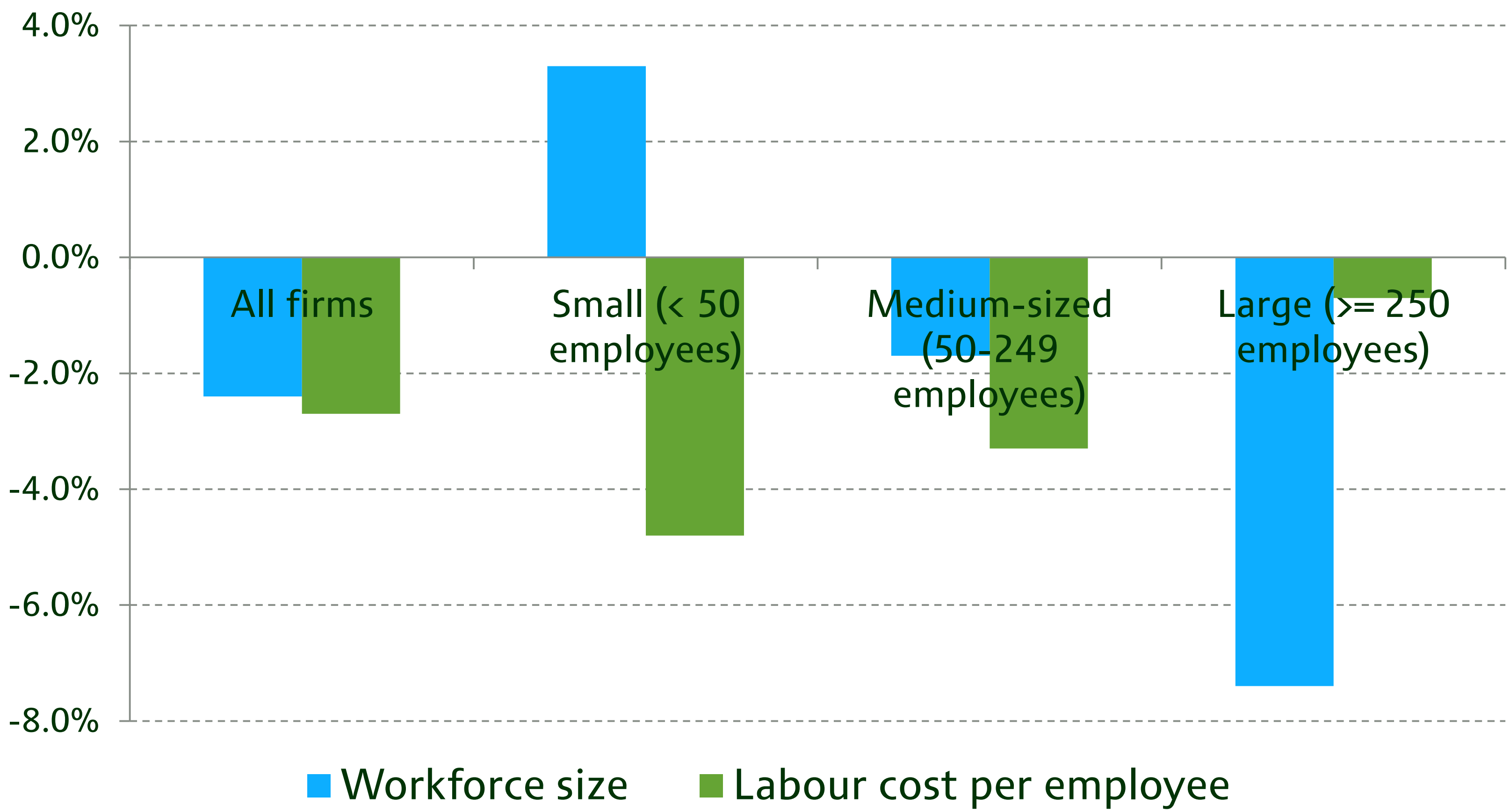
What might help to explain these changes?



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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?