Bank Credit Conditions and Productivity Growth: Company-level Evidence

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Project Overview

Motivation

- UK labour productivity fell sharply during the recession of 2008-9 and recovered only sluggishly after that
- In sharp contrast with the experience of other post-war recessions in the UK when the fall was less steep and the recovery was quicker
- By 2012 the stock of real bank debt held by UK corporations was more than 20% below its peak before the crisis, much of which reflected a tightening of credit supply (and this is more pronounced than in other G7 countries)

Objectives

- Improve understanding of how tight credit conditions have affected different types of UK businesses and aggregate productivity
- Improve understanding of the mechanisms through which financial crises affect the real side of the economy

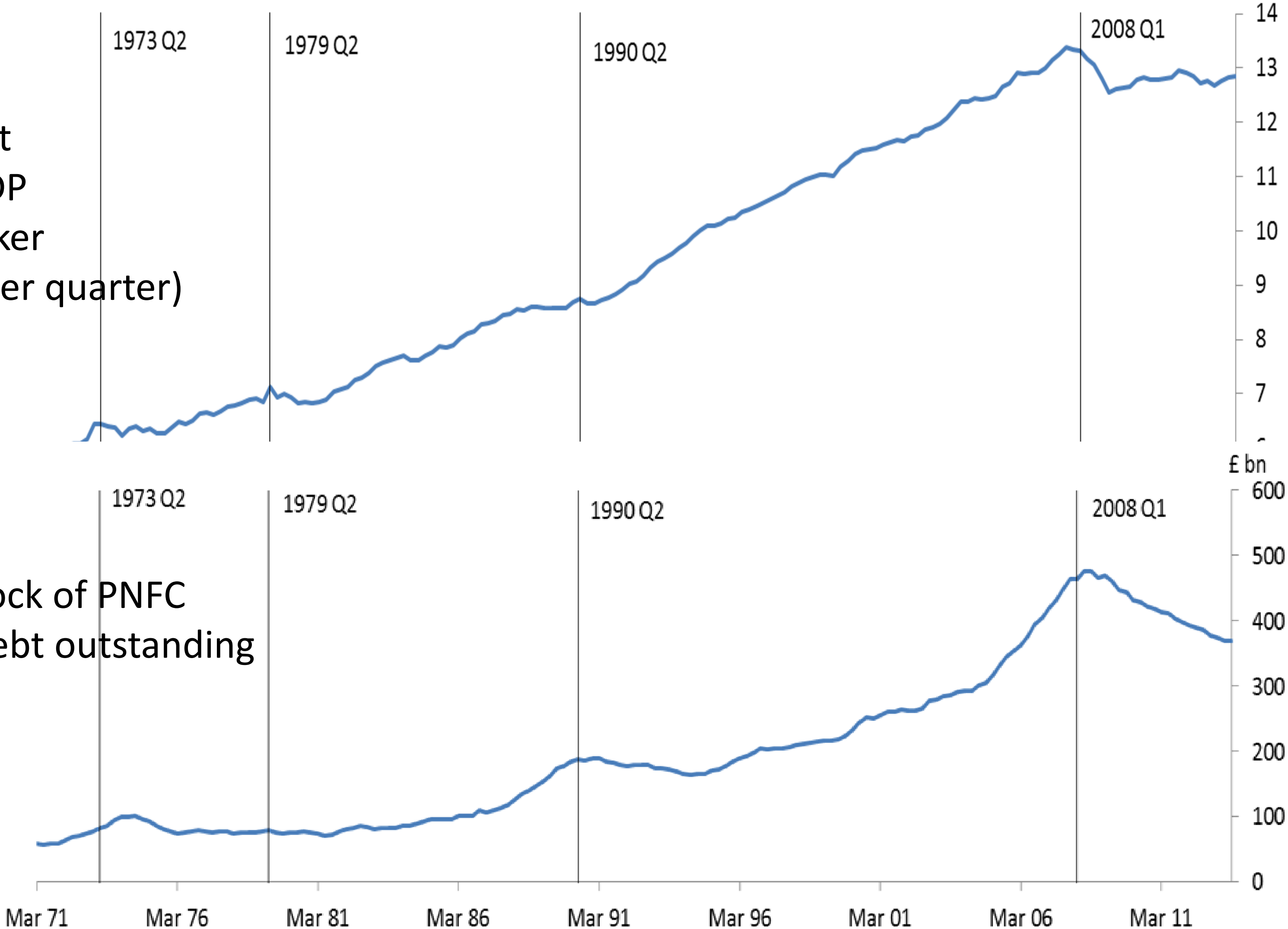
Research strands

- Using firm level data we examine whether aggregate productivity weakness arises because of resource misallocation between existing firms and/or a lack of creative destruction or cleansing effect of recession
- Using firm level data we assess these effects by comparing credit constrained bank dependent firms to similar firms that do not rely on bank finance or that were not credit constrained

Productivity and bank lending following recessions

Constant
Price GDP
Per worker
(£000, per quarter)

Real stock of PNFC
Bank debt outstanding
(£bn)

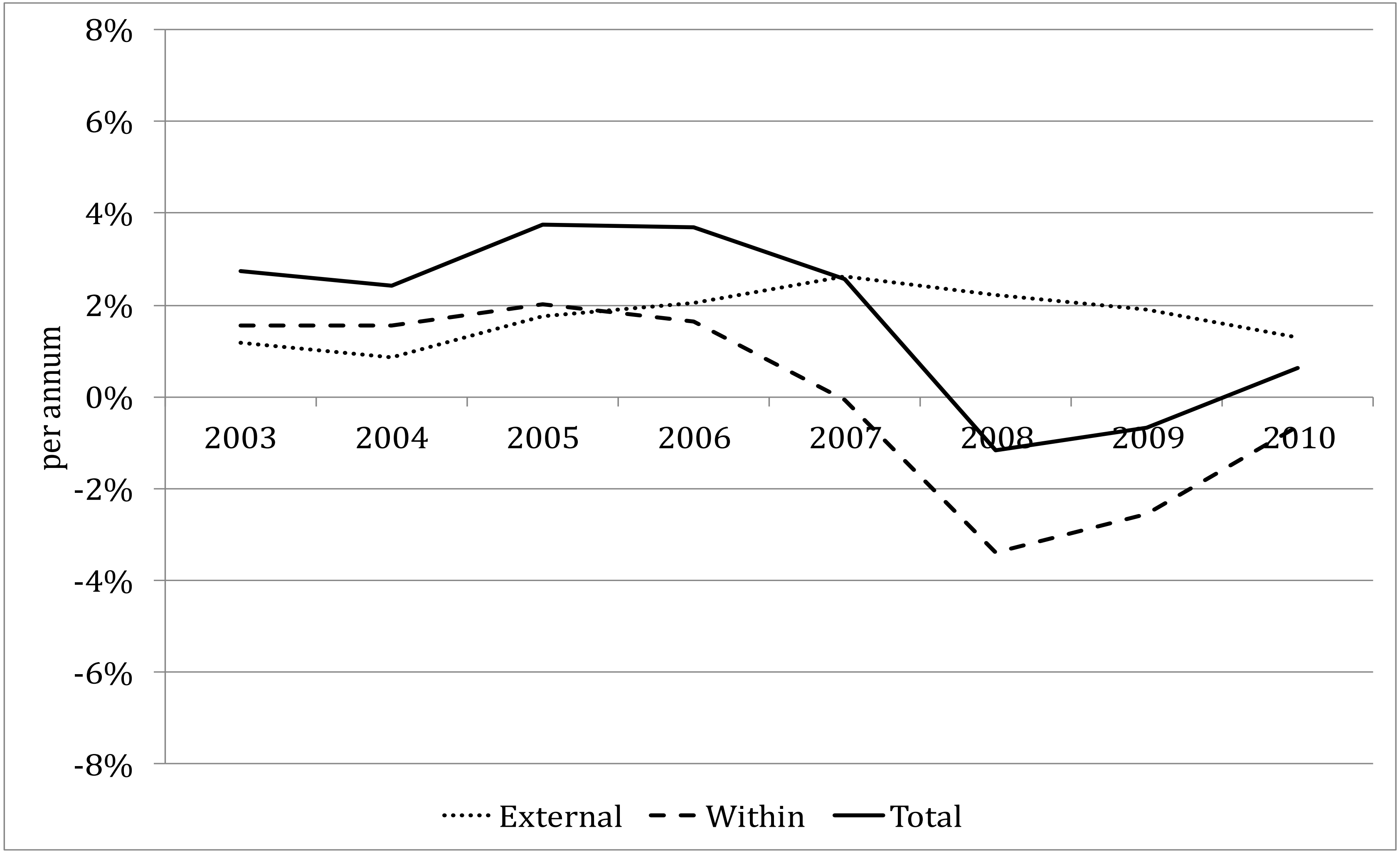


Decomposition of 4-year changes in labour productivity

	Growth components				External		
	Within	Between	Entry	Exit	Net entry	Total	Total
Productivity growth(%)							
2007-2011	-10.1	6.5	-2.1	4.5	2.4	8.9	-1.2
2003-2007	8.9	4.8	-1.6	3.7	2.1	6.9	15.8
2001-2005	5.5	0.2	-1.0	2.7	1.8	2.0	7.5
Productivity growth change (% points)							
2003-2007 to 2007-2011	-19.0	1.7	-0.5	0.8	0.3	2.0	-17.0
2001-2005 to 2007-2011	-15.7	6.3	-1.1	1.8	0.7	7.0	-8.7

Source: Annual Respondents Database, ONS, and authors' calculations.
Notes: Growth components Within, Between, Entry and Exit sum to Growth Total. Entry and Exit sum to Net entry. Between, Entry and Exit sum to External Total. Non-farm non-financial market sectors excluding mining & quarrying, utilities and real estate activities. Britain. Firms are classified as live if they are active and have 10 or more persons employed. Hybrid decomposition.

Decomposition of 1-year changes in labour productivity



Productivity Dynamics: Summary

- The reduction in UK labour productivity between 2007 and 2011 (and to 2012) was first and foremost the result of a broad-based decline in productivity within businesses
  - Not a reduction in the contribution of business reallocation to aggregate productivity growth.
  - The question of what has caused this productivity drop within firms remains (and banking sector collapse may be one reason).

- The recession does appear to have had some "cleansing effect" or been associated with creative destruction.
  - Albeit not sufficient to offset fully the large drop in productivity within firms.
  - Recent work by Harris & Moffat also suggests reallocation was an important driver of TFP growth since 2005

- We do observe patterns that suggest an empirical link between banking sector collapse and aggregate productivity via less efficient resource allocation
  - Negative correlation between bank dependence and productivity growth contribution of external restructuring across 1-digit sectors (in updated version of paper).
  - Reduction in the productivity contribution of entering firms.
  - Comparison of manufacturing firms in two different recessions suggests we might have expected a slightly higher productivity contribution from external restructuring (although key differences are due to the within component)

- Data limitations
  - Exclusion of micro firms.

- What is the counterfactual?
  - We cannot say with certainty what the productivity contribution of external restructuring would have been in the absence of a banking sector crisis.

A Quasi-Experiment

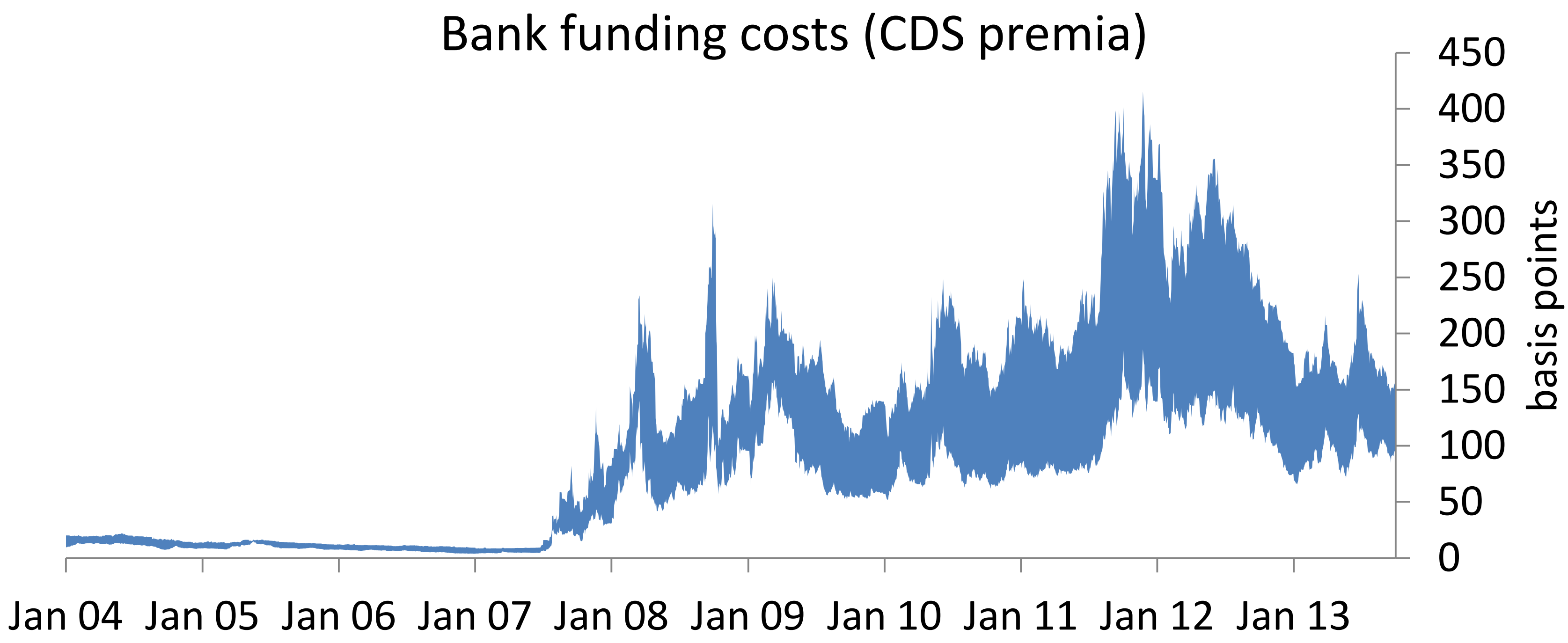
- Exploit exogenous variation induced by the financial crisis in credit availability to companies to investigate impacts of credit supply shocks

- Compare outcomes for companies who were subjected to tougher credit constraints to outcomes for companies that were less likely to be constrained
  - Quasi-experimental approach
  - Divide firm observations into ‘treatment’ and ‘control’ groups based on main bank lender
  - Difficulty switching to a new lender during the crisis

- Provide direct estimates of the impact of credit constraints on UK firms
  - We consider impacts on firm survival and productivity

- Data
  - Company Accounts information held by Companies House (annual historical discs)
  - Information on which banks a company is borrowing from
  - Data issues

The Different Experiences of UK Banks



From the Large Review:
Having lent aggressively in the run-up to the crisis, RBS's lending volumes to SMEs have fallen faster than peers and its market share has contracted from an unsustainably high share in 2008, to a level more consistent with its customer base.

Bank Experiment: Summary

- Companies that borrowed from banks that became distressed (and nationalised) were
  - ➢ More likely to exit the market in the years following nationalisation compared to a counterfactual where they had borrowed from a bank that did not become distressed
- Some evidence that nationalised banks differed from other banks in contributing to the exit of
  - ➢ Lower leverage companies
  - ➢ Higher productivity companies (the reallocation argument)
- Productivity in surviving companies
  - ➢ Key explanations of recent productivity weakness need to be able to explain the weakness of productivity *within* companies
  - ➢ Looking at companies that stay in business we do not detect a general effect on short term loans, capital intensity, or productivity of being associated with a distressed bank (comparing several years before and after the crisis); on-going analysis
    - Data weaknesses may be contributing to this
    - Banks could de-leverage in alternate ways.
    - Credit tightening by good banks might also have contributed to productivity weakness.

UK Productivity Growth & Financial Crisis: Issues for Research

- Linkages not well understood
  - Some effect from inefficiencies in resource allocation, but clearly linkages are more complex
  - NESTA work will update to 2013 and extend sector detail
  - Scope for learning from further sector level analysis

- The importance of wage-flexibility in explaining recent trends
  - No labour hoarding (no disequilibrium)
  - How and why has wage-setting changed and how has this affected firms' behaviour?

- Data: a stumbling block?
  - We need better data on SMEs
  - Potential benefits from linking data sources such as FAME and the ARD