Why does financial sector growth crowd out real economic growth?

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*Views expressed here are those of the authors and do not necessarily reflect those of the BIS.
Introduction

- In an earlier paper, we showed that
  - Financial development is good only up to a point
Productivity growth and financial sector share
(16 OECD countries, 1980–2009)

Employment share of finance

Value added share of finance

Lagged share as % point deviation from sample mean

Labour productivity growth, as % deviation from sample mean
Introduction

- In an earlier paper, we showed that
  - Financial development is good only up to a point
  - A fast-growing financial sector is a drag on productivity growth
Graph 1

Financial sector growth and productivity growth

Five-year average real GDP-per-worker growth

Five-year average financial intermediation employment growth

(Deviation from country mean)
Introduction

In an earlier paper, we showed that
- Financial development is good only up to a point
- A fast-growing financial sector is a drag on productivity growth

In this paper, we examine the second
- Theoretical model linking financial sector growth to real growth
- Industry-level evidence supporting the country-level results
From theory to empirics

- Higher financial sector growth ⇒ lower aggregate TFP growth
  - Financial sector growth benefits low-prod/high-collateral sectors
  - Financial sector growth creates a misallocation of skilled labour.

- Model predicts that financial sector growth harms
  - Industries dependent on external financial (low collateral)
  - Industries with high R&D intensity (skill intensive)
Data

- Industry-level productivity in manufacturing sectors from 15 advanced OECD countries

- Financial sector growth measured with two types of indicators
  - Banking assets to GDP
  - Total private credit to GDP

- Industry characteristics measured with US-based data
  - Financial dependence:
    (capital expenditure minus current cash flow)/(total cap. exp.)
  - R&D intensity:
    (R&D expenditures)/(total value added.)
Graph 2

Financial sector growth in advanced economies

2000–08 average, in per cent

AU = Australia; BE = Belgium; CA = Canada; CH = Switzerland; DE = Germany; DK = Denmark; ES = Spain; FI = Finland; FR = France; GB = United Kingdom; IT = Italy; JP = Japan; LU = Luxembourg; NL = Netherlands; SE = Sweden; US = United States.

Sources: World Bank Financial Structure and Development database; authors’ calculations.
Graph 3
Financial dependence in manufacturing industries

In per cent

1 Capital expenditure in excess of internal cash flows as a percentage of capital expenditure. For the meaning of the industry codes, see Appendix Table A1.

Sources: Raddatz (2006); authors’ calculations.
Graph 4

R&D intensity in manufacturing industries

In per cent

1 Ratio of R&D expenditure to total value added. For the meaning of the industry codes, see Appendix Table A1.

Sources: OECD Structural Analysis database; authors’ calculations.
Empirical specification

\[
\frac{\ln(y_{ic,08}) - \ln(y_{ic,00})}{8} = \beta_i + \beta_c + \gamma c_i \times g_c + \delta \ln \left( \frac{y_{ic,00}}{y_{c,00}} \right) + \varepsilon_{ic}
\]

- **LHS variable:**
  - Industry productivity growth between 2000 to 2008

- **RHS variables:**
  - \(\beta's\): industry and country fixed effects
  - \(c_i \times g_c\): interaction between industry \(i's\) intrinsic characteristic and country \(c's\) financial sector growth
  - \(y_{ic,00}/y_{c,00}\): ratio of productivity in industry \(i\) in country \(c\) to productivity in manufacturing in country \(c\) in 2000.
Industry productivity growth and financial sector growth

<table>
<thead>
<tr>
<th>Dependent variable: Industry productivity growth</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction (Financial Dependence and Private Credit to GDP Growth) ( (\gamma) )</td>
<td>(-1.145^{***}) (0.366)</td>
<td></td>
</tr>
<tr>
<td>Interaction (R&amp;D Intensity and Private Credit to GDP Growth) ( (\gamma) )</td>
<td></td>
<td>(-1.753^{***}) (0.590)</td>
</tr>
<tr>
<td>Log of initial relative labour productivity ( (\delta) )</td>
<td>0.027* (0.014)</td>
<td>0.032** (0.014)</td>
</tr>
<tr>
<td>Observations</td>
<td>335</td>
<td>312</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.357</td>
<td>0.349</td>
</tr>
</tbody>
</table>
How big is the impact?

<table>
<thead>
<tr>
<th>Difference-in-difference effect (in pp)</th>
<th>Financial Dependence</th>
<th>R&amp;D Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Credit to GDP Growth</td>
<td>-2.53</td>
<td>-2.05</td>
</tr>
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</table>

- Financially dependent industry in country with high financial sector growth: grows 2.5 pp a year slower.

- R&D intensive industry in country with high financial sector growth: grows 2.0 pp a year slower.

- Unconditional productivity growth
  - Mean = 2.1%
  - St. Dev. = 4.3%.
Conclusions

We provide a theoretical model & empirical evidence showing that Financial sector growth

- is detrimental to aggregate TFP growth
- benefits high collateral/low productivity activities
- consumes human capital to the detriment of other skill intensive sectors
Thank you.