Does intangible capital lead to higher markups?

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Introduction

• Evidence of increase in firm markups and market power, especially in the US.
• Evidence of rise of intangible capital (IC) such as R&D and software
• Can a rise of intangible capital explain an increase in markups?
• Interesting to study this question in a very intangibles-intensive economy: Sweden

Main findings

1. Markups are positively related to intangible capital at the firm level and industry level.

Sales-weighted industry markups and intangible capital-intensity

2. Aggregate markups have been low and stable between the years 1999 and 2016.

Aggregate economy markups in Sweden

Theory

• Intangible capital is scalable (has properties of fixed costs).
  - Firms need to cover the fixed costs of IC.
• The outcomes of investment in intangible capital are uncertain.
  - Firms that succeed obtain a low marginal cost and can charge high markups relative to other firms.
• I analyze how a rise of IC leads to higher average industry markups in a model where firms have heterogenous costs.

Measuring markups

• Registry data for the universe of non-financial firms in Sweden.
• Estimate markups based on production method (De Loecker and Warzynski, 2012).
• Assume production function

\[ Y_t = \min\{e^{\beta \tilde{K}_t^{1/2} \tilde{L}_t^{1/2} \tilde{E}_t^{1/2}}, \tilde{M}_t\}. \]

Firm cost minimization results in the markup

\[ \mu_t = \frac{\bar{P}_t}{\bar{P}^*} = \frac{\tilde{P}_t E(Y_t)}{\tilde{W}_t L_t + \tilde{B}_t g_t M_t} - 1. \]

Estimate \( \tilde{P}_t \) at industry level by iterative GMM using control function method.

Related macro trends

In Swedish data I find:
• No decrease in labor share.
• No increase in economic profit.
• No increase in sales concentration.

Conclusion

• A shift towards more intangibles-intensive technologies is not a sufficient condition for an increase in markups at the aggregate level.
• Additional factors are likely needed to explain the increase in markups observed in some countries.
• Evidence that Swedish firms in general exercise low market power.

Read the paper: [Link]

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