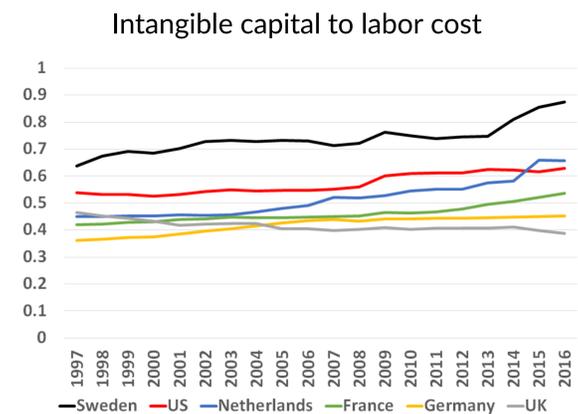


Does intangible capital lead to higher markups?

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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



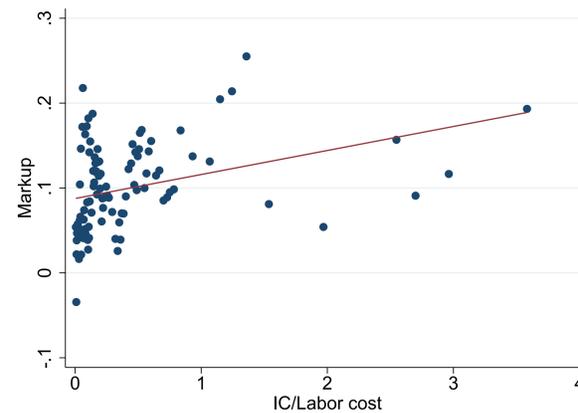
Theory

- 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 heterogeneous costs.

Main findings

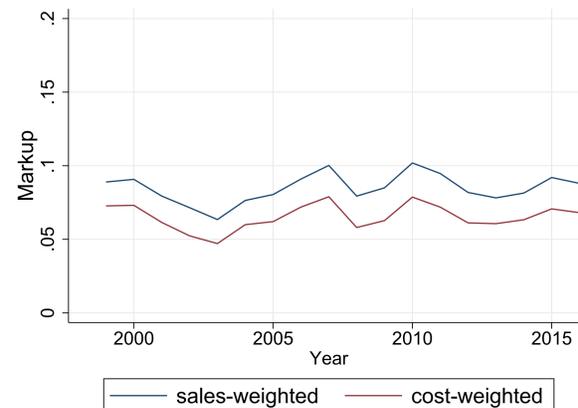
1. Markups are positively related to intangible capital at the firm level and industry level.

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



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

$$Y_{it} = \min[e^{\beta_0} K_{it}^{\beta_1} L_{it}^{\beta_2} e^{\omega_{it}}, \beta_3 M_{it}]$$

- Firm cost minimization results in the markup
- $$\mu_{it} \equiv \frac{P_{it}^Y - MC_{it}}{MC_{it}} = \frac{\beta_2 P_{it}^Y E(Y_{it})}{w_{it} L_{it} + \beta_2 P_{it}^M M_{it}} - 1.$$
- Estimate β_2 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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