Markups and the Manufacturing Productivity Slowdown

Benjamin Bridgman

January 2026

Disclosure

The views expressed here are those of the author and do not represent those of the U.S. Bureau of Economic Analysis or the U.S. Department of Commerce.

Motivation

- U.S. manufacturing productivity growth slows after 2011.
- Recent concern about increasing markups.
- Are these related?
  - Markups can lead to mismeasurement of productivity.
  - Markups may be a symptom of process that is slowing productivity.
- This paper: Estimate markups through this period.
  - How much of slowdown is due to measurement issues in presence of markups?
  - Are markups correlated with slower productivity growth?

Measurement Issue

- Multifactor productivity is growth in output less weighted inputs.
  $\Delta MFP = \Delta Y - \alpha_L \Delta L - \alpha_K \Delta K$
- Weights should reflect input elasticities, but only observe revenue shares.
- Consider labor share: $LS = \alpha_L / \mu$
  - Perfect competition: no difference ($\mu = 1$)
  - With markups ($\mu > 1$), contribution of labor understated.

Markups Measurement

- Key question: how do we measure the markups?
- Need to split capital payments $Y - WL$ into regular returns RK and economic profit Π ("factorless income").
- Use version of the growth model of Farhi-Gourio (BPEA, 2018).
- Features:
  - Disaster risk: Industry-specific risky rate of return.
  - Monopolistic competition: Industry-specific markups.

Markups Measurement

- On the BGP, markups are a function of capital-output ratio $p_K K/Y$, investment-capital ratio $p_K K$ and dividend yield ratio Π/p_F.

$$\frac{1}{\mu} = \frac{R p_K K + wL}{Y}$$

where the rate of return R is

$$R = \frac{X}{p_K K} + \frac{(1+\gamma_T)\Pi}{p_F}.$$

Calibration

- I examine 1997–2023:
  - NAICS data begin in 1997.
- Assume 1997–2011 and 2011–2019 represent two model parameterizations; then solve for BGP for each parametrization and connect it to NIPA.
- Estimate for manufacturing (total/durable/non-durable) and private sector.

Estimated Parameters

Variable	Mfg	Durables	Non-durables	Private Industries
α_L (1997-2010)	0.71	0.74	0.67	0.71
α_L (2011-23)	0.64	0.69	0.57	0.70
μ (1997-2010)	1.24	1.12	1.46	1.17
μ (2011-23)	1.25	1.13	1.44	1.21
LS (1997-2010)	0.57	0.66	0.46	0.61
LS (2011-23)	0.51	0.61	0.40	0.57

Parameters

- Labor share changes due to output elasticities, not markups.
  - Capital deepening in manufacturing.
  - Markups flat.
- Opposite of total private economy.
- High manufacturing markups reflect double marginalization with high intermediates share.
  - Accounting for double marginalization reduces non-durables markups from 1.46 to 1.15.

Annual Average Productivity Growth Rate

1997-2010	Mfg	Durable Mfg	Non-Durable Mfg	Private Industry
Adjusted MFP	4.7	6.3	2.4	1.7
Revenue MFP	4.0	5.9	1.3	1.4
2011-23				
Adjusted MFP	0.01	0.9	-0.8	0.9
Revenue MFP	0.00	0.9	-1.1	0.9
Change				
Adjusted MFP	-4.6	-5.4	-3.2	-0.8
Revenue MFP	-4.0	-5.0	-2.4	-0.5

Results

- Markups adjustment increases labor elasticity, bigger impact of labor.
- Accounting for markups accentuates the slowdown:
  - 1997-2010: Falling labor input while maintaining output growth.
  - 2011-2023: Increasing labor input.
- Need markups to *fall* to undo the slowdown.
- Manufacturing MFP growth correlated with capital deepening.
  - LS drops 11pp 2002-11, flat 2011-23.
  - Automation with new technology?
  - Slowdown due to slowing in ICT technical revolution?