THE RISE OF CORPORATE MARKET POWER:
MACROECONOMIC AND POLICY IMPLICATIONS

ROMAIN DUVAL
ADVISOR TO THE CHIEF ECONOMIST
INTERNATIONAL MONETARY FUND

CONFERENCE ON “COMPETITION IN A GLOBALIZED WORLD: THE ROLE OF PUBLIC POLICIES”, BANQUE DE FRANCE, 8TH APRIL 2019
Background: worrisome macro trends, common cause?

1. Tobin’s Q and Investment (Ratio (LHS), Percent (RHS))

2. Return on Capital and Long-term Interest Rates (Percent)

3. Wealth and Capital (Percent)

4. Labor Share (Percent)
Questions

• **Facts.** Has corporate market power increased? How do trends in market power differ across countries (US vs EU), industries and firms?

• **Implications for growth and income distribution:**
  o Impact on innovation, investment? What implications for interest rates, inflation and slack post-2008 financial crisis?
  o Contribution to fall in labor income shares?

• **Drivers?** Changing structure of product markets or policy-driven weakening of competition?

• **Policy implications.** What policy implications and in which areas?
Main Findings

• Facts:
  o Moderate increase in market power across AEs. Broad-based across countries and industries, albeit with some heterogeneity: US > EU
  o Rise concentrated among small fraction of high-markup firms – US seems different

• Macroeconomic effects: modest so far but could become increasingly negative
  o Growth:
    - Investment: 3% lower K stock, 1% lower output in average AE today relative to counterfactual
    - Innovation: ~ 0 effect so far but increasingly < 0 in future if market power rose further
    - Macroeconomic stabilization: tougher, including after 2008 crisis, due to lower natural rate
  o Income distribution: at least 10% (~ 0.2 pct pt) of decline in labor shares in average AE

• Drivers? Tentative evidence supporting market forces (e.g. technology) story more than policy-driven weakening of competition

• Policy implications: product market (de)regulation, competition policy, technological diffusion
Market Power Trends Across Countries, Industries, and Firms
A moderate rise in market power...

Markups have increased since 2000...
(ratio of price to marginal cost; index, 2000 = 1)

… and so has profitability (Lerner index),
(ratio of EBIT to turnover revenue; index, 2000 = 1)

… and, to a lesser extent, concentration.

Source: Orbis, and IMF staff calculations.
Notes: markup calculations based on the approach of De Loecker and Warzynski (AER, 2012) using RES’ Orbis dataset. The figure above plots year fixed effects from regressions of markups that also include country fixed effects to account for entry and exit to/from the sample. Regressions weighted by firms’ turnover revenue. Lerner index computed as the weighted average of firms’ EBIT to revenue ratio. Concentration computed as average of the ratio of sales of top 4 to top 20 firms within each country-sector bin. Markups and profitability normalized to 2000 = 1.
Markup increases are concentrated among AEs
(Cumulative 2000-2015, percentage)

Decomposition of Markup Increase
(Percent)

- Markup increase in almost 2/3 of industries, mostly non-manufacturing. Larger in digital-intensive industries
- Markup increase mostly driven by incumbents
  NB: US is different—reallocation effect dominates
...essentially by high-markup firms—large and small

Source: Orbis; and IMF staff calculations.
Notes: firms sorted by their average markups into two groups: top decile and the rest of firms. The figure plots, for each group, year fixed effects from regressions of markups that also include country fixed effects to account for entry and exit to/from the sample. The regressions are weighted by firms' operating revenue. Year fixed effects normalized to 2000 = 1.
These firms tend to perform better than others.

---

**Differences Across Group of Firms**

(Index, ‘Other firms’ = 1)

- **Lerner**
- **TFP**
- **Intangibles**

Source: Orbis; and IMF staff calculations.

Notes: each column plots average value of the Lerner index/TFP/Intangibles ratio for the firms in the top decile of the markup distribution (blue) and for the other firms (orange). The values for the "other firms" were normalized to 1.
Implications of Rising Market Power for Growth and Income Distribution
Ambiguous effects on innovation...

Hump-shaped relationship between market power and innovation

- Growing, albeit still small, share of firms on right-hand side (21% of country-industry pairs, 7% of firms in 2015)
- But most high markup-firms are already on the RHS

Source: Orbis; PATSTAT; and IMF staff calculations.
Note: The figure plots the effects of markups on the predicted average number of patents by country-sector. Predicted patents normalized to 1 for markups = 1.
...that could turn increasingly negative if market power of high-markup firms increases further

Implied Relationship between Higher Markups and Patents
(Percent change)

1. Overall Sample

- 0.20 -
- 0.10 -
- 0.00 -
- -0.10 -
- -0.20 -
- -0.30 -
- -0.40 -

2. Top Decile

- 0 -
- -1 -
- -2 -
- -3 -
- -4 -

Sources: Orbis and PATSTAT; and IMF staff calculations.
Notes: The '2000-2015' bars show the implied predicted percent change in patents resulting from the markup increase in 2000-2015. The '2015-2030' bars show the implied predicted change if markups were to increase in 2015-2030 at the same rate as in 2000-2015. The left panel makes use of the whole sample while the right panel uses information only from the top decile of the markup distribution.
Negative impact on investment...

Under constant markups, aggregate $K$ today could be 3% higher, and $Y$ 1% higher, in average AE.

Implied Relationship between Higher Markups and Investment Rate

(Percent point change)

Sources: Orbis; and IMF staff calculations.
Note: Average changes in markups are weighted by operating revenue.

N.B. These estimated effects are purely within firms; potentially other effects from between firm estimation.
...that somewhat lowered the natural interest rate, amplifying post-2008 recession and/or pushing central banks into more QE.

**Implied Relationship between Higher Markups, Investment Rate and Natural Interest Rate**

(Percentage point change, Euro Area and United States average)

![Graph showing the relationship between Net Investment Rate and Natural Interest Rate](source: IMF staff calculations. Note: Interest rates are annualized.)
Negative impact on labor income share

Implied Relationship between Higher Markups and Labor Income Share
(Percent point change)

Under constant markups, aggregate labor share today could be 0.2 percentage point higher in average AE

Effect on overall income inequality could be broader

Sources: Orbis; and IMF staff calculations.
Note: Average changes in markups are weighted by operating revenue.

N.B. These estimated effects are purely within firms, and as such they represent a lower bound for the total (within + between) effect.
Conclusions and Policy Implications
Summing up

• Facts:
  o *Moderate rise in markups across AEs*—8% since 2000, broad-based, services >> manuf, US > EU
  o *Mostly within firms*. US seems different (large between component)
  o *Rise concentrated among small fraction* of high-markup firms in each industry

• Growth:
  o *Innovation*. Negligible impact so far, could grow increasingly negative if rising market power of high-markup firms kept unchecked
  
  o *Investment*. Lower investment—reducing capital stock by some 3% since 2000 in average AE
  
  o *Macroeconomic stabilization*. Made it somewhat more difficult, due to decline in natural rate

• Income distribution:
  o *Labor share*. Contributed at least 10% (~ 0.2 pct pt) to decline in labor share in average AE.
Policy Implications (1)

• Changing structure of product markets more than policy-driven weakening of competition...
  o Concentration among small fraction of firms in many countries and industries
  o Larger markup increases in better-performing firms
  o Larger increase in the US but also larger (growth-enhancing?) reallocation component
  o Market deregulation over past three decades (domestic, trade, FDI)

• ...does not warrant inaction:
  o “Winner-takes-most” more likely where competition policy makes it easier to happen
  o Firms that achieved dominance through innovative product and business practices may entrench positions by erecting barriers to entry (e.g. proprietary intangibles)
Policy Implications (2)

- Over-arching goal: level playing field across all competitors, including new firms:
  - Domestic and foreign competition: entry barriers, particularly in services (licensing requirements...etc); trade and FDI liberalization

- Competition policy—key complement to product market deregulation:
  - Market examinations and remedies
  - Greater attention to potential loss of competition (?)
  - Competition authorities’ resources
  - Dynamic perspective: magnitude and persistence of industry-level profits matters

- Diffusion: IPRs to reward disruptive innovations much more than incremental ones

- Corporate taxation: shift from profit to economic rent taxation (e.g. cash flow tax); destination-based > sourced-based (e.g. destination-based cash-flow tax)
Thank you!

THE RISE OF CORPORATE MARKET POWER AND ITS MACROECONOMIC EFFECTS

IMF WORLD ECONOMIC OUTLOOK CHAPTER 2

APRIL 2019

Wenjie Chen, Federico Diez (lead author), Romain Duval (lead author), Callum Jones, Carolina Villegas-Sanchez (consultant) with contributions from Mai Dao, Nan Li, and support from Jiayue Fan and Christopher Johns.