Quantifying Market Power

Jan Eeckhout

UPF Barcelona and UCL

Dale T. Mortensen Lecture

Society for Economic Dynamics
Motivation

• Summary of facts: rise of markups
Motivation

- **Summary of facts:** rise of markups

- **Causes:**
  1. Technology: Amazon Paradox
  2. Market Structure: e.g. ABInbev

- **Consequences:** secular trends
  1. Decline in Business Dynamism
  2. Wage Stagnation
  3. Labor Share decline
  4. Reallocation towards high markup, superstar firms
Motivation

- **Summary of facts:** rise of markups

- **Causes:**
  1. Technology: Amazon Paradox
  2. Market Structure: e.g. ABInbev

- **Consequences:** secular trends
  1. Decline in Business Dynamism
  2. Wage Stagnation
  3. Labor Share decline
  4. Reallocation towards high markup, superstar firms
Joint Work

Jan De Loecker
Leuven

Simon Mongey
Chicago

Hector Chade
ASU

Gabriel Unger
Harvard

Shubhdeep Deb
UPF

Wei Hua
UPF

Aseem Patel
UPF
Facts about Market Power
Estimating markups

- Cost based method; publicly traded firms 1955–2016

- Individual Markup $\mu_i = \frac{P_i}{MC_i} \Rightarrow$ Distribution of markups

- Markup $\neq$ Market Power: with fixed cost calculate profit rate
1. HETEROGENEITY

No Change... in median markup

![Graph showing median markup changes over time from 1960 to 2010](chart.png)
1. HETEROGENEITY

INCREASE IN AVERAGE MARKUP SINCE 1980
1. HETEROGENEITY

ALL ACTION IN UPPER HALF DISTRIBUTION

![Graph showing heterogeneity analysis with various lines representing different percentiles and years from 1960 to 2010.]
1. HETEROGENEITY

Facts

1. Heterogeneity: sharp rise for few firms; no rise for most
Facts

1. Heterogeneity: sharp rise for few firms; no rise for most (Carlos Brito)
2. Reallocation

Weighting Matters: Input Weight

- See Grassi (2016) and Edmond, Midrigan and Xu (2019)
2. **Reallocation**

\[
\Delta \mu_t = \sum_i m_{i,t-1} \Delta \mu_{it} + \sum_i \mu_{i,t-1} \Delta m_{i,t} + \sum_i \Delta \mu_{i,t} \Delta m_{i,t} + \sum_{i \in \text{Entry}} \mu_{i,t} m_{i,t} - \sum_{i \in \text{Exit}} \mu_{i,t-1} m_{i,t-1}
\]

- \(\Delta \mu_{it}\): \(\Delta\) within
- \(\sum \mu_{i,t-1} \Delta m_{i,t}\): \(\Delta\) market share
- \(\sum \Delta \mu_{i,t} \Delta m_{i,t}\): \(\Delta\) cross-term
- \(\sum_{i \in \text{Entry}} \mu_{i,t} m_{i,t} - \sum_{i \in \text{Exit}} \mu_{i,t-1} m_{i,t-1}\): net entry
2. **Reallocation**

\[
\Delta \mu_t = \sum_i m_{i,t-1} \Delta \mu_{it} + \sum_i \mu_{i,t-1} \Delta m_{i,t} + \sum_i \Delta \mu_{i,t} \Delta m_{i,t} + \sum_{i \in \text{Entry}} \mu_{i,t} m_{i,t} - \sum_{i \in \text{Exit}} \mu_{i,t-1} m_{i,t-1}
\]

\(\Delta\) within

\(\Delta\) market share

\(\Delta\) cross-term

\(\Delta\) within

\(\Delta\) market share

\(\Delta\) cross-term

\(\Delta\) cross-term

net entry

See also Superstar Firms (Autor, Dorn, Katz, Patterson, Van Reenen (2018))
Facts

1. Heterogeneity: sharp rise for few firms; no rise for most
2. Reallocation of sales from low to high markup firms (2/3)
3. Technology Matters

Rise in Overhead (SG&A)
## 3. Technology Matters

### Markups, Profits and SG&A

<table>
<thead>
<tr>
<th></th>
<th>Markup (log) (1)</th>
<th>Profit Rate (log) (4)</th>
<th></th>
<th>Profit Rate (log) (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>SG&amp;A (log)</td>
<td>0.56</td>
<td>0.15</td>
<td>0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>R&amp;D Exp. (log)</td>
<td>0.16</td>
<td>0.10</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Advertising Exp. (log)</td>
<td>0.05</td>
<td>0.03</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>R&amp;D dummy</td>
<td>0.06</td>
<td></td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Advertising dummy</td>
<td>-0.00</td>
<td></td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.61</td>
<td>0.07</td>
<td>0.43</td>
<td>0.04</td>
</tr>
<tr>
<td>N</td>
<td>26,743</td>
<td>247,615</td>
<td>26,743</td>
<td></td>
</tr>
</tbody>
</table>
Facts

1. Heterogeneity: sharp rise for few firms; no rise for most
2. Reallocation of sales from low to high markup firms (2/3)
3. Technology Matters: Overhead cost (SG&A) ↑
4. Magnitude of Increase

a. Aggregation: Industry Averages: +20 points

• See also Hall (1988 and 2018)
4. **Magnitude of Increase**

b. **Profit Rate**: +7-8 ppt
4. Magnitude of Increase
Profit Rate vs Markup

- The profit rate:

\[ \pi_i = \frac{P_i Q_i - C(Q_i)}{P_i Q_i} = 1 - \frac{1}{\frac{AC_i}{MC_i}} = 1 - \frac{1}{\mu_i MC_i} \]

⇒ With \( \mu = 1.6 \) in 2016, implied profit rate is \( \pi = 1 - \frac{1}{1.61} = 0.38 \)!
• The profit rate:

\[ \pi_i = \frac{P_i Q_i - C(Q_i)}{P_i Q_i} = 1 - \frac{1}{\mu_i} \frac{AC_i}{MC_i} \]

⇒ With \( \mu = 1.6 \) in 2016, implied profit rate is \( \pi = 1 - \frac{1}{1.61} = 0.38!! \)

• This logic uses:
  1. Representative Firm Economy: but Aggregation (Jensen’s Inequality)
  2. Unchanged economies of scale \((AC = MC)\): but \( \frac{AC}{MC} \uparrow \) (Overhead \( \uparrow \))
4. Magnitude of Increase

Profit Rate vs Markup

![Graph showing Profit Rate vs Markup over the years 1980 to 2010 with lines for Avg, No FC, Aggr, FC, and Profit Rate.]
Facts

1. Heterogeneity: sharp rise for few firms; no rise for most
2. Reallocation of sales from low to high markup firms (2/3)
3. Technology Matters: Overhead cost (SG&A) ↑
4. Magnitude of the Increase?
   A. Weighting and Aggregation is crucial
   B. Profit rate (+7-8 pts) ≠ Markup (+30-40 points)
Facts

1. Heterogeneity: sharp rise for few firms; no rise for most
2. Reallocation of sales from low to high markup firms (2/3)
3. Technology Matters: Overhead cost (SG&A) ↑
4. Magnitude of the Increase?
   A. Weighting and Aggregation is crucial
   B. Profit rate (+7-8 pts) ≠ Markup (+30-40 points)

∴ Only publicly traded firms (40% of GDP)
Robustness: US Censuses:
Manufacturing

Graph showing trends over time from 1972 to 2012 for different metrics labeled Mw90, Mw75, and Mw50.
GLOBAL MARKUP
134 countries; 70,000 firms; 1980-2016

GLOBAL MARKUP
134 countries; 70,000 firms; 1980-2016

GLOBAL
Market Power in GE:
Causes and Consequences
1. Model
   - Build on Atkeson-Burstein 2008
   - **New**: Overhead, productivity shocks, endogenous market structure, equilibrium wages
GE Model of Market Power

1. Model
   - Build on Atkeson-Burstein 2008
   - New: Overhead, productivity shocks, endogenous market structure, equilibrium wages

2. Basic Setup
   - $J$ sectors; $M$ potential entrants; $N_j$ firms in each sector
   - Household Preferences: nested CES
   - Single input (labor), linear technology
   - Market Structure: Cournot with Entry at fixed cost $\phi$ (Berry 1992)
GE Model of Market Power

1. Model
   - Build on Atkeson-Burstein 2008
   - New: Overhead, productivity shocks, endogenous market structure, equilibrium wages

2. Basic Setup
   - $J$ sectors; $M$ potential entrants; $N_j$ firms in each sector
   - Household Preferences: nested CES
   - Single input (labor), linear technology
   - Market Structure: Cournot with Entry at fixed cost $\phi$ (Berry 1992)
   - Firm’s (static) optimization:
     1. Draw random productivity AR(1): fixed and variable component $a + z$
     2. Entry decision $b_{ijt}$
     3. Choose employment $l_{ijt}$
GE Model of Market Power

1. Model
   - Build on Atkeson-Burstein 2008
   - New: Overhead, productivity shocks, endogenous market structure, equilibrium wages

2. Basic Setup
   - $J$ sectors; $M$ potential entrants; $N_j$ firms in each sector
   - Household Preferences: nested CES
   - Single input (labor), linear technology
   - Market Structure: Cournot with Entry at fixed cost $\phi$ (Berry 1992)
   - Firm’s (static) optimization:
     1. Draw random productivity AR(1): fixed and variable component $a + z$
     2. Entry decision $b_{ijt}$
     3. Choose employment $l_{ijt}$

3. Equilibrium effect of:
   1. Technology: $\phi$ and $\sigma$ (Amazon paradox)
   2. Market Structure $M$ (e.g. ABInBev)
Model Limitations

“A model is a lie that helps you see the truth”
Howard Skipper MD – Cancer Research Pioneer
Model Limitations

“A model is a lie that helps you see the truth”
Howard Skipper MD – Cancer Research Pioneer

- Dynamic pricing: Mongey 2018
- Skill/Consumer heterogeneity
- Change demand/globalization: Jaimovic-Rebelo-Wong 2018; Bornstein 2019
Model Limitations

“A model is a lie that helps you see the truth”
Howard Skipper MD – Cancer Research Pioneer

- Dynamic pricing: Mongey 2018
- Skill/Consumer heterogeneity
- Change demand/globalization: Jaimovic-Rebelo-Wong 2018; Bornstein 2019
  → globalization ≈ technological change
Quantifying the Model
1980 – 2016

- Match 5 moments:
  1. Markups (average)
  2. Markups (P75)
  3. Gross Profit Rate
  4. Overhead Labor Share
  5. Reallocation Rate

<table>
<thead>
<tr>
<th>Estimated Parameter</th>
<th>1980</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential entrants</td>
<td>( M )</td>
<td>21</td>
</tr>
<tr>
<td>Fixed Cost</td>
<td>( \phi )</td>
<td>1</td>
</tr>
<tr>
<td>Productivity shock: transitory</td>
<td>( \sigma_\varepsilon )</td>
<td>0.03</td>
</tr>
<tr>
<td>Productivity shock: permanent</td>
<td>( \sigma_a )</td>
<td>0.05</td>
</tr>
<tr>
<td>Number of Entrants (average)</td>
<td>( N )</td>
<td>9</td>
</tr>
<tr>
<td>Welfare</td>
<td></td>
<td>0.82</td>
</tr>
</tbody>
</table>
Quantifying the Model
1980 – 2016

- Match 5 moments:
  1. Markups (average)
  2. Markups (P75)
  3. Gross Profit Rate
  4. Overhead Labor Share
  5. Reallocation Rate

<table>
<thead>
<tr>
<th>Estimated Parameter</th>
<th>1980</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential entrants</td>
<td>$M$</td>
<td>21</td>
</tr>
<tr>
<td>Fixed Cost</td>
<td>$\phi$</td>
<td>1</td>
</tr>
<tr>
<td>Productivity shock: transitory</td>
<td>$\sigma_\varepsilon$</td>
<td>0.03</td>
</tr>
<tr>
<td>Productivity shock: permanent</td>
<td>$\sigma_a$</td>
<td>0.05</td>
</tr>
<tr>
<td>Number of Entrants (average)</td>
<td>$N$</td>
<td>9</td>
</tr>
<tr>
<td>Welfare</td>
<td></td>
<td>0.82</td>
</tr>
</tbody>
</table>

- Welfare: net effect negative
The Effect on Welfare is ex ante ambiguous:

- Average Markup $\mu \Rightarrow$ Deadweight Loss
  
  e.g. ABInBev

Decomposition (in log differences)

$$\Delta \text{Welfare} = \Delta \mu + \Delta \text{Reallocation} + \Delta \text{Selection} + \Delta L - 0.13 - 0.18 + 0.18 - 0.03 - 0.10$$
The Effect on Welfare is ex ante ambiguous:

- **Average Markup** $\mu$ $\Rightarrow$ Deadweight Loss
  
  e.g. ABInBev

- **Reallocation**: production by more productive firms
  
  Amazon Paradox
The Effect on Welfare is ex ante ambiguous:

- **Average Markup** $\mu \Rightarrow$ **Deadweight Loss**
  
  e.g. ABInBev

- **Reallocation**: production by more productive firms
  
  Amazon Paradox

- **Selection**:
  
  + if fixed cost ↑ or variance of productivity ↑
  
  - if profits ↑
The Fundamental Tradeoffs

The Effect on Welfare is ex ante ambiguous:

- **Average Markup** $\mu \Rightarrow$ Deadweight Loss
  
e.g. ABInBev

+ **Reallocation**: production by more productive firms
  
  Amazon Paradox

± **Selection**:
  
  + if fixed cost ↑ or variance of productivity ↑
  
  − if profits ↑

- **Labor Force** $L \downarrow$:
  
  GE effect on Labor Supply
The Fundamental Tradeoffs

The Effect on Welfare is ex ante ambiguous:

- **Average Markup** $\mu \Rightarrow$ Deadweight Loss
e.g. ABInBev

- **Reallocation**: production by more productive firms
  Amazon Paradox

- **Selection**:
  + if fixed cost $\uparrow$ or variance of productivity $\uparrow$
  - if profits $\uparrow$

- **Labor Force** $L \downarrow$:
  GE effect on Labor Supply

Decomposition (in log differences)

$$\Delta \text{Welfare} = \Delta \mu + \Delta \text{Reallocation} + \Delta \text{Selection} + \Delta L$$

$$\begin{align*}
\Delta \mu & = -0.13 \\
\Delta \text{Reallocation} & = -0.18 \\
\Delta \text{Selection} & = +0.18 \\
\Delta L & = -0.03 \\
\Delta \mu & = -0.10
\end{align*}$$
Comparative Statics
Technology: $\phi \uparrow$
Comparative Statics

Market Structure: $M \downarrow$
Macroeconomic Consequences
1. **Decline in labor dynamism**

\[ P_{\mu>1}(z) \]

\[ P_{\mu>1}(\bar{z}) \]

\[ \frac{w}{z} \]

\[ \frac{w}{\bar{z}} \]

\[ \Delta l_{\mu>1} \]

\[ \Delta l_{\mu=1} \]
## 1. Decline in Labor Dynamism

### A. Rate (RER\_gt)

\[
RER_{gt} = \frac{JC_{gt} + JD_{gt}}{L_{gt}}
\]

<table>
<thead>
<tr>
<th>Year</th>
<th>Small (&lt;1,000)</th>
<th>Large (&gt;1,000)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>0.30</td>
<td>0.40</td>
<td>0.35</td>
</tr>
<tr>
<td>1990</td>
<td>0.40</td>
<td>0.50</td>
<td>0.45</td>
</tr>
<tr>
<td>2000</td>
<td>0.50</td>
<td>0.60</td>
<td>0.55</td>
</tr>
<tr>
<td>2010</td>
<td>0.60</td>
<td>0.70</td>
<td>0.65</td>
</tr>
</tbody>
</table>

### B. Employment Share (sL\_gt)

<table>
<thead>
<tr>
<th>Year</th>
<th>Small (&lt;1,000)</th>
<th>Large (&gt;1,000)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>0.20</td>
<td>0.25</td>
<td>0.22</td>
</tr>
<tr>
<td>1990</td>
<td>0.25</td>
<td>0.30</td>
<td>0.27</td>
</tr>
<tr>
<td>2000</td>
<td>0.30</td>
<td>0.35</td>
<td>0.32</td>
</tr>
<tr>
<td>2010</td>
<td>0.35</td>
<td>0.40</td>
<td>0.37</td>
</tr>
</tbody>
</table>
2. Wage Stagnation: General Equilibrium

\[
L^S = \varphi W^\varphi
\]

\[
L^D(W, Y^*_1, \mu_1, z_1)
\]

\[
L^D(W, Y^*_2, \mu_2, z_2)
\]

Input markets are competitive, no oligopsony power
2. Wage Stagnation: General Equilibrium

\[ L^S = \varphi W^\varphi \]

\[ L^D(W, Y^*_1, \mu_1, z_1) \]

\[ L^D(W, Y^*_2, \mu_2, z_2) \]

- Input markets are competitive, no oligopsony power
3. Decline in Labor Share: *Stylized Fact no more?*

- Decline in aggregate: 0.65 to 0.58 (a.o. Karabarbounis-Neiman 2014)
- At the firm level: effect of markups

\[
\frac{W_L}{S_i} = \frac{\theta_i}{\mu_i}
\]
3. **Decline in Labor Share: Stylized Fact no more?**

- Decline in aggregate: 0.65 to 0.58 (a.o. Karabarbounis-Neiman 2014)
- At the firm level: effect of markups

\[
\frac{W_L_i}{S_i} = \frac{\theta_i^L}{\mu_i}
\]

<table>
<thead>
<tr>
<th>Labor Share (log)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Markup (log)</td>
<td>-0.24</td>
<td>-0.23</td>
<td>-0.20</td>
<td>-0.24</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Year F.E.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Industry F. E.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm F.E.</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.02</td>
<td>0.08</td>
<td>0.21</td>
<td>0.88</td>
</tr>
</tbody>
</table>
## Non-targeted Moments

<table>
<thead>
<tr>
<th>Moment</th>
<th>1980 Model</th>
<th>1980 Data</th>
<th>2016 Model</th>
<th>2016 Data</th>
<th>% Change Model</th>
<th>% Change Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>$W$</td>
<td>1.00</td>
<td>1.00</td>
<td>0.81</td>
<td>0.71</td>
<td>$-26$</td>
<td>$-29$</td>
</tr>
<tr>
<td>$L$</td>
<td>0.88</td>
<td>0.68</td>
<td>0.84</td>
<td>0.62</td>
<td>$-14$</td>
<td>$-9$</td>
</tr>
<tr>
<td>Labor Share</td>
<td>0.41</td>
<td>0.62</td>
<td>0.37</td>
<td>0.56</td>
<td>$-16$</td>
<td>$-10$</td>
</tr>
<tr>
<td>Startup rate</td>
<td>0.15</td>
<td>0.12</td>
<td>0.10</td>
<td>0.08</td>
<td>$-29$</td>
<td>$-33$</td>
</tr>
</tbody>
</table>

- **Alternative Models:**
  - Identical Firms: does not capture reallocation
  - Dynamic adjustment costs: magnitude; profits?
## Non-targeted Moments

<table>
<thead>
<tr>
<th>Moment</th>
<th>1980 Model</th>
<th>1980 Data</th>
<th>2016 Model</th>
<th>2016 Data</th>
<th>% Change Model</th>
<th>% Change Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>$W$</td>
<td>1.00</td>
<td>1.00</td>
<td>0.81</td>
<td>0.71</td>
<td>-26</td>
<td>-29</td>
</tr>
<tr>
<td>$L$</td>
<td>0.88</td>
<td>0.68</td>
<td>0.84</td>
<td>0.62</td>
<td>-14</td>
<td>-9</td>
</tr>
<tr>
<td>Labor Share</td>
<td>0.41</td>
<td>0.62</td>
<td>0.37</td>
<td>0.56</td>
<td>-16</td>
<td>-10</td>
</tr>
<tr>
<td>Startup rate</td>
<td>0.15</td>
<td>0.12</td>
<td>0.10</td>
<td>0.08</td>
<td>-29</td>
<td>-33</td>
</tr>
</tbody>
</table>

- Alternative Models:
  - Identical Firms: does not capture reallocation
  - Dynamic adjustment costs: magnitude; profits?
• Dale T. Mortensen, “Matching: Finding a Partner for Life or Otherwise,” 1988
• Dale T. Mortensen, “Matching: Finding a Partner for Life or Otherwise,” 1988
• Effect of market power on Sorting and Wages (with Hector Chade)
• Dale T. Mortensen, “Matching: Finding a Partner for Life or Otherwise,” 1988
• Effect of market power on Sorting and Wages (with Hector Chade)
• Ongoing work: estimate effect of market power on sorting and wage distribution (with Jan De Loecker; with Aseem Patel)
Conclusions

- Facts: Rise of Market Power since 1980
  - Heterogeneity: sharp rise for some, constant for most firms
  - Markups (20-40 points) $\neq$ Profit Rate (7-8 ppt’s)

Causes:
1. Technology (mainly fixed cost): to get markup dispersion
2. Market Structure: to get labor reallocation decline

$\Rightarrow$ Net effect: Welfare loss

Consequences: secular trends
1. Decline in Business Dynamism: incomplete passthrough
2. Wage Stagnation: equilibrium effect
3. Labor Share decline: at firm level
4. Reallocation of sales towards high markup, large superstar firms

∴ Cannot use Representative Firm framework to study Market Power
Conclusions

• Facts: Rise of Market Power since 1980
  • Heterogeneity: sharp rise for some, constant for most firms
  • Markups (20-40 points) ≠ Profit Rate (7-8 ppt’s)

• Causes:
  1. Technology (mainly fixed cost): to get markup dispersion
  2. Market Structure: to get labor reallocation decline
     Need both ⇒ Net effect: Welfare loss

Consequences: secular trends
  1. Decline in Business Dynamism: incomplete passthrough
  2. Wage Stagnation: equilibrium effect
  3. Labor Share decline: at firm level
  4. Reallocation of sales towards high markup, large superstar firms
∴ Cannot use Representative Firm framework to study Market Power
Conclusions

• Facts: Rise of Market Power since 1980
  - Heterogeneity: sharp rise for some, constant for most firms
  - Markups (20-40 points) ≠ Profit Rate (7-8 ppt’s)

• Causes:
  1. Technology (mainly fixed cost): to get markup dispersion
  2. Market Structure: to get labor reallocation decline
     Need both ⇒ Net effect: Welfare loss

• Consequences: secular trends
  1. Decline in Business Dynamism: incomplete passthrough
  2. Wage Stagnation: equilibrium effect
  3. Labor Share decline: at firm level
  4. Reallocation of sales towards high markup, large superstar firms

∴ Cannot use Representative Firm framework to study Market Power
Conclusions

- **Facts: Rise of Market Power since 1980**
  - **Heterogeneity**: sharp rise for some, constant for most firms
  - Markups (20-40 points) ≠ Profit Rate (7-8 ppt’s)

- **Causes:**
  1. Technology (mainly fixed cost): to get markup dispersion
  2. Market Structure: to get labor reallocation decline
     Need both ⇒ Net effect: Welfare loss

- **Consequences: secular trends**
  1. Decline in Business Dynamism: incomplete passthrough
  2. Wage Stagnation: equilibrium effect
  3. Labor Share decline: at firm level
  4. Reallocation of sales towards high markup, large superstar firms

∴ Cannot use Representative Firm framework to study Market Power
Quantifying Market Power

Jan Eeckhout

UPF Barcelona and UCL

Dale T. Mortensen Lecture

Society for Economic Dynamics