

# Mark-up and price dynamics: linking micro to macro – De Loecker, Fuss and Van Biesebroeck

## Discussion by Peter Davis

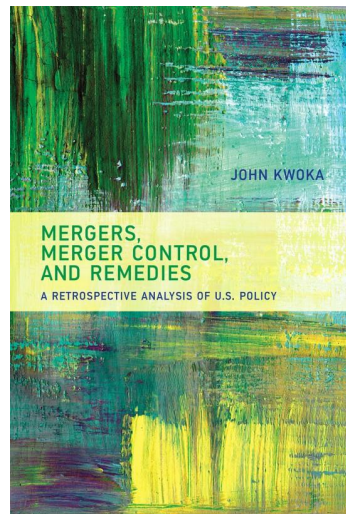
Head of European Competition Practice and Head of  
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National Bank of Belgium Conference

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# This research agenda is clearly important: *Is market concentration causing a rise in margins and slow productivity growth?*

- A concern has been an increase in concentration with adverse effects: In US, John Kwoka meta study of ex-post reviews of approved mergers suggests evidence of post-merger price rises. But controversial:



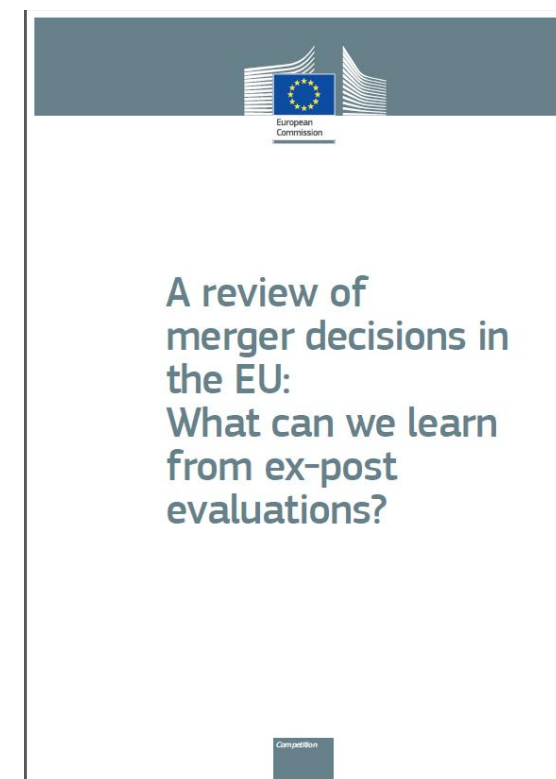
...as we will show, several of the studies that form the basis for his criticisms of negotiated remedies actually provide no information about the effectiveness of those remedies. When those studies are removed from his analysis, the remaining evidence is weak and equivocal.

In addition, there are substantial methodological issues with his analysis....

Vita and Osinki (2018) "John Kwoka's Mergers, Merger Control and Remedies: A Critical Review", Antitrust Law Journal

# This research agenda is clearly important: *Is market concentration causing poor performance and so slow productivity growth?*

- In Europe: DG Comp study (Ormosi et al, 2015) suggests not the case in Europe but “sample of relevant merger retrospectives is small” and also “likely non-random” so that “the findings of this study should be treated with caution”:
  - In contrast to US, low price increases found in mergers with retrospectives following remedied mergers (1-2%).
  - Price increase following mergers with retrospectives that were unconditionally cleared averaged 5% [N.B. this average effect is largely driven by outliers such as the GSK/AstraZeneca merger that the Swedish competition authority approved where the ex-post review suggested a 34-42% price rise].



<http://ec.europa.eu/competition/publications/reports/kd0115715enn.pdf>

# Ormosi et al for DG Competition: The detail

*Once you take out the outlier cases, no effect left*

**Table 6: Mean price effects (%) by competition authority intervention and type of study<sup>19</sup>**

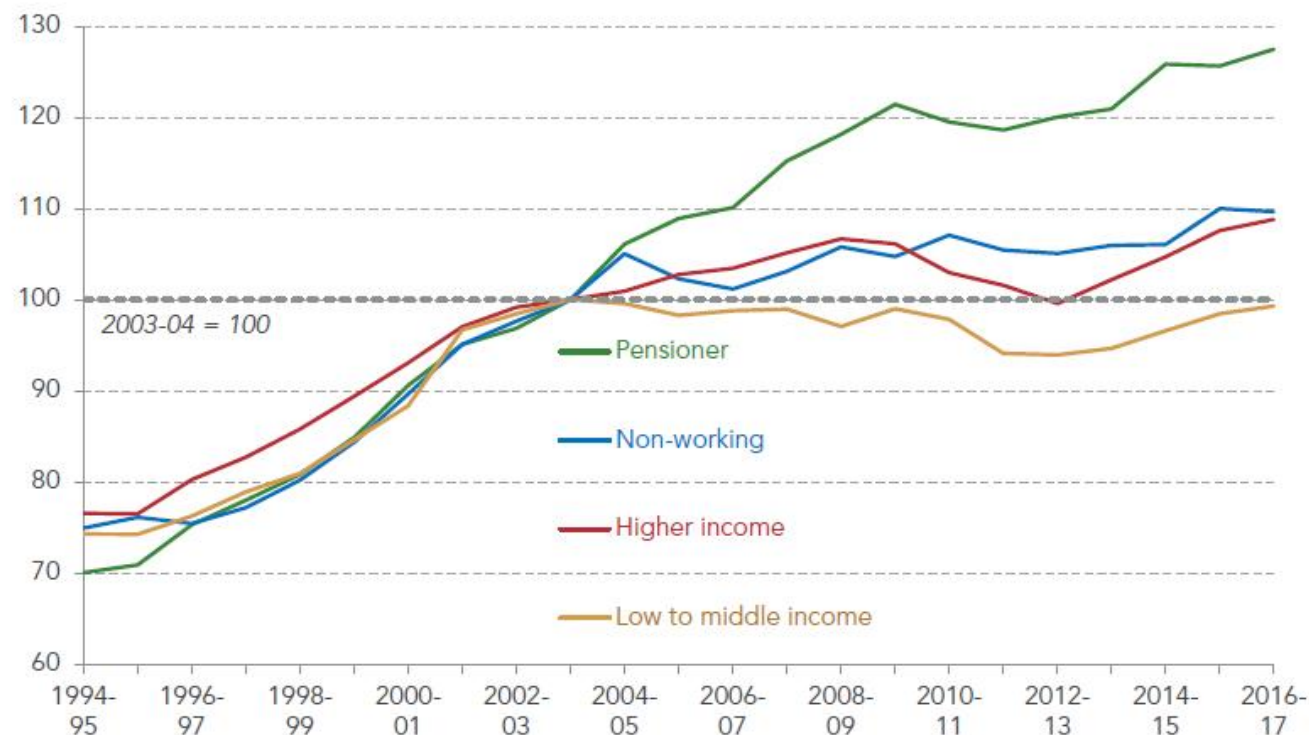
	Difference-in-differences			Merger Simulations			Total sample		
	Mean (%)	Std.dev (%)	N	Mean (%)	Std.dev (%)	N	Mean (%)	Std.dev (%)	N
Approved	2.71	13.60	13	13.10	18.10	3	4.66	14.46	16
(no outliers)	1.20	3.66	11	2.65	0.07	2	1.42	3.39	13
Remedies	0.73	2.53	3	2.31	2.90	4	1.64	2.65	7
(no outliers)	0.73	2.52	3	2.31	2.90	4	1.64	2.65	7
Blocked			0	30.65	35.85	2	30.65	35.58	2

# This research agenda is clearly important: *Is market concentration causing poor performance and so slow wage growth?*

1. **Following financial crisis, much increased political attention and less political consensus about whether markets are driving good market outcomes or instead inequality:**
  - Increased willingness to intervene bypassing competition authorities.
  - Nationalisation back on agenda of left in e.g., UK.
2. **Also some very concerning data:**
  - UK median household disposable income *after housing costs* appears flat over period 2004-2018.

Figure 7: Typical incomes for low to middle income families are lower than they were in 2003-04

Index of real median household disposable income (after housing costs), 2003-04 = 100



Source: RF analysis of DWP, Households Below Average Income

<https://www.resolutionfoundation.org/app/uploads/2018/07/Living-Standards-Audit-2018-3.pdf>



## Is Growth in Concentration Understated? *Potential Role of Common Ownership*

- “Common ownership” addresses a situation in which at least one investor has shares in several firms in one industry.
- Has become more common recently through “passive” institutional investors.

### Pharmacy / Drug Stores

<b>CVS</b>	<b>[%]</b>	<b>Walgreens Boots Alliance</b>	<b>[%]</b>	<b>Rite Aid</b>	<b>[%]</b>
<b>Vanguard</b>	<b>6.7</b>	-Stefano Pessina-	12.9	<b>Vanguard</b>	<b>7.0</b>
<b>BlackRock</b>	<b>6.1</b>	<b>Vanguard</b>	<b>5.4</b>	<b>BlackRock</b>	<b>4.0</b>
<b>State Street</b>	<b>4.1</b>	KKR	4.7	Franklin Resources	2.9
Fidelity	4.1	<b>BlackRock</b>	<b>4.1</b>	T. Rowe Price	2.0
Wellington	2.8	<b>State Street</b>	<b>3.3</b>	<b>State Street</b>	<b>1.7</b>
		Wellington	2.4		

Data is from 2016Q4. Source: Azar et al. (forthcoming).

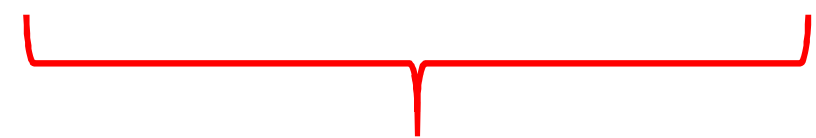
# Jan De Loecker, Fuss and Van Biesebroeck

- Data on **all** non-financial private firms over very long period, 1980-2016.
- Use a **[static]** economic model assuming cost minimization to identify an estimate of margins. The model tells us the determinants of margins are:

$$mark - up_{fit} = \frac{P}{mc} = \left( \frac{\%change\ in\ Output_{fit}}{\%change\ in\ Variable\ Input_{fit}} \right) \left( \frac{Expenditure\ on\ Variable\ Input_{fit}}{Value\ of\ Sales_{fit}} \right)^{-1}$$



Must estimate from  
production function



Inverse of proportion of Value of  
Sales (revenue) spent on Variable  
Input. This is data – no model  
required.

- Must believe: (1) static cost minimisation model is the right one; and (2) estimates from production function of elasticity of output as variable inputs increase are reliable.

# Classic Challenges Outlined in Christensen and Greene (1976, JPE)

- DLFVB use production function approach to get at marginal cost and hence margins, not cost function.
- But face challenges similar to those when looking at the cost function itself:
  - **Challenge 1:** 1955 data show can be hard to get the shape right - need enough data on firms at varying scales with the same cost (production) function
  - **Challenge 2:** Cost (production) functions move a great deal over time due to technology change
  - **Plus Challenge 3:** DLFVB must control for differences across firms, sectors or industries included in the dataset used

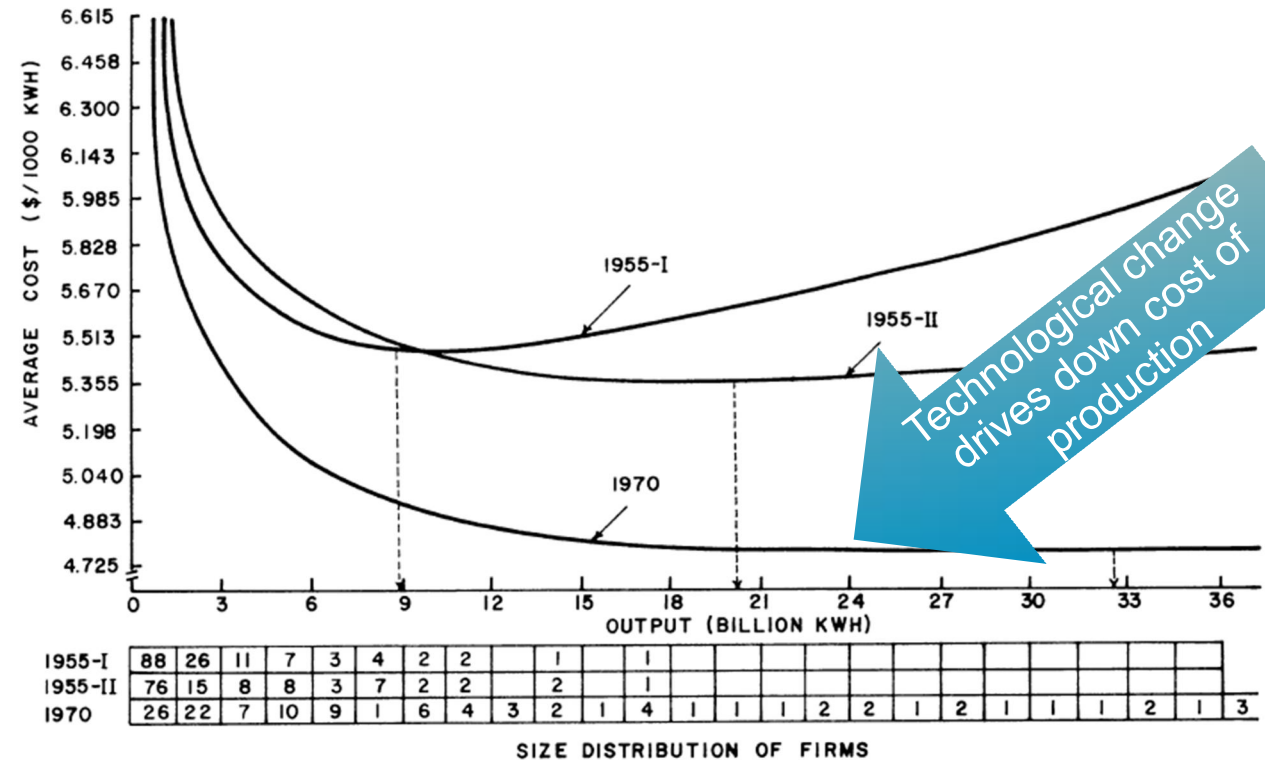


FIG. 2.—Average cost curves, Model A (dotted arrow indicates minimum average cost)



# Facebook/WhatsApp (2014)

Technology

## Facebook \$22 Billion WhatsApp Deal Buys \$10 Million in Sales

Sarah Frier

October 28, 2014 10:48 PM Updated on October 29, 2014 4:29 PM

The numbers are in for Facebook Inc.'s acquisition of mobile-messaging application WhatsApp Inc.: The social network paid \$22 billion for a startup that generated \$10.2 million in revenue last year.



In a regulatory filing yesterday, Facebook disclosed WhatsApp's financial results for 2012 and 2013. The messaging service, which reached 400 million active users in December, generated less than 3 cents in revenue for each one last year. By comparison, Facebook paid \$55 per user when it acquired the company. WhatsApp's net loss was \$138.1 million for 2013.

Source: <https://www.bloomberg.com/news/articles/2014-10-28/facebook-s-22-billion-whatsapp-deal-buys-10-million-in-sales>



- 450million users – on path to 1 billion. Subscription fee of \$1, first year free. No ad revenues. About 50 employees at time. \$10million in sales.
- Relevance of current sales and wage bills? Static model v. desire to build network effects and hence future sales?
- If variable input were labour, then potential for measurement and conceptual issues? For example, an employee might be willing to work for very little in exchange for equity.
- Network effects and dynamic patterns?

$$mark - up_{fit} = \frac{P}{mc} = \left( \frac{\%change\ in\ Output_{fit}}{\%change\ in\ Variable\ Input_{fit}} \right) \left( \frac{Expenditure\ on\ Variable\ Input_{fit}}{Value\ of\ Sales_{fit}} \right)^{-1}$$

# Thank you!

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