

# How EU Markets Became More Competitive Than US Markets: A Study of Institutional Drift

Germán Gutiérrez and Thomas Philippon

NYU, NBER, CEPR

July 2018

## Alesina and Giavazzi (2006)

*“If Europe is to arrest its decline [..] it needs to adopt something closer to the American free-market model.”*

## Internet Access

- Comparison of 5 US and 5 FR cities of similar size (Nimes vs. Pittsburgh; Quimper vs Santa Fe,..)

*Consumers in France have a choice between **seven** providers on average [...] in the U.S. most residents can get service from no more than **two** companies.*

- International Comparisons

Rank	Country	Broadband Cost
37	South Korea	\$ 29.9
47	Germany	\$ 35.71
54	France	\$ 38.10
...		
113	US	\$ 66.17

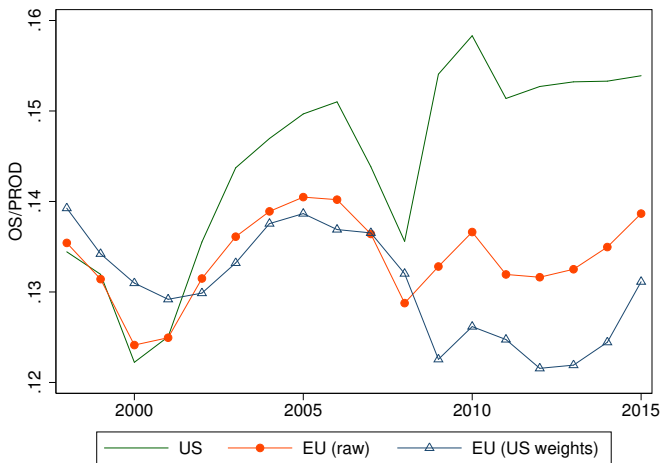
<https://www.publicintegrity.org/2015/04/01/16998/us-internet-users-pay-more-and-have-fewer-choices-europeans>. Cable.Co.Uk price indices. See also Faccio and Zingales (2017).

# Air Transport

- Top 4 Concentration
  - US: 80%+
  - Eu: 40%-

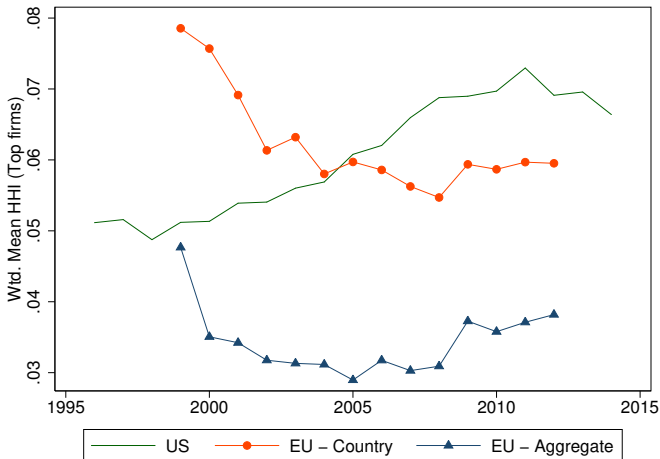


# Gross Profit Rate: US vs EU



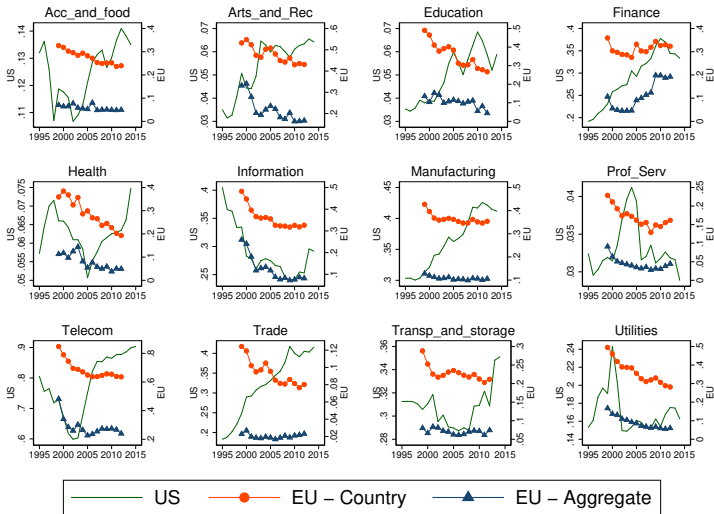
Source: OECD STAN. Non-Agriculture Business sector excluding RE. EU series based on weighted average across those EU-28 countries for which data is available in STAN.

# Concentration: US vs EU



Source: Amadeus for Europe, Compustat for US. Consistent results using alternate data sources.

# Concentration



Note: Annual data. US Herfindahls and Concentration ratios from Compustat adjusted for the Compustat share of sales. EU Concentration Ratios and Herfindahls from Amadeus.

## How Did That Happen?

- Surprising: US historical pioneer in Antitrust & Free Markets

- 1990's common wisdom (OECD)

*“There is a broad consensus among member countries on what constitutes ‘good’ practice for competition regimes.”*

- Theory

- Supra-national regulator more independent and more pro-competition than national ones

- Empirics

- Tests of 3 key predictions of the model
- Implications for competition policy in US and EU



# Model Timeline

First Period (1990's)

Second Period (2000's)

Politician  $W = \mathbb{E}[(1 - \beta)U + \beta V_\varepsilon]$

.

Politician .

$V_\varepsilon = U + \gamma \Pi_\varepsilon, \varepsilon \in (1, 2)$

Regulator  $\theta$  is set

$\mathcal{R} = \max(1 - \theta)U + \theta V_\varepsilon$

## Model: National Regulation

- Technology  $x_i = z_i n_i$  and preferences:

$$U \equiv \sum_{i=1}^2 \log(x_i) - n$$

- Equilibrium with mark-up  $\mu_i$

$$x_i = \frac{z_i}{1 + \mu_i}$$

- Real profits

$$\Pi_i = \frac{\mu_i}{1 + \mu_i}$$

- Politicians

$$V_\varepsilon = U + \gamma \Pi_\varepsilon$$

# Political Influence

- Regulators

$$\begin{aligned}\mathcal{R} &= \max_{\{x\}} (1 - \theta) U + \theta V_{\varepsilon} \\ &= \max_{\{x\}} U + \gamma \theta \Pi_{\varepsilon}\end{aligned}$$

- Equilibrium

$$\begin{aligned}x_{i \neq \varepsilon} &= x_i^* = z_i, \\ x_{i = \varepsilon} &= \bar{m}_{\theta} z_i\end{aligned}$$

where

$$\bar{m}_{\theta} \equiv \frac{1}{1 + \gamma \theta}$$

# Regulatory Design

- Ex-ante politicians

$$W = \mathbb{E}[(1 - \beta)U + \beta V_\varepsilon]$$

- Solution

$$\theta = \beta$$

- Equilibrium markup

$$\mu_{\varepsilon=i} = \gamma\beta$$

- Interpretation

- political bias
- beliefs about (legitimate) externalities

## Political Influence with Two Countries

- Country  $i$  produces good  $x_i$

$$U_i = \log(x_i) + \log(x_j) - \frac{2x_i}{z_i}$$

- Regulator

$$\begin{aligned} & \max_{\{x\}} (1 - \theta)(U_1 + U_2) + \theta V_\varepsilon \\ & = \max_{\{x\}} U_{\varepsilon=i} + (1 - \theta)U_{\varepsilon \neq i} + \theta \gamma \Pi_{\varepsilon=i}. \end{aligned}$$

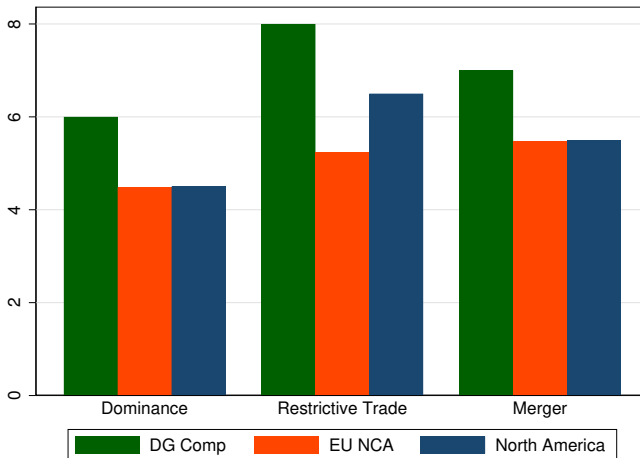
- Therefore

$$\begin{aligned} \frac{x_{\varepsilon=i}}{z_i} &= m^s(\theta; \gamma) \equiv \frac{1 - \frac{\theta}{2}}{1 + \gamma\theta} < \bar{m}_\theta, \\ \frac{x_{\varepsilon \neq i}}{z_i} &= M^s(\theta; \gamma) \equiv \frac{1 - \frac{\theta}{2}}{1 - \theta} > 1. \end{aligned}$$

## Predictions

- **Proposition 1 (Pro-Competition Effect of EU Integration):** Politicians choose a higher degree of independence for a supra-national regulator than for a national one,  $\theta^S \in (0, \beta)$ , and this leads to more competitive markets.
- **Proposition 2 (Cross-sectional benefits):** Countries with weaker ex-ante institutions benefit more from supra-national regulation.
- **Proposition 3 (Endogenous Lobbying):** In countries with more independent regulators, firms spend less on lobbying.
  - Intended vs. unintended consequences and the European forward fumble

# Prop 1, Design: DG Comp indeed tougher than NCAs



# Prop 1, Design: Competition Law & Policy Indicators

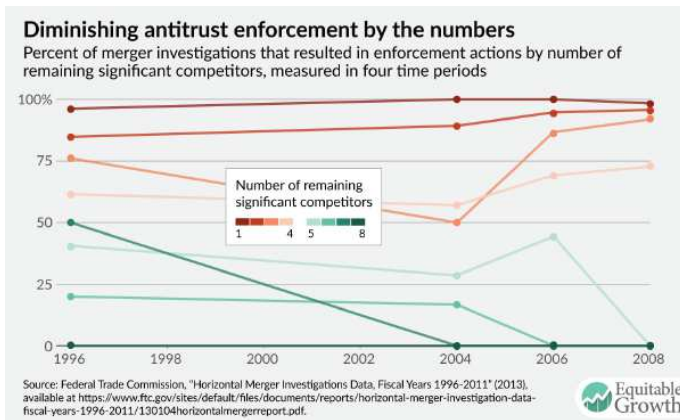




# Prop 1, Enforcement: Merger in US vs EU

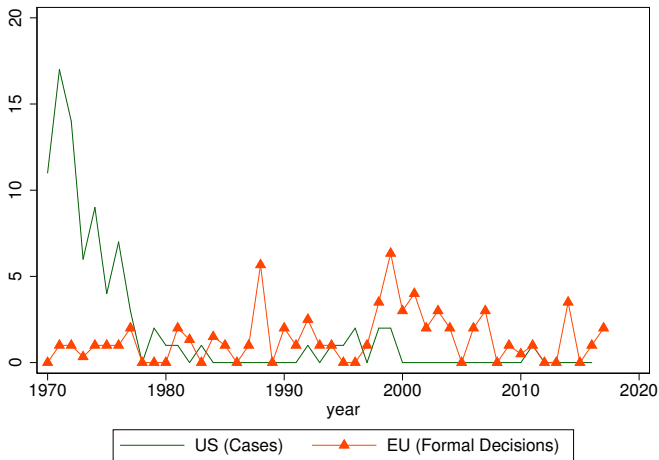
- Stricter enforcement in EU, compared to US (Bergman et.al., 2010)
  - *“...Were the EU to examine the US’s mergers, the predicted EU challenge rate would be roughly 12 percentage points higher than the actual US rate”*

# Merger Enforcement: US



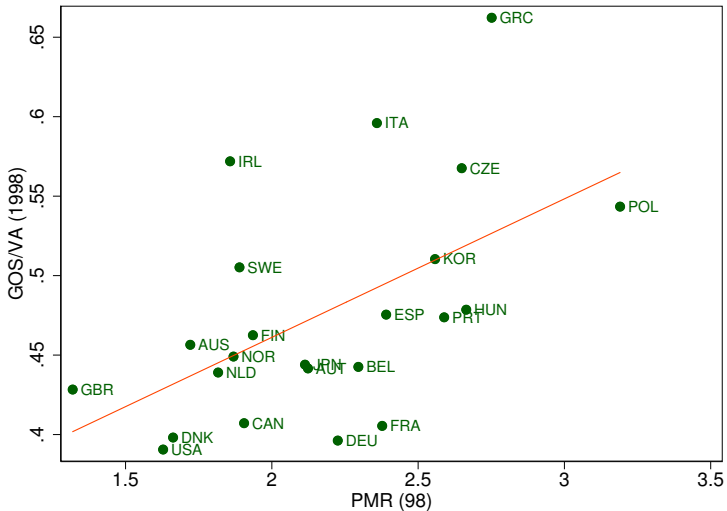
Source: Kwoka (2017)

# Abuse of Dominance Enforcement: DoJ vs DG Comp

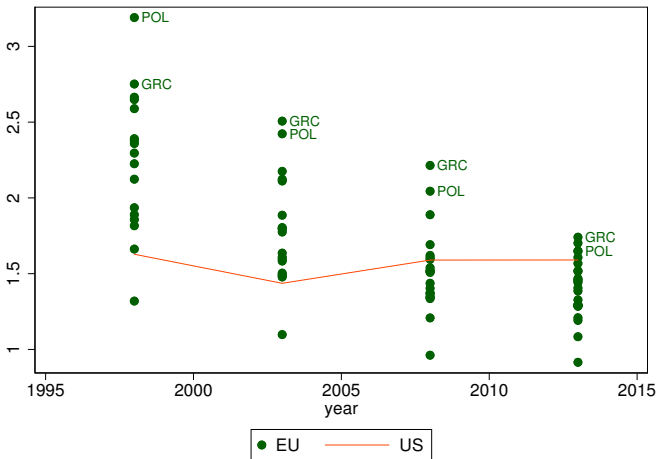


Sources: DoJ Annual Reports for the US. Russo et al. (2010) for Europe, extended manually to 2017 based on DG Comp online case database.

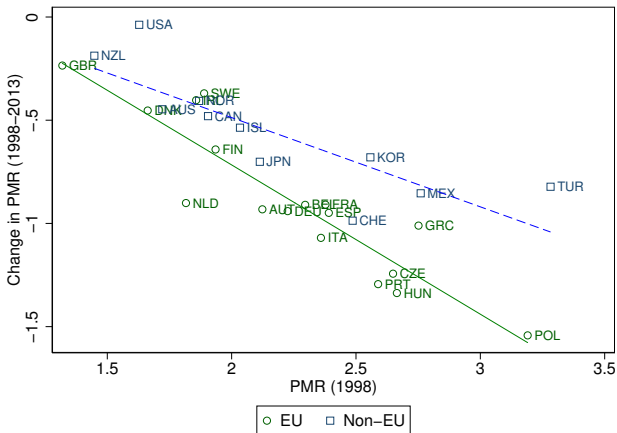
# Profits vs. PMR



# Regulation: US vs EU

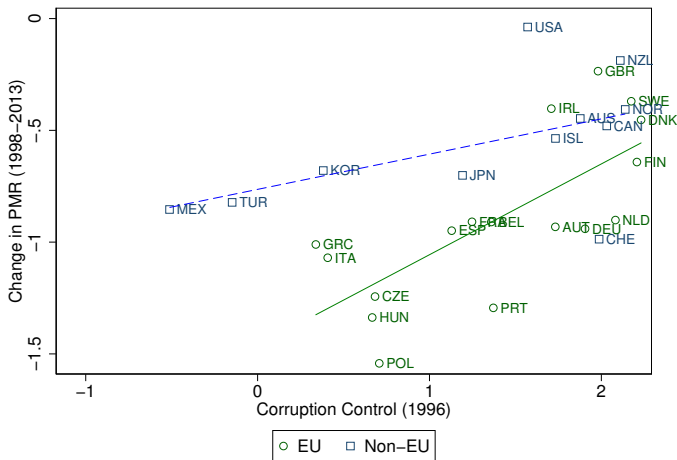


# PMR Indicators have Converged Globally But Convergence is Stronger in EU...



Source: OECD PMR. Includes all countries with a PMR score as of 1998.

# ...Particularly at Countries with Weak Initial Institutions



Source: OECD PMR, Duval et al. (2018) reforms and WB corruption control

## Political Contributions and Antitrust Enforcement

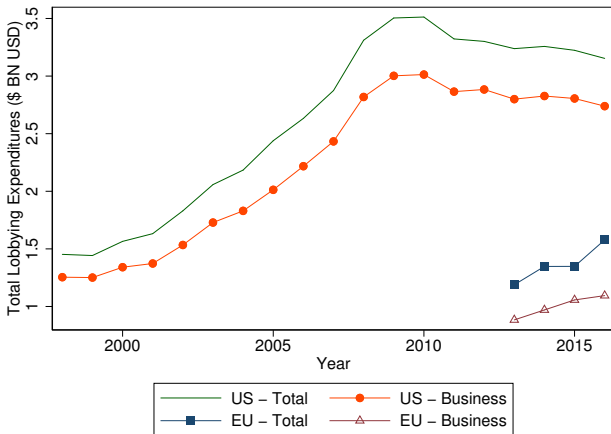
***“I believe that **application of anti-trust against Google would be a woefully misguided step** that would threaten the very integrity of our anti-trust system, and could ultimately **lead to Congressional action resulting in a reduction in the ability of the FTC to enforce critical anti-trust protections**”***

– Jared Polis, Democratic Congressman

One of at least 13 U.S. congressman who sent letters to FTC regarding the FTC's investigation of Google



## Lobbying Expenditures: US vs EU

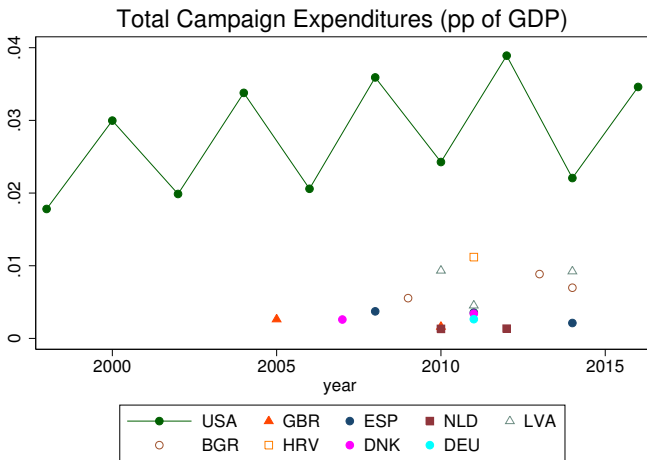


- Firm-level elasticities of 0.15 in EU vs. 0.62 in US

## Lobbying Outcomes: US vs EU

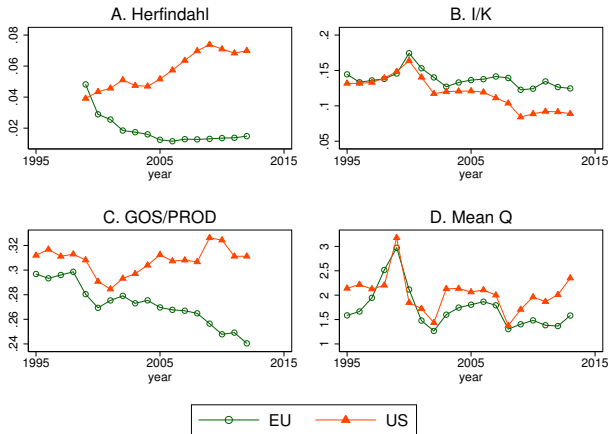
- Higher Industry success in US than EU (Mahoney, 2008):
  - In the US, **89% of corporations...succeed**, vs. 40% of citizen groups and 37% of foundations
  - In the EU, ... **61% for lobbying firms win**, vs. 56% of citizen groups and 67% of foundations
- Due to campaign contributions (Mahoney, 2008)
  - Matters for Antitrust and Regulation: [Google Quote](#)

# Campaign Contributions: US vs EU



Source: OpenSecrets.com for US, EU (2015) for EU

# Overreach? Concentration & Investment



Source: Gutiérrez and Philippon (2017). Figures shows evolution of top-5 concentrating industries in the US, against the same industries in EU. The industries include Information Telecom, Arts and Recreation, Wholesale and Retail trade, Other Services and Information Publishing

## Overreach? TFP

	(1)	(2)	(3)
	$\Delta \log(CR4)_{t-2,t}^{EU}$	$\Delta \log(PR)_{t-1,t+1}^{EU}$	$\Delta \log(TFP)_{t-2,t}^{EU}$
$\#Cases_{t-2,t}^{EU}$	-0.015** (0.004)	-0.003+ (0.002)	0.002* (0.001)
$\#Cases_{t-2,t}^{US}$	0.005 (0.008)	-0.001 (0.002)	0.001 (0.001)
$\Delta \log(CR4)_{t-2,t}^{US}$	0.100 (0.191)		
$\Delta \log(PR)_{t-1,t+1}^{US}$		0.121 (0.073)	
$\Delta \log(TFP)_{t-2,t}^{US}$			0.277** (0.069)
Industry FE	Y	Y	N
$R^2$	0.03	0.07	0.14
N	324	389	364

Introduction  
○○○○○○○

Model  
○○○○○○○

Pro-Competition  
○○○○○

PMR  
○○○○

Lobbying  
○○○○

Regulator Overreach?  
○○●

Appendix  
○○○○○○○○○

References

# The End

# Thank You

# Lobbying

- Firms hire  $l$  lobbyists to influence regulators:

$$\mathcal{R} = \max_{\{x\}} U(x) + \Gamma(l; \theta) \Pi$$

which yields  $m \equiv \frac{1}{1+\Gamma}$  and  $\Pi = \frac{\Gamma}{1+\Gamma}$

- Firms maximize profits  $\Pi_i^{\$} = p_i x_i - w \frac{x_i}{z_i} - wl$ , which is equivalent to

$$\max_{\{l\}} \frac{\Gamma(l; \theta)}{1 + \Gamma(l; \theta)} - l$$

- From super-modularity of  $\Gamma(l; \theta)$ , solution increasing in  $l(\theta)$
- Proposition 2:** In countries with more independent regulators, firms spend less on lobbying.

## Asymmetric Countries

- Consider two countries with  $\beta_1 < \beta_2$
- From equation

$$W_i^S(\theta) - U^* = \log(m^S(\theta)) + \log(M^S(\theta)) \\ + (1 + \beta_i\gamma)(2 - m^S(\theta) - M^S(\theta))$$

- Equal bargaining:

$$\max_{\theta} \sum_{i=1}^2 W_i^S(\theta)$$

- First order condition

$$\frac{m'}{m} + \frac{M'}{M} - \left(1 + \frac{\beta_1 + \beta_2}{2}\gamma\right) (m' + M')$$

- **Proposition 3:** Countries with weaker ex-ante institutions benefit more from supra-national regulation.



## Endogenous Common Market

- Equilibrium without supervision

$$\max_{x_i} U_i + \theta_i \gamma \Pi_i = \log(x_i) + \log(x_{-i}) - 2 \frac{x_i}{z_i} + 2\theta_i \gamma \left(1 - \frac{x_i}{z_i}\right)$$

$$x_i = \frac{1}{2} \frac{z_i}{1 + \theta_i \gamma} \text{ and profits are } \Pi_i = 2 \left(1 - \frac{x_i}{z_i}\right).$$

- Politicians choose  $\theta_i = \beta_i$ . Ex-ante utility

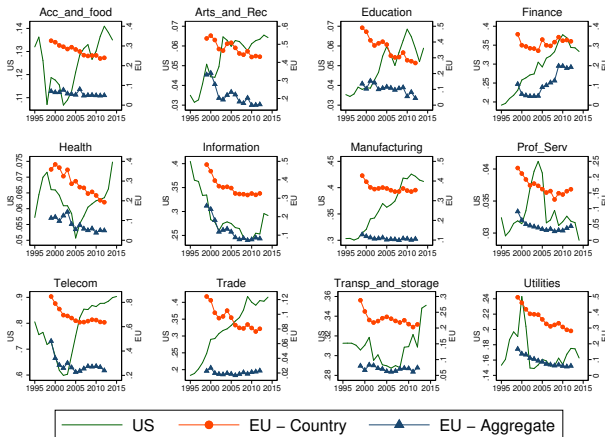
$$W_i = U^* + 1 - 2\log 2 - \log(1 + \beta_i \gamma) - \log(1 + \beta_j \gamma) + 2\beta_i \gamma.$$

- Vs. utility with supra-national regulator

$$W^S = U^* + \log(m_\theta^S) + \log(M_\theta^S) + (1 + \beta_i \gamma) (2 - m_\theta^S - M_\theta^S),$$

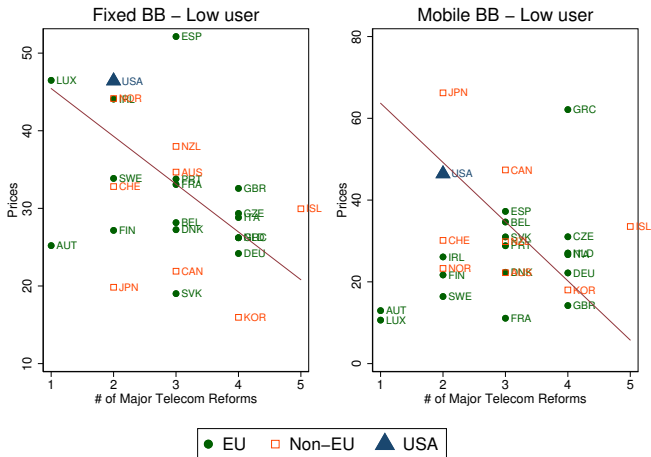
- Proposition 4:** There exists an upper bound  $\bar{\beta}$  on political bias such that, if  $\beta < \bar{\beta}$ , politicians of the two countries prefer to set up a common regulator as described in Proposition 1.

# Concentration by Sector: US vs EU



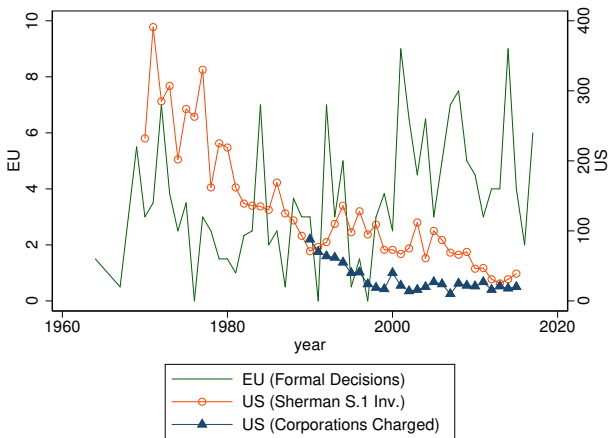
Source: Amadeus for Europe, Compustat for US. Consistent results using alternate data sources.

# Telecom Industry



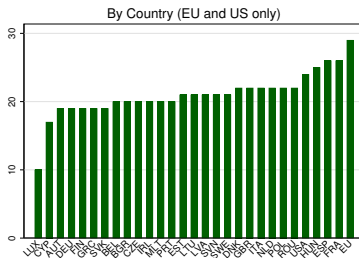
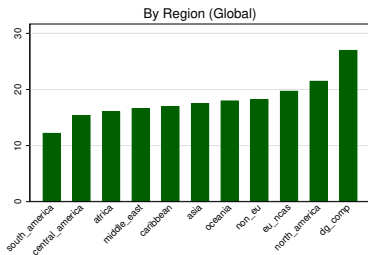
Source: Prices from OECD; reforms from Duval et al. (2018). See also Faccio and Zingales (2017) and Cable.Co.Uk price indices

# Cartel Enforcement: US vs. EU



Notes: DoJ Annual Reports for the US. Russo et al. (2010) for Europe, extended manually to 2017 based on DG Comp case database. [Fines](#)

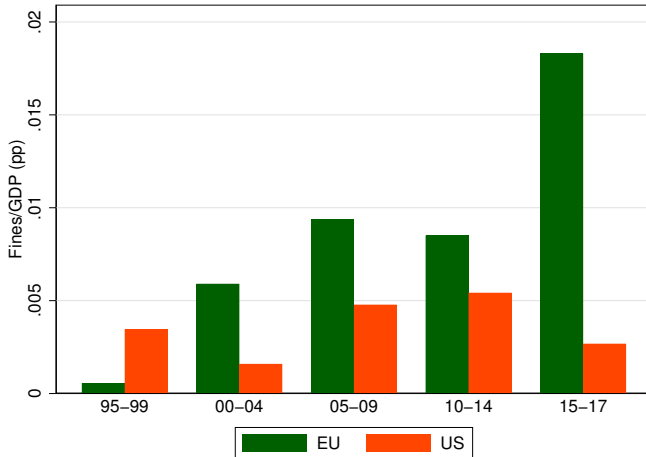
# Competition Law & Policy Indicators: Hylton and Deng



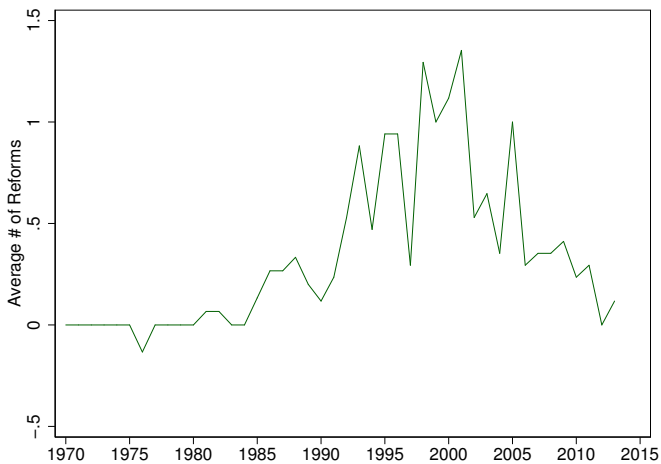
Source: Hylton and Deng (2006)

[Back](#)

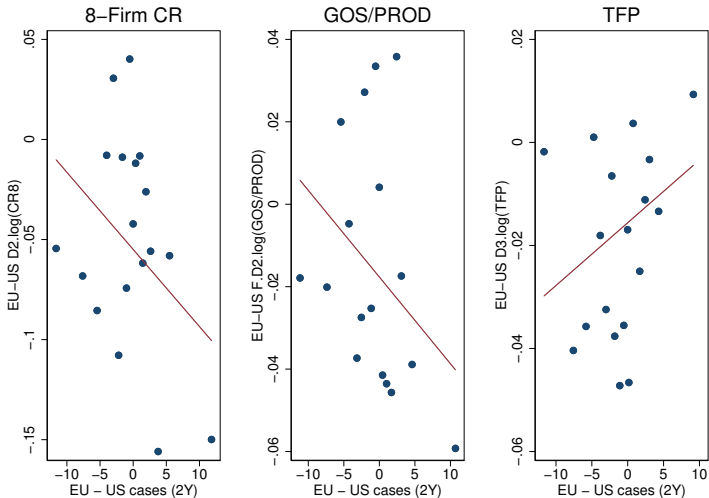
# Cartel Fines: US vs. EU



# EU Product Market Reforms



# Overreach?



Notes: Bin-scatter plot of EU-US changes in CR, Profits and TFP vs. EU-US cases



## References I

- Alesina, A. and F. Giavazzi (2006). *The Future of Europe: Reform or Decline*. MIT Press. Translations: Greek, Korean, Italian, Portuguese, Spanish.
- Duval, R., D. Furceri, B. Hu, J. T. Jalles, and H. Nguyen (2018). A narrative database of major labor and product market reforms in advanced economies. *IMF Working Paper*.
- EU (2015). Party financing and referendum campaigns in eu member states.
- Faccio, M. and L. Zingales (2017, January). Political determinants of competition in the mobile telecommunication industry. Working Paper 23041, National Bureau of Economic Research.
- Gutiérrez, G. and T. Philippon (2017). Declining competition and investment in the u.s.

## References II

- Hylton, K. N. and F. Deng (2006). Antitrust around the world: An empirical analysis of the scope of competition laws and their effects. *Antitrust Law Journal*.
- Kwoka, J. E. (2017). U.s. antitrust and competition policy amid the new merger wave. *Washington Center for Equitable Growth: Working Paper Series*.
- Mahoney, C. (2008). *Brussels versus the Beltway*. Georgetown University Press.
- Russo, F., M. P. Schinkel, A. Günster, and M. Carree (2010). *European Commission Decisions on Competition: Economic Perspectives on Landmark Antitrust and Merger Cases*. Cambridge University Press.