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# Competition Policy and the Decline of the Labour Share

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LEVERHULME  
TRUST

# Project: ‘The effects of competition policy on economic inequality’

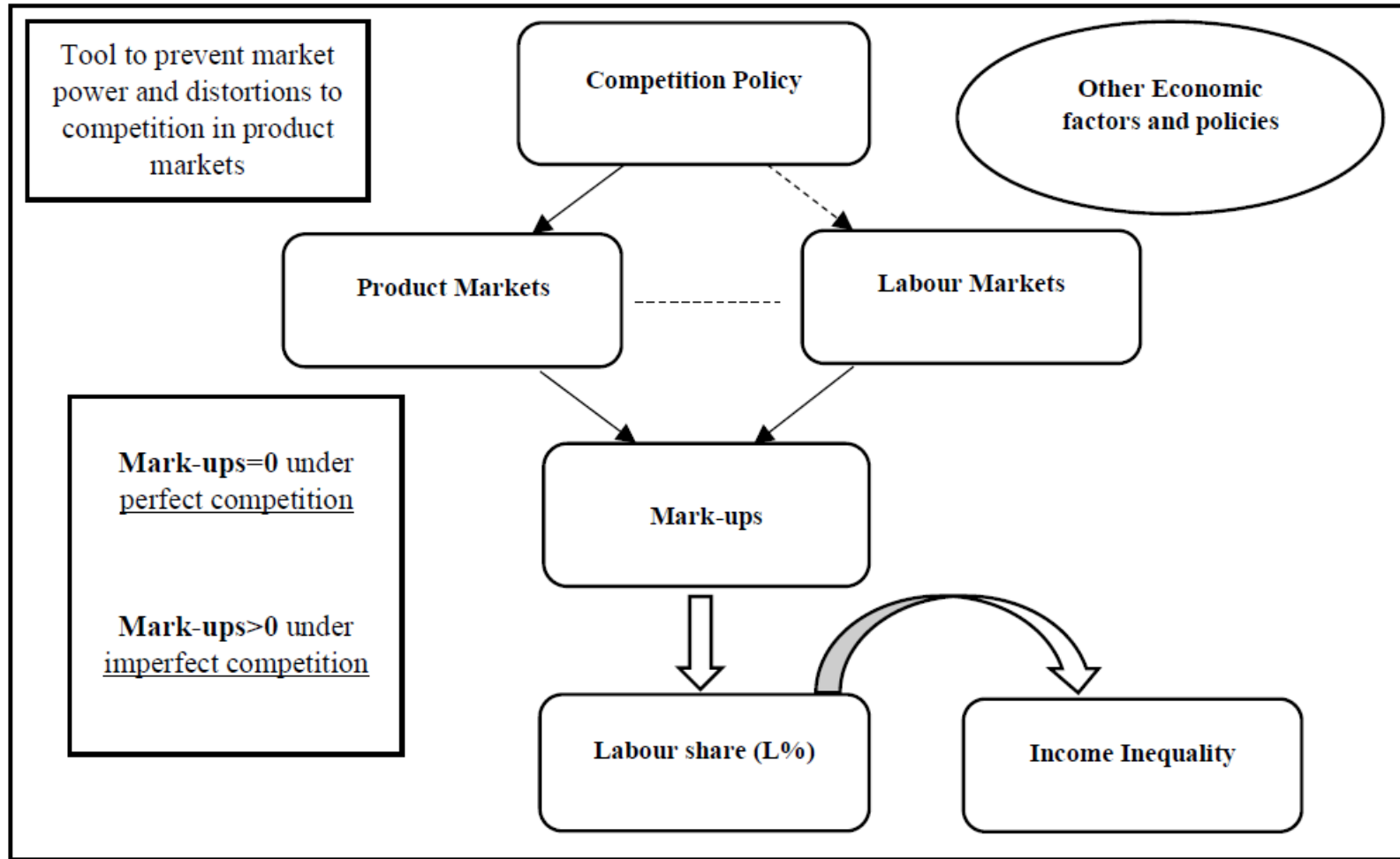
## ➤ Studies in progress

1. **Cross-country macro analysis:** large cross-country panel dataset.
2. **Industry/sectoral analysis:** data for 12 OECD countries for 22 industries connecting markups and the labour share to competition law enforcement.
3. **Household micro study:** impact of EU and UK competition law enforcement on UK households over 2005 to 2020.
4. **US case study:** Comparison of US antitrust and EU models of law and inequality.
5. **Behavioural study:** can particular ‘biases’ of low-income households be manipulated/targeted (especially online): impacts on search and switch costs.

# Motivation

- Macro data may not be the best option to study the broad relationship between competition policy and economic inequality.
- Focus on **industry level** data.
- Focus on the **Labour share**  $\Rightarrow$  Income inequality
- The labour share has been declining since the 1980s, particularly in advanced economies, turning into one of the biggest puzzles for economists. Many explanations for this common trend, but no consensus reached yet.
- Recent studies suggest that the labour share is negatively correlated to **mark-ups** and **market power** (Barkai 2016; De Loecker, Eeckhout, and Unger 2020).
- *But what about the role of competition policy?*
  - We offer the **first empirical contribution** that links together labour share, markups and competition policy.
  - We shed light on the **transmission mechanism** (markups) via which competition policy contributes to the labour share dynamics.

# Theoretical Framework



# Literature review

This work contributes and bridges two main strands of literature:

- **The determinants of the labour share:** privatization (Azmat et al., 2012), structural transformation (Ngai and Pissarides 2007); capital-augmenting technological change (Acemoglu 2003), globalization (Bassanini and Manfredi 2012),...
- **Market power & Labour share:** previous studies find a consistent negative link between them, but offer different explanations:
  - Autor et al. (2020): High market concentration and markups are the results of the efficiency/productivity of the so-called ‘Superstar firms’.
  - De Loecker et al., (2020): High market concentration and markups are not the results of efficiency, but merely of anti-competitive behaviour and lack of competition dynamics.

# Data & Methods

- 12 OECD Countries ( $i$ ): Canada, Czech Republic, France, Germany, Hungary, Italy, Japan, Netherlands, Spain, Sweden, United Kingdom, United States.
- 22 Industries ( $j$ )
- Time span ( $t$ ): 1995-2005
- Methods: **OLS**-Baseline & Interactions; **IV-2SLS**
- Data:
  - *Dependent variable*: Labour share ( $L\_share$ )
  - *Main independent variable*: Competition Policy Index ( $CPI$ )
  - *Controls*: Product mkt regulation ( $Pmr$ ); Import penetration ( $Tradelib$ ) ; R&D ( $resdev$ ); industry trend; compensation growth rate ( $wagegrowth$ ); share of High skilled workers ( $HHS$ ); share of medium skilled workers ( $HMS$ ); employment protection ( $empl\_prot$ ).

# Data & Methods

$$L\_share_{i,j,t} = \alpha + \beta CPI_{i,t-1} + \sum X_{i,j,t-1} + \sum Z_{i,t-1} + \psi_{i,j} + \varphi_t + u_{i,j,t}$$

$X_{i,j,t-1}$  : country-industry controls

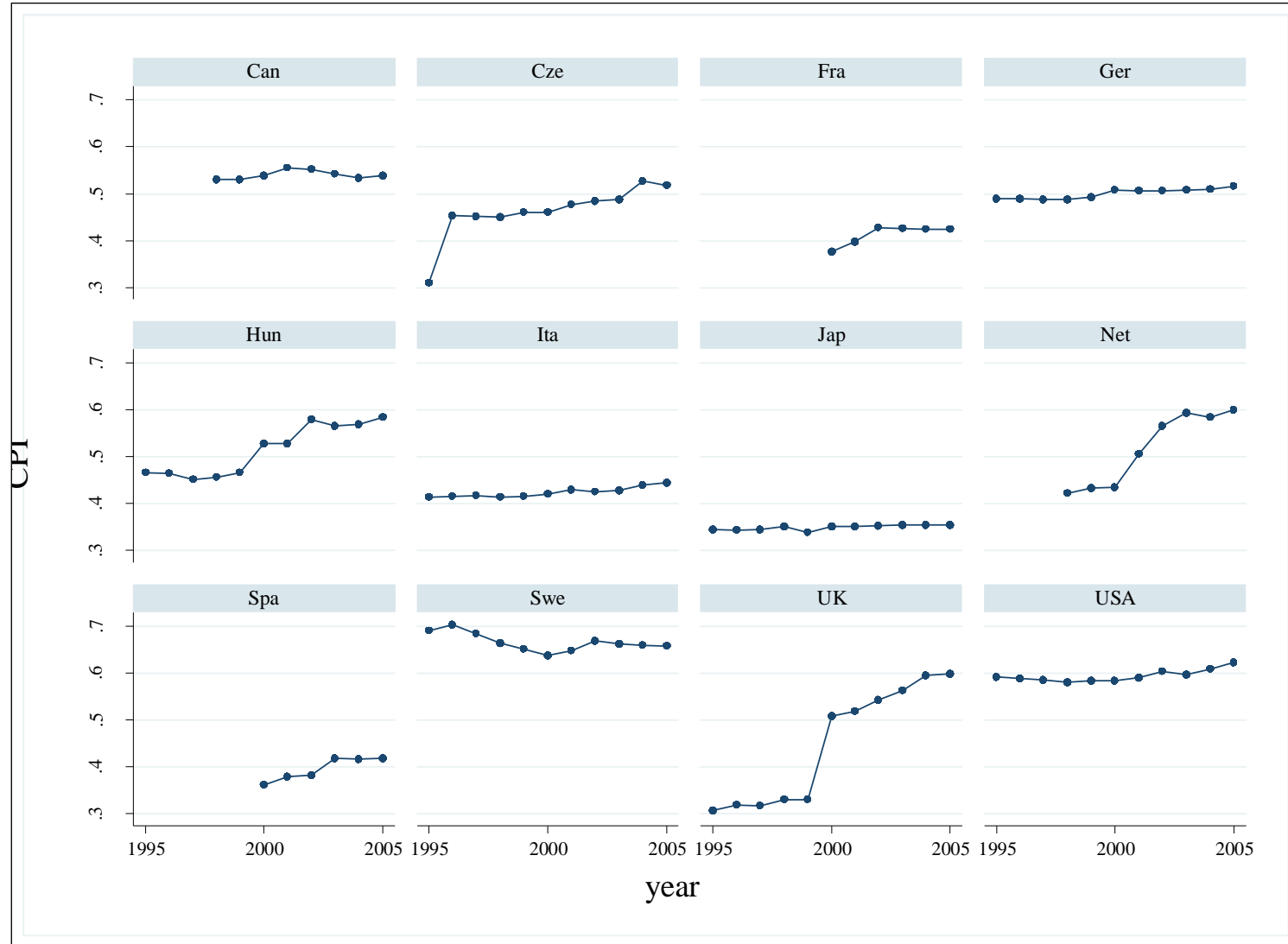
$Z_{i,t-1}$  : country controls

$\varphi_t$  : Year FE, to account for macroeconomic shocks

$\psi_{i,j}$  : Country-industry FE ( $\psi_{i,j}$ ), to capture a variety of specific time invariant unobservable factors

$u_{i,j,t}$  : Residuals

# Data & Methods



- **CPI:** (Buccirossi et al. 2013) proxy for the quality of competition policy and it reflects the effectiveness of enforcement.
- Continuous scale from 0 to 1 (from worst to best).
- Aggregated index of a sub-set of indices covering two main areas: i) competition policy infringements and ii) merger control policy.



# Results: Labour share and CPI

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	L_share	L_share	L_share	L_share	L_share	L_share	L_share	L_share
<b>L.CPI</b>	<b>0.185**</b>	<b>0.184**</b>	<b>0.181**</b>	<b>0.159**</b>	<b>0.159***</b>	<b>0.174**</b>	<b>0.187**</b>	<b>0.158*</b>
	(0.068)	(0.069)	(0.069)	(0.063)	(0.048)	(0.068)	(0.071)	(0.077)
L.tradelib		-0.003	-0.003	0.003	0.003	0.003	0.003	0.003
		(0.009)	(0.009)	(0.009)	(0.009)	(0.012)	(0.012)	(0.012)
ind_trend			-0.058***	-0.065***	-0.069***	-0.091***	-0.091***	-0.091***
			(0.008)	(0.008)	(0.010)	(0.011)	(0.011)	(0.011)
L.wagegrowth				0.103***	0.103***	0.114***	0.116***	0.114***
				(0.025)	(0.024)	(0.028)	(0.027)	(0.027)
L.HHS					0.390*	0.428*	0.452*	0.466**
					(0.198)	(0.212)	(0.204)	(0.205)
L.HMS					0.192	0.120	0.121	0.130
					(0.134)	(0.108)	(0.099)	(0.105)
L.resdev						0.286	0.282	0.275
						(0.189)	(0.192)	(0.192)
L.pmr							-0.014	-0.014
							(0.017)	(0.017)
L.empl_protec								0.044
								(0.084)
_cons	0.453***	0.723***	0.546***	0.930***	0.699***	0.352***	0.378***	0.280
	(0.034)	(0.034)	(0.120)	(0.044)	(0.152)	(0.036)	(0.052)	(0.342)
Obs.	2244	2244	2244	1958	1958	1649	1649	1649
Adj R <sup>2</sup>	0.919	0.919	0.919	0.922	0.923	0.919	0.919	0.919
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Country-Ind FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered at country level are in parenthesis \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The L. operator stands for the 'lag' by one year

# Results: Two-mechanisms (I)- Markups & CPI

	(1)	(2)	(3)	(4)	(5)	(6)
	Below median emp_prot	Above median emp_prot	Below median tradunion	Above median tradunion	Below median unionmembe	Above median unionmemb
log_markups						
L.tradelib	-0.006 (0.012)	0.011 (0.009)	0.024*** (0.007)	0.015 (0.011)	-0.000 (0.010)	0.033*** (0.006)
L.resdev	0.336 (0.361)	0.221 (0.182)	0.363* (0.187)	-0.069 (0.181)	0.027 (0.202)	0.255 (0.164)
L.pmr	0.361*** (0.120)	0.423*** (0.028)	-0.042 (0.031)	0.150*** (0.039)	0.284*** (0.034)	0.058** (0.024)
log_va	0.139*** (0.039)	0.768*** (0.026)	0.653*** (0.020)	0.699*** (0.032)	0.816*** (0.031)	0.525*** (0.017)
<b>L.CPI</b>	<b>-0.524***</b> (0.133)	<b>-0.581***</b> (0.110)	<b>-0.608***</b> (0.101)	<b>-0.199**</b> (0.080)	<b>-0.659***</b> (0.126)	<b>-0.395***</b> (0.054)
_cons	-1.602*** (0.327)	-7.242*** (0.267)	-10.269*** (0.337)	-6.789*** (0.307)	-6.602*** (0.273)	-3.900*** (0.161)
Obs.	623	916	788	718	637	869
Adj R <sup>2</sup>	0.861	0.849	0.958	0.836	0.853	0.956
Year FE	YES	YES	YES	YES	YES	YES
Country-Ind FE	YES	YES	YES	YES	YES	YES

- **Below median subsample:** Countries with weaker labour protection/labour bargaining power.
- **Above median subsample:** Countries with stronger labour protection/ labour bargaining power.

Robust standard errors are in parenthesis \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The L. operator stands for the 'lag' by one year

# Results: Two-way mechanisms (II)- Labour share & Markups

	(1) Below median CPI	(2) Above median CPI
	L_share	L_share
L.tradelib	0.016 (0.014)	-0.005 (0.013)
ind_trend	-0.089*** (0.025)	-3.356* (1.806)
L.wagegrowth	0.157*** (0.053)	0.098* (0.058)
L.HHS	-0.094 (0.248)	0.599*** (0.228)
L.HMS	0.055 (0.163)	0.052 (0.133)
L.resdev	0.030 (0.264)	0.272 (0.350)
<b>L.log_markups</b>	<b>-0.124***</b> (0.024)	<b>-0.094*</b> (0.048)
_cons	0.510*** (0.029)	0.486*** (0.124)
Obs.	762	751
Adj R <sup>2</sup>	0.949	0.92
Year FE	YES	YES
Country-Ind FE	YES	YES

- **Below median subsample:** Countries with less efficient/ effective competition policies
- **Above median subsample:** Countries with more efficient/effective competition policies

Robust standard errors are in parenthesis \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The L. operator stands for the 'lag' by one year

# Discussion

- Lax (or inactive) competition policies might have contributed to **labour share decline** over time, by permitting higher markups to be sustained in some industries/jurisdictions.
- Possible **policy implications**?
  - An efficient competition policy may be an important contributor to lowering levels of **economic inequality** in the long-run, via positive changes in the labour share.
- **Competition policy is negatively correlated to mark-ups levels**, while **markups are negatively correlated to the labour share**.
  - Taken together, this explains the positive association,  $\beta CPI_{i,t-1} > 0$ , between competition policy and the labour share (which is robust to several specifications).
- Competition policy may be more relevant in environments characterised by **low levels of labour protection and labour bargaining power**.
- Competition policy link is also stronger in countries with a broader **scope** of the competition law and in **sectors** that are more capital-intensive/internationally exposed/less subject to economic regulation and oversight, such as **manufacturing**, as compared to service industry.

# Caveats

- The analysis covers a **single decade** (1995-2005) and **12 Countries**.
- We cannot investigate any **long run effects** of competition policy that might also induce investment growth/substitution of capital and labour, reducing the labour share over time.
  - Not possible to capture **indirect effects** of competition policy in the long-run
- Our analysis uses **industry data** which does not allow us to account for the **re-allocation** of mark-ups **between firms** and of labour shares among firms within the same industry (De Loecker, 2020).

# Thanks for your attention!

*For further details:*

<https://www.law.ox.ac.uk/effect-competition-policy-economic-inequality>.

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# OLS Interaction Model

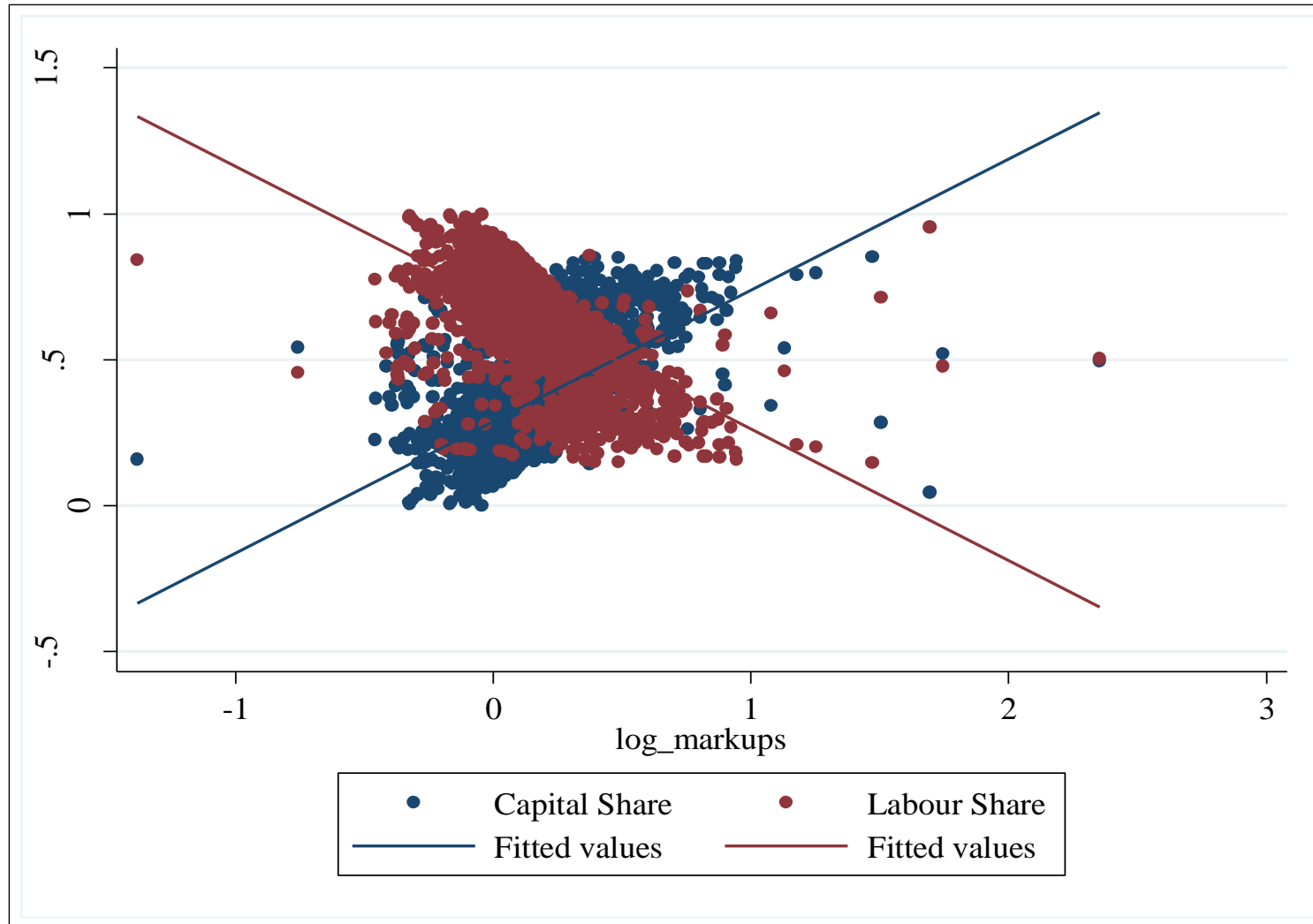
	(1)	(2)
	L_share	L_share
L.CPI*service	-0.005 (0.121)	
<b>L.CPI*manufacturing</b>	<b>0.220**</b> (0.070)	
Manufacturing	0.129 (0.083)	
<b>L.CPI *L.CLI</b>		<b>0.224***</b> (0.052)
L.CPI		0.019 (0.060)
L.CLI		-0.197*** (0.045)
_cons	0.336*** (0.033)	0.276* (0.148)
Obs.	1649	1649
Adj R <sup>2</sup>	0.919	0.919
Year FE	YES	YES
Country-Industry FE	YES	YES
Controls	YES	YES

The **CLI** is the proxy for the *scope* of the law compiled by Bradford and Chilton (2018).

Robust standard errors clustered at country level are in parenthesis \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.  
The L. operator stands for the 'lag' by one year.



# Analysis of the mechanisms (2): Markups & Labour share



# Appendix: IV-2SLS

	(1)	(2)	(3)
	L_share	L_share	L_share
<b>L. CPI</b>	<b>0.348**</b>	<b>0.421*</b>	<b>0.325**</b>
	(0.165)	(0.222)	(0.139)
_cons	-0.005	-0.054	0.013
	(0.137)	(0.178)	(0.134)
Obs.	1628	1628	1649
Adj R <sup>2</sup>	0.929	0.928	0.929
Controls	YES	YES	YES
Year FE	YES	YES	YES
Country-Industry FE	YES	YES	YES
Instruments	Econ_plann; legal_sys; judic_indep	Econ_plann impartialcourts	impartialcourts; protectionofpropertyrights
First stage F stat	88.51	72.21	107.18
Kleibergen-P Wald F st	30.02	43.69	50.14
Hansen J p-val	0.22	0.24	0.30
Wu-Hausman p-val	0.29	0.10	0.23