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Globalisation, productivity and the labour share

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Background

$$Labour\ share = \frac{Compensation\ of\ Employees}{Gross\ Value\ Added}$$

- Until the 1980s, stable labour income share was accepted as a ‘stylized fact’ of economic growth.
- Evidence of a decline from 70s until 2000s
- Broad based across regions and economies
- Technological change and greater global value chain participation have compressed labour shares (OECD, 2018)

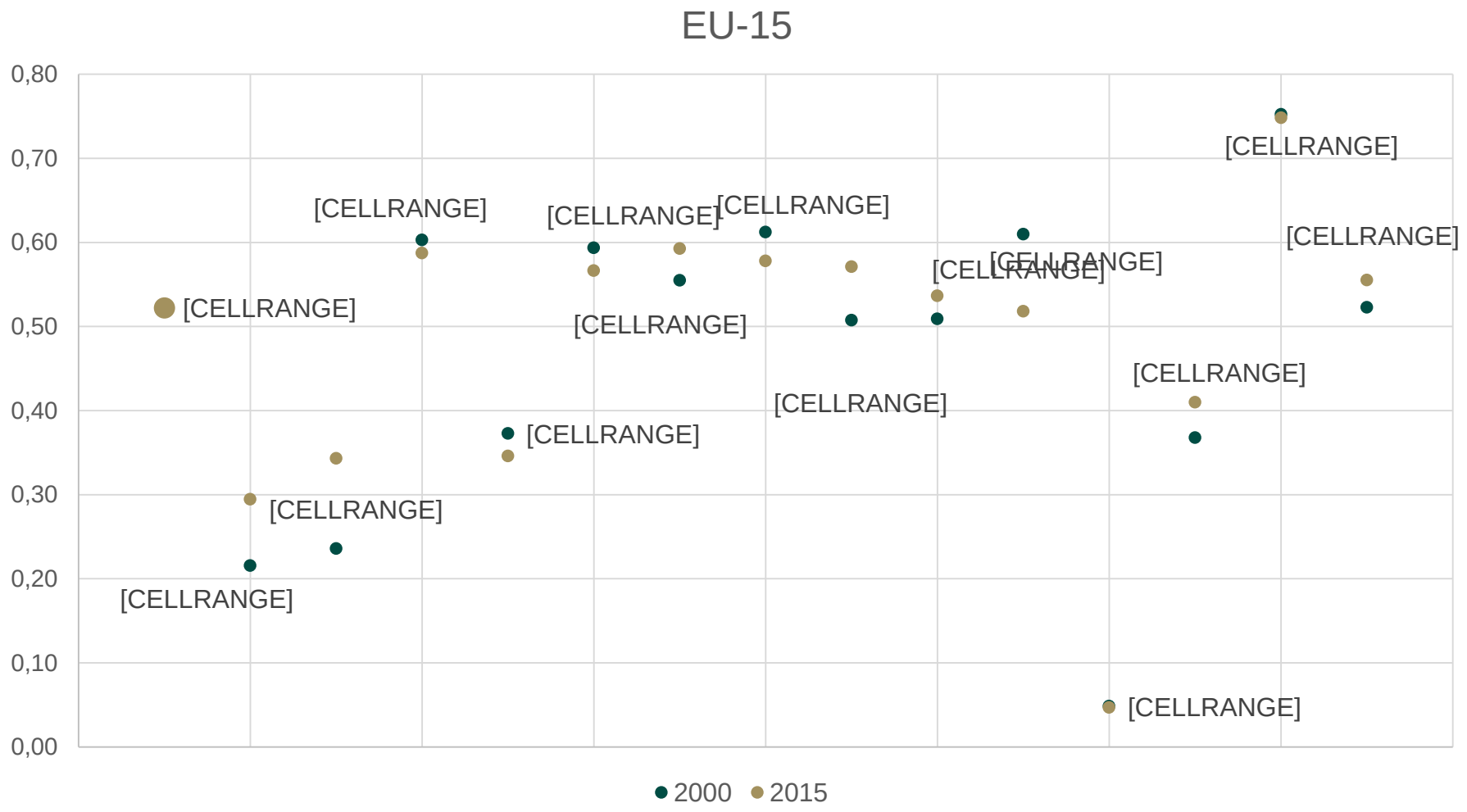
Labour share over time

Source: IMF, World Economic Outlook, April 2017

Why does this matter?

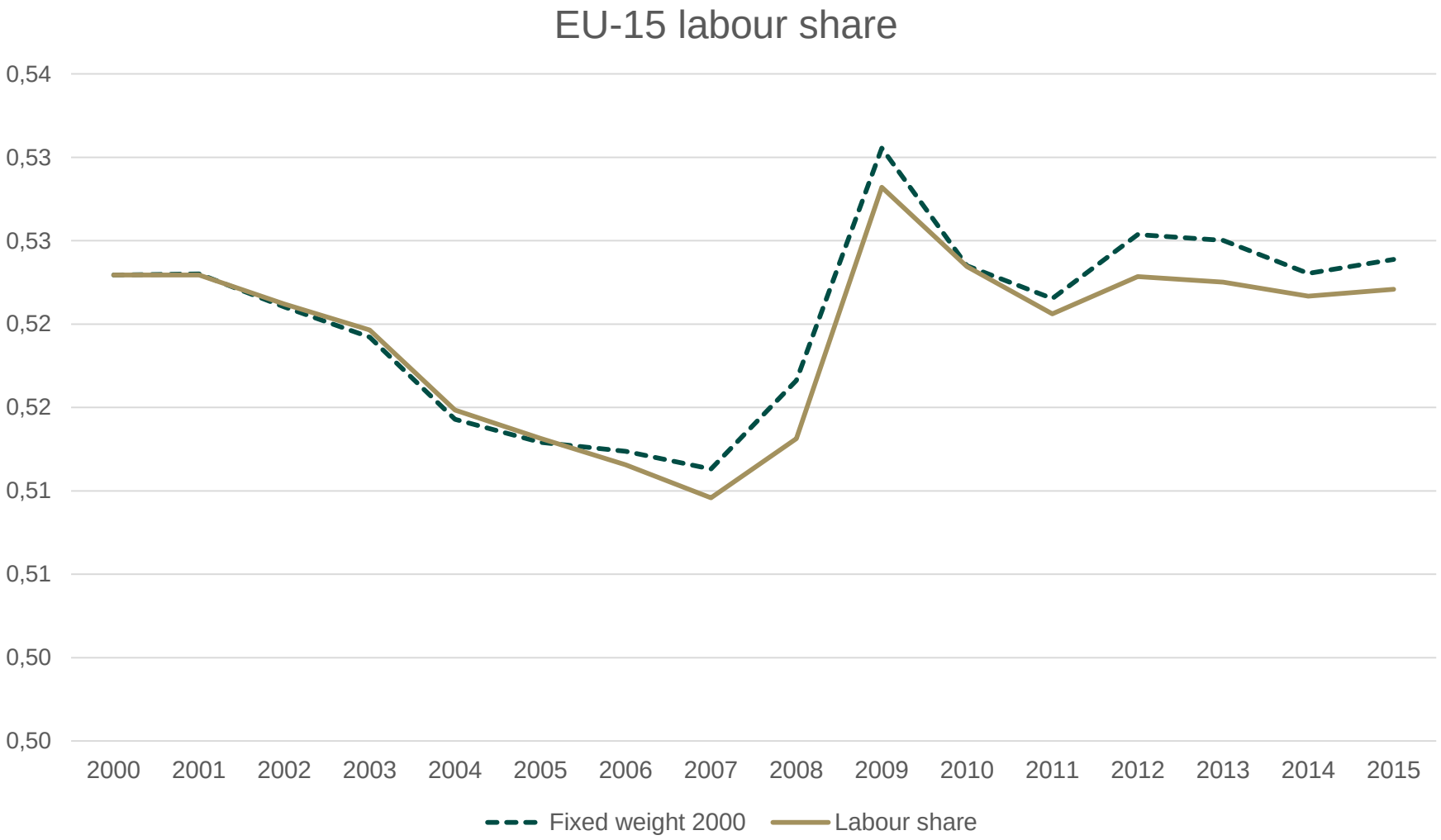
- Wages account for the bulk of household income for the majority of households
- Workers don’t receive the benefit of productivity gains or globalisation
- Capital tends to be concentrated on upper ends of income distribution

Labour share differences across sectors



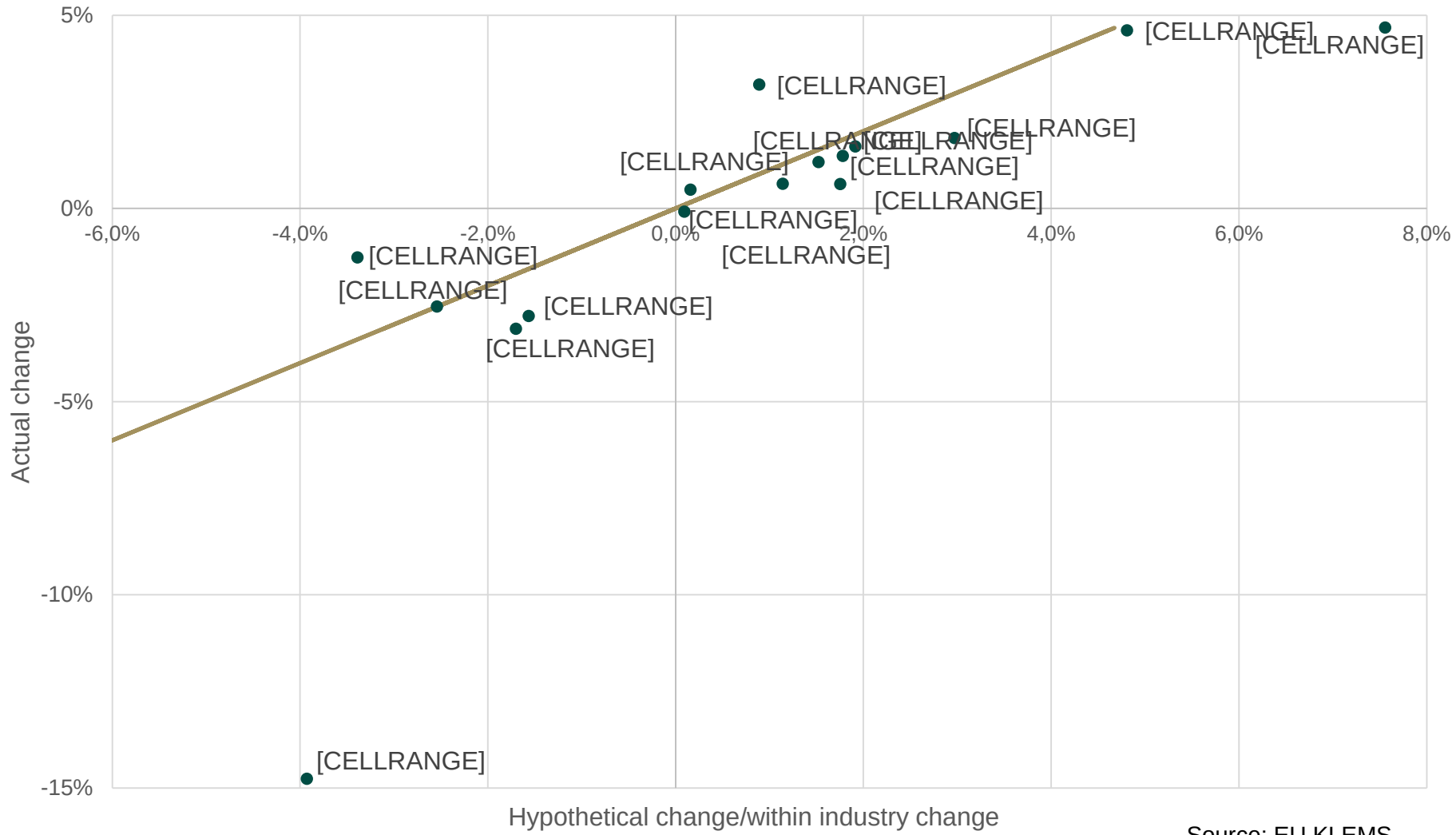
Source: EU KLEMS

EU-15 changes seem to be mainly within-industries



Source: EU KLEMS

Cross-country changes seem to be mainly within-industries



Source: EU KLEMS

What is driving these changes?

- Productivity
- Globalisation
- Rise of superstar firms
- Decline in the cost of capital
- Institutional settings: strength of unions, etc. (OECD, 2011)
- Factors may be interrelated

Autor et al, (2017), (OECD, 2011), Karabarbounis & Neiman (2013), Elsby, Hobijn, & Şahin (2013)

Data

- CompNet 6th Vintage
- Firm-level data, aggregated up to 2 digit sector level
- 15 European countries
- 1999-2016
- Approx. 10,000 observations

- Irish data added with firm-level survey data

Modelling industry level labour shares

$$Wage\ share_{sct} = \alpha_0 + \alpha_i Z_{sct} + \delta_c + \gamma_t + \varepsilon_{sct}$$

<u>*Z* variables</u>

- Competition: HHI index,
- Productivity gap
- Globalisation: outward + inward FDI as a % of GDP
- Relative cost of capital: $\frac{GFCF\ deflator}{GVA\ deflator}$

Country and time coverage

Observations by country		
	Years	Sector*year
Belgium	2004-2015	623
Croatia	2002-2016	236
Czech Rep.	2003-2015	601
Denmark	2000-2015	785
Finland	1999-2015	767
France	2004-2014	494
Hungary	1999-2014	308
Ireland	2006-2014	384
Italy	2001-2014	559
Lithuania	2000-2015	465
Netherlands	2000-2014	722
Portugal	2006-2015	507
Slovenia	2005-2016	379
Spain	2009-2015	313
Sweden	2003-2015	263
Total observations		7,406

Labour share and concentration

Labour share and concentration: levels and changes			
Dep. Var: mean wage share	(1)	(2)	(3)
Sector concentration (HHI)	-0.079***	-0.080***	-0.196***
	(0.023)	(0.026)	(0.058)
Change in HHI (1-yr)		-0.004	
		(0.053)	
HHI squared			0.159**
			(0.072)
Constant	0.659***	0.661***	0.664***
	(0.019)	(0.026)	(0.020)
Observations	7,280	6,654	7,280
R-squared	0.329	0.323	0.330
Year effects	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes
Country effects	Yes	Yes	Yes
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Labour share and productivity

Labour share and labour productivity dispersion				
Dep. Var: mean wage share	(1)	(2)	(3)	(4)
Sector concentration (HHI)		-0.064***		-0.039
		(0.025)		(0.028)
Labour productivity level	-0.395***	-0.392***		
	(0.065)	(0.065)		
Labour productivity std. dev.			-0.089***	-0.087***
			(0.014)	(0.014)
Constant	0.653***	0.658***	0.660***	0.663***
	(0.019)	(0.019)	(0.019)	(0.019)
Observations	7,194	7,194	6,810	6,810
R-squared	0.328	0.329	0.349	0.349
Year effects	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Relationship consistent across productivity measures

Alternative measures of productivity dispersion						
Dep. Var: mean wage share	(1)	(2)	(3)	(4)	(5)	(6)
Labour productivity (VA) P90-P10 gap	-0.152***					
	(0.028)					
Solow residual P90-P10 gap		-0.326***				
		(0.056)				
Labour productivity (Rev) P90-P10 gap			-0.011***			
			(0.003)			
TFP (revenue) P90-P10 gap				-0.058***		
				(0.011)		
TFP (mark-up adjusted) P90-P10 gap					-0.005***	
					(0.001)	
TFP (VA) P90-P10 gap						-0.206***
						(0.025)
Constant	0.653***	0.655***	0.664***	0.671***	0.669***	0.668***
	(0.019)	(0.019)	(0.019)	(0.027)	(0.027)	(0.019)
Observations	7,188	7,119	6,840	4,649	4,656	6,637
R-squared	0.327	0.325	0.349	0.393	0.391	0.351
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes	Yes	Yes
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Sectoral variation

Sector variation			
Dep. Var: mean wage share	(1)	(2)	(3)
	Basic	Manufacturing	Services
Sector concentration (HHI)	-0.237***	-0.045	-0.124***
	(0.068)	(0.042)	(0.026)
Labour productivity std. dev.	-0.377***	-0.647***	-0.111***
	(0.142)	(0.101)	(0.015)
Constant	0.716***	0.669***	0.601***
	(0.054)	(0.023)	(0.018)
Observations	528	2,438	3,844
R-squared	0.299	0.287	0.324
Year effects	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Variation across technology levels

Technology variation						
Dep. Var: mean wage share	(1)	(2)	(3)	(4)	(5)	(6)
	High	Med-high	Med-low	Low	Knowledge intensive	Less knowledge intensive
Sector concentration (HHI)	-0.214*	0.097	-0.193	-0.021	-0.139***	-0.066
	(0.124)	(0.117)	(0.141)	(0.061)	(0.039)	(0.045)
Labour productivity std. dev.	-0.736***	-0.467***	0.068	-0.911***	-0.098***	-0.391***
	(0.278)	(0.170)	(0.253)	(0.271)	(0.028)	(0.048)
Constant	0.794***	0.615***	0.606***	0.702***	0.608***	0.601***
	(0.087)	(0.044)	(0.040)	(0.039)	(0.034)	(0.028)
Observations	253	658	708	819	1,319	1,439
R-squared	0.271	0.272	0.401	0.343	0.284	0.370
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Labour share and globalisation

External measures of globalisation & investment prices				
Dep. Var: mean wage share	(1)	(2)	(3)	(4)
Relative investment prices		-0.046***	-0.072***	-0.014
		(0.011)	(0.016)	(0.019)
Globalisation	-0.029***		-0.026***	-0.026***
	(0.008)		(0.008)	(0.008)
Labour productivity std. dev.				-0.042
				(0.033)
Constant	0.690***	0.660***	0.751***	0.691***
	(0.031)	(0.024)	(0.037)	(0.039)
Observations	4,839	5,991	4,249	3,955
R-squared	0.338	0.359	0.342	0.363
Year effects	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Conclusion

- Decline in labour share indicates productivity gains are distributed unevenly.
- Increased concentration within sectors and dispersion of productivity (“superstar firms”) appear to be important for evolution of labour share.
- Globalisation and cost of capital also drivers.
- Fairly consistent pattern of signs across countries and sector groups but reasonably large differences in magnitudes.

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Outturn data are sourced from a variety of sources including the Department of Finance, Central Statistics Office, European Commission (AMECO) and Central Bank of Ireland.

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