



Comment on: „Productivity Growth, Wage Growth and Unions“ by Kügler, Schönberg and Schreiner

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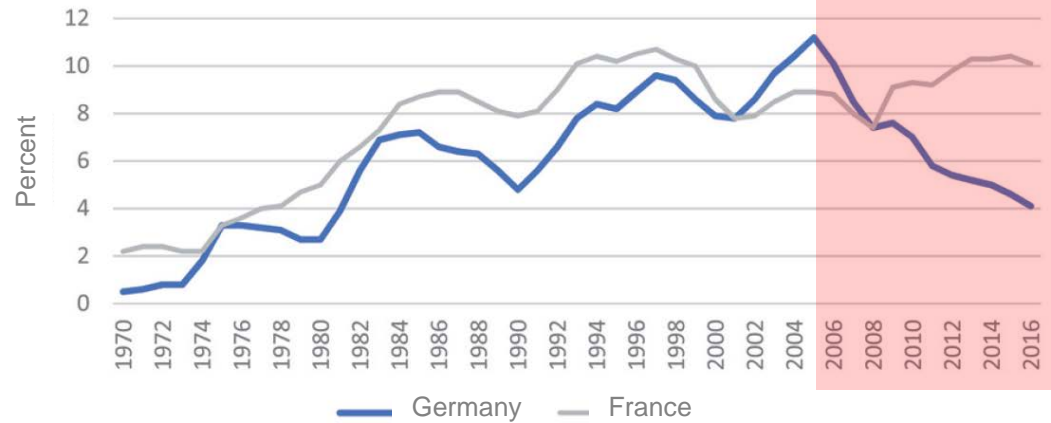
ECB Forum Sintra, 20 June 2018

What this paper does

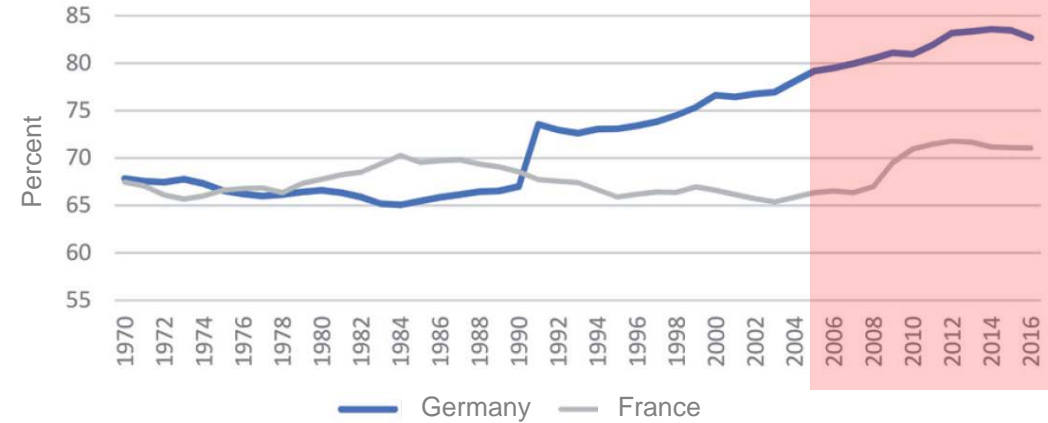
- Documents diverging trends in pay inequality in several developed countries – functional (factor income) and individual wage inequality
- Shows a “Great Decoupling” of wages and productivity – using the GDP deflator versus CPI, especially in the US and Germany, 1995-2008
- Attributes the recovery of competitiveness in Germany (reduction of product wages, measured as hourly wages divided by GDP deflator) to wage give-backs at the enterprise level, leading to nominal wage moderation across the income distribution, not just at mean or median
- Relates this to the diminishing power or decline of collective bargaining – but also to the type of institutions

Contrast: Germany v. France, 1970-2016

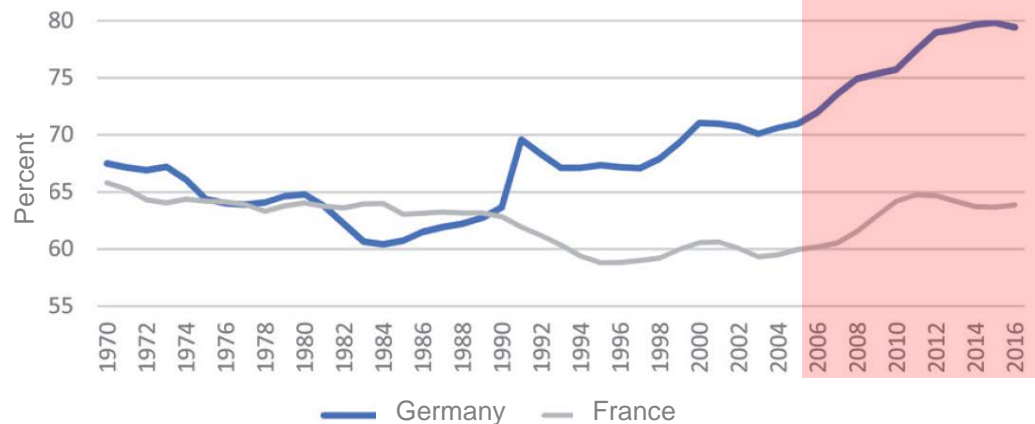
a) Unemployment rate, OECD/ILO definition, percent of labor force (Eurostat)



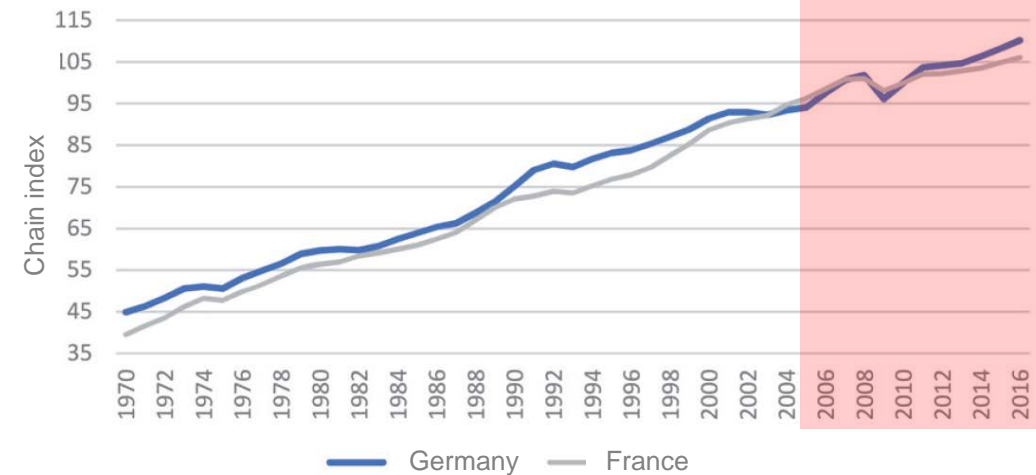
c) Labor force participation rate, OECD/ILO definition, percent of labor force (Eurostat)



c) Employment ratio as percent of the working-aged population (Eurostat)



d) Real GDP, in 2010 prices 2010=100 (Eurostat)



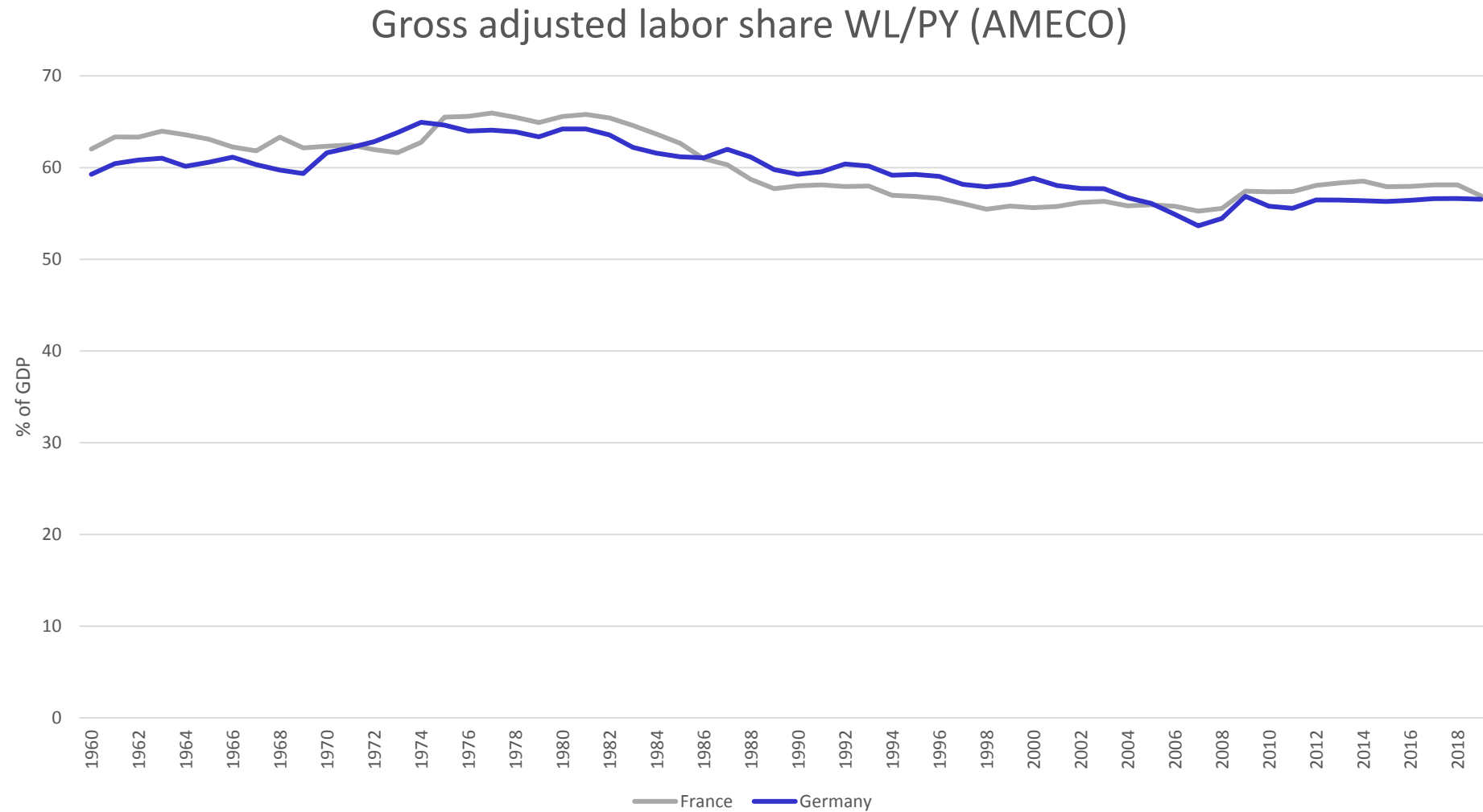
My comments: Macro

- Important to study the behavior of the labor share
- It is well-known that the secular behavior of the wage share and is related to employment performance in Europe (Thimann 2015)
- But the role of different prices indexes and the “wedge” in wage formation is an old idea (Sachs 1979, Bruno and Sachs 1985, Burda and Sachs 1987)
- Still, what is competitiveness? Total nominal wage costs relative to nominal productivity – levels or changes?
 - Composition effects means that levels and even changes are meaningless at times
 - Real consumption wages do not reflect true competitiveness

My comments: Macro

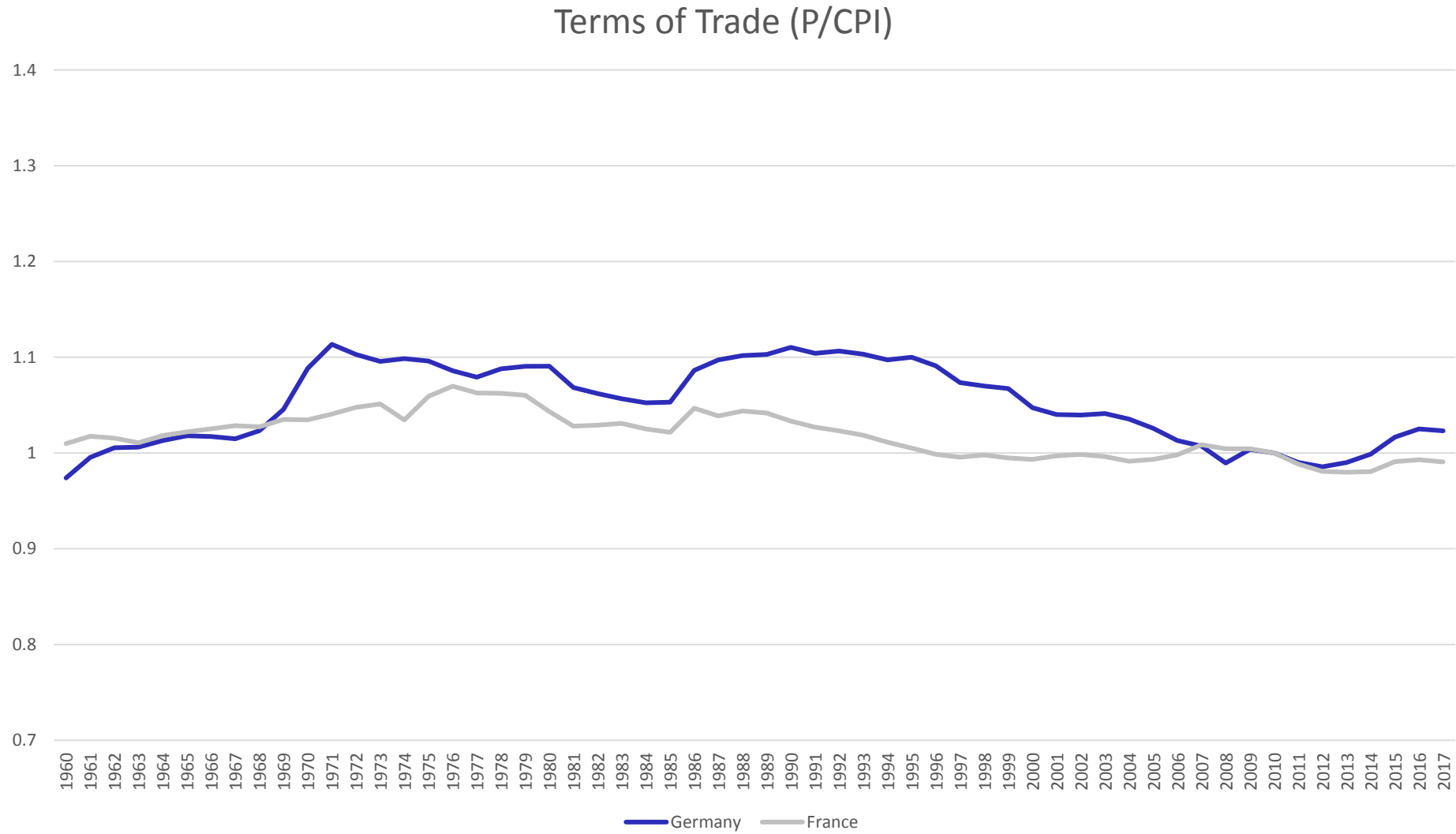
- The wage share $\theta = WL/PY = (W/P)/(Y/L)$ is inversely related to the **markup**
- *Cycle*: Wage share is countercyclical, rising in recessions. Some see it as causal (“labor wedge”), others as purely endogenous, or even spurious
- *Trend*: Many possible explanations:
 - Increasing efficiency and competition – workers lose rents, product wages fall
 - Increasing monopoly power in product markets, monopsony power in labor markets
 - Directed technical change leading to substitution of algorithms, robots for skilled labor
 - Exposure of closed economies to foreign competition
- Write $WL/PY = (W/P_c)(P_c/P)/(Y/L)$. P_c/P is “terms of trade”
- Falling wage share is either due to declining consumption wage (W/P_c), declining terms of trade (P_c/P) or rising productivity (Y/L)

Wage share in D and F look remarkably stable...



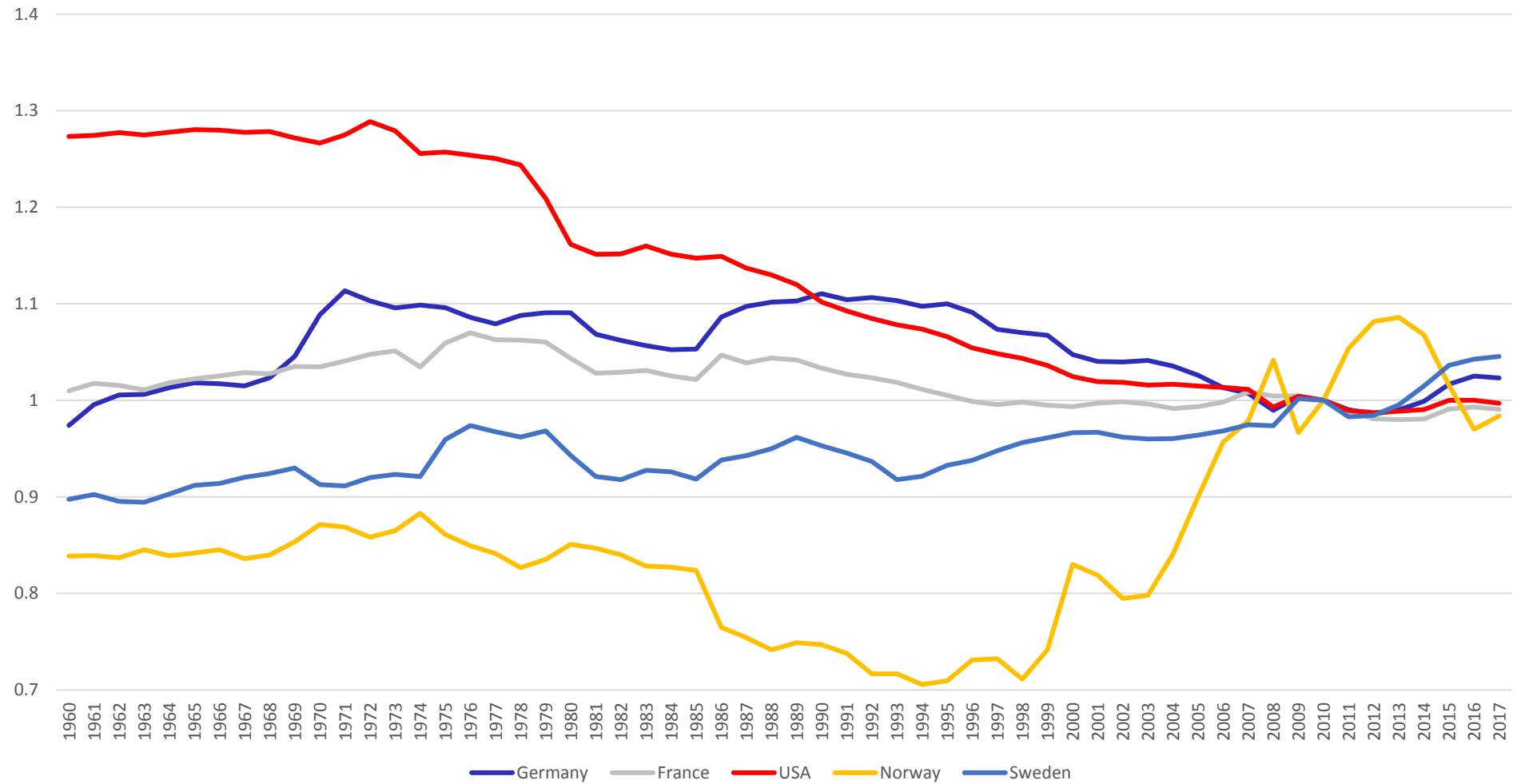
Source: AMECO

Terms of trade not so much, but much more stable in F than D...



...than in USA, Norway or Sweden

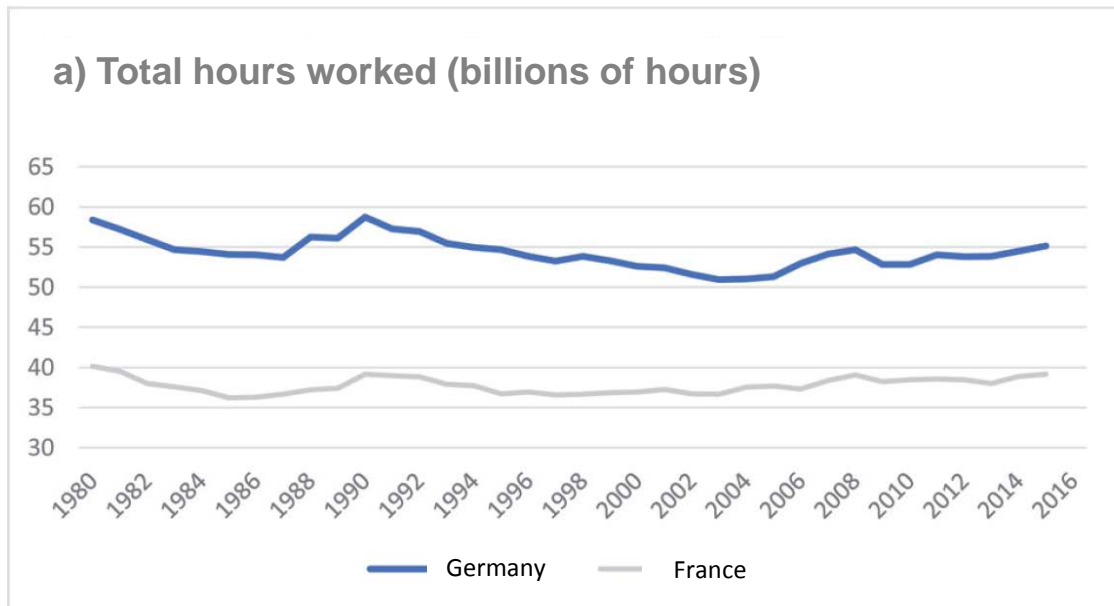
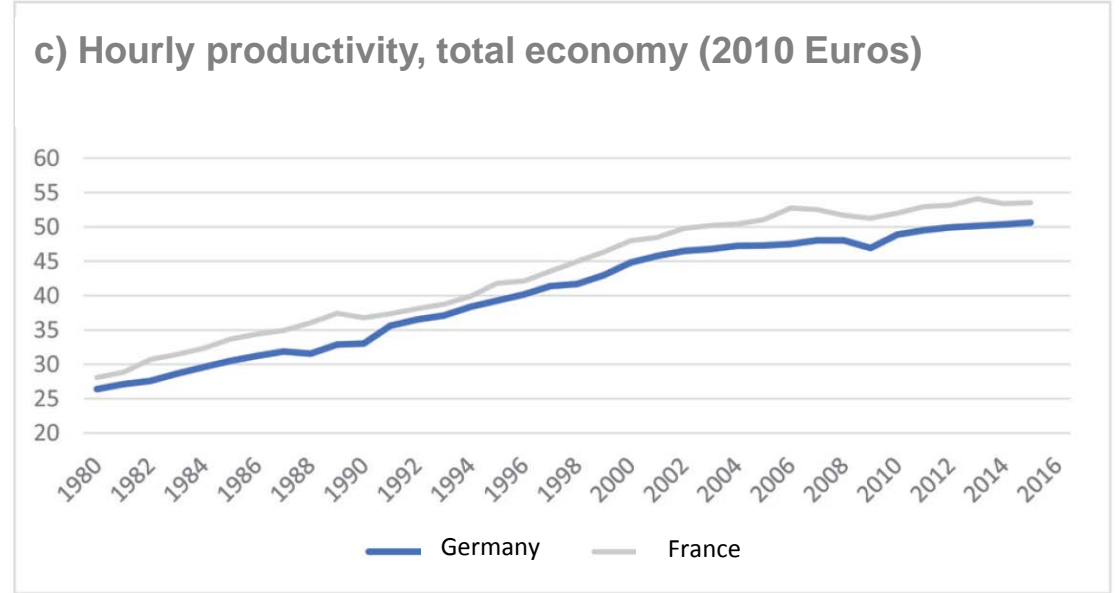
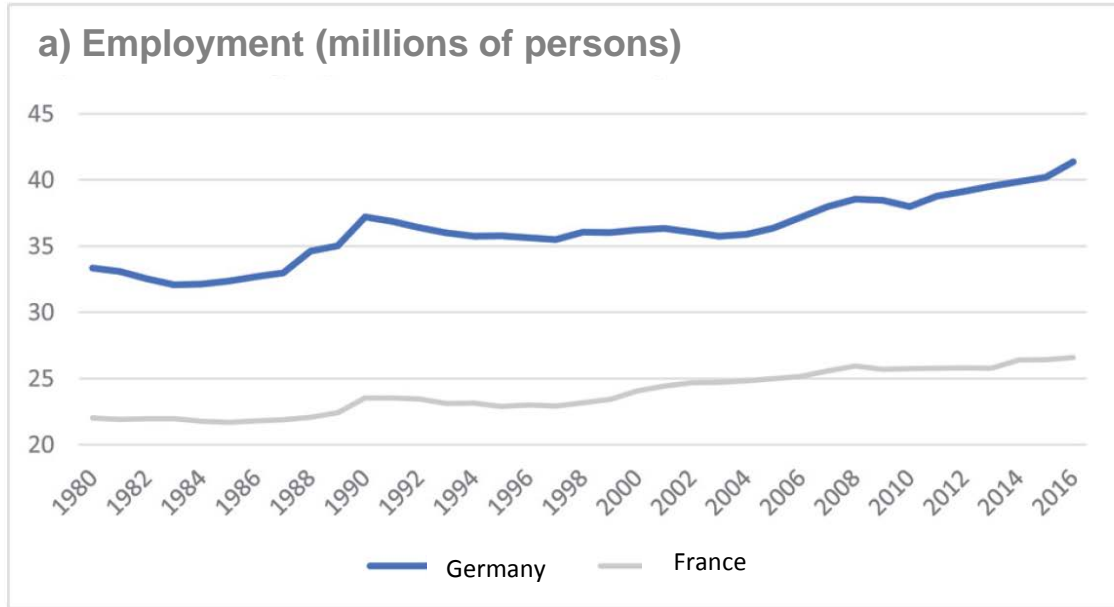
Terms of Trade (P/CPI)



My comments: Micro

- Why are nominal wages so flexible in Germany?
- Levels versus dispersion - may not be distinct phenomena
- This is because the social safety net – and unemployment benefits in particular – serves as a **fallback position** in wage determination
- To what extent does the “market clearing wage” drive union behavior in Germany?
- To what extent is the fallback position for unions determined by labor supply and the level of unemployment insurance?
- Germany versus France

Aggregate employment growth with zero growth in hours

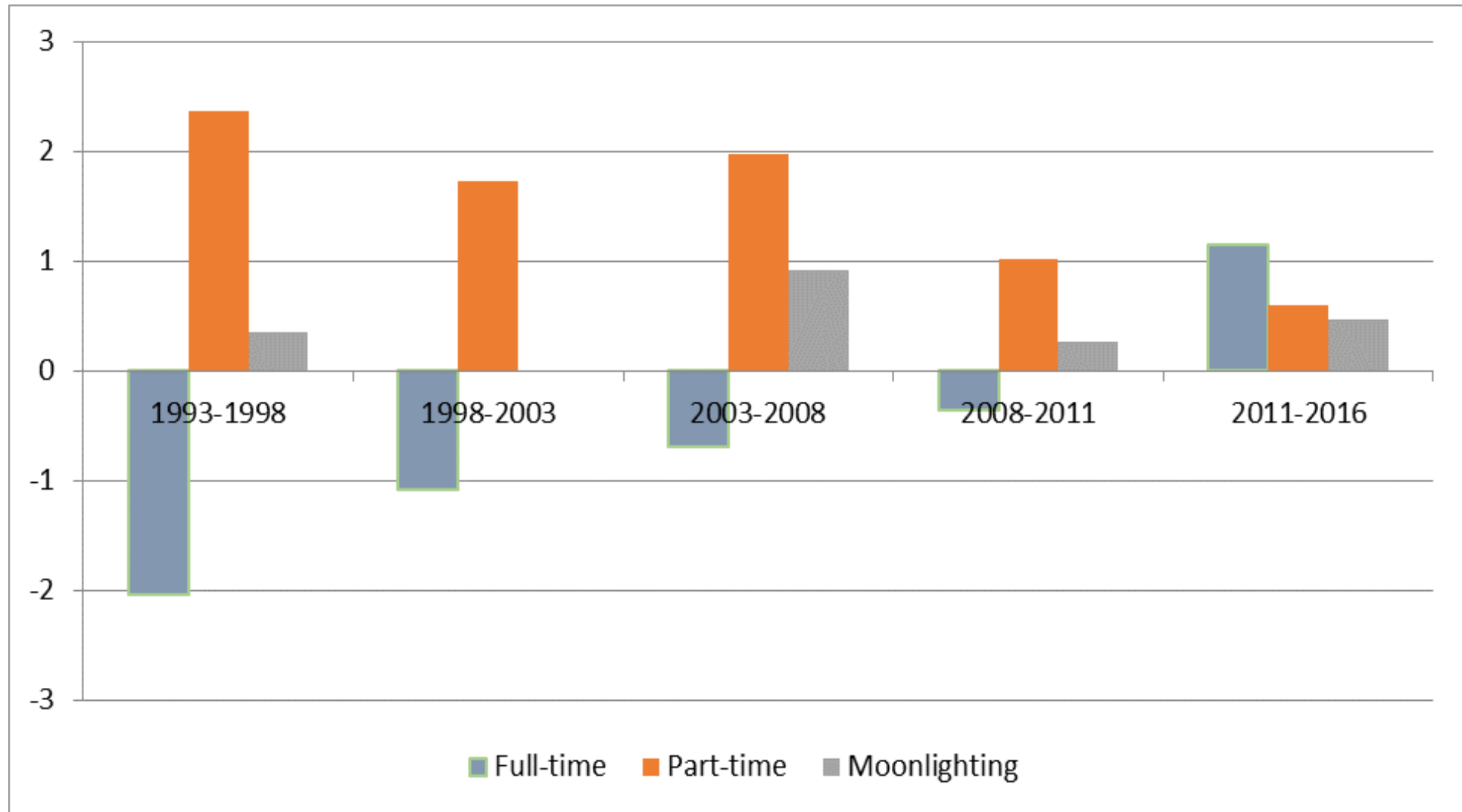


Total hours worked in Germany:
1994: 49.5 billion
2016: **51.0 billion (+3% in 22 years!)**

How? Share of part-time workers rose
from 22% to 39% of total employment

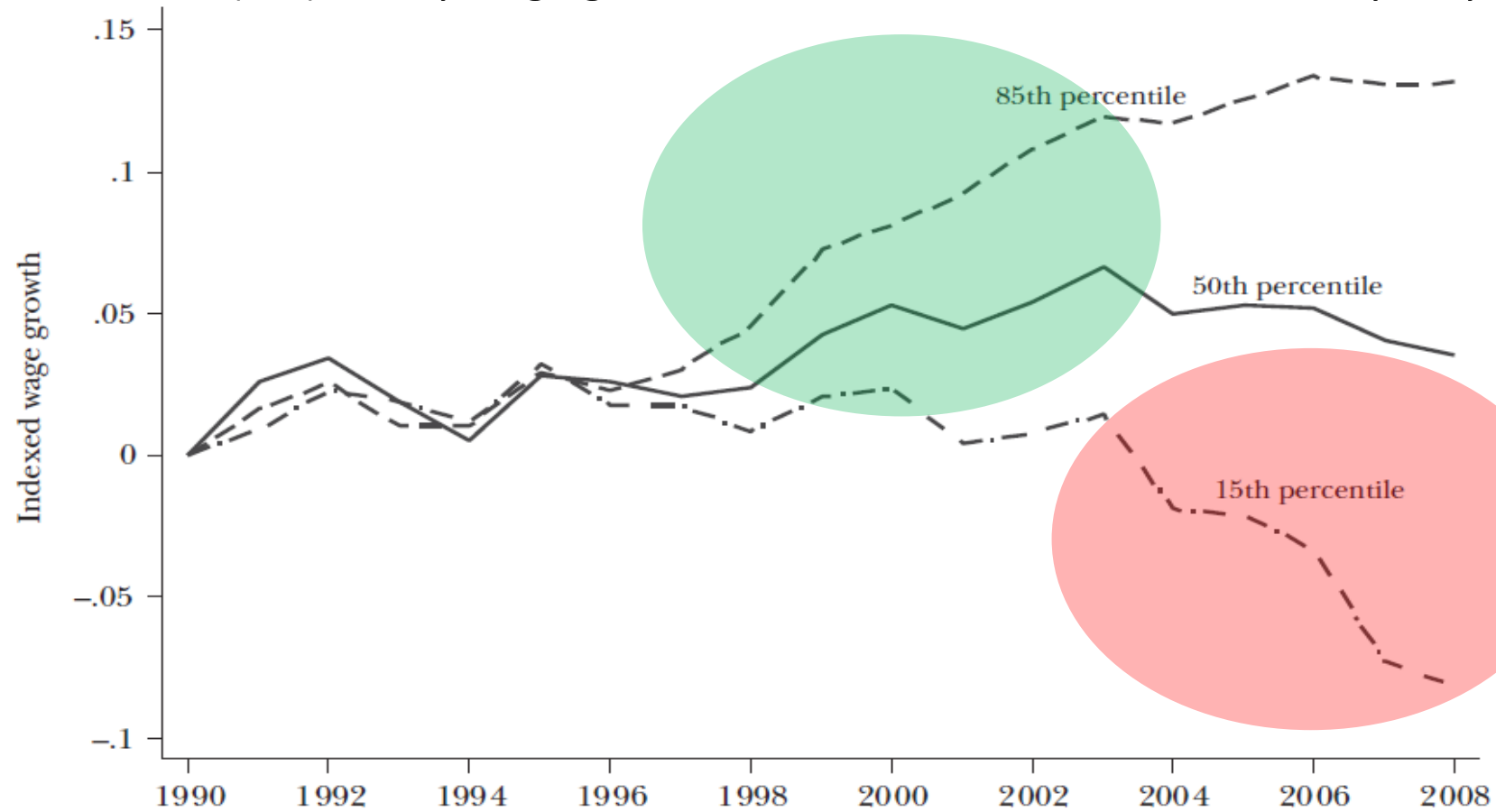
Source: Institut für Arbeitsmarktforschung (IAB), Arbeitszeitrechnung, July 2017

Change in employment by type, (thousands of persons), 1993-2016



Increasing low wage dispersion began with Hartz reforms

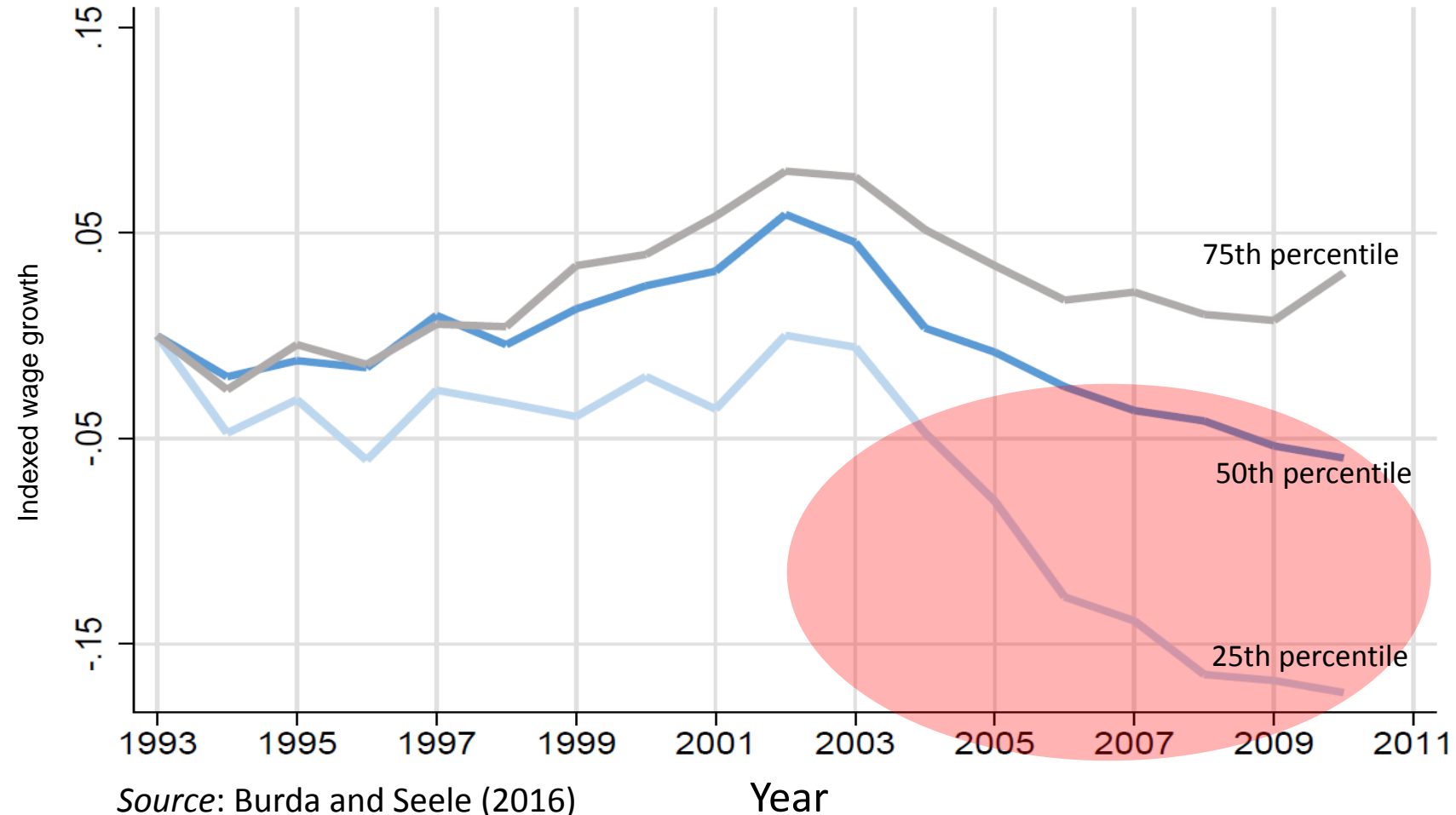
Indexed real (CPI) hourly wage growth, full-time workers, West Germany only



Source: Dustmann, Fitzenberger, Schönberg, and Spitz-Oener (2014)

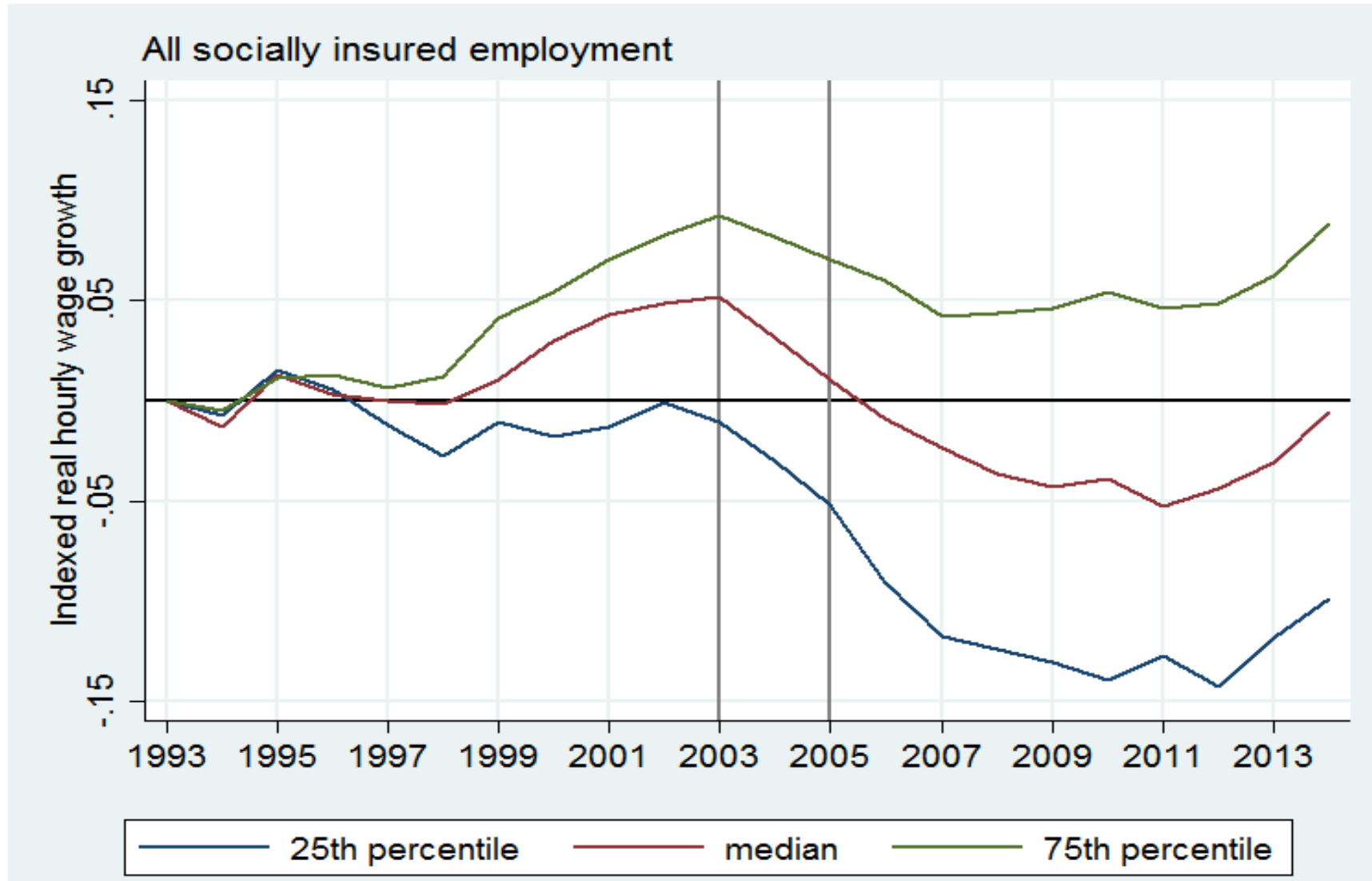
...in particular for part-time and marginal jobs

Indexed real (CPI) hourly wage growth, part-time workers, West Germany only



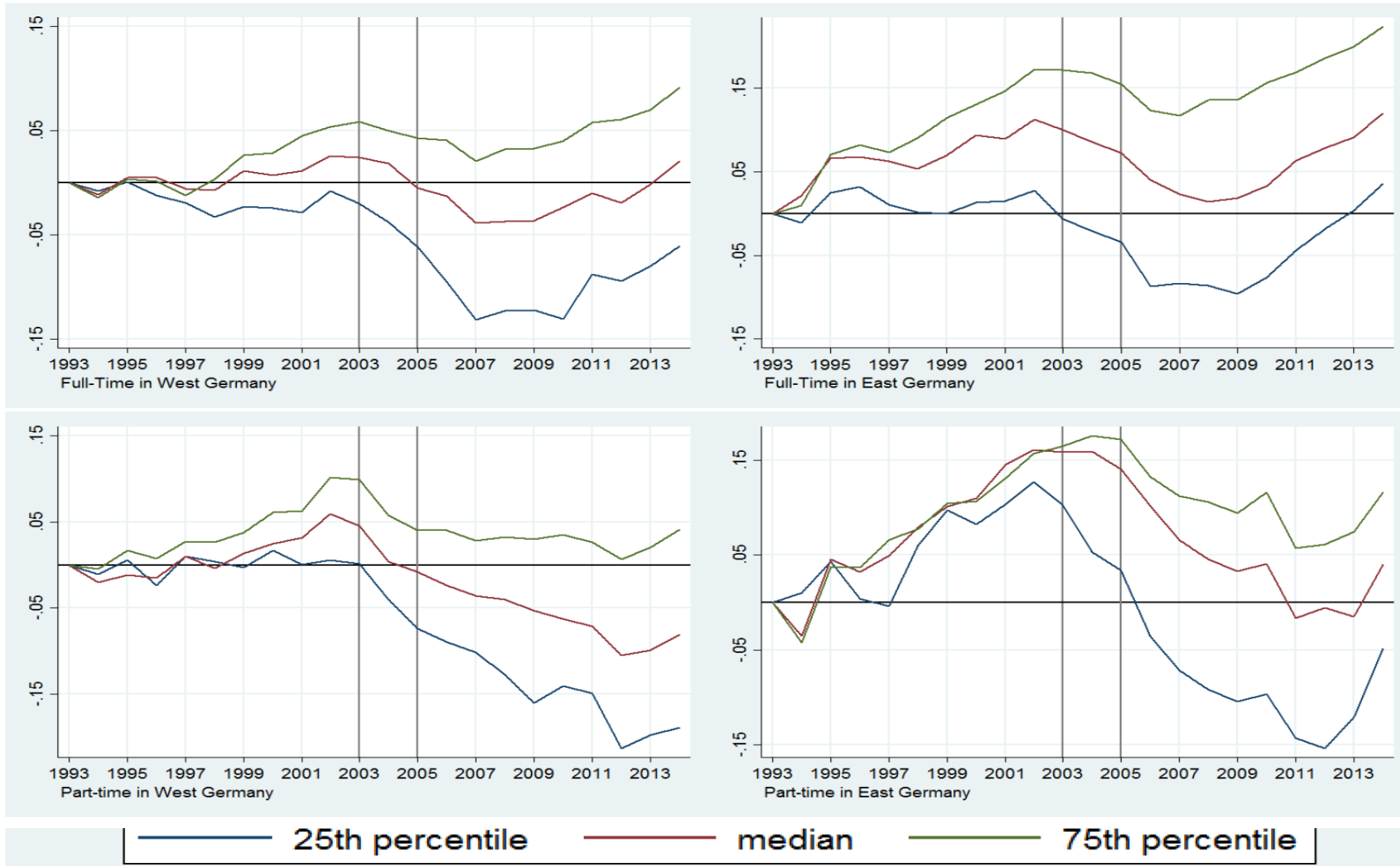
Source: Burda and Seele (2016)

Increase in low pay dispersion after 2003



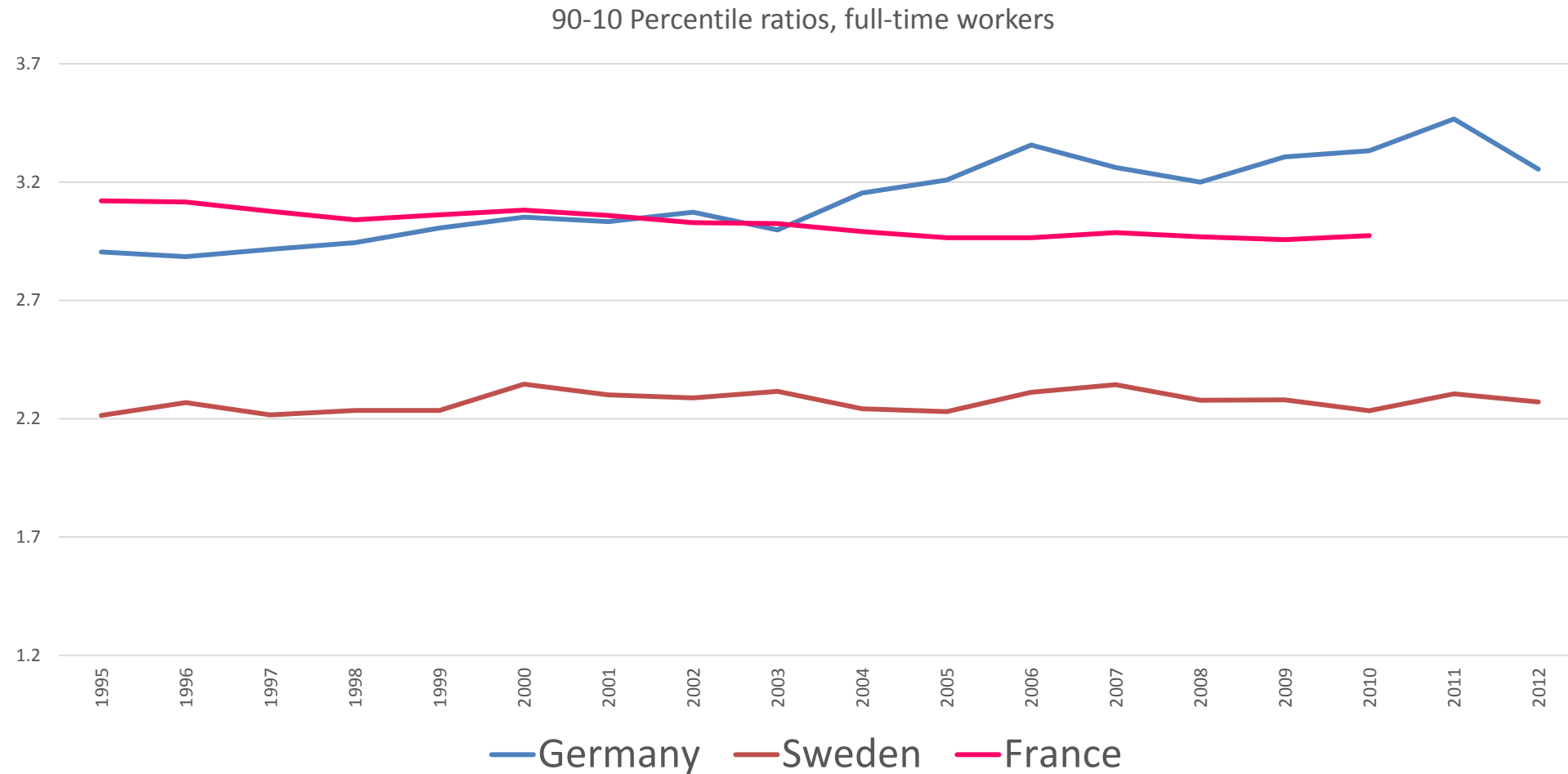
Source: Burda and Seele (2017)

Indexed cumulative real (CPI) wage growth of full and part-time employees, West and East



Source: Burda and Seele (2017). Indexed cumulative real (CPI) imputed wage growth of full and part-time employees

Evident in international comparisons



Source: OECD

Two explanations – not mutually exclusive

a) Union Coverage decline:

“From 1995 to 2008, the share of employees covered by industry-wide agreements fell from 75 to 56 percent.” (Dustmann et al. 2014)

b) Germany labor market reform was significant:

2003: liberalization of marginal employment

2004: reorganization of employment agency

2005: Changes in unemployment benefit duration and eligibility

Question: Shock to wage structure or shock to labor supply? Or both?

Katz and Murphy (1992)

Assume market clearing (Marshallian perspective)

$$\text{Labor demand: } L_t^D = D(W_t, X_t), \quad (1)$$

$$\text{Small changes: } dL_t^D = D_w dW_t + D_x dX_t, \quad (2)$$

$$\text{Premultiplied: } dW_t' (dL_t^D - D_x dX_t) = dW_t' \underbrace{D_w}_{\text{neg. def.}} dW_t \leq 0, \quad (3)$$

$$\text{If } dX_t = 0 : \quad dW_t' dL_t^D \leq 0. \quad (4)$$

“Periods of time in which the inequality [...] is satisfied (i.e., the inner product of changes in wages and changes in factor supplies is non-positive) have the potential to be explained solely by supply shifts.” Katz/Murphy, 1992

„The stable demand hypothesis“

$$(W_t - W_T)'(L_t - L_T) \leq 0.$$

“Periods of time in which the inequality [...] is satisfied, have the potential to be explained solely by supply shifts.”

Katz/Murphy, 1992

Also consistent with non-clearing labor markets and concession bargaining by unions à la Dustmann et al. (2014) and Kügler et al. (2018), i.e. moving along a stable demand curve

„The stable demand hypothesis“ *plus* labor market clearing (Marshall) v. rigid wages (Pigou) (Burda and Seele 2017)

The stable labor demand hypothesis **under market clearing** implies

$$(W_t - W_\tau)'(L_t - L_\tau) \leq 0 \quad \text{and} \quad (W_t - W_\tau)'(P_t - P_\tau) \leq 0. \quad (7)$$

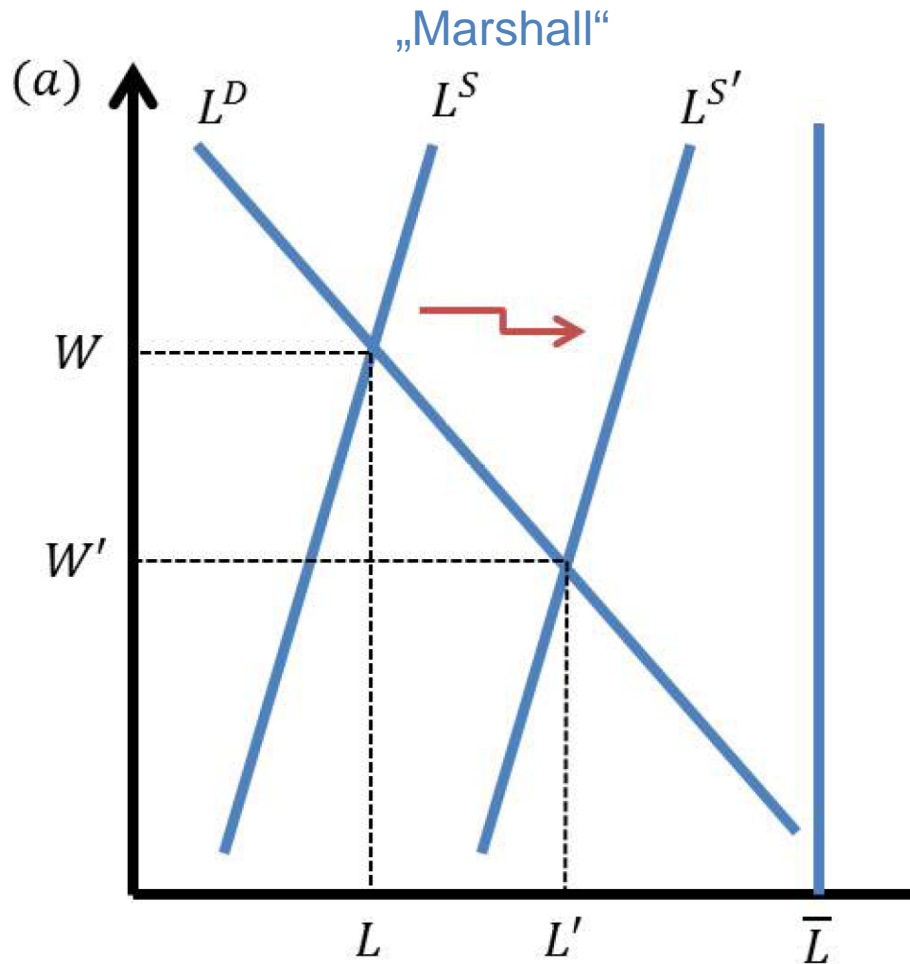
where P denotes the labor force participation rate.

In contrast, the stable demand hypothesis **under rigid wages** implies

$$(W_t - W_\tau)'(L_t - L_\tau) \leq 0 \quad \text{and} \quad (W_t - W_\tau)'(P_t - P_\tau) \geq 0 \quad (8)$$

assuming that labor supply shocks are zero or uncorrelated with the shocks to wage rigidity.

Figure 5 The effect of labour supply shocks versus wage cuts



Note: Panel (a) depicts a policy which induces a rightward shift in the labor supply curve at given potential labor force in which Marshall's perspective is appropriate. The wage declines and employment increases, while the labor force participation rate rises (the ratio of L^S to \bar{L}). In panel (b), a reduction of wage rigidity leads to declining wages and increasing employment as well as a drop in ILO unemployment, but implies a decrease in the participation rate

Results: Stable demand hypothesis

Table 4: Correlations between wage changes and changes in employment
(number of cells in parentheses)

		2000	2005	2010
Year around which 5-year interval is centered	1995	-0.16 (96)	-0.18 (96)	-0.17 (107)
	2000		-0.22 (106)	-0.37 (108)
	2005			-0.43 (111)

Note: Cell categories by qualification, age group, region, and gender. Five-year intervals for the stated years.
Source: SIAB, and SOEP.

Results: Stable demand hypothesis (fewer cells, analysis with employment and participation *rates*)

Table 5: Correlations between wage changes and changes in quantity indicators

		2000	2005	2010
German	1995	0.05	-0.05	-0.38
employment rate	2000		-0.26	-0.52
37 observations	2005			-0.63

Note: Cell categories by age group, region, and gender. Five-year intervals for the stated years.

Source: SIAB, SOEP, and Destatis.

Results: Pigou v. Marshall (fewer cells, analysis with employment and participation *rates*)

Table 5: Correlations between wage changes and changes in quantity indicators

		2000	2005	2010			2000	2005	2010
German	1995	0.05	-0.05	-0.38	German	1995	0.04	-0.12	-0.49
employment rate	2000		-0.26	-0.52	participation rate	2000		-0.38	-0.61
37 observations	2005			-0.63	37 Observations	2005			-0.65

Note: Cell categories by age group, region, and gender. Five-year intervals for the stated years.

Source: SIAB, SOEP, and Destatis.

Robustness: Pigou v. Marshall

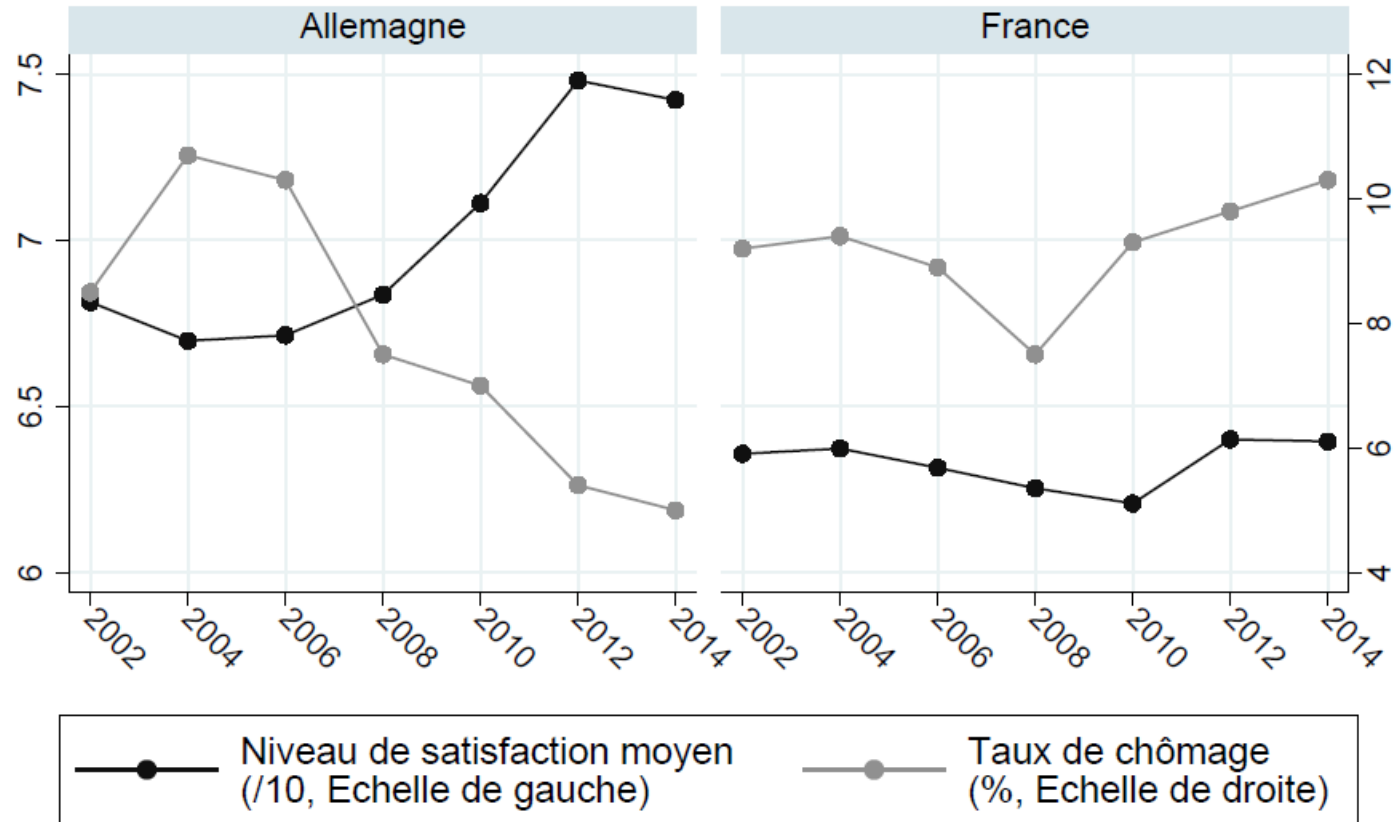
German	1995	2000	2005	2010	German	1995	2000	2005	2010
employment rate	2000	0.05	-0.05	-0.38	participation rate	2000	0.04	-0.12	-0.49
37 observations	2005		-0.26	-0.52	37 Observations	2005		-0.38	-0.61
				-0.63					-0.65
West-German	1995	2000	2005	2010	West-German	1995	2000	2005	2010
employment rate	2000	0.28	0.33	0.39	participation rate	2000	0.31	0.35	0.37
19 observations	2005		0.28	0.35	19 Observations	2005		0.30	0.32
				-0.35					-0.30
West-German male	1995	2000	2005	2010	West-German male	1995	2000	2005	2010
employment rate	2000	0.61	0.83	0.71	participation rate	2000	0.79	0.91	0.70
9 observations	2005		0.43	-0.87	9 Observations	2005		0.47	-0.93
				-0.88					-0.92
West-German female	1995	2000	2005	2010	West-German female	1995	2000	2005	2010
employment rate	2000	0.57	0.56	0.66	participation rate	2000	0.57	0.57	0.64
10 observations	2005		0.45	0.70	10 Observations	2005		0.47	0.69
				-0.46					-0.39
East-German	1995	2000	2005	2010	East-German	1995	2000	2005	2010
employment rate	2000	0.03	-0.31	-0.61	participation rate	2000	0.01	-0.43	-0.77
18 observations	2005		-0.58	-0.73	18 Observations	2005		-0.82	-0.88
				-0.79					-0.86
East-German male	1995	2000	2005	2010	East-German male	1995	2000	2005	2010
employment rate	2000	-0.47	-0.60	-0.74	participation rate	2000	-0.39	-0.67	-0.84
9 observations	2005		-0.72	-0.87	9 Observations	2005		-0.92	-0.98
				-0.95					-0.98
East-German female	1995	2000	2005	2010	East-German female	1995	2000	2005	2010
employment rate	2000	0.15	0.16	-0.50	participation rate	2000	0.27	-0.02	-0.72
9 observations	2005		-0.54	-0.75	9 Observations	2005		-0.86	-0.95
				-0.83					-0.93

Wage versus personal income inequality



Life Satisfaction and unemployment

Satisfaction moyenne et taux de chômage national



Source: Satisfaction - European Social Survey (2002-2014) | Taux de chômage nationaux - Eurostat
Notes: Satisfaction déclarée par les individus sur une échelle de 0 à 10 en réponse à la question:
Dans l'ensemble, à quel point êtes-vous satisfait ou pas satisfait de la vie que vous menez en ce moment?

Concluding remarks

- The authors show convincingly that nominal wage behavior – and not productivity or terms of trade – was crucial for the German labor market
- Other margins of flexibility were equally important in Germany:
 - Part-time work wages were more flexible, employment more elastic
 - Incentives to work part-time were raised in 2002
 - The Hartz reforms (2003-2005) sharply reduced reservation wages and increased labor force participation, increasing labor supply
- Correlation of relative wages and employment in Germany turned sharply negative during the period 2005-2010, and confirming an exogenous shift in labor supply (combined with wage flexibility)
- May be difficult to transplant institutions from Germany to other countries

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A deconstruction of the employment expansion in Germany

Table 2: The German labor market performance deconstructed, 1993–2016

Change (Δ) in	Annual Change, Average					Cumulative Change	
	1993-98	1998-03	2003-08	2008-11	2011-16	before 2003	after 2003
$\Delta \ln$ (Working age population)	0.2	-0.1	-0.5	-0.7	0.4	-0.3	-2.6
+ $\Delta \ln$ (Labor force participation)	0.1	0.7	0.8	0.8	0.2	5.2	8.0
+ $\Delta \ln$ (1 - Unemployment rate)	-0.5	0.3	0.1	0.5	0.3	-1.5	5.4
+ $\Delta \ln$ (Hours/Employed)	-0.6	-1.1	-0.1	-0.6	-0.4	-7.9	-4.4
= $\Delta \ln$ (Total hours, sum)	-0.8	-0.3	0.4	0.0	0.5	-4.5	6.4

Note: Annual change in log-points for each period (1 log-point of $x = 100 * \Delta \ln(x) \approx$ % change). The sum of total hours worked is calculated such that it fits to the aggregate hours account by IAB (hours/employed) and the destatis employment accounts.

Source: IAB Aggregate hours account, and Destatis.