

Dynamics of Low Wage, Low Pay and Transfer Receipt

Varieties of Low-Wage Research in Germany - Perspectives from a Provider of Longitudinal Household Panel Data

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LASER-IAB International Workshop, November 15-16, 2013, IAB Nürnberg

1. Motivation
2. Low Wage Research with SOEP
3. Low Wages and Poverty Risks
4. Minimum Wage
5. Hourly Wages - Miracles of Measurement
6. Outlook

Motivation

The first journal article ever based on SOEP data:
by Christoph F. Büchtemann (1985)

- Comparative results on unemployment payments and welfare benefits within a household context

Mitteilungen der Arbeitsmarkt- und Berufsforschung
(MittAB, 18(4), 450-466)

Christoph F. Büchtemann

Soziale Sicherung bei Arbeitslosigkeit und
Sozialhilfebedürftigkeit

Strukturen und Entwicklungsperspektiven der Teilzeitbeschäftigung*

1986

Christoph F. Büchtemann und Jürgen Schupp

Socio-
economic
Aspects of
Part-Time
Employment in
the Federal
Republic
of Germany –
(1988)



Lebenslagen im Wandel: Analysen 1987

Herausgegeben von
Hans-Jürgen Krupp und
Ute Hanefeld

Deutsches Institut für Wirtschaftsforschung, Berlin;
Sonderforschungsbereich 3 »Mikroanalytische
Grundlagen der Gesellschaftspolitik«
der Universitäten Frankfurt und Mannheim

Campus

Erwerbsstatistik unterschätzt Beschäftigung um 2 Millionen Personen. In: DIW-Wochenbericht, 64. Jg., Nr.38, S. 689-696
Jürgen Schupp, Johannes Schwarze & Gert Wagner (1997).

- In 1998 a major revision of the official employment numbers within the national accounts followed a few months later
- Statistics Germany (Destatis) lifted up the number of all employed by about 2,000,000
- Changes of the set of questions on marginal employment in Microcensus

Table 3
Development of Marginal Employment

	2000	2003
	In thousands	
Total marginal jobs and secondary jobs ¹	8 524	9 140
Total number of employees in marginal jobs (excluding secondary employment)	6 055	6 938
Of which:		
Total number of marginal jobs, applying ILO Labour Force Concept ²	4 327	5 016
Total number of marginal jobs, without ILO Labour Force Concept ³	1 728	1 922
Mini-jobs as principal activity, applying ILO Labour Force Concept and income threshold ⁴	3 141	3 642
Memo item:		
Total number of jobs (applying narrow ILO employment concept)	36 925	37 396
Number of secondary jobs	2 469	2 202
	(%)	
Proportion of mini-jobs (applying narrow ILO Labour Force Concept) as share of all marginal employment	36.9	39.8
Proportion of marginal employment (applying narrow ILO Labour Force Concept) as share of all employees	11.7	13.4
Proportion of mini-jobs as secondary activity as share of all employment	3.7	3.8
Proportion of all employees with secondary employment	6.7	5.9

1 Either 15 hours or less weekly working time, less than 400 euros gross monthly income (i.e. less than 630 German marks in 2000), or self-classified as marginally employed. — 2 Primarily classified as employed during the week of the survey. — 3 Not classified as employed during the week of the survey, but provision of information on occasional/regular paid activities. — 4 In 2000, the income threshold stood at 630 German marks.

Sources: SOEP 2000 and 2003, weighted; DIW Berlin calculations.

Table 4
Poverty Rates¹ in Germany, 1993, 1998, and 2003, by Employment Constellation of Household (%)

	Share of population in private households			Poverty rate		
	1993	1998	2003	1993	1998	2003
Total	100.0	100.0	100.0	13.3	13.0	15.3
No gainfully employed and no registered unemployed	22.3	23.5	25.0	25.9	18.1	20.2
No gainfully employed but at least one registered unemployed	4.2	6.2	6.5	42.7	40.3	52.7
At least one earner	73.5	70.3	68.5	8.6	11.8	11.7
At least one earner earning in excess of low wage	68.5	63.7	60.0	5.4	5.7	6.3
Only one earner earning in excess of low wage	31.8	28.4	27.0	5.9	4.8	6.2
Two earners earning in excess of low wage	17.0	18.1	16.8	0.1	0.9	0.2
At least one earner earning in excess of low wage and one registered unemployed	3.4	4.0	3.8	3.4	4.4	4.0
At least one earner earning total of low wage	21.3	19.7	20.8	8.6	11.8	11.7
At least one earner earning in excess of low wage and one earner earning low wage	15.1	13.0	14.2	2.5	2.8	0.8
Only one or several low-wage earners in household	4.8	5.3	5.3	26.6	31.6	34.9
One low-wage earner and one registered unemployed person in household	1.4	1.5	1.4	12.4	20.3	36.0
Memo item:						
Share of low-wage earners without higher income earners as % of all low-wage earners.	41.1	52.3	47.2	x	x	x

¹ Persons living in poverty are defined as those whose equivalent net annual household income (for Germany as a whole) is less than 60% of the median.
Sources: Socio-Economic Panel; DIW Berlin calculations.

Elke Holst & Jürgen Schupp (2000): Employment Behaviour Among Women in Germany: Differences Between East and West Persists. *Economic Bulletin*, 38(11), 377-384.

Table 6

The Interest of Non-employed in Full-time or Part-time Employment¹
Share in %

	West Germany								East Germany							
	Men				Female				Men				Female			
	1991	1994	1997	2000	1991	1994	1997	2000	1991	1994	1997	2000	1991	1994	1997	2000
Total ²	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Full-time employed	78.1	76.1	73.8	73.7	22.2	24.9	24.6	26.0	73.9	81.9	72.0	77.3	37.1	46.1	38.6	46.1
Part-time employed	5.0	3.5	6.9	4.3	61.6	51.8	54.6	51.1	7.7	2.3	2.7	2.0	31.6	21.7	24.2	18.6
Interested in both	12.1	13.9	12.8	13.3	8.0	9.2	13.1	12.8	16.5	12.1	20.5	14.3	25.3	25.8	31.7	26.4
Undecided	4.8	6.5	6.5	8.7	8.2	14.1	7.7	10.1	1.9	3.7	4.8	6.4	6.0	6.4	5.5	8.9

Question: 'Would you be interested in full-time or part-time employment, or would you be interested in both?' — 2 Non-employed between 16 and 60 years.
Source: Socio-Economic Panel (SOEP), weighted results.

Christoph F. Büchtemann & Jürgen Schupp (1986): Socio-economic Aspects of Part-Time Employment in the Federal Republic of Germany – (1988), WZB FS I 88-6.

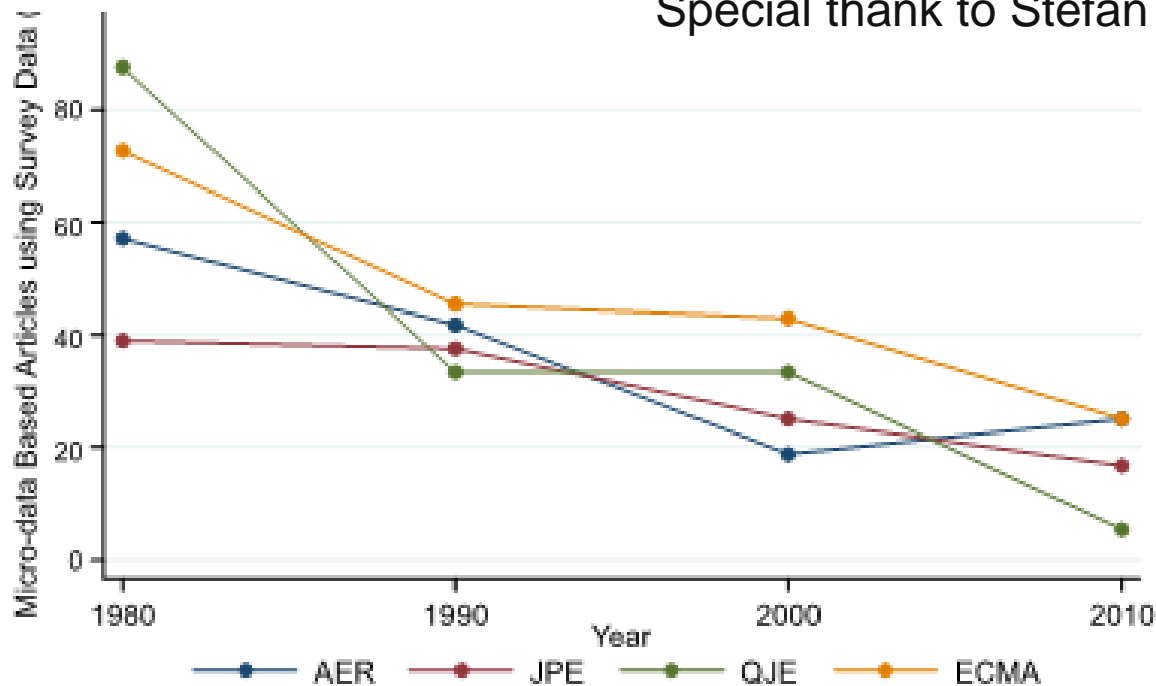
„The **working time** in the workplace and in households and family **adds up** to a „normal working day“ of **about 11 hours**, which is roughly the same for men and women as well as for full-time and part-time employees. Only the significant longer time-commitment of **mothers in full-time employment (12 ½ hours)** and the somewhat lower average total working time of women in “marginal” part-time employment without children (8 hours) deviate from this pattern. [...] **In most cases, part-time work does not lead to greater *time sovereignty***”.

Low Wage Research with SOEP

Use of Pre-Existing Survey Data in Publications in Leading Journals, 1980-2010 (Raj Chetty)



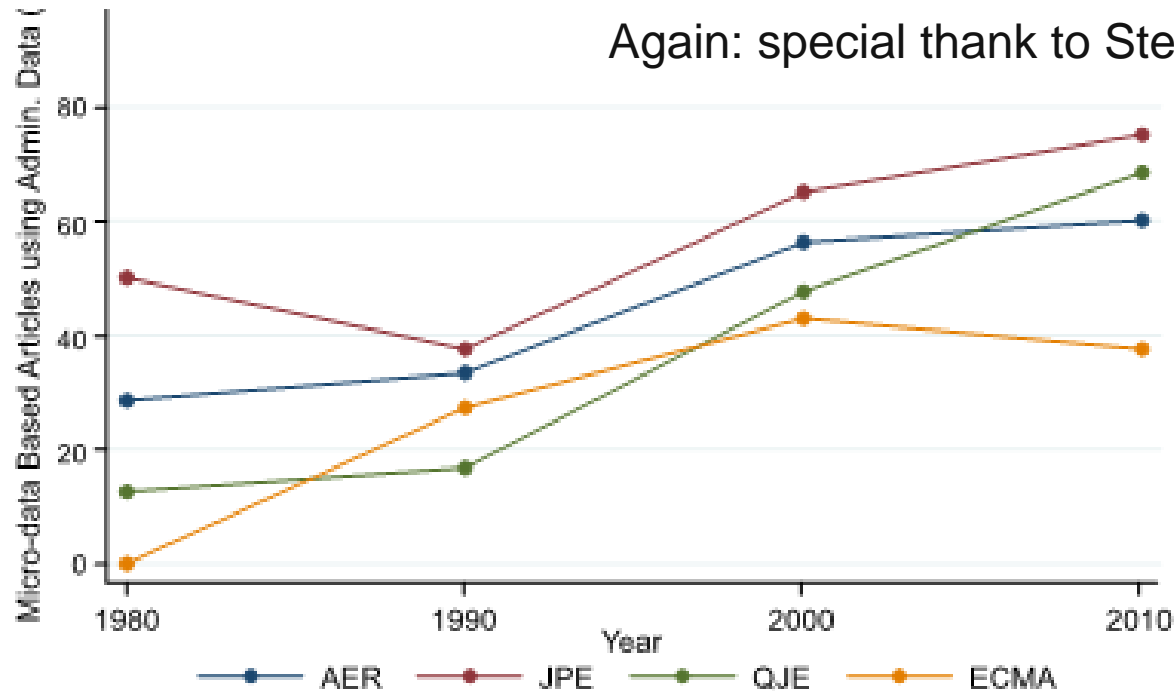
Special thank to Stefan Bender



<http://conference.nber.org/confer/2012/SI2012/LS/ChettySlides.pdf>

Publications with Administrative Data (like IEB)

Use of Administrative Data in Publications in Leading Journals, 1980-2010 (Raj Chetty)



Pro

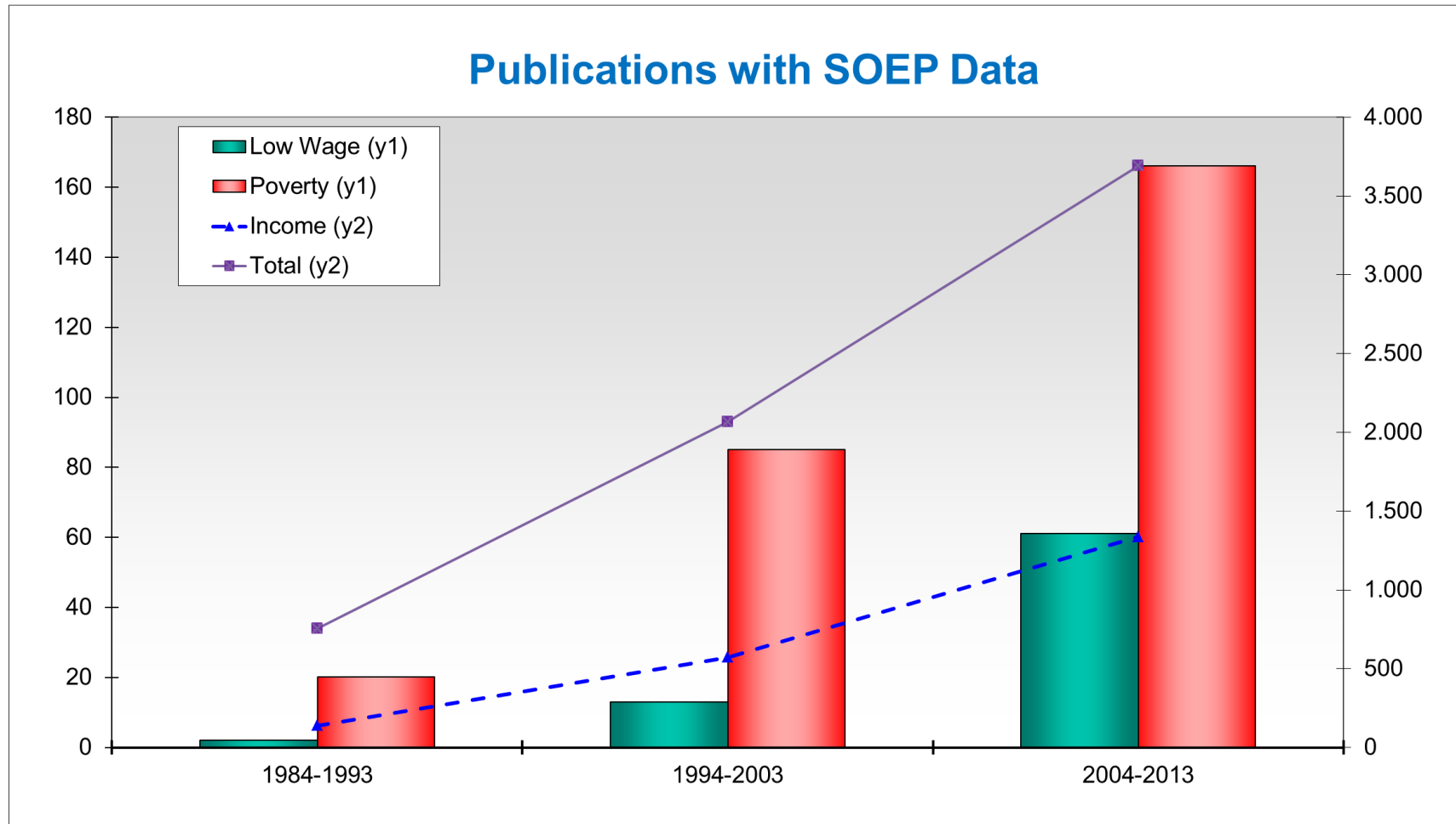
- decent measurement and operationalization of earnings AND time engaged with job
 - cognitive and non-cognitive skills
- Multi-cohort individual life course data (panel)
- low wage arrangements within household composition, transfer receipts and poverty risk
- time allocation and preferences of working time within households and life-course
- Non-economic outcomes (Health, absenteeism,

Con

- random sample of households with substantial non-response (weighting)
- All labor market information aggregated on monthly level
- Small numbers for regional or industry levels or for evaluation of labor market instruments
- Potential measurement error by item-non-response, heaping, smoothing of extreme values
- Variation of date of interview



Linking survey-data and register data



Calculations based on SOEPlit database, October 2013.

Special focus on the measurement of „time“

“time does matter” Stephen P. Jenkins, 15.11.2013

- Employment calendar (FT/PT/Marginal PT)
- Time use and time allocation (workday/Saturday/Sunday)
- Working hours per week (agreed and actual)
- Job Status - FT/PT or marginal job, “Altersteilzeit”
- Secondary Jobs (hours, days, months, earnings)
- Overtime (no. of hours), type of compensation, flow in working time account (incl. undertime since 2013)
- Working time regulation (since 2003, every 2 years)
- No. of workdays per week
- Working time in evening and/or night, weekend
- Satisfaction (work, leisure time, sleep), Additional item in SF 12 (time stress)
- Working time preference (in hours per week)
- Vacation days (since 2000, every 5 years)



Knabe, Andreas & Alexander Plum (2013): Low-wage Jobs — Springboard to High-paid Ones? *Labour* 27(3):310–330

- The paper examines whether low-paid jobs have an effect on the probability that unemployed persons obtain better-paid jobs in the future (springboard effect). The authors apply a dynamic random effects bivariate probit model. Their results suggest that **low-wage jobs can act as springboards to better-paid work**. The improvement of the chance to obtain a high-wage job by accepting low-paid work is particularly large for less-skilled persons and for individuals who experienced longer periods of unemployment. Low-paid work is less beneficial if the job is associated with a low social status
- Our comparisons show that women have lower chances to obtain a high-paid job than men, but the intensity of the springboard effect is generally not systematically different from that of men in the same period.

Caliendo, Marco & Katharina Wrohlich (2010): Evaluating the German Mini-Job reform using a natural experiment. *Applied Economics* 42(19):2475-2489.

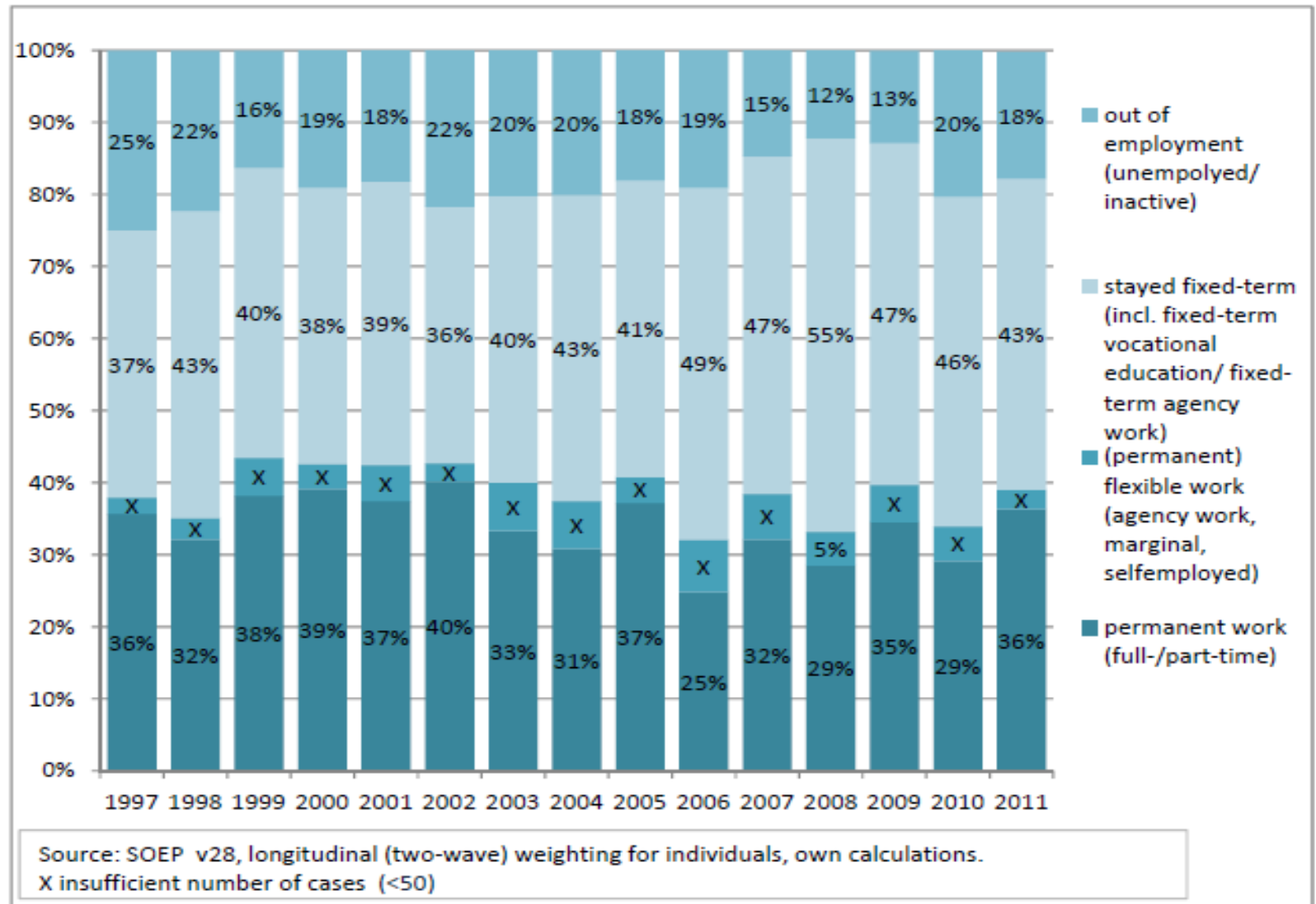
- The authors carry out an ex-post evaluation of the 'Mini-Job' reform in Germany to identify the short-run effects of this reform.
- Their identification strategy uses an exogenous variation in the interview months in the Socio-Economic Panel Study (SOEP), which allows to distinguish groups that are affected by the reform from those who are not. To account for seasonal effects we additionally use a Difference-In-Differences (DID) strategy.
- Descriptives show that there is a **post-reform increase** in the number of mini-jobs. However, the authors show that this increase **cannot be causally related to the reform**, since the short-run effects are very limited.
- Only single men seem to react immediately and increase secondary job holding

Biewen, Martin & Andos Juhasz (2012): Understanding Rising Income Inequality in Germany, 1999/2000–2005/2006. *Review of Income and Wealth* 58(4):622-647.

- The authors examine the factors behind rising income inequality. From 1999/2000 to 2005/2006, Germany experienced an unprecedented rise in net equivalized income inequality and poverty.
- At the same time, unemployment rose to record levels, **part-time and marginal part-time work grew**, and there was evidence for a widening distribution of labor incomes.
- Other factors that possibly contributed to the rise in income inequality were changes in the tax and transfer system, changes in the household structure (in particular the rising share of single parent households), and changes in other socio-economic characteristics (e.g., age or education).
- The authors address the question of which factors were the main drivers of the observed inequality increase. Their results suggest that the **largest part of the increase was due to increasing inequality in labor incomes**, but that changes in employment outcomes and changes in the tax system also contributed considerable shares

Low Wage Research - Examples

Figure 17: Flows from fixed-term contracts



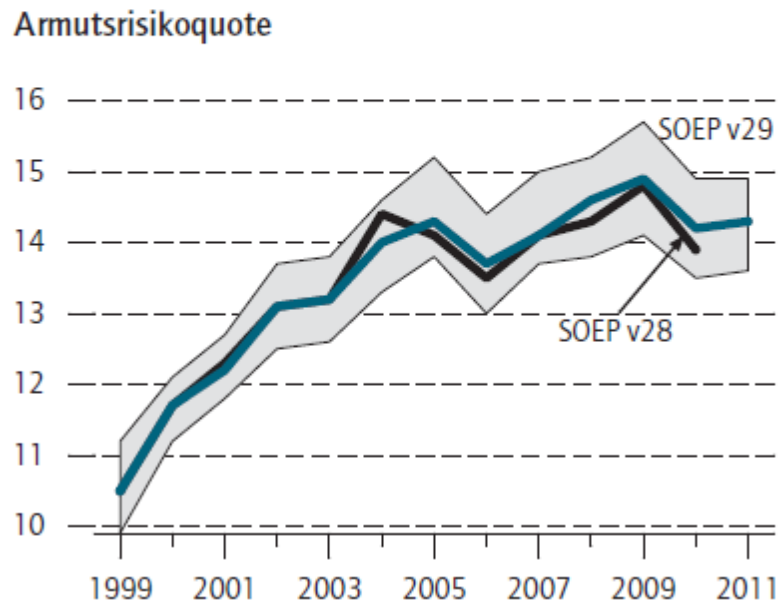
Hunt, Jennifer (2013): Flexible Work Time in Germany: Do Workers Like It and How Have Employers Exploited It Over the Cycle? *Perspektiven der Wirtschaftspolitik* 14(1):67-98.

- About **half of German** hourly-paid and salaried **workers** have **varying daily hours**, and about **half** of these **share control over hours** with their employer through a working time account.
- Of the remaining workers, a minority control their own hours, while the rest have hours controlled by their employer.
- Compared to salaried workers, hourly-paid workers have much less variable hours and much less control over hours that do vary
- **Since 1999**, the main change for salaried workers is a **shift to uncompensated overtime**
- There is weak evidence that flexibility causes workers to be less satisfied with their work and more satisfied with their leisure. There is also **no evidence that flexibility is family friendly**

Low Wages and Poverty Risk

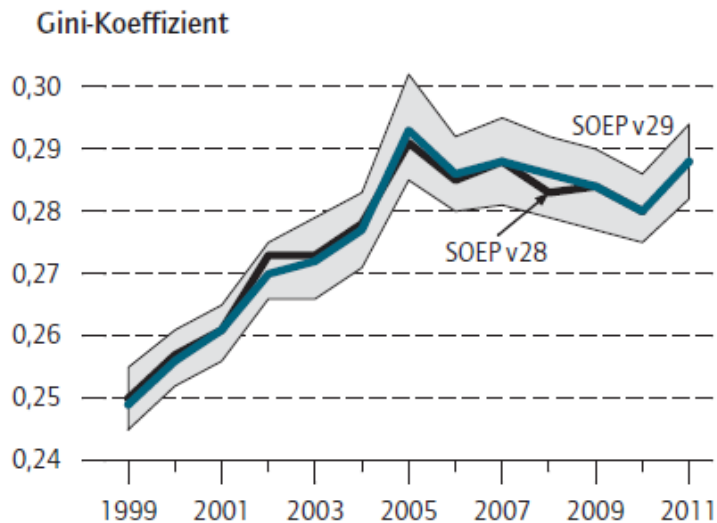
Development of poverty risk

Auswirkung der Datenrevision auf Armutsrisikoquote¹ und Einkommensungleichheit Koeffizienten²



Markus Grabka & Jan Goebel (2013) Rückgang der Einkommensungleichheit stockt, Wochenbericht des DIW Berlin, 80(46), 17.

Development of income inequality (Gini)



1 Einem Armutsrisiko unterliegen Personen mit weniger als 60 Prozent des Median-Einkommens. Einkommen von Personen in Privathaushalten in Preisen von 2005. Im Folgejahr erhoben, Markteinkommen einschließlich eines fiktiven Arbeitgeberanteils für Beamte, bedarfsgewichtet mit der modifizierten OECD-Äquivalenzskala. Graue Fläche = 95-Prozent-Konfidenzbereich.

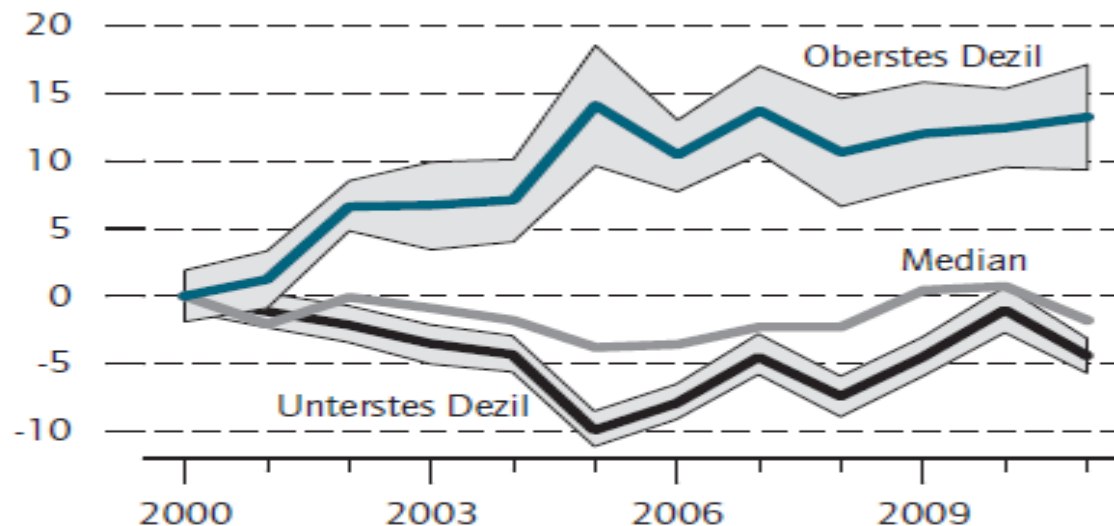
Quellen: SOEP v28 und v29; Berechnungen des DIW Berlin..

Markus Grabka & Jan Goebel (2013) Rückgang der Einkommensungleichheit stockt, Wochenbericht des DIW Berlin, 80(46), S.17

Development of average income (in prices of 2005)

Verfügbares Einkommen¹ nach ausgewählten Dezilen

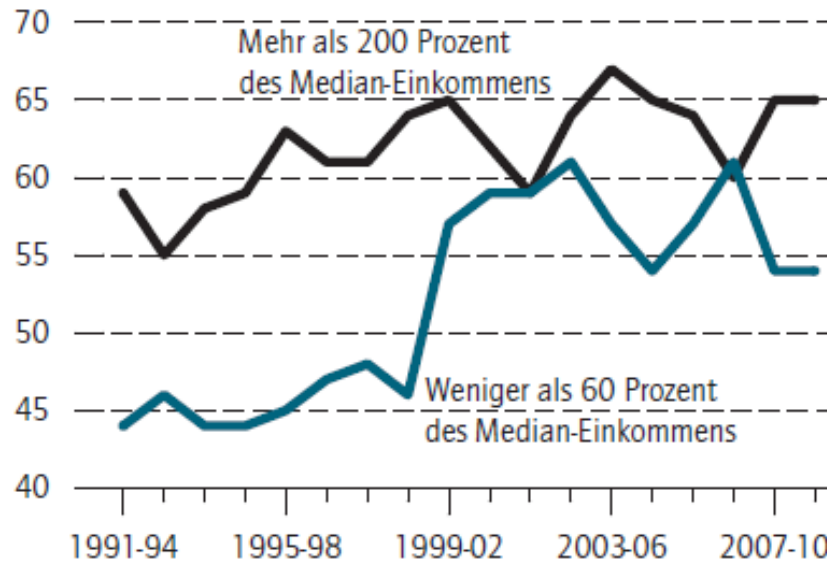
Veränderung der Mittelwerte gegenüber dem Jahr 2000
in Prozent



1 Einkommen von Personen in Privathaushalten in Preisen von 2005. Im Folgejahr erhoben, Markteinkommen einschließlich eines fiktiven Arbeitgeberanteils für Beamte, bedarfsgewichtet mit der modifizierten OECD-Äquivalenzskala. Graue Fläche = 95-Prozent-Konfidenzbereich.

Quellen: SOEP v29; Berechnungen des DIW Berlin.

Individuals that stay 4-years in same income group



1 Einkommen von Personen in Privathaushalten in Preisen von 2005. Im Folgejahr erhoben, Markteinkommen einschließlich eines fiktiven Arbeitgeberanteils für Beamte, bedarfsgewichtet mit der modifizierten OECD-Äquivalenzskala. Graue Fläche = 95-Prozent-Konfidenzbereich.

Quellen: SOEP v29; Berechnungen des DIW Berlin.

Minimum Wage

Brenke, Karl & Kai Uwe Müller (2013): Gesetzlicher Mindestlohn – Kein verteilungspolitisches Allheilmittel. [Statutory Minimum Wage—No Panacea For Distribution Policy] *Wochenbericht des DIW* 80(39):1-17.

“A minimum wage could reduce the wage differential and would be more in line with what a large majority of the German population currently considers fair.

However, it would **not even out inequalities** in the disposable incomes of private households **or significantly reduce poverty**. Nor could the number of workers receiving Hartz IV benefits (means tested minimum income support), i. e., income supplements, be expected to fall significantly.”

Brenke, Karl & Kai Uwe Müller (2013): Gesetzlicher Mindestlohn – Kein verteilungspolitisches Allheilmittel. [Statutory Minimum Wage—No Panacea For Distribution Policy] *Wochenbericht des DIW* 80(39):1-17.

“Introducing a general minimum wage in Germany would be a **field experiment to be approached with caution.**

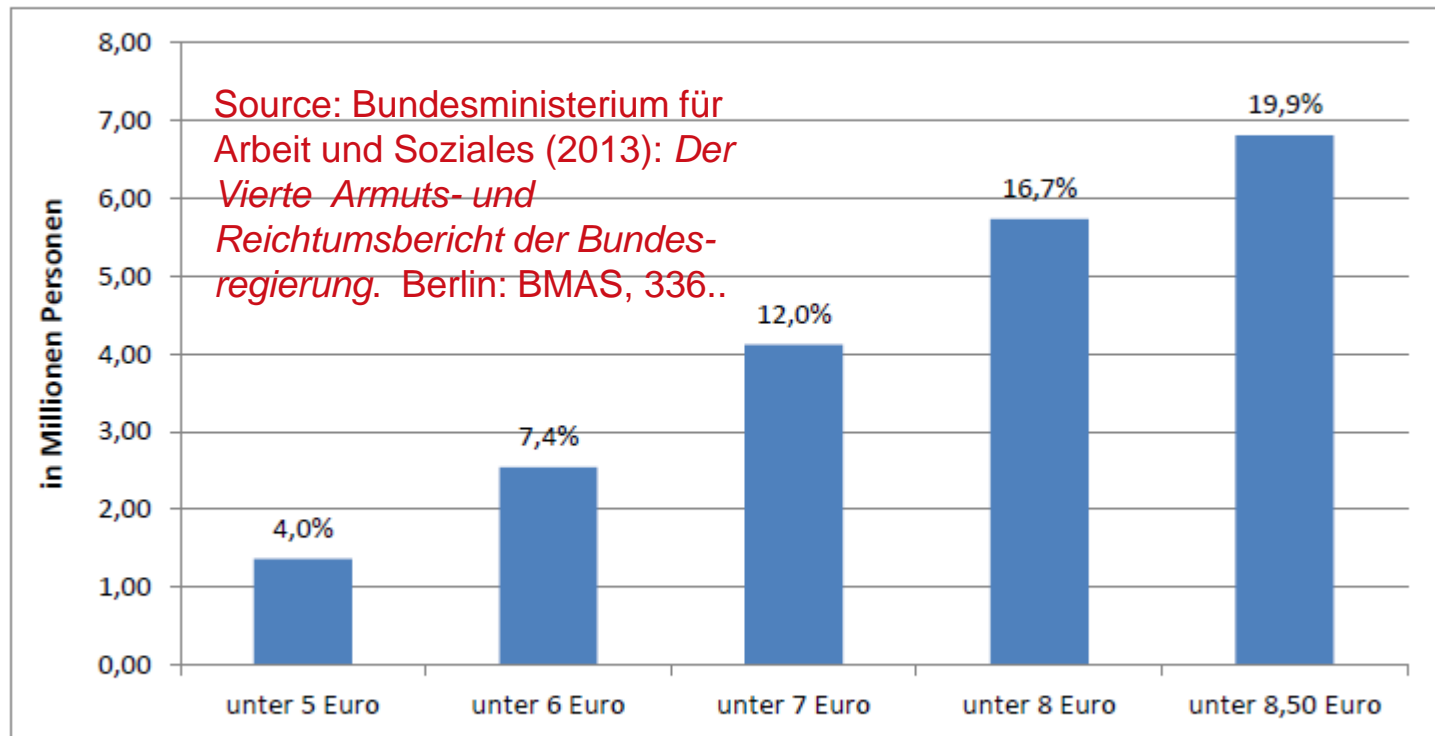
From a scientific point of view, the level should not be too high at first, and the impact of the minimum wage should be observed closely. If it proves not to have negative effects on employment, the general minimum wage should be increased rapidly. When it is introduced, care should be taken that regulation is not circumvented—for example **through unpaid additional work or increasing the number of people in employed in “mini-jobs” or through contract work.** “

Hourly Wages - Miracles of Measurement

Development of low hourly wages

Schaubild C I.4.2:

Umfang der Beschäftigung im Niedriglohnbereich 2010
einschl. Schüler/innen, Studierenden, Rentner/innen und Beschäftigten mit Nebenjobs



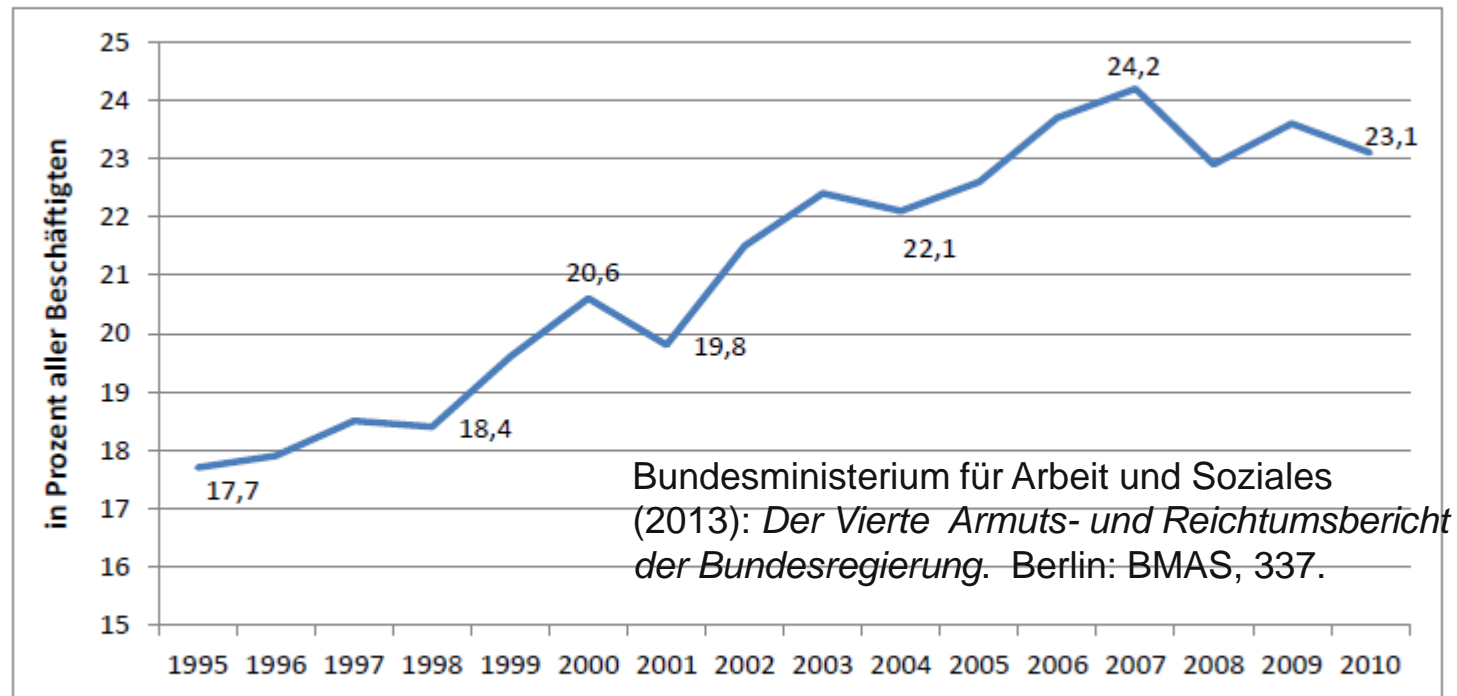
Anteile an allen Beschäftigten in Prozent.

Quelle: Institut Arbeit und Qualifikation auf Basis des SOEP.

Development of low wage hourly wages

Schaubild C I.4.3:

Umfang und Entwicklung des Anteils der Niedriglohnbeschäftigung,
relativer Schwellenwert von zwei Dritteln des bundesweiten Medianlohns



Einschließlich Schüler/innen, Studierenden, Rentner/innen und Beschäftigten mit Nebenjobs. Für das Jahr 2010 lag der Schwellenwert bei einem Stundenlohn von 9,15 Euro.

Quelle: Institut Arbeit und Qualifikation auf Basis des SOEP.

- What kind of definition of working time
 - contracted versus actual working hours
- How to handle overtime?
 - (not) included at all versus only hours with monetary compensation
- Inclusion of all individuals working (ILO-definition)
 - Apprentices, interns, or workers in non-profit work (1-Euro-jobs)
- Inclusion of extra payments – once per year
- Inclusion of second jobs

Tabelle

Gegenüberstellung der Löhne und Arbeitnehmeranteile nach unterschiedlichen Definitionen der Bruttostundenlöhne der Arbeitnehmer¹

	Bisherige	Neue
	Definition	
Bruttostundenlohn in Euro		
Mittelwert	15,46	15,81
Median	13,85	14,24
Niedriglohngrenze in Euro	9,23	9,49
Anteil der Arbeitnehmer an allen Arbeitnehmern in Prozent		
Im Niedriglohnsektor	22	24
Mit einem Stundenlohn		
unter 8,50 Euro	18	17
unter 10 Euro	27	26

¹ Ohne Auszubildende und Personen in arbeitsmarktpolitischen Beschäftigungsmaßnahmen.

Quellen: Sozio-oekonomisches Panel (v28); Berechnungen des DIW Berlin.

© DIW Berlin 2013

Brenke, Karl & Kai Uwe Müller (2013):
Gesetzlicher Mindestlohn –
Kein verteilungspolitisches Allheilmittel.
[Statutory Minimum Wage—
No Panacea For Distribution Policy]
Wochenbericht des DIW 80(39), 5.

Hourly Wage – easy to calculate ???

Days per year	Number of months per year	Number of days per week	Number of weeks per year	Number of weeks per months
365,25	12	7	???	???
			52,1786	4,3482

Hourly Wage – easy to calculate ???

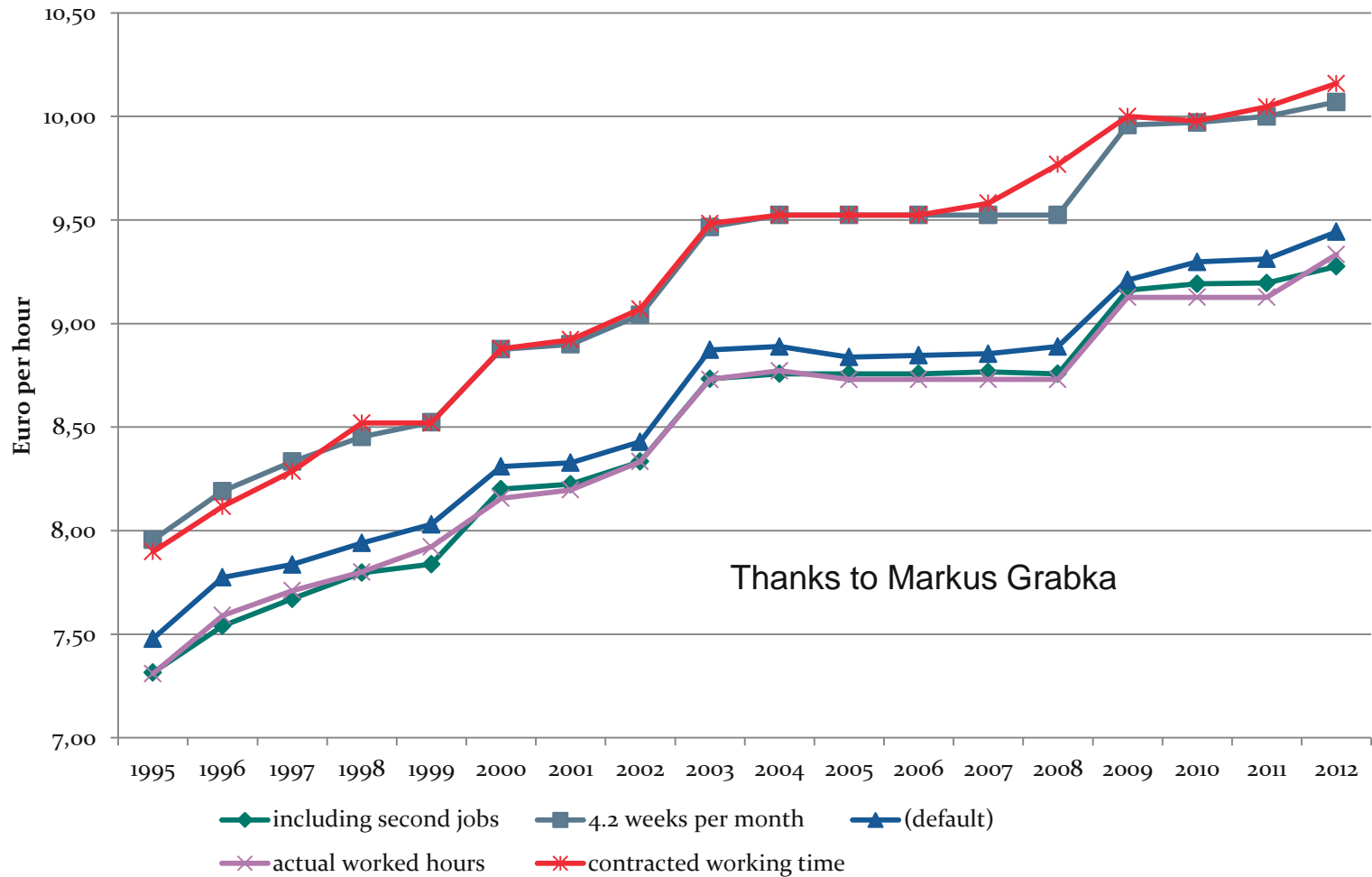
Days per year	Number of months per year	Number of days per week	Number of weeks per year	Number of weeks per months
365,25	12	7	52,1786	4,3482
Register-Information (Freie Universität)				4,348
Kalienka/Weinkopf 2013				4,35
Bauer et al. 2009				4,35
Hunt 2013				4,33
Brenke, Müller 2013				4,3
Pischke, von Wachter 2008				4,3
Schnitzlein 2013				4,25
K.-U. Müller (2013)				4,2

Hourly Wages & Minimum Wage

Potential reactions in working time and earnings monthly earnings

gross earnings per month (Euro)	no. of weeks per month	working time per week	hourly wage Euro (4.2 weeks/month)
1440	4,35	39,0	8,5 (8,8)
1440	4,35	44,0	7,5 (7,8)
1440	4,35	35,0	9,5 (9,8)
1620	4,35	39,0	9,5 (9,9)
1620	4,35	44,0	8,5 (8,8)
1620	4,35	35,0	10,6 (11,0)
1290	4,35	39,0	7,6 (7,9)
1290	4,35	44,0	6,7 (7,0)
1290	4,35	35,0	8,5 (11,0)
400	4,35	10,9	8,5 (8,9)
550	4,35	15,0	8,5 (8,8)
700	4,35	19,0	8,5 (8,8)
1000	4,35	27,3	8,5 (8,8)

Sensitivity of low-wage threshold (in prices 2005)



Outlook

- Work and life increases in mobility and flexibility
- Research should pay much more attention to the “time” element in low-wage-research
- Registers document more or less exact information on the “labor costs”
- But how realistic are our assumptions about “time”?
- Challenges to evaluate the implementation of minimum wage in German labor market
- who controls – reactions in the real hours worked for money?
 - In the firm but also in research

- (Intergenerational) unequal chances and risks in society for job loss, poverty risks and welfare receipts
- Contribution of labor market institutions and policies for improving the mobility to leave low wage (“bridges or traps”) – ready for the next “natural experiments”
- Ongoing discussion on low wages and transfer receipts if the “low-wage cohorts” will enter retirement age increase the risk of old age poverty
- Rising attentions of risks in the labor market and health outcomes – work & life balance

Thank you for your attention.



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