

Overtime Reductions: Negligible Employment Effects

One of the central bones of contention in the current 'Alliance for Jobs' negotiations is the reduction of overtime and its potential employment effects.¹ While the unions see overtime reductions as a possible means to increase employment, employers are sceptical about the idea, because they fear constraints on their flexibility in the use of labour.

Around 1.8 billion paid overtime hours were worked by German employees in 1998, while the average for the period 1991 to 1998 was almost 1.9 billion (Institute for Employment Research – IAB²). This study investigates, on the one hand, whether the potential employment effects of between 400 000 and 900 000 jobs cited in the political debate can really be expected if overtime is reduced; on the other hand, it investigates the effects that a reduction of paid overtime would have on personal income distribution in western and eastern Germany.

The study is based on data from the Socio-Economic Panel (SOEP), a representative longitudinal survey which provides comprehensive information on overtime worked and types of compensation over time. The analysis is based on data from the years 1990 to 1997 and focuses – in order to allow comparison with other studies – on dependent full-time employees in the private sector.

Share of overtime increases with level of qualification

In western Germany, (highly) skilled white-collar workers³ work a substantial and ever-increasing amount of

overtime (cf. table 1). Nearly 62% of all skilled white-collar workers worked overtime hours in 1990. This share rose – fluctuating cyclically – to nearly 75% in 1997. A trend towards increased overtime for low-skilled white-collar workers is also evident, although the share is much lower in this case: less than every second low-skilled white-collar worker worked overtime hours in 1997. The relationship is similar for blue-collar workers: almost 49% of skilled blue-collar workers⁴ and around 35% of low-skilled blue-collar workers worked overtime in 1997. There is a conspicuous response of the share of low-skilled blue-collar workers working overtime to the business cycle.

We can see that overtime patterns are similarly determined by level of qualification in eastern Germany. Here, nearly 71% of (highly) skilled white-collar employees worked overtime hours in 1997, compared with only 46% of low-skilled white-collar employees. The differences by qualification level for blue-collar workers are much less significant than in western Germany. The share of skilled blue-collar workers who work overtime is only 5 percentage points higher than the corresponding share of low-skilled blue-collar workers. It is also evident that east German blue-collar workers – regardless of their level of qualification – work more overtime than their west German counterparts do.

Looking at the number of weekly overtime hours worked per head in western Germany, we see the same qualification-related patterns. Skilled workers work more overtime in both west and east Germany than their unskilled colleagues. A slight increase in the number of weekly overtime hours can be observed for (highly) skilled white-collar workers, while the figures for the other categories remain largely constant.⁵

Overtime work is significantly less widespread amongst women than amongst men. Thus, 53% of all west German women in full-time employment worked overtime hours in 1997 (against around 60% of men). Foreigners made more use of overtime to earn extra income than Germans. What is remarkable is the fact that employees who worked overtime in 1997 were not less likely to have a second job. A good 10% of all employed persons working overtime in their primary job also have another job, compared to 9% of the active labour force as a whole.⁶ This implies that in the event of a reduction of overtime brought about by legislative means, people who work overtime for pay will seek to

¹ The 'Alliance for Jobs' is a tripartite consultation of the Federal Government, employee and employer associations.

² Mitteilungen aus der Arbeitsmarkt- und Berufsforschung, various years.

³ The category '(highly) qualified white-collar workers' encompasses (1) white-collar workers in a skilled position (e.g. book-keepers), (2) white-collar workers in a highly skilled or management position (e.g. engineers, department heads) and (3) white-collar workers with comprehensive management functions (e.g. managing directors). The category 'low-skilled white-collar workers' encompasses white-collar workers in unskilled functions (with or without a vocational qualification).

⁴ The category 'skilled blue-collar worker' encompasses craftsmen, foremen and master craftsmen, while the category 'low-skilled blue-collar workers' encompasses unskilled and semi-skilled labour.

⁵ T. Bauer and K. F. Zimmermann arrive at similar results with respect to the structure of qualifications in western Germany; cf. T. Bauer and K. F. Zimmermann (1999), Overtime Work and Overtime Compensation in Germany, IZA Discussion Paper No. 48, Bonn.

Table 1

Overtime Worked in Germany by Category of Worker, 1990 to 1997

	1990	1991	1992	1993	1994	1995	1996	1997
Western Germany								
Share of employees working overtime (in %)								
low-skilled blue collar	33.9	36.2	33.2	22.9	28.7	32.0	30.9	35.1
(highly) skilled blue-collar	44.7	46.8	47.0	41.7	45.1	47.5	48.7	48.7
low-skilled white-collar	33.0	45.5	42.6	42.4	38.5	44.7	49.2	45.0
(highly) skilled white-collar	61.7	66.7	68.0	64.5	66.3	67.2	68.2	74.9
Weekly overtime (per head)								
low-skilled blue collar	1.5	1.7	1.6	1.0	1.2	1.6	1.3	1.4
(highly) skilled blue-collar	2.0	2.1	2.1	1.8	1.9	2.0	2.0	2.2
low-skilled white-collar	1.4	1.6	1.8	1.8	1.0	1.8	1.7	1.9
(highly) skilled white-collar	2.8	3.4	2.9	3.2	3.3	3.5	3.5	3.9
Eastern Germany								
Share of employees working overtime (in %)								
low-skilled blue collar	19.2	33.2	40.8	46.6	61.0	49.9	45.1	51.6
(highly) skilled blue-collar	27.5	34.4	43.9	48.0	52.4	52.3	53.0	56.2
low-skilled white-collar	36.0	43.9	42.1	41.7	51.1	54.5	62.2	45.6
(highly) skilled white-collar	32.2	54.5	69.1	64.5	72.2	74.2	72.2	70.6
Share of employees working overtime (in %)								
Weekly overtime (per head)	0.8	1.6	1.8	1.9	2.90	2.5	1.8	2.2
low-skilled blue collar	1.3	1.5	2.2	2.5	2.40	2.1	2.2	2.4
(highly) skilled blue-collar	1.3	2.6	2.3	1.9	3.0	3.0	2.3	2.0
low-skilled white-collar	1.4	3.0	3.3	3.2	3.5	4.2	3.9	4.1

Source: SOEP 1990 to 1997. Full-time employees in the private sector. Weighted shares.

compensate for the loss in income by increasing their secondary employment.

Increase in share of overtime compensated by leisure

The share of workers who receive exclusively monetary compensation for overtime in the form of pay alone fell drastically between 1990 and 1997 (cf. table 2). Thus, in 1997 only 42% of all blue-collar workers and under 9% of all white-collar workers in western Germany were paid in full for overtime hours worked. Mirroring this trend, the share of blue-collar workers who were granted leisure in compensation for overtime rose to almost

29%, while the corresponding share of white-collar workers increased to over 33%. A hefty almost one-third of all white-collar workers received no compensation whatsoever for overtime (blue-collar workers: 2%). Thus, in western Germany a trend towards so-called transitory overtime can be observed, i.e. overtime hours which fluctuate with the volume of orders in the enterprise and are compensated by leisure, for example under a system of 'working-time accounts.' The efforts under the Alliance for Jobs to introduce regulations allowing more flexible working time can be expected to reinforce this trend further.

The share of workers being paid in full for overtime hours is also sinking drastically in eastern Germany: compared to an initial almost 63% in 1990, in 1997 only under 36% of all blue-collar workers received monetary compensation for overtime. This figure is significantly lower than the corresponding figure for western Germany (42.2%). Under one-tenth of east German white-collar workers received exclusively monetary compensa-

⁶ Cf. J. Schwarze and G. Heineck and (1999): Rückgang der Nebenerwerbstätigkeit durch Einführung der Sozialversicherungspflicht wird überschätzt. In: *Wochenbericht des DIW*, No. 37/99.

Table 2

Compensation for Overtime in Germany, 1990 to 1997

	1990	1991	1992	1993	1994	1995	1996	1997
Western Germany								
Type of compensation (in %)								
paid overtime								
blue-collar	71.2	70.2	70.0	63.0	54.5	61.3	53.2	42.2
white-collar	20.2	23.3	19.0	17.9	14.9	14.5	12.5	8.7
leisure								
blue-collar	9.9	14.0	11.8	13.1	16.4	12.6	23.8	28.5
white-collar	26.5	26.6	30.2	33.7	32.9	33.6	36.5	33.3
part payment, part leisure								
blue-collar	15.6	13.9	15.2	20.8	25.1	23.0	20.6	27.3
white-collar	19.4	18.6	22.6	18.2	20.0	21.3	21.2	25.4
unpaid overtime								
blue-collar	3.3	1.9	3.0	3.1	4.0	3.1	2.4	2.0
white-collar	34.0	31.4	28.1	30.3	32.2	30.6	29.8	32.6
Eastern Germany								
Type of compensation (in %)								
paid overtime								
blue-collar	62.6	46.6	53.1	57.7	54.0	57.4	47.6	35.5
white-collar	16.6	13.7	16.1	10.9	11.0	10.4	14.9	9.6
leisure								
blue-collar	19.7	26.9	16.7	15.7	16.1	17.7	21.1	27.4
white-collar	41.3	28.7	25.7	34.2	27.6	26.2	31.7	30.3
part payment, part leisure								
blue-collar	15.7	22.6	24.4	22.9	24.8	19.0	26.4	32.7
white-collar	15.7	11.9	16.0	19.1	21.7	22.2	10.3	16.8
unpaid overtime								
blue-collar	2.0	3.9	5.7	3.7	5.1	5.9	4.9	4.4
white-collar	26.4	45.6	42.2	35.8	39.7	41.2	43.1	43.3

Source: SOEP 1990 to 1997. Full-time employees in the private sector. Weighted shares.

tion for their overtime in 1997 (1990: 16.6%). The share of workers who received only leisure in compensation for overtime was almost 30% in 1997 (blue-collar workers: 27.4%; white-collar workers: 30.3%), thus roughly corresponding to the figures for western Germany. It is noteworthy that in 1997 east German white-collar workers were much more likely than their west German counterparts to receive no compensation at all for overtime (43% against 32.6% in western Germany).

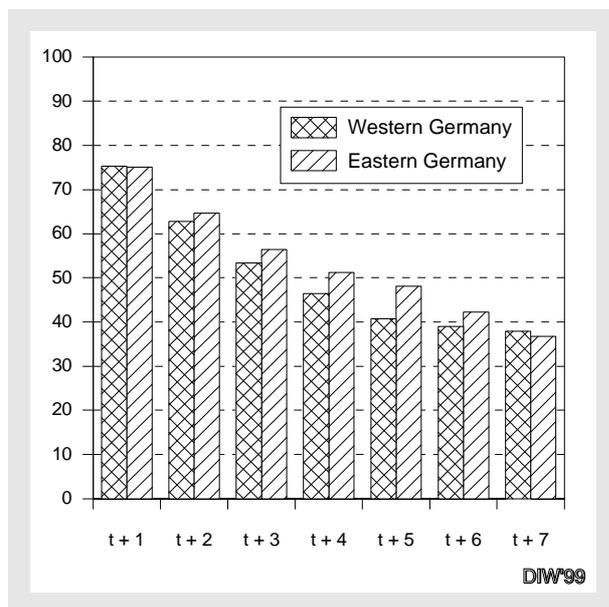
Overtime – a persistent phenomenon

The analysis thus far has shown that well-qualified workers work the most overtime, both in western and eastern Germany. What is also significant is the fact

that workers who do overtime are also more likely to continue to do so in subsequent years. Figure 1 illustrates the probability during the period 1990 to 1997 in western and eastern Germany that a full-time employee will work overtime over several consecutive years. At least three out of four workers (western and eastern Germany) worked overtime in two consecutive years, while no less than 35% of workers worked overtime throughout the entire period of eight years. This finding implies that overtime is concentrated among a specific pool of workers.

Further econometric analyses show that the likelihood of working overtime throughout the entire period increases as the individual level of qualification rises. This implies that skilled white-collar and blue-collar workers not only work more overtime and do so more frequently, but that they also work overtime on a per-

Figure 1
Persistence of Overtime
 Probability of working overtime the following years, in %¹



¹ Basis: full-time employees who have worked overtime.
 Source: SOEP 1990-1997. Weighted shares.

sistent basis over a long-term period. If we now assume that well-qualified specialised workers with a relatively constant long-term volume of overtime cannot be easily replaced by external labour, then we can infer that the employment effects of reduced overtime would probably be much lower than those suggested by a simple calculation converting the volume of overtime into additional jobs.

Negligible employment effects

The analysis thus far suggests that the employment effects of a general reduction of overtime would be weak because only a very small part of the overtime worked by qualified specialists could be taken on by previously unemployed new recruits. In addition, the trend towards transitory overtime, which is indispensable as a buffer for flexibility, is reducing the volume of paid overtime that will be available in the future.

The following simple and very rough estimate can be used to illustrate the limits to employment effects that might ensue from statutory overtime reductions. We start by only taking the volume of (partially) paid overtime into consideration. In addition – drawing on IAB studies⁷ – we assume that around 40% of the volume of overtime worked now could be eliminated and

that half of this volume could be converted into employment.⁸ Proceeding from the statutory working hours in western and eastern Germany in 1997 (37.5 and 39.1 respectively), the employment effect calculated on the basis of the SOEP would then be a maximum of 185 000 new jobs. According to our analysis, positive employment effects could at best be expected for blue-collar workers, and among this group mainly for the low-skilled. Then, however, the rough estimate of potential employment effects would be reduced to just over 20 000 new jobs in western and eastern Germany.

Income losses, especially for the highly qualified

In order to estimate the effects of a statutory or negotiated reduction of (partially) paid overtime on personal income distribution, we compare – separately for western and eastern Germany – the personal income distribution observed on the basis of monthly gross wages for full-time employed men in 1997 with a hypothetical income distribution without paid overtime. Here we assume – as suggested both by our own calculations thus far and by the Bauer/Zimmermann (1999) study – that no significant employment effects can be expected from a reduction of paid overtime.⁹

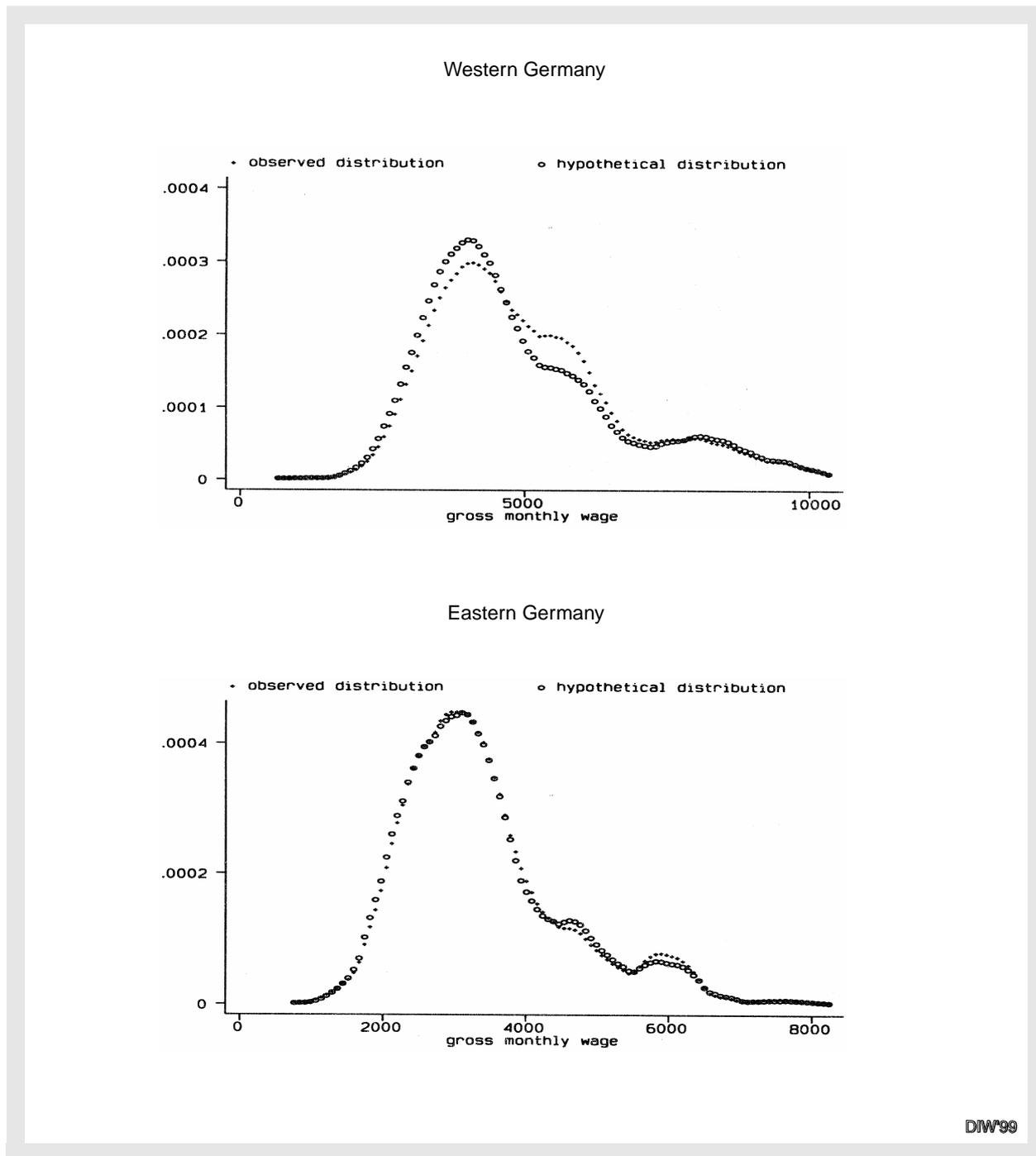
Figure 2 shows the effects thus calculated on the distribution of gross monthly wages in western and eastern Germany in 1997. In western Germany, a reduction of overtime would lead to a more equal income distribution: a higher share of incomes would be close to the average income. What is noticeable is the fact that a reduction of overtime would flatten the swell observed in western Germany above a gross monthly wage of around DM 5 000. Given that in 1997 the mean gross monthly wage of skilled blue-collar workers with paid

⁷ Cf., for example, IAB Werkstattberichte Nos 5/10.9.1996 and 10/18.9.1998.

⁸ The last assumption is questionable for the reasons cited above. In addition, econometric studies on western Germany (cf., for example, H. König and W. Pohlmeier (1998): Employment, labour utilization and procyclical labour demand, *Kyklos* 41, pp. 551-572) indicate that an increase in the cost of overtime would tend to have negative employment effects.

⁹ The hypothetical income distribution for 1997 in a world without paid overtime is calculated on the basis of the observations without (partially) paid overtime using kernel density estimators. Sample selection issues are taken into account by appropriate econometric techniques. Details can be found in DiNardo/Fortin/Lemieux (1996): Labor market institutions and the distribution of wages 1973-1992: A semiparametric approach, *Econometrica* 64, pp. 1001-1044. The estimates use the Epanechnikov kernel with a constant bandwidth for the income distributions under comparison.

Figure 2
Overtime Reductions and Personal Income Distribution, 1997



Sources: SOEP.

overtime was DM 4 900 and that of skilled white-collar workers with paid overtime was DM 6 300, we see that these groups of workers in particular would face notable losses in income in the event of a reduction of paid overtime. The minor effects on the left-hand side of the dis-

tribution, by contrast, indicate comparably lower income losses for low-skilled workers.

If we compare the personal income distribution in eastern Germany in 1997 with the hypothetical income distribution (cf. figure 2, bottom graph), we notice that

there are no remarkable differences over most parts of the income distribution. Only for gross monthly incomes of around DM 6 000, which are primarily earned by highly qualified white-collar workers with paid overtime, we observe a small smoothing effect.

Summary

Overtime hours were worked in Germany during the period 1990–1997 primarily by well-qualified blue-collar and white-collar workers. In addition, it is evident that overtime is increasingly being compensated by flexible leisure schedules. The scope for potential employment effects from a reduction of paid overtime is thus constantly decreasing and is much lower than the figures cited by unions in the current discussion. If the regulations to make working time more flexible being discussed in the 'Alliance for Jobs' were to be implemented, this would reinforce the observed trend towards compensation for overtime through leisure, further diminishing the potential employment effects. If the bargaining parties or the legislators would implement a reduction of overtime nonetheless, well-qualified blue-collar and white-collar workers in western Germany will suffer income losses.

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