

Unit Labour Costs Still Higher in East than in West Germany

By the middle of 1996 average gross wage and salary income in the new federal states of eastern Germany had risen to 78%, and net wages and salaries to 87% of the corresponding west German figures. Over the past two and a half years east German wage and salary earners have enjoyed a fairly substantial increase in real income, whereas real wages in west Germany have scarcely risen at all.

However, the other side of the coin of the declining difference between east and west German wage levels is that in east Germany wages and salaries have far outstripped productivity: unit labour costs in the new *Länder* are still substantially higher than in western Germany.

This report expands on and brings up to date earlier calculations by the DIW. The data were taken from the national accounts published by the Federal Statistical Office.

Female labour market participation rates higher in east than in west Germany

Between the start of 1994 (65.8 million) and mid-1996 (66.4 million) the resident population of the "old" Federal Republic of Germany increased by 610 000. While "immigration" from and "emigration" to the new federal states was more or less equal, immigration of ethnic Germans from eastern Europe and of refugees and other asylum-seekers was not matched by significant emigration abroad.¹ The greater number of deaths than births was far more than offset by net immigration.

The resident population of the new federal states, by contrast, declined by 140 000 between the start of 1994 (15.6 million) and mid-1996 (15.4 million). This is primarily due to the fact that the number of births in east Germany amounts to less than half the number of deaths. The number of births in the new *Länder* is, however, no longer declining; at 7% in 1995 and 9% in the first half of 1996, the figures show an increase on the corresponding period the previous year. Immigration to the new

¹ Cf. Immigration has Increased Income Inequality and Poverty in Germany only Slightly, in: *Economic Bulletin*, vol. 34, no. 2, February 1997.

federal states exceeded emigration from them, but net immigration was far from sufficient to offset the negative balance in terms of natural population change.

Labour market participation rates have fallen further in the "old" Federal Republic, whereas they have risen in the new *Länder*. Even so, if the number of people employed in east Germany is divided by the east German population (domestic concept), the figure remains lower than that in west Germany. However, more than 400 000 people commute from east to west Germany – as against just 100 000 west – east commuters – so that following a territorial ("national") concept, the participation rate of the east German population is unlikely to have been significantly lower than that in west Germany in 1995. Participation rates among east German women remain higher than in west Germany. Women also constitute a far higher proportion of the unemployed in east Germany (1995: 63%) than in west Germany (1995: 43%).

East German incomes still catching up

By the middle of 1996 average gross income from employment in the new federal states had risen to DM 3 860 per month (75% of the west German figure), average gross wages and salaries to DM 3 200 (78% of the west German figure), and average net wages and salaries to DM 2 290 (87% of the west German figure)² (cf. table 1). The gaps are in fact wider than the figures suggest, because a greater proportion of employees work part-time in west than in east Germany. The narrower gap between net incomes than between gross incomes results from the fact that west German employees face a heavier income tax burden than their east German colleagues due to the progressive structure of income tax rates. All the figures given are averages that conceal a substantial degree of variance.

Immediately after the introduction of Monetary, Economic and Social Union between the two German states in mid-1990, average gross income from employment in eastern Germany was just 35% of the west German level. During the first few years of unification the

² Not only employees, but also pensioners in the new federal states have benefited from a substantial rise in incomes. According to figures from the pension insurance association (*Verband der deutschen Rentenversicherungsträger*), in 1995 average monthly east German pensions (DM 1 840 for men and 1 060 for women) were higher than the average figures for west Germany (DM 1 700 for men and DM 690 for women). It is important to note in this context the longer average insurance periods of east German compared with west German pensioners. In the case of equal insurance periods, pensions are lower in east than in west Germany due to the lower levels of earned income there.

Table 1
Average Income from Employment¹⁾
in DM per employed worker and month

Quarter		Gross income from employment	Employer social insurance contributions	Gross wages and salaries	Wage tax and employee social insurance contributions	Net wages and salaries
west Germany						
1994	I	4 729	937	3 791	1 269	2 523
	II	4 888	969	3 919	1 371	2 548
	III	5 027	981	4 046	1 340	2 707
	IV	5 804	1 135	4 669	1 696	2 973
1995	I	4 844	964	3 880	1 358	2 522
	II	5 067	1 011	4 056	1 519	2 536
	III	5 219	1 029	4 190	1 472	2 719
	IV	5 983	1 181	4 802	1 836	2 966
1996	I	5 013	1 006	4 007	1 380	2 627
	II	5 142	1 027	4 115	1 488	2 627
new federal states and east Berlin						
1994	I	3 312	539	2 774	799	1 974
	II	3 422	572	2 850	856	1 994
	III	3 613	594	3 019	886	2 133
	IV	4 041	653	3 388	1 057	2 332
1995	I	3 492	543	2 949	842	2 107
	II	3 663	613	3 050	950	2 100
	III	3 832	628	3 203	977	2 226
	IV	4 300	715	3 585	1 169	2 416
1996	I	3 697	597	3 100	823	2 277
	II	3 856	654	3 203	912	2 290
memo item: new federal states and east Berlin as a % of west Germany						
1994	I	70.0	57.5	73.2	63.0	78.3
	II	70.0	59.0	72.7	62.5	78.3
	III	71.9	60.6	74.6	66.2	78.8
	IV	69.6	57.5	72.6	62.3	78.4
1995	I	72.1	56.3	76.0	62.0	83.5
	II	72.3	60.6	75.2	62.5	82.8
	III	73.4	61.1	76.5	66.4	81.9
	IV	71.9	60.5	74.7	63.7	81.5
1996	I	73.8	59.3	77.4	59.7	86.7
	II	75.0	63.7	77.8	61.3	87.2

1) Domestic concept. Columns may not sum to totals due to rounding.
Source: Federal Statistical Office.

income position of east German employees improved rapidly. By the end of 1992 they were earning on average around two-thirds of west German gross income. More recently the gap has continued to narrow, but more slowly; at the start of every year there has been an "adjustment leap".

Between the first quarter of 1994 and the second quarter of 1996, the consumer price level in west Germany increased by 4% and in the new *Länder* by 5%. In the years immediately following unification prices in

eastern Germany rose markedly; the sharp rises in housing rent exerted a particularly substantial impact. More recently, however, there has been little difference in the rate of inflation between the two regions.

Allowing for inflation, average net wages and salaries in eastern Germany amounted to almost DM 1 700 per month in the second quarter of 1996, i.e. to 73% of the west German figure.³ On the other hand, east German consumers have a relative purchasing power advantage of around 10%, because they pay less for

rent and for goods whose prices are set administratively (e.g. electricity, gas and water, medical and hospital services, public transport) than west German consumers.

Income gap wider in industry than in other sectors

The extent to which incomes have closed on west German levels varies from sector to sector (cf. table 2). Employees in east German agriculture and forestry have come closest to their west German counterparts: in the second quarter of 1996 their earnings amounted to 97% of the average gross income from waged and salaried employment of a west German agricultural/forestry worker. However, agricultural and forestry employees account for just 1% of west German and 3% of east German employment.

Public sector employees in the new federal states are also in a relatively favourable position. In the second quarter of last year their average gross income amounted to 85% of the west German level: 23% of west German and 26% of east German employment is in the public sector. In the summer of last year employees in east German service firms earned 78%, and those in trade and transport 75% of the corresponding average gross earned income in west Germany. Service firms employ 21% (west Germany) and 19% (east Germany), trade and transport 18% and 17% respectively of the regional labour force.

In the so-called "producer sector", which covers the remaining branches and in which 35% of the east German and 37% of the west German labour force are employed, the wage differential between the two regions remains comparatively large: average gross income in the second quarter of 1996 amounted to just 68% of the west German figure. Within this sector, faster progress in income adjustment has been made in construction and the energy and water supply utilities than in manufacturing industry.

For structural reasons average earned incomes in the new federal states as a whole are likely to remain below earnings by west German employees for an extended period: even in a decade, the proportion of east German employment consisting of highly paid jobs in industry

³ A better indicator of material welfare than earned income is the disposable income of private households, because households often have more than one earner and income is derived from various sources (examples, in addition to wages and salaries, include child benefit, housing benefit, and interest income). However, in the national accounts the disposable income of private households is no longer indicated separately for east and west Germany.

and producer-oriented services will remain below that in west Germany.⁴

Productivity gap between east and west Germany has not closed

Productivity⁵ in eastern Germany, which on the introduction of Monetary Union between the two German states was very significantly lower than in west Germany, has since failed to keep pace with wage growth. In the second quarter of 1996 real GDP per employee in east Germany amounted to DM 3 760 – just 46% of the west German figure.

In the "producer sector" of the new federal states, productivity was more than half that in west Germany (and in trade and transport just under half). In the public sector productivity just failed to reach two-thirds of the west German level (cf. table 3). In these areas east German productivity has at least been closing the gap on the comparable west German figures; in east German service firms, by contrast, productivity has stagnated in recent years at the decidedly low level of just over one-third of the figure for comparable firms in west Germany. The productivity of east German service firms is around one-fifth higher than for the economy as a whole, but in west German service firms productivity is more than half as high again as the macroeconomic average.

Real unit labour costs have risen faster in the new federal states than in west Germany

The fact that wage growth in east Germany has exceeded productivity growth means that unit labour costs – defined conventionally as labour costs per unit of output – are substantially higher there than in west Germany. Shortly after the introduction of the D-Mark, unit labour costs in east Germany were just over one-tenth

⁴ Prospects for Germany's Longer-term Economic Development, in: *Economic Bulletin*, vol. 33. No. 10, October 1996.

⁵ As in the national accounts by the Federal Statistical Office, productivity is here defined as gross value added (or GDP) per employee. The quarterly national accounts published by the DIW calculate productivity per working hour. This approach cannot be taken in a study at sectoral level, due to the lack of data on the number of working hours per quarter at sectoral level. In the agriculture and forestry sector productivity as calculated on the basis of the national accounts varies significantly over the course of year: at harvest time it is high, in the remaining months of the year very low. For this sector annual average productivity and unit labour costs are thus given.

Table 2

Average Gross Income from Employment¹⁾ by Economic Sector
in DM per employed worker and month

Quarter		Agriculture, forestry and fishing	Producer sector	Trade and transport	Services	Government, priv. households	Total
west Germany							
1994	I	3 038	5 333	4 289	4 016	4 745	4 729
	II	3 047	5 717	4 370	4 038	4 730	4 888
	III	3 248	5 575	4 847	4 244	5 011	5 027
	IV	3 406	6 432	5 165	4 868	6 197	5 804
1995	I	3 101	5 518	4 383	4 085	4 833	4 844
	II	3 144	5 979	4 473	4 173	4 911	5 067
	III	3 333	5 773	5 050	4 382	5 270	5 219
	IV	3 529	6 639	5 350	5 000	6 399	5 983
1996	I	3 223	5 759	4 535	4 204	4 987	5 013
	II	3 208	6 135	4 543	4 191	4 976	5 142
new federal states and east Berlin							
1994	I	2 587	3 489	3 099	2 766	3 657	3 312
	II	2 602	3 737	3 159	2 817	3 668	3 422
	III	2 840	3 843	3 463	3 033	3 890	3 613
	IV	3 007	4 218	3 790	3 268	4 626	4 041
1995	I	2 814	3 681	3 175	3 009	3 864	3 492
	II	2 908	4 015	3 296	3 083	3 924	3 663
	III	3 030	4 051	3 650	3 300	4 135	3 832
	IV	3 147	4 422	3 942	3 655	4 982	4 300
1996	I	3 030	3 803	3 361	3 188	4 236	3 697
	II	3 097	4 178	3 416	3 259	4 243	3 856
memo item: new federal states and east Berlin as a % of west Germany							
1994	I	85.1	65.4	72.2	68.9	77.1	70.0
	II	85.4	65.4	72.3	69.8	77.6	70.0
	III	87.4	68.9	71.4	71.5	77.6	71.9
	IV	88.3	65.6	73.4	67.1	74.6	69.6
1995	I	90.7	66.7	72.4	73.7	79.9	72.1
	II	92.5	67.2	73.7	73.9	79.9	72.3
	III	90.9	70.2	72.3	75.3	78.5	73.4
	IV	89.2	66.6	73.7	73.1	77.9	71.9
1996	I	94.0	66.0	74.1	75.8	84.9	73.8
	II	96.5	68.1	75.2	77.8	85.3	75.0

1) Domestic concept.

Source: Federal Statistical Office.

above those in the west of the country. Yet between then and the end of 1991 the gap widened to almost three-fifths as a result of the rapid pace of wage growth, and since then there has been a further slight increase (cf. table 4, upper part).

The situation varies from sector to sector, however. In the east German "producer sector" unit labour costs in the second quarter of 1996 exceeded the west German level by just 20%, whereas the figure in trade and transport was 60%. In these sectors the situation of east German firms has at least improved slightly in recent years. In the service companies located in the new federal states, by contrast, unit labour costs in 1996 were more

than twice as high as in west German tertiary sector; moreover, the gap between east and west Germany has actually increased in recent years in this sector.

The east German position has deteriorated even with regard to nominal unit labour costs

It is the case, however, that a comparison of unit labour costs calculated using real labour productivity exaggerates the gap between the new and the old federal

Table 3
Productivity¹⁾ by Economic Sector
 in DM per employed worker and month

Quarter	Agriculture, forestry and fishing	Producer sector	Trade and transport	Services	Government, priv. households	Total
west Germany						
1994	I	7 064	5 737	11 943	5 106	7 611
	II	7 518	5 927	12 097	5 106	7 802
	III	7 426	5 970	12 135	5 122	7 930
	IV	7 729	6 074	12 043	5 103	8 058
		3 707				
1995	I	7 465	5 961	12 153	5 136	7 856
	II	7 696	6 189	12 310	5 139	8 002
	III	7 480	6 168	12 324	5 154	8 070
	IV	7 713	6 194	12 275	5 136	8 178
		3 929				
1996	I	7 433	6 107	12 430	5 157	7 955
	II	7 845	6 326	12 597	5 159	8 158
	
new federal states and east Berlin						
1994	I	3 719	2 486	4 219	2 937	3 287
	II	4 030	2 697	4 391	2 946	3 476
	III	3 984	2 712	4 266	2 941	3 646
	IV	4 090	2 945	4 260	2 972	3 610
		2 357				
1995	I	3 964	2 603	4 227	3 062	3 433
	II	4 251	2 868	4 384	3 074	3 623
	III	4 208	2 868	4 286	3 094	3 839
	IV	4 115	3 068	4 304	3 125	3 713
		2 678				
1996	I	3 814	2 703	4 279	3 215	3 447
	II	4 453	2 967	4 450	3 209	3 758
	
memo item: new federal states and east Berlin as a % of west Germany						
1994	I	52.7	43.3	35.3	57.5	43.2
	II	53.6	45.5	36.3	57.7	44.6
	III	53.7	45.4	35.2	57.4	46.0
	IV	52.9	48.5	35.4	58.2	44.8
		63.6				
1995	I	53.1	43.7	34.8	59.6	43.7
	II	55.2	46.3	35.6	59.8	45.3
	III	56.3	46.5	34.8	60.0	47.6
	IV	53.3	49.5	35.1	60.8	45.4
		68.1				
1996	I	51.3	44.3	34.4	62.3	43.3
	II	56.8	46.9	35.3	62.2	46.1
	

1) Gross value added or GDP at 1991 prices per employee.
 Source: Federal Statistical Office.

states. As has already been mentioned, in the initial years of the adjustment process towards a market economy, prices rose sharply. To this extent it is not unproblematic to use the price level in 1991 in order to deflate current value added, as this ignores the price rises since 1991, which were more pronounced in east than in west Germany.⁶

Calculating on the basis of nominal value added data, unit labour costs in east Germany exceed those in

the western half of the country by "just" one-third (cf. table 4, lower section). Yet even in the case of nominal unit labour costs the east German position has deteriorated recently following a general improvement in 1992 and 1993.

The gap between east and west German unit labour costs is less pronounced in all sectors when nominal rather than real value added data are used. Particularly striking is the fact that unit labour costs in services are no longer, as suggested by the real data, more than twice as high as in west Germany, but only half as high again as in west German service companies.

⁶ Micro- and Macroeconomic Adjustment Processes in East Germany. Fourteenth Report, in: *Economic Bulletin*, vol. 33, no. 8, August 1996.

Table 4

Unit Labour Costs by Economic Sector – New Federal States and East Berlin

as a % of west Germany

Quarter	Agriculture, forestry and fishing	Producer sector	Trade and transport	Services	Government, priv. households	Total
in real terms ¹⁾						
1994	I	124.2	166.7	194.9	134.0	162.2
	II	121.9	158.9	192.2	134.4	157.1
	III	128.5	157.3	203.3	135.2	156.3
	IV	124.0	151.3	189.8	128.2	155.4
		136.3				
1995	I	125.6	165.9	211.8	134.1	165.0
	II	121.6	159.0	207.4	133.5	159.7
	III	124.7	155.5	216.6	130.7	154.3
	IV	124.9	148.7	208.5	128.0	158.3
		133.0				
1996	I	128.7	167.4	220.3	136.2	170.2
	II	120.0	160.3	220.1	137.1	162.8
in nominal terms ²⁾						
1994	I	116.1	159.4	133.3	102.5	134.2
	II	111.9	150.3	132.2	102.5	129.8
	III	116.9	145.3	140.7	102.3	129.1
	IV	112.4	138.6	133.0	101.5	126.7
		118.5				
1995	I	116.3	159.0	146.1	102.3	136.5
	II	112.1	150.2	143.4	102.1	132.0
	III	114.4	142.7	149.2	101.6	128.5
	IV	114.0	136.7	144.4	101.2	128.6
		116.4				
1996	I	118.6	159.6	149.5	102.0	138.0
	II	109.0	149.5	149.7	102.0	131.8

1) Gross income from employment per employed worker divided by gross value added (or GDP) at 1991 prices per employee. — 2) Gross income from employment per employed worker divided by gross value added (or GDP) at current prices per employee.

Sources: Federal Statistical Office; DIW calculations.

Conclusion

The rapid wage growth in east Germany during the early years of German unification are a millstone around the neck of medium-term economic development in the new federal states. Because labour costs have raced ahead of productivity, unit labour costs have risen to a level substantially higher than that prevailing in the old federal states: there has been no improvement in the relationship between east and west German unit labour costs in recent years.

Comparatively high wages at low productivity have led to an unfavourable profitability situation for many east German firms, which, in turn, has reduced investment and slowed productivity growth. If firms in the new federal states are to break out of this vicious circle

"it is essential that the level of collectively agreed wages does not rise for a number of years. Productivity growth would then create the scope for an improvement in profitability, which, in turn, is a necessary precondition for investment and the creation of competitive jobs... Only if a fundamental correction towards a relation (between labour costs and productivity) corresponding to that in west Germany is realised in east Germany can a self-sustained growth process be expected."⁷ Yet in 1997 there is again no chance of a change of course of this nature.

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⁷ The World Economy and the German Economy in the Autumn of 1996, in: *Economic Bulletin*, vol. 33, no. 11, November 1996.