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**East Germany: Transition
with Unification,
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East Germany: Transition with Unification

Experiments and Experiences

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I.   Introduction

East Germany remains unique among the transition economies. Soon after the fall of the Berlin Wall in 1989, it became part of the Federal Republic of Germany. German union meant the transplantation of West Germany's legal, administrative and economic infrastructure to the five new federal states. Perhaps the most visible aspects of this from the outside were East Germany's adoption of the DM and the integration of East Germany into the fiscal framework of the Federal Republic, and the immediate and full participation of East Germany into the trading system of the European Union.

At the time, the rapid integration of East Germany into the Federal Republic was met with high hopes, but also with warning criticism. Optimistic views, including those of the West German government under Chancellor Kohl, held that East Germany would be rapidly reconstructed and transformed into a thriving, modern economy, and that East Germany would quickly converge to West Germany in terms of economic performance. In fact, the federal government's economic policy towards the new states rested on the assumption that the transition phase would be successfully completed in a matter of a few years. In contrast, those who were more skeptical warned that East Germany risked becoming Germany's „mezzogiorno", a region permanently lagging behind in economic development and dependent on transfers from the West.

More than ten years after the fall of the Berlin Wall, we can ask how successful East Germany's transition has been and to what extent convergence has occurred. This paper gives an account of East Germany's economic development since 1990. In section II, we review East Germany's macroeconomic transition. In section III, we consider the progress with economic restructuring. Section IV is devoted to the adjustments in the labor market and section V to public finance aspects of East Germany's transition. Section VI derives our main conclusions: First, there has been significant convergence in the administrative and economic realm though persistent differences remain in the level of output and incomes as well as local capacities. Second, the risk that East Germany will remain a transfer-dependent economy for the foreseeable future is considerable. Endogenous institutional change in the labor market showing its first signs in East Germany may become important in overcoming these problems.

II.   Macroeconomic Performance

Table 1 summarizes East Germany's macroeconomic performance since 1991.[1] Between 1991 and 2000, total population fell by almost five percent. Real GDP started to decline already prior to German union in 1990. After German union, the decline precipitated. The

total drop in real GDP between 1989 and 1991 amounted to 35 percent. From 1991 on, real GDP increased by a total of 54 percent. In 1989, East Germany's real GDP stood at 13 percent of West German GDP; between 1991 and 2000, it rose from 9 percent to 12.5 percent of West German GDP. Real economic growth was vigorous only in the first half of the 1990s, it fell to levels close to the low West German growth rates after 1995 and was 2 percentage points lower in 2000. Thus, East Germany seems to be closely tied to the West German business cycle in the second half of the 1990s. In 2000, however, East Germany was clearly lagging behind west German growth performance. Per capita real GDP started out at 40 percent of West Germany's level in 1991 and rose to 61.1 percent during the 1990s.

Table 1: Economic Performance, 1991-2000

	Real GDP (in Bill.)		Real GDP, Growth Rate		Per Capita Real GDP in thousand DM		Population in million		Private Consumption per capita		Industrial Production (growth rate)	
	East	West	East	West	East	West	East	West	East	West	East	West
1991	275.7	3070.3	-22.9*)	5.1**)	18.8	47.0	14.632	65.352	17726	24945	-33.0*	3.7*
1992	301.9	3119.1	9.49	1.59	20.9	47.2	14.442	66.152	17968	25423	-1.7	1.1
1993	337.9	3045.9	11.92	-2.35	23.6	45.6	14.348	66.832	18357	25136	16.4	-6.5
1994	376.5	3086.7	11.43	1.34	26.4	46.0	14.262	67.16	18999	25203	12.4	1.6
1995	393.3	3129.7	4.45	1.39	27.7	46.4	14.204	67.457	20057	25482	6.8	1.6
1996	406.0	3144.0	3.24	0.46	28.7	46.4	14.152	67.744	20729	25540	11.0	-0.4
1997	410.9	3188.7	1.21	1.42	29.1	46.9	14.112	67.94	20781	25668	5.0	1.8
1998	415.1	3258.4	1.01	2.19	29.5	47.9	14.051	67.978	21141	26206	6.0	3.3
1999	421.0	3309.7	1.43	1.57	30.1	48.6	13.981	68.105	21947	26800	1.6	0.1
2000	425.8	3415.0	1.14	3.18	30.6	50.1	13.924	68.214	Na	Na	6.5	4.7

Note: *) refers to East Germany including East-Berlin, **) refers to West Germany including West-Berlin, for all other figures East Germany are the 5 new Länder. Industrial production refers to the manufacturing sector without construction. *indicates data of industrial production according to old system of national accounting. Source: "Arbeitskreis VGR der Länder", Statistical Office of the Land Baden-Württemberg, Authors' calculations, Prices 1995=100

In 1991, East German industrial production fell by 33 percent compared to the annualized level of the first half of 1990. Table 1 shows that the recovery did not take off before 1993, and in 1995 it slowed down again with the German recession. Today, industrial production barely exceeds pre-transformation levels. Growth rates are still somewhat higher in the East, but this gap is diminishing.

Table 1 indicates how different the development of per capita consumption in East Germany was during this period. Per capita consumption reached 71 percent of the West German level in 1991, i.e., the gap between the two parts of Germany was much smaller in

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consumption terms than in production terms. In 1999, East German per capita consumption had advanced to 81 percent of the West German level.[2]

Table 2: Migration

		Emigration		Imigration			Migration Balance				
		From East to the West (including West-Berlin)			From the West to the new Länder (including East-Berlin)			Net migration to West Germany			
	Total	male	Female	Total	Male	Female	Total		Male		Female	
1991	249 743	125 884	123 859	80 267	55 657	24 610	+	169 476	+	70 227	+	99 249
1992	199 170	98 334	100 836	111 345	73 008	38 337	+	87 825	+	25 326	+	62 499
1993	172 386	85 072	87 314	119 100	73 722	45 378	+	53 286	+	11 350	+	41 936
1994	163 034	79 675	83 359	135 774	79 338	56 436	+	27 260	+	337	+	26 923
1995	168 336	83 495	84 841	143 063	81 791	61 272	+	25 273	+	1 704	+	23 569
1996	166 007	83 824	82 183	151 973	85 005	66 968	+	14 034	-	1 181	+	15 215
1997	167 789	84 887	82 902	157 348	85 821	71 527	+	10 441	-	934	+	11 375
1998	182 478	92 687	89 791	151 750	81 787	69 963	+	30 728	+	10 900	+	19 828
1999	195 530	99 004	96 526	151 943	80 759	71 184	+	43 587	+	18 245	+	25 342
2000	214 456	108 055	106 401	153 179	79 808	73 371	+	61 277	+	28 247	+	33 030
	1 878 929	940 917	938 012	1 355 742	776 696	579 046	523 187		164 221		358 966	

Source: Federal Statistical Office

East and West German consumption figures are difficult to compare during this period, because of the remaining distortions of relative prices. For example, housing prices remain much lower in East Germany compared to West Germany. Thus, the differences in standards of living are likely significantly smaller than the consumption data suggest. Microeconomic data (DIW et al., 1999) indicate that average household incomes in East Germany had advanced to 80 percent of West German levels in 1995[3], and that households in East Germany can purchase a representative bundle of goods, for which West German consumers pay DM 100, for DM 91. This suggests that East German real household incomes approximated 90 percent of West German levels in 1995. Household ownership rates are similar for most categories of consumer durables in East and West Germany. This convergence is consistent with the observation that net migration from East to West Germany virtually stopped in the mid 1990s.

Total population in East Germany fell by 5 percent in the 1990s. Kempe (2001) points out that the reduction in population is largely due to low birth rates[4], while the net migration to West Germany was compensated by inmigration from foreign countries. Net migration between East and West Germany declined until 1997, see table 2. It peaked in

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[2] Separate data for the uses of GDP in East and West Germany are no longer published in official documents since 1994. However, the "Arbeitskreis VGR der Länder" provides data on a Länder level, which we use here. Whole of Berlin is added to West Germany.

[3] East real private consumption was around 82 percent of West consumption in 1999.

[4] See also Hardt et al. (2001), who give the figures for Sachsen-Anhalt showing that 2/3 of population decrease is explained by low birth rates.

1991 with 169 thousand people leaving East Germany. In 1997, only 10 thousand people left East Germany, however net migration has picked up somewhat since 1997, with 61 thousand leaving in 2000.[5]

There is a remarkable assymmetry in migration with respect to men and women with 2 to 800 (1994) times more women than men leaving East Germany every year. This is mostly due to the fact that there are significantly more men than women migrating to East Germany, whereas the number of people emigrating is similarily distributed among sexes. Furthermore, since 1997 the percentage of young people emigrating has increased (Kempe (2001)). In addition, the qualification structure of migration has changed considerably since 1997. While during 1992-1997 there were more qualified people migrating to the East than leaving, this proportion has shifted and many qualified people now leave the East (Kempe (2001)).

Table 3: East Germany: Uses of GDP

	Private Consumption	Public Consumption	Gross Investment	External Balance	Public net transfers	Foreign Investment
1991	94.1	36.4	36.1	-66.5	52.3	15.5
1992	86.0	37.1	44.6	-67.6	43.8	20.0
1993	77.9	34.7	47.3	-59.9	40.2	20.4
1994	72.0	33.0	51.0	-55.9	34.2	21.1
1995	72.4	31.8	49.4	-53.7	35.7	Na
1996	72.3	30.9	45.3	-48.5	34.2	Na
1997	71.4	30.0	42.4	-43.7	32.6	Na
1998	71.6	29.9	40.2	-41.6	33.4	Na
1999	72.9	Na	Na	Na	33.2	Na

Note: All entries percentage of East German GDP. Source: "Arbeitskreis VGR der Länder", Statistical Office of Land Baden-Württemberg, Deutsche Bundesbank

Table 3 reports the uses of GDP in East Germany for the years for which data are available. This table reveals perhaps the most stunning aspect of East Germany's transition process: the ability to consume and invest far above the level of domestically produced output and incomes. The external deficit of East Germany amounted to 66.5 percent of its GDP in 1991. In 1994, it still stood significantly above 50 percent. By 1998, the external deficit amounted to 42 percent of GDP. The table shows that public sector transfers from West Germany financed between 65 and 80 percent of that deficit.

To put these numbers in perspective, note that West German private consumption amounted to 48 percent of West German GDP in 1991, investment amounted to 22.2 percent, and government purchases to 17.8 percent. The ratio of consumption to GDP thus was almost twice as high in East Germany compared to West Germany. Private household savings ratios (savings in relation to disposable income), however, were almost the same in

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[5] These figures are somewhat too low because of the state Brandenburg, which in 1998 has high net inmigration due to its geographical closeness to Berlin.

the two parts of Germany. Thus, the higher consumption ratio is not an indication of a higher propensity of East German households to consume out of a given income, but rather the result of a higher ratio of disposable incomes to GDP which was facilitated by the public sector transfers.

Another interesting observation comes from combining the data on foreign investment from Table 3 with the investment subsidies paid by the federal government to firms investing in East Germany during the 1990s, reported in Table 15 below. Combining the two series yields a ratio of investment financed by external funds to GDP of 23.3 percent in 1991, 25.8 percent in 1992, 25.3 percent in 1993, and 25.3 percent in 1994. Subtracting this from the ratio of investments to GDP in Table 3 yields an internal investment rate of East Germany of 12.8 percent, 18.8 percent, 22 percent, and 25.7 percent for the same years. Except in 1991, this rate is not much different from West Germany's rate of investment which hovered around 20 percent in these years. Again, the data suggest that the very large investment rate is due to expansion of the budget constraint rather than a significantly different pattern of economic choices in East Germany compared to West Germany. This suggests that, without the public transfers, East German investment would have been lower by the amount of direct investment subsidies.

The observation of similar investment and consumption propensities can be explained by the large public transfers to the East, which are mostly paid in social security systems and pensions[6].

Between 1990 and 1991, East German wages rose by 18%, followed by 32% in 1992 and 19% in 1993. Later on, the wage hikes became more moderate and from 1995 onward real wage growth actually fell below labor productivity gains. Wages rose by only 5% from 1996 to 2000. Productivity measured as nominal GDP per employee evolved similarily, however growing at a somewhat slower path. Data on output per employee **hour** were not available for the late 1990s. Our productivity figures are therefore biased. If the number of hours worked per employee increased, the true productivity gains would be lower. Barrel and te Velde (2000) provide evidence that the number of hours worked in East Germany increased substantially in the early 1990s and dropped to a level around 400 hours per quarter compared to 375 in West Germany. Hourly productivity gains are thus lower than indicated. Wages therefore increased faster than hourly productivity in the first half of the 1990s. Wages in West Germany increased by around 20 % in the 1990s, whereas West-German productivity increased by less than 10 %.

Unit labor cost in East Germany started out at almost 150 percent of West German

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[6] Nierhaus (1999) shows that the pension per houshold in East Germany are 111% of those in west Germany in nominal terms and 120% in real terms.

levels in the early 1990s, see table 4. A strong improvement in the first years of the 1990s came to a halt after 1993. While nominal unit labor costs were going down only slightly in West Germany (4%), in East Germany the drop in unit labor costs was considerable (26.5%). Currently, unit labor cost stands at 112 percent of the West German level. Thus, at the end of the 1990s, East Germany's economy still suffers from a persistent disadvantage in competitiveness relative to the West. Furthermore the gain in East German productivity

Table 4: East-West German Comparison of basic labor market indicators, East as percentage of West

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
a	Gross nominal wages	50.8	61.8	68.9	72.5	74.9	75.4	75.7	75.9	76.7	76.8
b	Labor productivity	34.6	48.3	59.5	64.3	65.1	67.1	67.7	67.3	67.5	68.5
c	Unit labor costs	146.8	127.9	115.8	112.8	115.0	112.4	111.8	112.8	113.6	112.2
d	Unemployment rates	205.8	300.2	251.0	213.8	196.6	210.9	209.7	231.1	223.5	254.8

Note: a=Gross nominal labor income per employee, b=nominal GDP per employee, c=a/b, d=unemployment according to Microcensus, Source: „Arbeitskreis VGR der Länder", Statistical Office Baden-Württemberg.

can be explained by a large drop in East-German employment of 15% (from 7744 thousand to 6564, see table 12).[7] Figure 1 expresses productivity and wages as percentage of West values. It shows a clear process of convergence in the first half of the nineties, which then considerably slowed down.

Figure 1: Productivity and Wages in East as percentage of West Germany Index West=100

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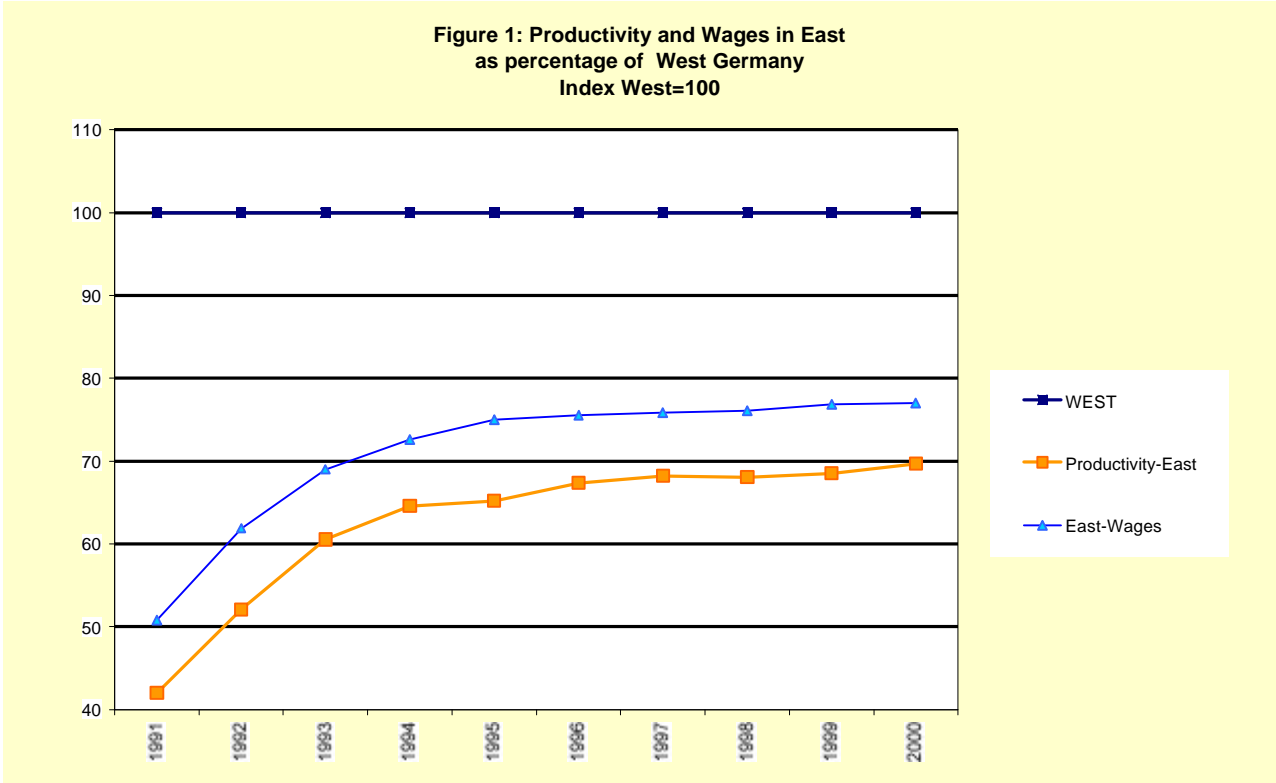
[7] Barrel and te Velde (2000) investigate the East German productivity development in the 1990s. They observe convergence in the early 1990s which has almost come to a halt.

Figure 2 shows the East German productivity as a percentage of West German productivity. In all industries, there was considerable convergence in productivity in the early 1990s, by 1995 this process has come to a stop. In all industries, except for agriculture, productivity has remained far below West German levels and has not improved much since 1995.
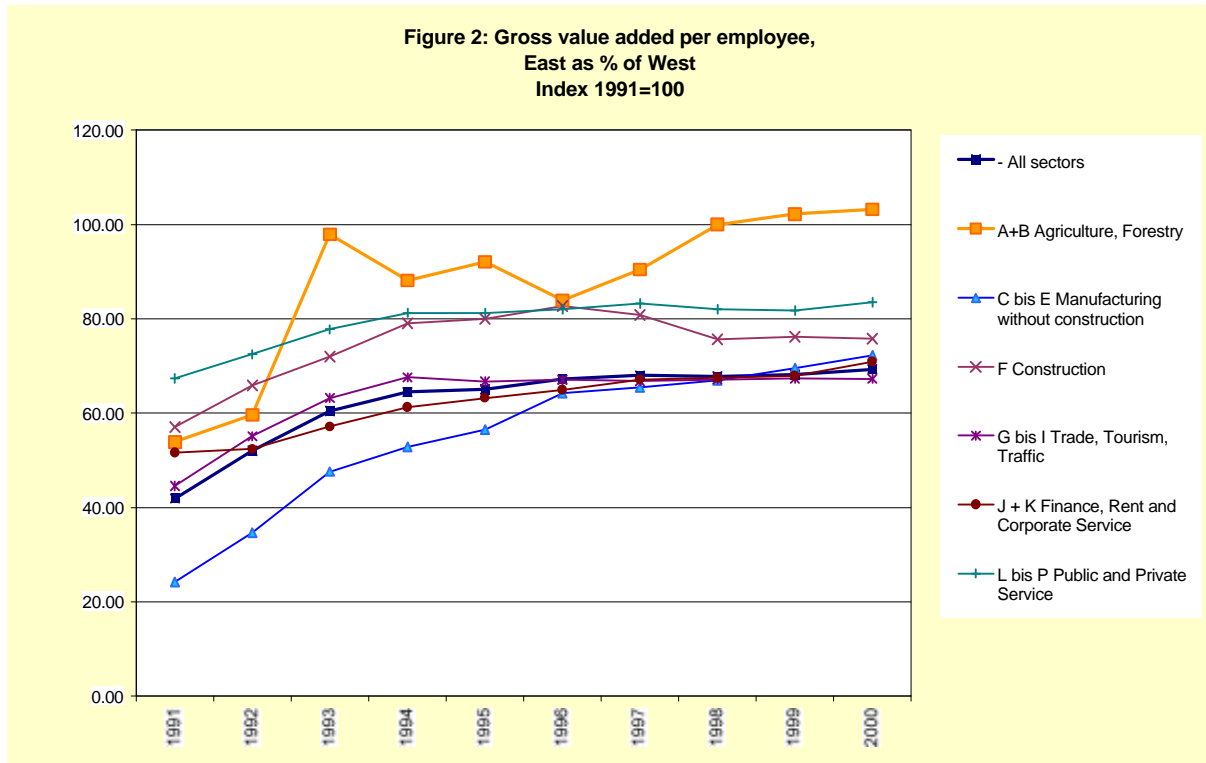
Figure 2: Gross value added per employee,
East as % of West
Index 1991=100

Note: Data for the 5 new Länder, Source: "Arbeitskreis VGR der Länder", Statisitical office Baden-Württemberg.

Table 6 indicates that the restructuring process has been accompanied by strong changes in productivity. Overall, productivity in the East caught up from a third to 70 percent of the West German level. The relative gains were strong in the early 1990s, but slowed down in the late 1990s, as West Germany realized significant productivity gains (see table 5, especially in agriculture, manufacturing, and trade), too, after 1994; East German productivity increased in parallel. The strongest productivity gains were realized in the manufacturing sector, while relative productivity in the service sector remains low in East Germany. Combining tables 5,6 and 9,10 suggests that productivity gains in the early 1990s were predominantly realized through the shedding of labor, and only later through the improvement of the capital stock (see Dietrich et al., 1998).

Table 5: Productivity Trends in West Germany, Gross value added per employee, 1991=100.

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
-	All Sectors	100	100.8	99.7	101.5	103.5	104.5	106.5	108.1	108.7	110.5
A+B	Agriculture, Forestry	100	117.0	117.7	119.0	130.2	156.7	156.4	155.2	161.2	163.8
C to E	Manufacturing (without construction)	100	99.9	97.7	105.0	107.7	107.4	111.7	113.0	113.5	118.4
F	Construction	100	101.3	96.2	95.6	91.5	89.8	92.8	95.3	95.2	94.2
G to I	Trade, Tourism, Traffic	100	101.4	99.1	100.4	102.7	103.6	104.6	106.2	107.1	110.0
J + K	Finance, Rent and Corporate Service	100	98.4	97.7	94.6	95.8	96.6	96.5	96.7	95.9	94.3
L to P	Public and Private Services	100	100.8	100.2	99.8	100.1	100.1	100.1	100.4	98.8	97.9
L	Public Administration, Army, Social Security	100	100.7	102.3	104.6	106.0	107.7	109.1	110.7	Na	Na
M to P	Education, Health, Others	100	100.9	99.3	97.7	97.8	97.2	96.8	96.8	Na	Na

Note: Data for the 5 new Länder, Source: "Arbeitskreis VGR der Länder", Statisitical office Baden-Württemberg.

Table 6: Productivity Trends in East Germany (Gross value added per employee), 1991=100.

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	All Sectors	100	125	144	156	161	168	173	175	177	183
A+B	Agriculture, Forestry	100	130	214	195	223	244	263	288	306	314
C to E	Manufacturing (without construction)	100	143	192	229	251	285	302	313	326	353
F	Construction	100	117	122	133	128	130	132	126	127	125
G to I	Trade, Tourism, Traffic	100	126	141	152	154	156	157	160	162	166
J + K	Finance, Rent and Corporate Service	100	100	108	112	117	122	126	127	126	130
L to P	Public and Private Services	100	108	116	120	121	122	124	122	120	122
L	Public Administration, Army, Social Security	100	119	125	130	134	135	140	142	Na	Na
M bis P	Education, Health, Others	100	104	111	116	116	117	117	115	Na	Na

Note: Data for the 5 new Länder, Source: "Arbeitskreis VGR der Länder", Statisitical office Baden-Württemberg.

The Kohl government's justification for the initial conversion rate for East German wages and its subsequent support for rapid nominal wage equalization was that East German labor, even if prices highly, would soon attract capital and modern technology due to the high level of training of East German workers, and that this would fill the productivity gap. Obviously, this „wage-pull" argument, though it bought the government popularity with the labor unions, does not make economic sense, as it disregards the importance of the rate of return on capital for capital investments. The data suggest that the government's policies failed to mobilize internal savings and investment in East Germany. Put simply, the return on capital was too low given the excessive wage cost.

To spur investment nevertheless, the Kohl government paid massive investment subsidies of various forms; see Table 7. Sinn (1995) estimates that, as a result, the cost of capital became negative for industrial investments and the renovation of buildings and very low, though positive, for other types of investments. But as much of this support was based on saving taxes, it could only be attained by firms that were mature enough to earn sufficient profits already. East German businesses were, therefore, less able to enjoy such benefits than West German businesses (DIW et al., 1995). Sinn (1995) argues that, therefore, these subsidies favored the acquisition of East German firms by West German businesses, without necessarily leading to the building of new production facilities. They seem to have done little to stimulate investment by East German companies in East Germany.

Nevertheless the increasing capital stock should have boosted productivity in the East. Klodt (2000) investigates the "East German productivity puzzle." He finds that given the existing capital stock in East Germany, labor productivity should be much higher in the East than the data report. In the framework of a Cobb-Douglas production function, Klodt calculates a hypothetical relative labor productivity of around 90 percent of West German productivity, which considerably exceeds actual productivity. Furthermore he argues that the quality of inputs is similar. The skill structure of East German labor force is better than in West Germany, a finding supported by Franz and Steiner (2000), the quality of the capital stock is equally by now high. The gap between observed and hypothetical labor productivity can thus not be be explained by the quality of inputs. Klodt points out that average capital intensity in the East German manufacturing sector is slightly higher than in the West. In some industries (like oil refinery, motor cars, metals), it exeeds west values by more than 50 percent. At the same time labor productivity is far lower in the East than the West. Presumably, the strategy of fostering capital intensity in East Germany hampered the development of a viable industry structure based upon human-capital and service intensive industries, in which East Germany has a competitive advantage.

Table 7: Investment Support Programs (Billions of DM)

	1991	1992	1993	1994	1995	1996	1997	1998
Tax allowances	1.04	4.19	4.89	4.44	3.62	2.41	1.74	1.32
Depreciation allowances	3.40	4.90	6.30	7.10	9.10	9.50	6.82	7.00
Investment Subsidies	7.52	6.38	6.98	6.70	5.08	6.27	4.48	2.37
ERP Loans	8.15	6.12	6.02	4.10	3.58	3.58	3.17	1.52
KfW Loans	5.92	6.34	3.79	2.05	2.14	2.14	1.91	0.72
DtA Loans	3.52	3.88	3.19	3.16	2.47	2.47	2.07	0.83

Note: 1998: first 6 months. Sources: ERP (European Reconstruction Program); KfW (Kreditanstalt für Wiederaufbau) DtA (Deutsche Ausgleichsbank)

Table 8a reports the sectoral distribution of investment during the 1990s. In the early years of transition, finance, rent and corporate services attracted the largest part of investment, followed by manufacturing and public and private services. This is consistent with the need to restructure the service sector and with the need to rebuild the productive capital stock of the East German economy, which was largely worn out at the end of the 1980s (von Hagen, 1997; DIW, 1999). The share of investment in finance, rent and corporate services increased considerably in the 1990s, in 1998, it had reached almost 50 percent of investment. The share of investment in trade, tourism and traffic, on the other hand, continuously decreased, while investment in public and private services had a relatively stable share.

Table 8a: Distribution of Investment

		1991	1992	1993	1994	1995	1996	1997	1998
-	All Sectors	100	100	100	100	100.0	100.0	100.0	100.0
A+B	Agriculture, Forestry	1.4	1.4	1.3	1.5	1.5	1.4	1.3	1.5
C to E	Manufacturing (without construction)	23.3	24.3	21.8	18.2	18.3	18.3	16.3	16.4
F	Construction	4.9	4.4	3.7	3.1	2.1	1.9	1.6	1.4
G to I	Trade, Tourism, Traffic	18.4	16.1	14.5	13.3	12.2	9.8	9.1	9.1
J + K	Finance, Rent and Corporate Service	28.6	31.4	35.2	39.6	41.7	46.7	51.2	49.2
L to P	Public and Private Services	23.4	22.4	23.5	24.2	24.2	21.8	20.6	22.3

Note: Most recent data available, data for 5 new Länder, total investment in % of all sectors' total investment; Source: „Arbeitskreis VGR der Länder"

The share of investment in buildings increased until 1995, while the equipment investment share was declining (see table 8b). Investment in structure/plant had a constant share of 50 percent. Total investment increased from DM 202 billion to DM 340 billion in 1995 prices, peaking in 1995 with 395 billion DM.[8]

Between 1991 and 1998, DM 407 billion have been invested in equipment, DM 919 billion in buildings and DM 1326 billion have been invested in structures in East Germany. The capital stock, which initially was reduced significantly by the dismantling of old production sites, has grown at an annual rate of seven percent, compared to 2.5 percent in West Germany. As a result, the average age of capital equipment had fallen by 1994 to 25.3 years, compared to 32.6 years in 1991 and 21.3 years in West Germany.[9]

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[8] More recent data are not available separately for East and West Germany; However data for construction investment are still calculated by the Federal statistical office and equipment investment are calculated by the IFO institute. Construction investment peaked in 1995 with 147 billion DM and continously fell to 116 billion DM in 2000. Equipment investment increased to 71.7 billion in 2000 and declined slighly in 2001.

[9] More recent data are not available.

Table 8b: Structure, Equipment and Buildings Investment in East Germany

	Structure	Equipment	Buildings	Total	Structure	Equipment	Buildings	Total
	In 1995 prices				in percent of total			
1991	100873.2	41263.7	59609.6	201746.5	50.0	20.5	29.5	100.0
1992	136662.0	45606.4	91055.6	273323.9	50.0	16.7	33.3	100.0
1993	162537.8	49085.9	113451.9	325075.6	50.0	15.1	34.9	100.0
1994	194723.9	53481.7	141242.2	389447.8	50.0	13.7	36.3	100.0
1995	197305.3	54479.8	142825.6	394610.7	50.0	13.8	36.2	100.0
1996	187225.7	55240.0	131985.7	374451.4	50.0	14.8	35.2	100.0
1997	177159.1	52402.1	124757.0	354318.1	50.0	14.8	35.2	100.0
1998	169923.4	55855.7	114067.7	339846.8	50.0	16.4	33.6	100.0
1999	na	Na	na		na	na	Na	Na

Note: Million DM or percent, data for 5 new Länder; Source: "Arbeitskreis VGR der Länder"

Due to the monetary union with West Germany, inflation never was a problem of East Germany's transition phase.[10] Under the strict price-stability orientation of the German Bundesbank, the relative price adjustments required by the deregulation of the East German markets were never allowed to feed into general inflation, and the conversion of monetary assets from East German Mark to Deutsche Mark succeeded in avoiding an inflationary monetary overhang. Table 9 shows that consumer prices still rose considerably faster in East than in West Germany in the early 1990s, peaking at 12.1 percent in 1992. The strongest price increases were for housing (the rental price of apartments increased by 369 percent between 1991 and 1997), health care and cosmetics (53 percent) and energy (35 percent), the smallest price increases occurred for textiles (3 percent) and furniture and household goods (5.8 percent). In the late 1990s, the rate of price increase in East Germany has come down to the West German level.

After an initial drop of about 30 percent, producer prices remained flat throughout the 1990s, moving pretty much in line with West German producer prices; see Table 7. The close co-movement indicates the high degree of market integration between the two parts of Germany, which did not leave much room for deviations of producer prices in East Germany from those in West Germany. The largest price increase in this category falls on electricity, gas, and water supply, with a total increase of 17.8 percent between 1991 and 1997.

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[10] For a review of the monetary union and its macroeconomic effects see von Hagen (1993).

Table 9: Inflation and Unemployment, 1991-2001

	PPI Inflation (in percent p.a.)		CPI Inflation (in percent p.a.)		Unemployment (percent) (1)	
	East	West	East	West	East	West
1991	n.a.	2.5			10.3	7.2
1992	2.3	1.4	13.4	3.9	14.8	6.3
1993	1.9	0.0	10.6	3.6	15.8	6.6
1994	1.3	0.6	3.6	2.7	16	8.2
1995	1.4	1.7	1.9	1.6	14.9	9.2
1996	1.4	-0.1	1.9	1.3	16.7	9.3
1997	1.8	1.1	2.3	1.9	19.5	10.1
1998	Na	Na	1.1	0.9	19.5	11
1999	Na	Na	0.4	0.7	19	10.5
2000	Na	Na	1.7	2.0	18.8	9.9
2001	Na	Na	2.9	2.5	18.9	8.7

Note: (1) The unemployment figures include East-Berlin. In 1997, the "Arbeitsämter" in Berlin were restructured so that figures before 1997 are difficult to compare with post 1997 figures.

Unemployment in East Germany started off at 4.7 percent in the second half of 1990, to increase quickly to an average of 10.3 percent in 1991. In 1992, it jumped to 14.8 percent and increased to 19.5 percent in 1998. Since then it fell slightly to 18.9 in 2001.

III. Economic Restructuring

The 1990s witnessed a strong structural adjustments of the East German economy. Table 10 shows that the agricultural sector, which was still relatively large in 1991, declined by 1 percentage point and is now at 2.4 percent of GDP, still more than twice as high as in West Germany. The share of manufacturing (without construction) fell from 21.6 percent to 18.6 percent, remaining considerably lower than in West Germany (2000: 26%). The construction sector in East Germany had a share of 12.2 % in 1991, which increased to 17.2% in 1994 and since then declined to 9.6% in 2000. In West Germany these figures stayed around 5% over the entire period. The magnitudes for trade, tourism and traffic are similar. The importance of finance, rent and corporate services increased from 12.4% to 26%, whereas in the west these figures increased from 25% to 31%. Public and private services constitute around 20% of the west economy, but in the East initially they dominated the economy with a share of over 32%, declining only slightly to 27.6%.

A closer look reveals a dramatic process of de-industrialization in East Germany. The industrial sector shrank by three percent of GDP since 1991. Its share is now below 20 percent of GDP, much lower than that of industry in West Germany. The large and growing share of construction also reflects the East German construction boom of the 1990s, an unsustainably high level which was corrected partly since 1995 but is still far too high.

Table 10: Sectoral Structure of Production

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
-	All Sectors	100	100	100	100	100	100	100	100	100	100
A+B	Agriculture, Forestry	3.4	2.4	2.6	2.2	2.3	2.3	2.4	2.5	2.4	2.4
C to E	Manufacturing (without construction)	21.6	16.5	15.7	15.4	15.4	16.3	16.8	17.5	17.5	18.6
F	Construction	12.2	14.9	15.3	17.2	16.9	15.8	14.5	12.3	11.2	9.6
G to I	Trade, Tourism, Traffic	18.1	17.8	17.2	16.9	16.3	15.7	15.7	16.1	16.0	15.8
J + K	Finance, Rent and Corporate Service	12.4	15.1	18.7	19.5	20.4	21.7	23.0	24.2	25.3	26.0
L to P	Public and Private Services	32.4	33.3	30.4	28.9	28.8	28.2	27.6	27.4	27.5	27.6
L	Public Administration, Army, Social Security	9.1	10.5	9.9	9.2	9.2	9.1	9.0	8.9	Na	Na
M bis P	Education, Health, Others	23.3	22.8	20.5	19.7	19.6	19.1	18.7	18.5	Na	Na

Note: In percent of Gross Value Added; Data for the 5 new Länder, Source: "Arbeitskreis VGR der Länder", Statisitical office Baden-Württemberg.

Overall, the table indicates a strong shift of East German production from industry to finance, rent and corporate services. To some extent, this is due the fact that, under the old socialist regime, many services that are typically offered by specialized institutions in market economies and, therefore, are counted as part of the service sector, were offered by the state-owned industrial companies and, implicitly, counted as industrial output. A typical example are social services offered by East German firms. Groebel (1996) estimates that this difference between the institutional division of labor in the economy results in an overestimation of the share of the manufacturing sector in East Germany by 17 percent, and

an underestimation of the service sector by 25 percent relative to official statistics.[11]

More generally, however, the move from a manufacturing-based to a service-based economy is a common sign of a modernizing society. In this regard, West Germany has lagged significantly behind her West European partners in the past 25 years. Especially the share of the sector "education, health, others" is higher (though declining) in the East than in West-Germany. However, the sector "finance, rent and corporate services" is lower in East-Germany. Overall the service sector in East Germany as in West Germany is increasing.

Real production growth in the sectors differed form trend in productivity; see table 11a and 11b. In the East, all sectors have grown substantially, whereas in the west the manufacturing and the construction sector have experienced a decrease in their value added. Hidden behind these aggregate figures for the manufacturing sector are some very strong relative changes in production across industries. Mining and quarries are the losing

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[11] Groebel works with data from the East German statistical office based on pre-unification prices and accounting rules. Her sectoral shares are, therefore, not comparable with the shares calculated by the West

industries of the 1990s, in west as in east Germany. Until 1997, mining and quarries, leather, machinery and water and energy supply are the losing sectors.[12] In contrast, production in the wood processing industry, rubber and plastics, metal goods, glass and ceramics, and office machinery and optics are the expanding industries of the 1990s. This restructuring of East German industry came together with similarly strong shifts in employment and in labor productivity (von Hagen, 1997).

Reviewing these structural changes in the industrial sector, Ragnitz et al. (1998) and Dietrich et al. (1998) note a number of tendencies. First, the relatively fast-growing industries tend to be those that are intensive in transportation cost and produce primarily for the regional markets rather than the German and international markets. This is consistent with the observation that East Germany reaches a ratio of exports to GDP of less than 10 percent in 1997. Industries which are less protected by transportation costs apparently find it too hard to compete due to the combination of low productivity and high wages.

Table 11a: Percentage change in real gross value added in the different sectors, 1991-2000

		EAST	WEST
-	All sectors	58	14
A+B	Agriculture, Forestry, Fishing	35	18
C bis E	Manufacturing	68	-3
C	Mining, extraction of ore etc., quarries	-58*	-34*
D	Manufacturing	120	-3
E	Energy and water supply	3*	12*
F	Construction	42	-12
G bis I	Trade, Tourism, Traffic	66	15
G + H	Trade; Reparation of cars and consumer goods; Hotel and Restaurant Industry	53*	0*
I	Traffic and Telecommunication	72*	25*
J + K	Finance, Rent and Corporate services	122	40
J	Banking and Insurance Sector	42*	27*
K	Real Estate, Rent, Corporate services	116*	27*
L bis P	Public and Private Services	24	12
L	Public Administration, Defence, Social Insurance	32*	-2*
M bis P	Education, Health, Domestic Services, Others	19*	18*

Note: Data for the 5 new Länder, * indicates percentage change 1991-1998, Source: "Arbeitskreis VGR der Länder", Statisitical office Baden-Württemberg.

German statistical office today. Nevertheless, her results indicate the importance of the effect which prevails in the new statistical data.

[12] With the indroduction of the European System of national accounting in 1995, the definition of sectors changed, so that we report some of the data according to the olf definition in table 11b.

Table 11b: Relative Change in Industrial Output, 1991-97

	Total industry	Mining, quarries	Manufact uring	Food, tobacco	Textiles and clothing	Leather	Wood processing	Paper and printing
Output 1)	32.8	-63.7	58.9	97.9	8.4	-54.7	248.3	112.0
Productivity 2)	61.3	95.3		71.9	57.5	66.5	68.2	93.9
Mineral oits etc.	Chemic als	Rubber, plastics	Glass, ceramics	Metal, metal goods	Machinery	Office machiner y, optics	Furniture, musical instrument s	Energy, water
29.0	10.0	221.6	143.8	156.2	-26.0	99.9	80.6	-11.5
26.4	36.1	71.1	73.6	66.5	51.7	69.3	58.3	.

Note: 1) Relative change, 1991-97; 2) East Germany in relation to West Germany (percent) 1996.
Source: Federal Statistical Office

Second, the relatively fast-growing industries today are those that, according to West German experience tend to have a limited growth potential only in the longer run, and those that have a relatively low intensity in high-skilled labor. A continuation of this trend would imply a slowdown of East German growth in the long run, with limited chances only to catch up with West Germany in terms of per-capita output and labor productivity. Part of this slowdown is already reflected in low East German GDP growth in 2000. Taking these trends together signals a risk that East Germany develops a lasting dependency on income transfers from West Germany, if comparable standards of living are to be maintained.

IV. Labor Market Adjustment

In 1989, the East German economy had 9.56 million employees, this number fell to 7.74 million in 1991; see table 12. By 1998, the number of jobs had further decreased to 6.52 million. Thus, the economy lost about one third of its jobs during the 1990s. Since 1998 employment has increased somewhat in East Germany.

Table 12: Employment

	Employment (1000 jobs)	
	East	West
1991	7744	29382
1992	6831	29786
1993	6585	29485
1994	6663	29103
1995	6786	28940
1996	6684	28950
1997	6579	28859
1998	6518	28980
1999	6644	29383
2000	6564	29667

The decisive factor in East Germany's labor market crisis was the immediate and full extension of West Germany's labor market institutions to East Germany, including an unemployment insurance characterized by generous unemployment benefits. Until 1994, the replacement rate in the German unemployment insurance was 68 percent for an unemployed individual with at least one child, and 63 percent for unemployed without children. These rates were lowered to 67 percent and 60 percent, respectively, in the Consolidation Act of 1993. The duration of benefits varies from one year for individuals under the age of 45 to 32 months for individuals above the age of 57. Upon expiration, they are replaced by unemployment aid, which has no maximum duration for individuals below age 65. In 1994, replacement rates under unemployment aid were lowered from 58 percent to 56 percent for individuals with at least one child and from 57 percent to 53 percent for unemployed without children (BMA, 1998; Steffen, 1995).

The rules of unemployment insurance to East Germany defined the rules of wages bargaining in East Germany. They allowed West German employers and labor unions to fend off the competition of low-wage workers from East Germany. While unions feared that competition for the pressure it might exert on the high wage level in West Germany, employers were equally dismayed with the prospect of low-wage competitors from the new parts of the country. Their collusion was facilitated by the fact that wage negotiations in East Germany were soon taken over by West German unions. Western union leaders presented themselves as acting on behalf of the East German workers, as East German unions had fallen into political disrespect for their association with the communist regime. To eliminate wage competition from East Germany[14], employers associations and unions in 1991 agreed on a stepwise adjustment of East German wages to Western levels. Several industries - most importantly the steel industry - envisaged to have the same wage levels in East and West Germany by 1994 (SVR, 1992:107-110). Moreover, unions striving for a very rapid adjustment of wages signed contracts only for less than a year to facilitate re-negotiations and a quick upward move of wages.

The result of this could only be to price East German labor out of the market. But high wages levels secured high unemployment benefits, which left the unemployed better off staying in the East than moving to the West to find employment. Massive unemployment

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[13] The Microcensus uses the ILO definition for employment. One hour of work per week for remuneration implies that the respective person is classified as emploeyed. The Microcensus is a representative random draw of the population, so that small sampling error may occur. The number of employees in the 5 new Länder, calculated indirectly from data of the "Arbeitskreis VGR der Länder" is lower. (1991 6435 thousand in East, falling to 5356 thousand; West 28438 in 1991 increasing to 29231 thousand).

[14] See also Sinn (2000).

in East Germany was the result (Sinn, 1995; von Hagen, 1997).[15] Instead of creating jobs in the East, the adjustment process triggered huge social transfers from West Germany. Elsewhere, we explain that the Kohl government, which was trailing far behind in the polls running up to the election in 1990, allowed this to happen in the hope to improve its reelection chances (von Hagen and Strauch, 1999).

The federal government responded to the rise in unemployment with an unprecedented level of labor market interventions. Table 13 reports the number of participants in different labor market schemes and the unemployment rate for East Germany. Between two and five percent of the German labor force participated in public works programs from 1991 to 1997; a similar number of employees were enrolled in training programs. This number fell to 159.000 in 2001 after a peak of 428.000 in 1992. Early retirement and provisional retirement schemes were a third kind of labor market policy. At the peak, some eleven percent of the total labor force benefited from these schemes. An even larger number of individuals were included in programs supporting part-time work during the initial stage of the transition process (BMA, 1998). In 1991, 19.6 percent of the labor force received such transfers, but the number of recipients was falling during the subsequent years. The combined full-time work equivalent of these measures amounted to almost 20 percent of the labor force in 1991 and approximately 11 percent in more recent years. There was a large number of employees in early retirement- or transitional old-aged schemes, with a peak of 853.000 in 1993 (or some 10.6% of work-force). These numbers went down very quickly and now represent only a minor part of the work force. Taken together, they created what became known as a "secondary labor market" in Germany, which amounts to 10% of the work force in 2000 and almost 20% in 1992/93.

Empirical evidence on the effectiveness of these measures in terms of a reintegration of participants in the labor market is rather disappointing.[16] Only on-the-job-training or training demanded by enterprises seem to have a positive effect on the individual's chances to find employment. In particular, the programs have failed to re-integrate the long-term unemployed into the labor market (Bertold and Fehn, 1997). Thus, they were unable to overcome the structural weaknesses of Germany's highly administered labor market.[17]

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[15]Theoretical models emphasize the role of unemployment benefits for the level of structural unemployment (e.g. Driffill & Miller, 1998). Empirical findings strongly confirm that high replacement rates in combination with their "long-term" duration causes high levels of structural unemployment, above all if no effective active labor market policies are in place bringing people back to work (see Nickell 1997, Siebert 1997).

[16] A literature overview and additional evidence is provided in Hübler (1997) and Berthold & Fehn (1997).

[17] Most alternative proposals suggested to let the market determine wages and pay transfers to employees that could not support themselves or their families at the market wage rate, instead of

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Employees in part-time work	1616	370	181	97	71	71	50				
Employees in job-creation schemes	183	388	260	281	312	278	235	322	339	356	372
Employees in different job-creation schemes*								156	165	174	183
Employees in training schemes	169	428	351	248	250	238	171	150	153	156	159
Employees in early retirement- or transitional old-aged schemes	554	811	853	650	374	186	58	94	94	94	93
Other								47	48	50	53
Employed persons	7744	6831	6585	6663	6786	6684	6579	6518	6644	6564	
Unemployed persons	965	1396	1475	1469	1354	1402	1562	1638	1486	1450	
Unemployment rate	11.1	17.0	18.3	18.1	16.6	17.3	19.2	20.1	18.3	18.1	
Unemployment rate (including the special programs)**	21.5	36.7	36.5	32.6	28.1	26.0	24.9	29.5	28.1	28.5	

Note: *Participants ABM. **The jump in 1998 unemployment rate is caused by taking into account employees in different job creation schemes. Employees in part-time work are not counted in the unemployment rate. Source: Deutsche Bundesbank (1998), Autorengemeinschaft (1998), Microcensus, Statistisches Bundesamt, Bundesanstalt für Arbeit in Nürnberg. Figures in 1000 or in percent.

Table 14 considers the labor market participation rates of different groups of the East German population. Participation of East German males started at 88 percent in 1991. It has declined somewhat and approached the West German rate of 80 percent since. Female participation, which was traditionally higher in East Germany than in West Germany, remains 10 percentage points higher in the East. An interesting observation from this table is that the differences in employment rates between East and West Germany are much more limited than the differences in unemployment rates from Table 7 would suggest. This similarity of employment rates in the two parts of the country suggests that labor supply choices in East Germany are becoming much alike West German ones. In this sense, we observe convergence of the two labor markets. However, convergence does not imply integration, which would suggest a narrowing of regional unemployment rate differentials. In 2002, West German unemployment rates varied between 5.4 percent and 9.2 percent among the non-city states, East German unemployment rates varied between 16.1 percent and 19.8 percent. These large differences between the two parts of the country suggest that the unemployment insurance and welfare systems create sufficiently strong incentives against moving to prevent the equalization of unemployment rates expected in an

tying transfers to unemployment. This would have helped to overcome the inherited labor market distortions and keep unemployment low in the first place. (see Akerlof et al., 1991, Sinn & Sinn, 1991)

integrated market.

If we accept the hypothesis of similar employment choices in East and West Germany, Table 14 suggests that the difference in unemployment rates reflects largely differences in the response to institutional incentives to register unemployed. Specifically, East German individuals who effectively chose to leave the labor market decided to remain registered unemployed to receive unemployment benefits. Assume that, instead, East Germany had started from participation rates similar to those in West Germany in 2000. Under this assumption, the same observed employment rate in East Germany in 2000 would have implied a registered rate of unemployment of 16.5 percent instead of 16.3 percent for all males in 2000, but only 7.0 percent instead of 20.2 percent for all females. These estimates imply a reduction of the number of registered unemployed females by 503,000, over 35 percent of the 1.4 million registered unemployed in East Germany.[18] The resulting unemployment rate would then be sigificantly smaller, namely 11.8 percent. Admittedly, this is a rather mechanistic calculation, but one that illustrates the large consequences of the adverse incentive effects of Germany's labor market institutions and the low quality of unemployment rates as welfare indicators for East Germany.

Table 14: Labor Market Participation

	Participation Rate			Employment Rate		
	East, 1991	East,2000	West,2000	East,1991	East,2000	West,2000
All male	88.0	79.8	80.0	78.5	66.8	74.3
All female	77.2	72.2	62.1	66.7	57.6	57.7

Note: Participation rate: self-employed, employed and unemployed persons as percent of total working-age population (in that group). Employment rate: self-employed persons and employees in percent of total working-age population (in that group). ILO Definition, Source: Federal Statistical Office, Microcensus

Eventually, a wage policy conducted largely according to the economic interests of West German unions and employers associations could not remain without an institutional response. The response has been an increasing erosion of the traditional German wage setting institutions in East Germany. Traditionally, wages are negotiated between unions and representatives of the employers association, with settlements binding for all employers who are members of the association. Thus, a firm can only withdraw from the settlement if it leaves the association. Recent data (DIW et al., 1999, and communication by phone by DIW, 5.14.2002) shows that only 15 percent of all firms are members of an association and only 12 percent intend to remain members, down from 26 percent in 1993; 85 percent are not members, up from 64. Only 36 percent of all employees in East Germany are working in such firms, down from 62 percent in 1993. 55 percent of the

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[18] See Schneider (1998) for a similar calculation. Schneider starts from the observation that the average employment rate in East Germany was only marginally lower than in West Germany in 1998,

employed today work for firms that are not members of an employers association, up from 24 percent in 1993. 67 percent of all employees still receive wages under union contracts, down from 83 percent in 1993. An important long term consequence of the labor market adjustments may thus be that East German wage setting arrangements will gain more flexibility than those in West Germany.

V. Public Finance Aspects

As noticed in the previous sections of the paper, government spending programs were the backbone of several macroeconomic developments and distortions in East Germany. The following part will describe how the New Länder were integrated into the Western fiscal system and analyze the fiscal magnitude and implications of massive state intervention. Then we will turn to the more specific aspect of local public finances because the peculiarities and problems of institution-building and fiscal integration can be illustrated particularly well in this area. Despite clear convergence towards West German patterns, marked difference continue to exist in the fiscal position of Eastern local governments.

V.1. West-East Transfers

German unification implied the extension of West Germany's social security and assistance institutions to East Germany and inclusion of East Germany into the federal grant system. German fiscal federalism establishes a system of horizontal and vertical resource flows between different layers of government, complemented by centralized pensions and unemployment insurance administered by independent federal agencies.

All German states participate in the horizontal equalization system, which aims at reducing differences in their tax revenues. Due to the weakness of their tax bases, the immediate integration of the new states into this system would have turned all West German states into net contributors. As the West German states resisted this, the East German states were initially excluded from equalization and supplementary federal grants paid under this scheme. The Federal Government shouldered the bulk of the responsibility by transferring large funds to the new states. The German Unity Fund, originally devised to cover the deficits of the GDR government during the interim period until unification, soon became the main financial arrangement (Schwinn, 1997:51-54, Rensch 1996). Beyond their contributions to this fund the Western states paid only small transfers to the East.

The 1993 Consolidation Program dissolved the German Unity Fund and integrated the new states into the equalization system from 1995 on. To facilitate this step, the federal government ceded seven percent of its VAT share to the states and agreed to cover most

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namely 59.7 percent compared to 60.8 percent.

of the revenue shortfalls remaining for the East German states after the transfers within the horizontal equalization scheme. Additional federal grants were installed to compensate for the fiscal burdens caused by the socialist regime, for governments with less than proportional tax power and for states with a low population density suffering from diseconomies of scale in public administration. In addition, a financial package was approved providing grants for the new states to support economic growth and investment.

Table 15 reports the transfer flows paid to East Germany by the various parts of German government. Total gross transfers rose from DM 139 billions in 1991 to DM 194 billions in 1999. The federal government's share in these transfer flows increased over time. The table also reports the functional distribution of these transfers. The largest share are transfers to private households. Socially motivated payments rose from 64 billion to 96 billion between 1991 and 1999, between 45 and 50 percent of total gross transfers[19]. A large part of these expenditures were payments from the federal government, which were channeled through the social security system to overcome its financing shortages in the East (see von Hagen & Strauch 1999). Moreover, the federal government directly paid for social security benefits under early retirement schemes and unemployment support. According to Burda and Busch (2001, p.17), the federal government also paid a substantial part of the pension funds for East Germany (1998: 23.6 billion). Current subsidies to East German enterprises are the third largest transfer category amounting to 8 billion in 1991 and 16 billion in 1997.[20] Importantly, transfers to finance public investment amount to much less than transfer payments to individuals. This is a clear refutation of the tax-smoothing interpretation of German fiscal policy after unification. The Länderfinanzausgleich, only plays a minor role in transfers, with around 12 billion for East Germany and Berlin and only 7 billion for the 5 new Länder in 2000 (BMF, webpage 2002).

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[19] Figures calculated according to Ragnitz (2001). Burda and Busch (2001) report slightly higher figures of social transfers with 101.1 billion, or 51.7 percent in 1999.
[20] According to Table 12, between 50 billion and 56 billion DM per year cannot be ascribed to any of these transfer categories, they include wage compensation for public employees and other transfers.

Table 15: Public Transfers to East Germany, 1991-1998 (in Bill. DM)

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Federal Budget	75	88	114	114	135	138	131	134	140
"German Unity" Fund	31	24	15	5 -	-	-	-	-	
EU	4	5	5	6	7	7	7	7	7
Pension Fund	-	5	9	12	17	19	18	18	19
Labor Office (BfA)	25	38	38	28	23	26	26	27	28
Länder and local governments in West-Germany*	5	5	10	14	10	11	11	11	11
Total**	**139**	**151**	**167**	**169**	**185**	**187**	**183**	**189**	**194**
of which (percent)									
Socially motivated Benefits	45.4	54.1	54.3	54.4	49.5	49.7	49.7	49.1	50.5
Subsidies to firms	2.5	4.7	7.6	7.5	8.0	7.0	6.3	6.4	6.0
Investment (Infrastructure)	12.4	9.9	8.6	10.1	13.0	13.3	13.2	12.9	12.8
Cash transfers (not classifiable)	28.0	22.3	20.0	19.5	23.5	24.6	25.0	25.8	25.0
Other	11.7	9.0	9.3	8.4	6.0	5.4	5.8	5.8	5.8
Reflows	**33**	**37**	**39**	**43**	**45**	**47**	**47**	**47**	**50**
Net Transfers	**106**	**114**	**128**	**126**	**140**	**140**	**136**	**142**	**144**

Note: *Since 1995 mostly "Länderfinanzausgleich". ** The total takes account of double counting of the labor office (BfA). Source: Deutsche Bundesbank (1997), BMF (1998), Ragnitz (2001)

Federal support to the social insurance system would have been even larger without the transfers from within the system to East Germany. In 1990, East Germans contributed 50 percent of the unemployment insurance benefits paid in East Germany. This share fell to 7.2 percent in 1993. Similarly, the ratio of pension contributions to expenses fell from around 81 percent in 1991 to 45 percent in 2000 in East Germany (Table 16), a result of rising unemployment, rising early retirement benefits and rising wage levels. Thus, although social security and unemployment insurance have no explicit geographical dimension, these schemes became channels of massive regional income distribution (Czada, 1995).

Table 16: Ratio of Contributions to Expenditures for Unemployment Insurance and Pension Fund

	Unemployment Insurance		Pension Fund	
	West	East	West	East
1991	148.7	15.2	85.0	80.9
1992	154.4	7.2	83.4	69.4
1993	129.4	7.1	78.9	65.4
1994	133.6	9.0	81.0	62.2
1995	131.1	11.1	80.7	57.8
1996	120.5	10.2	81.8	55.6
1997	127.5	9.5	84.0	56.0
1998	-	-	82.2	52.6
1999	-	-	80.2	50.4
2000	-	-	76.9	45.9

Source: Deutsche Bundesbank (separate time series for contributions to the unemployment insurance scheme end in 1997)

Meanwhile, the governments of the new states continuously spent in excess of their tax revenues (Seitz & Peters, 1999). Although their indebtedness was small at the time of unification, the level of state debt reached DM 96.3 billion at the end of 1998, while East German municipalities had incurred DM 30 billion debt at that time. The combined debt thus corresponded to about one third of GDP. In per-capita terms, East German states and municipalities had incurred debt totaling DM 8940 per capita debt, slightly more than the DM 8900 of West German states and municipalities.

V.2.. Municipal Government in East Germany

Under the socialist regime, East Germany had lost its traditional federal structure consisting of a central government, state governments and local governments (villages and counties). The states were abolished as administrative and political units in 1952 (Stamm, 1990) and replaced by 14 district administrations (and East-Berlin). Local administrations deteriorated to purely administrative bodies.

With the transplantation of the "ready-made state" from West to East Germany (Rose et al., 1993), district governments were abolished and the traditional structure was reinstalled. Municipalities were granted autonomy in local matters in May 1990. Before unification, the management of local state enterprises had been an important activity for city governments. As this task became obsolete, these governments assumed a number of new tasks such as social, cultural and sports activities, and the management of hospitals and public schools. New administrative fields such as social assistance, the registration of citizens, property and environmental protection were ascribed to municipalities and county governments (see Wollmann, 1996:117-118, 1997: 269-271).

Local governments were generally ill-equipped to fulfill these tasks, as core administrations were heavily understaffed. Counties were in a better position at the beginning, but lost parts of their staff, particularly in tax administration, either to state

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governments or the private sector. At the same time, the transfer of tasks and personnel formerly belonging to subordinated agencies or state owned enterprises created a large overhang of personnel in areas such as social affairs, sports etc.[21] These facts are illustrated in Table 17. In contrast, financial administration, construction and housing, and local industrial development were understaffed in East Germany compared to West German states. In subsequent years personnel in schooling and health was drastically reduced, but remained relatively large in the social area.

Table 17: Local Government Staff (per 1000 inhabitants)

	New Länder			Old Länder
Year	1991	1996	2000	1991
General Administration	3.91	4.07	3.92	3.08
Financial Administration	0.61	1.05	1.08	0.69
Public Security Service	1.15	1.65	1.76	1.29
Schools	4.18	2.27	1.77	1.93
Science, Research and Culture	1.47	1.48	1.43	0.96
Social Security	10.96	6.02	4.62	2.71
Aid for Young People	8.91	4.53	3.35	1.18
Health, Sports and Recreation	8.20	2.02	1.44	1.32
Hospitals	5.15	0.00	.	0.02
Construction and Housing	1.73	2.05	1.89	2.12
Public Facilities and Industrial Services (Wirtschaftsförderung)	1.50	2.00	1.66	1.71
Public Enterprises	0.16	0.06	0.08	1.17

Source: Federal Statistical Office, Figures excl. East Berlin in 2000

The small size of many communities was another liability of the former system. Pre-unification East Germany was divided into 7640 communities, of which 87 Percent had less than 2000 inhabitants and 47 percent less than 500 inhabitants; only seven percent had more than 5000 inhabitants. (Bizer & Scholl, 1998:41). In contrast, the minimal size of a viable community was estimated at 5000 inhabitants in West Germany. Similarly, the average county population of in the new states was 60,000 inhabitants, against 150,000 in

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[21]   Government employment could rise drastically due to this reshuffling of institutions. For example, in some cities which had formerly an administrative staff of 250 to 300 employees, the staff number rose to 4000 or 5000, or even 10000 in Erfurt, between 1990 and 1991 (Wollmann, 1996:128).

West Germany (Wollmann, 1997: 289.) Undersized communities promoted parochialism[22], planning uncertainty, and short-sighted action. The new East German states undertook local government reforms during the first electoral term, which became effective with the start of the second electoral term between in December 1993 and December 1994.

V.3. Municipal Finances

Table 18 shows the evolution of municipal revenues from 1991 to 1998. After a sharp rise between 1991 and 1992 due to higher tax rates, revenues increased until 1995. Since 1995, revenues have deteriorated as federal and state grants to the operating budgets decreased.

The unification treaty ruled that local governments receive at least 40 percent of the grants from the German Unity Fund and 20 percent of state tax revenues. Municipalities became eligible for grants financing "joint policies" (Gemeinschaftsaufgaben) such as higher education, regional development and coastal protection, and could draw from a range of special programs financed by various federal ministries.[23] Under the 1993 Consolidation Program, municipal debts for public housing inherited from the past were assumed by the federal Debt Processing Fund (Bohley, 1995:213).

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[22] For example, coordination problems among small communities induced the excessive construction of water-clearing facilities and industrial areas, because each community wanted to create its own facility irrespective of the actual demand and the efficiency of the measures. (see Bizer & Scholl, 1998: 44 and the literature quoted here).

[23] An overview is provided in Bizer and Scholl (1998:71-72). Saxonia had abour 120 different funding programs on which local governments could draw to finance capital expenditures. (Schneider, 1993: 23). Apart from grants, special arrangements were made with regard to the calculation of taxes shared among different layers of government. For example, local communities received their share of income tax revenues according to the number of inhabitants instead of the local income until 1996 due to the reliable data. (see Rensch, 1997 for his and other special arrangements).

Table 18:   **Real Revenues and Expenditures of East German Local Governments (in Bill DM) - Operating Budget**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Taxes	2.51	4.31	5.39	6.73	7.51	6.27	6.79	7.73	8.15	8.14
Profit Tax (net)	0.50	0.71	1.14	1.99	1.70	1.98	2.64	2.85	2.73	2.95
Profit Tax (gross)	0.51	0.71	1.25	2.25	1.92	2.21	2.66	2.91	3.12	3.40
Local Share of VAT	.	.	.	.	.	.	.	0.64	0.72	0.79
Local Share of Inc. Tax	1.12	2.57	3.06	3.43	4.30	2.56	2.27	2.23	2.58	2.22
Grants of Fed. Gov. And Länder	26.69	23.21	23.95	23.94	25.33	23.08	21.50	20.93	20.74	21.13
Transfers to families Familienlastenausgleich	.	.	.	.	.	0.39	0.33	0.21	0.19	0.31
Charges	3.25	4.69	5.10	5.00	5.28	4.99	4.66	4.43	4.32	4.13
Other Revenues	6.00	9.08	8.35	8.48	8.04	6.24	5.89	5.88	5.60	5.56
Total Operating Revenues	**38.45**	**41.32**	**43.14**	**43.89**	**46.37**	**42.72**	**39.55**	**39.16**	**39.24**	**39.26**
Wage Payments	17.39	21.32	20.13	18.22	17.97	16.88	15.71	15.25	15.03	14.59
Purchases	10.72	11.65	11.06	10.83	10.70	10.24	9.90	9.72	9.64	9.22
Social Transfers	2.20	4.33	5.96	7.59	8.70	7.93	6.51	6.36	6.39	6.64
Interest Payments	0.23	0.61	1.04	1.29	1.53	1.71	1.74	1.78	1.72	1.68
Payments to Public Sector	0.85	0.78	0.92	0.92	0.68	0.97	0.67	0.62	0.68	0.75
Other Expenditures	3.20	2.10	2.31	2.49	2.97	3.03	3.19	3.42	3.54	3.63
Total Operating Expenditures	**34.59**	**40.77**	**41.40**	**41.34**	**42.54**	**40.75**	**37.71**	**37.15**	**37.01**	**36.50**

Note: All nominal data are from Der Städtetag. They are deflated by the price index for government consumption of the Deutsche Bundesbank (1995=100). Figures for 1991, 1997 and 1998 are estimates.

As indicated in Table 18, municipal governments continuously ran operating surpluses during the 1990s. Initially, large wage payments due to the excess staff inherited from the Socialist regime were an important resource drain for the local authorities, making up over 50 percent of the operating budget. The large wage hikes in the private and public sector aggravated the problem during the first years after unification. Although local authorities were successful in reducing staff numbers, the problem was slow to go away, because, in contrast to state governments, local authorities could not dissolve entire organizations, but had to remove all staff members individually. This often provoked law suites which prolonged the process (Karrenberg & Münstermann, 1999:212). As a result

wage payments declined steadily between 1992 and 2000, but continue to command over 40 percent of the operating budget. In contrast, social transfers increased fourfold from 1991 to 1995 and declined only afterwards.

As indicated by Table 19, capital budget revenues remained fairly stable after a initial rise between 1991 and 1993.

Table 19: **Real Revenues and Expenditures of East German Local Governments (in Bill DM, 1995=100) - Capital Budget**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Investment Grants of Federal Gov. And Länder	11.55	10.28	10.00	7.15	8.00	7.79	8.06	7.71	7.22	6.68
Privatization Proceeds (Veräußerungserlöse)	0.57	1.45	2.69	3.07	3.07	2.97	3.50	3.16	2.77	2.14
Contributions	0.05	0.21	0.39	0.52	0.63	0.56	0.63	0.59	0.50	0.46
Other Revenues	0.32	0.76	0.61	0.70	0.61	0.64	0.88	0.80	0.77	0.64
Total Capital Revenues	**10.84**	**12.72**	**13.70**	**11.45**	**12.30**	**11.95**	**13.07**	**12.24**	**11.29**	**9.90**
(Fixed) Investments	13.67	20.08	18.95	17.94	16.14	14.36	13.42	12.98	11.93	10.75
Construction	11.74	17.16	16.33	15.63	14.02	12.39	11.56	11.25	10.38	9.38
Purchase of Fixed Assets (Sachvermögen)	1.92	2.92	2.63	2.31	2.09	1.96	1.86	1.72	1.55	1.37
Other Expenditures	0.77	0.95	1.25	1.49	2.09	2.21	3.05	2.19	1.92	1.64
Total Capital Expenditures	**14.44**	**21.03**	**20.21**	**19.42**	**18.21**	**16.57**	**16.47**	**15.17**	**13.85**	**12.41**

Note: All nominal data are from Der Städtetag (April 1999, 2002). They are deflated by the price index for government consumption of the Deutsche Bundesbank (1995=100). Figures for 1991 are estimates.

Aggregate capital expenditure rose sharply in 1991 and 1992, mainly for financing construction projects. Expenditures decreased from then onwards, reaching DM 12.4 billion in 1998. Municipalities continuously ran deficits on the capital budget, which peaked at DM 8.3 billion in 1992. The deficits of the initial years led to a strongly rising debt level, which in per capita terms converges to the level in Western states.

Table 20 illustrates the structure of revenues and expenditures and compares it to West German municipal governments. The share of tax revenues increased steadily, but remains much smaller than in the West. After 1991, the overall contribution of transfers remained fairly stable, with a shift from investment to operating grants not depicted in the table. The total share of transfers from higher levels of government is still more than twice as large as in West Germany. On the expenditure side, the share of wage payments declined, while the importance of social transfers increased significantly in the local government budgets

Table 20: Structure of Local Government Budgets

Year	Revenues			Expenditures		
	Taxes	Charges & Contr.	Grants	Wage Payments	Social Transfers	Investment
East German Local Governments						
1991	5.1	6.7	77.6	35.5	4.5	27.9
1995	12.8	9.7	54.9	29.6	14.3	26.6
2000	16.6	9.3	56.8	29.8	13.6	22.0
West German Local Governments						
2000	39.8	14.2	28.0	26.7	19.3	15.9

Note: All nominal data are from Der Städtetag (April 2002). The figures indicate the share of the revenue source as percentage of expenditures without special transactions (besondere Finanzierungsvorgänge). City states are excluded.

To explain the lower tax revenues of East German local governments, one must recognize that taxes are largely exogenous at the local level because the federal government together with the states determine the relevant legislation. The states set forth their own Statutes of Local Public Finances determining the share of revenues transferred to the local level and their functional distribution.[24] Local governments have discretionary authority over the rate of local profit and property taxes as well as service charges, the second most important source of own revenues. But, East German municipalities were not allowed to raise a capital levy on local enterprises (Gewerbekapitalsteuer) until 1995, and special measures were introduced to reduce the tax burden on profits (Bohley, 1993:199).[25] Moreover, states urged local governments to not raise the tax rate on property above a maximum rate during the initial years (Bizer & Scholl, 1998). Thus, the legal authority of Eastern local governments to raise taxes was even more constraint than in the West.

In addition, limited administrative capacity at the local level contributed to the limited taxing power. Property taxation illustrates the point.[26] Property tax comes in two versions; type A applying to agricultural enterprises and type B to non-commercial real estate, houses and apartments. State tax administrations collect type A tax, while local tax administrations collect type B. This includes the entire process from generating property registers, assessing property values, to the computation of the tax liability and tax collection. Property tax data shows large differences in the per-capita collection of type-B tax revenues and their growth during the 1990s between West and East German municipalities. In contrast,

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[24]   For details see Blizer & Scholl (1998) and the literature quoted there.

[25]   These constraints were somewhat outweighed because the local governments did not have to forward parts of the profit tax to the Länder government (Bohley, 1995:208).

[26]   The following is based on Bizer and Scholl (1998: 184-188) if not indicated otherwise.

type A collections in East and West Germany perform in a very similar way. Noting that state governments were able to build efficient administrations in much shorter time than local governments suggests that limited administrative capacity is behind the weak tax collections at the lower level. Furthermore, type-B tax collections are growing faster and reach higher levels per capita in large compared to small communities. If size is taken as a rough proxy for administrative capacity - large communities are more established links to outside experts and can draw attract tax personnel from a more diversified pool of employees – this observation suggests again that limited administrative capacity is at the root of the weak taxing power of East German local government.

Social transfers, like revenues, are largely removed from the discretion of local authorities (Seitz, 1999). Entitlement to social assistance is generally granted by federal law which specifies two types of assistance programs, subsistence aid and emergency aid. The first one is granted to families unable to maintain a socially or culturally defined minimum subsistence level. Each state government decides upon the minimum amount of aid given to recipients. In addition, subsistence aid includes supplementary payments for housing, cloths etc. which are not covered by the base payment. Emergency aid is granted to those affected by extraordinary hardships, e.g., handicapped people those or suddenly in need of special care. States determine the basic amount of social aid and how its financing is shared between the state and the local authorities. Local authorities often have to bear the lion's share of social aid expenditures. The total flow of resources under these programs is by and large determined by local living conditions and social infrastructure, age and gender structure of the population, employment and migration.

During the initial years after reunification subsistence aid expenditures increased from DM 1 billion in 1991 to DM 1.5 billion in 1993, and somewhat more afterwards.[27] The average expenditures per recipient were DM 1680 in 1993, 44 percent of the Western level. Moreover the risk of becoming a recipient was 1.6 percent on average, which is 0.9 percentage points lower than in the West. The reason for the relatively low level of per capita expenditures is the relatively high fluctuation of recipients and, among others, the low housing prices in East Germany. The low risk is primarily the result of the very high participation ratio inherited from the past and the labor market policies discussed above, which secured other sources of support for individuals who would otherwise have been eligible for subsistence aid.

In contrast, emergency aid spending more than doubled between 1991 and 1994. The number of recipients increased from 167 000 in 1991 to 255000 in 1993. The average expenditures per recipients were about 30 percent lower than in the West, which may be

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[27] The following section is largely based on Deutsche Bundesbank (1996:42)

due to lower average wages. However, with the convergence of the East German health care sector to West German standards and costs, expenditures rose strongly. The increase in spending fell in particular on the contribution to health care, which account for half of the total aid, and the re-integration of the handicapped. The growth of social assistance spending was halted by the introduction of the Emergency Care Insurance in 1995-96. This new system covers a large part of the hardships formerly producing the eligibility to social aid. The new arrangement has helped East German local governments to avoid a further growth in expenditures.

VI. Conclusions

Ten years after the fall of the Berlin Wall, East Germany's transition presents a mixed picture. On the one hand, economic choices in the private sector, such as consumption and saving, purchases of durables, and active employment look very much like those of West Germans. Similarly, local governments look much alike local governments in the West as regards the provision of public services. On the other hand, these similarities do not correspond to the persistent differences in the levels of output and incomes earned in East Germany, nor to the differences in local tax capacities. Investment has been strong in recent years, but it seems to have been largely dependent on financial incentives provided by the federal government, and investment choices often do not seem to promise the development of a modern industrial base with high labor productive.

Overall, the combination of an immediate adoption of West Germany's regulatory and transfer system with the receipt of huge public transfers primarily used to finance consumption has been much less of a blessing for East Germany than many optimistic observers hoped at the time of unification. The failure of the Kohl government to address in due time the incentive issues in the labor market and for stimulating investment has kept East Germany's economy from entering into a sustainable recovery. Today, the risk that East Germany will remain a transfer-dependent "mezzo-giorno" economy for the foreseeable future is significant. It will take considerable political effort to phase out industrial support programs and any reduction in the transfers to households will be even more difficult politically, since any reform they touch on the economic interests of West German households, too. There is, perhaps, some hope in the prospect of endogenous institutional change towards market deregulation in East Germany (von Hagen, 1997). The rapid decline in the coverage of union contracts in the East German labor market and the recent strive for more liberal shop closing hours might be a first indication of such a development.

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