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Government support for restructuring the East German economy

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I. Introduction*

Restructuring the economy of the five East German states surely needs a helping hand from the federal budget. Infrastructure in the former GDR is in poor shape, productive capacities are in a wretched condition, product-lines are not adapted to world-market demand, and the labour force is lacking experience with modern technologies.[1] Since these deficiencies are the legacy of more than five decades of central planning (first fascism, then communism) the most appropriate remedy is establishing a viable market economy. It is open to doubt, however, if mere market forces are able to solve the whole bunch of problems.

A clear-cut market solution would require a wage differential between East and West Germany that completely compensates for efficiency differences of any kind. Considering the expectations and hopes that were raised by German unification and considering the low barriers to westward migration it seems rather unlikely that East German workers would be ready to accept such a low level of wages. If real wages fail to adjust to productivity, the "Mezzogiorno syndrome" could be round the corner, i.e. the former GDR could be stuck with regional underdevelopment and structural unemployment for decades (Burda, 1990).

It is the central question of this paper which type of governmental intervention should be preferred in order to improve the economic performance of East Germany. For this purpose part II presents some empirical evidence on the position of the East German economy since currency unifica-

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1 For a detailed analysis of the weakness of the East German economy see Siebert (1990).

tion with West Germany in July 1990 as compared to the preceding period. The analysis mainly focuses on labour market problems, especially on the rise in unemployment. Part III investigates the impact of different forms of government support on labour demand in the framework of neoclassical production theory. In addition, it presents a survey of policy measures that have already been adopted by the German government. Part IV summarizes and briefly comments on policy options.

II. The East German economy in transition

The conversion from a centrally planned economy to a market economy in the GDR came in four separate steps:

- The opening of the Berlin Wall on 9th October 1989 removed the barriers to migration between East and West Germany. Since the legal authorities of West Germany had always regarded East German people as German citizens, the whole West German labour market was open to them without any institutional barrier. Up to mid 1990 the West German government even provided special financial assistance for people coming from East Germany.

- Since the general East German election of 18th March 1990 the GDR was no longer governed by the Communist Party. The new coalition of Conservatives and Social Democrats quickly abandoned the search for a "third way" and was determined to adopt the political and economic system of West Germany.

- On 1st July 1990 an almost complete economic unification was achieved. The treaty between the East German and the West German Government not only included currency unification but also the endorsement of a substantial part of West German business laws to the East German territory.

- On 3rd October 1990 economic unification was complemented by political unification. The joining of East Germany to the jurisdiction of the West German Basic Law automatically extended the range of validity of all West German laws to the East German territory. Specific modifications were stipulated for a few cases only, for instance in the areas of environmental protection, antitrust policies and labour market regulations.

Of course, these steps are only prerequisites for establishing a market economy. The main unsolved issues are the clarification of property rights on real estate, the privatization of state-owned enterprises and the reduction and transformation of an oversized public administration (Schnabel, 1990; Schmieding, 1990; Siebert, Schmieding, 1990). At present, it seems most urgent to remove these impediments to the inflow of western capital and technology.

But even under these restraints, it could have been expected that releasing an economy from central planning would result in an immediate increase of output, productivity and wealth. Removing bureaucratic slack and ceasing price and quantity controls should improve economic efficiency from one day to the next even without any reconstruction of the capital stock or the introduction of new technologies.[1] In reality industrial production in the GDR region fell by half and unemployment (including short-time work) increased to more than one quarter of the total labour force (Figure 1).[2]

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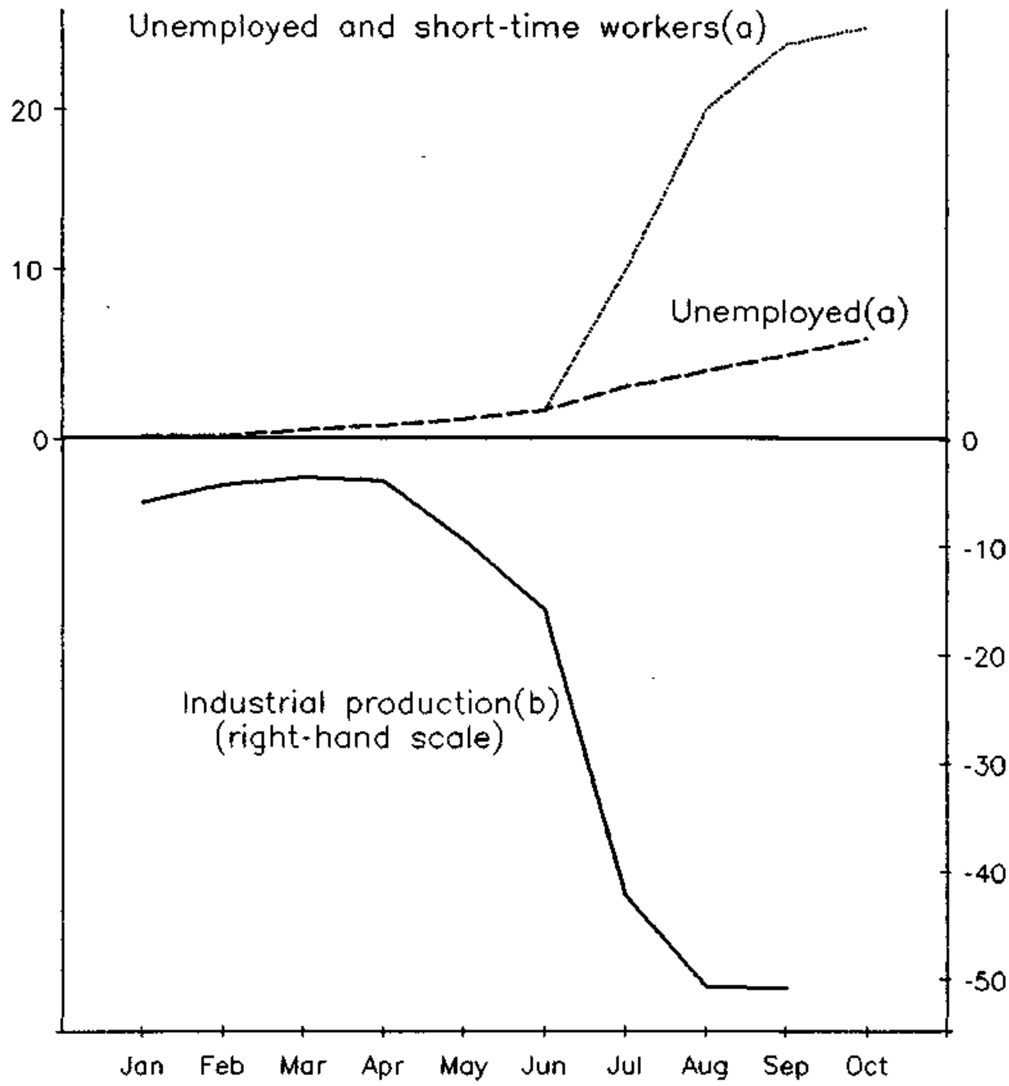
[1] For a careful and illuminating evaluation of the determinants of low efficiency in centrally planned economies see Winiecki (1988).

[2] There is an intense discussion about the question whether short-time workers should be added to the unemployed for calculating the true rate of unemployment. It must be recognized that the conditions for receiving short-time benefits from the Federal Institution of Labour are substantially weaker for the GDR region than for the West German region. In fact, for many East German enterprises short-time work is just another form of dismissal and many short-time workers are working zero hours a day. More detailed statistics on unemployment and short-time work are presented in Table A1 in the appendix.

Figure 1 - Unemployment, Short-Time Work and Industrial Production in the (Former) GDR 1990



(a) Percentage of total labour force. - (b) Change against 1989.

Source: Statistisches Amt der DDR (1990).

The whole size of labour market problems is even underestimated by these figures. About half a million people (6 per cent of the labour force) accepted pre-retirement that is offered to workers who are older than 55 years and younger than the regular retirement age of 65 years (Institut für Angewandte Wirtschaftsforschung, 1990). An unknown number of workers from public institutions have been suspended from work while their salaries are granted for an additional period of six or nine months (depending on age). Moreover, several people, especially women, totally retreated from the active labour force. And, last not least, about half a million workers from the former GDR are now working in the western part of Germany. Hence, the decrease in the number of jobs is much sharper than the increase in unemployment.

Sure enough, nobody had expected a soft landing of the East German economy. But for most observers the extent and the rapidness of decline came as a surprise. In part the dismissal of workers simply reflects a shift from covert to overt unemployment. Under the system of central planning there were only limited incentives for reducing labour input and it was almost impossible for enterprises to get rid of idle workers. In addition many working hours were lost due to shortage of inputs and other forms of inefficient planning. Recent estimates based on questionnaires are indicating that "disguised unemployment" in the GDR reached a level of about 15 per cent in past years (Vogler-Ludwig, 1990). Discharging these people will probably continue to fuel open unemployment for a considerable time. It should be kept in mind that this type of adjustment by definition only affects labour input and cannot explain the reduction in output.

An increase in unemployment may also result from asymmetries in the adjustment speed of ailing and prospering industries. By and large, central planners in the GDR (and in other CMEA-countries as well) were favouring raw-material intensive and smokestack industries at the expense of light industries and services (Stehn, Schmieding, 1990; Kostrzewa, 1988; Weiss, 1983). Since July 1990, liberalization of prices and strengthened budget-constraints imposed a strong pressure for structural adjustment on traditional industries.[1] In part, these pressures showed up in shifting rela-

[1] For a comparison of the sectoral structure of East and West Germany see Halstrick-Schwenk, Löbbe, Wenke (1990).

tive consumer prices after currency unification with West Germany (Table 1). It should be recognized, however, that shifts in producer prices were much more distinct, since subsidies and product-specific levies have also been removed.

The argument of asymmetric adjustment speed simply says that less time is required for closing down obsolete activities than for expanding promising new activities. The available data on industrial production are suggesting, however, that the decline of output is not an industry-specific phenomenon. Within the manufacturing sector there is not a single industry with an increase of production in August 1990 as compared to June 1990 or to the average of 1989 (Table 2).[1]

Table 1 - Absolute and Relative Price Changes in the GDR from July 1989 to July 1990 (per cent)

Expenditure category	Absolute price change	Relative(a) price change
Food, beverages, tobacco	15.4	22.1
Textiles, apparel, leather	- 42.5	- 39.2
Furniture, household appliances	- 25.5	- 21.2
Health and beauty	19.4	26.3
Transport and Communication	- 14.8	- 9.8
Education and Recreation	- 11.5	- 6.3
Other goods and services	- 1.0	4.8
Rents, energy	0.0	5.8
Total consumer prices	- 5.5	0.0

(a) Absolute price change in the respective expenditure category divided by change of total consumer prices.

Source: Deutsche Bundesbank (1990); own calculations.

1 The comparably good performance of water supply can mainly be attributed to the fact that this sector is still subsidized and not yet exposed to competition.

Table 2 - Index of Industrial Production in the GDR (1989 = 100) (a)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total	94.0	95.6	96.3	96.0	90.5	84.0	57.6	49.1	49.0
Industry	95.0	95.6	95.9	96.1	91.0	84.5	57.9	49.2	48.9
Energy	97.0	93.8	93.2	85.2	92.3	87.9	59.9	52.3	61.6
Chemicals	93.6	90.4	91.1	94.3	85.2	79.9	59.8	48.5	49.8
Basic metals	94.4	92.0	95.1	94.0	90.3	77.0	39.7	33.1	34.5
Construction	92.3	95.5	96.0	93.5	97.4	97.3	63.0	40.8	34.3
Water supply	106.8	99.8	104.7	102.9	105.8	110.1	89.6	100.8	100.3
Non-electrical machinery, Transport equip.	88.7	93.1	97.0	99.1	97.5	103.8	71.2	64.2	62.6
Electrical machinery	93.3	96.0	99.8	99.2	98.9	93.4	67.3	53.3	53.3
Light industry	95.8	96.2	97.7	92.3	87.1	75.2	48.9	44.6	46.2
Textiles, apparel	96.8	94.1	98.6	96.0	81.2	72.2	48.7	44.9	45.7
Food, beverages, tobacco	98.6	97.3	95.1	91.7	86.7	72.0	42.3	38.6	37.9

(a) Adjusted for working days.

Source: Statistisches Amt der DDR (1990).

Hence, the East German industry is facing a global problem, not a sectorally concentrated one. This is not to say that no sector-specific output reductions are required, but at present they are obviously outweighed by economy-wide depression.

For the economy as a whole it is estimated in the joint forecast of the five leading institutes for economic research that real GDP will be 17 per cent lower in 1990 than in 1989 (see Deutsches Institut für Wirtschaftsforschung et al., 1990, p. 46).[1] These figures are annual averages, i.e. the estimate for 1990 also includes the first two quarters when output was rather stable. No monthly or quarterly data

[1] For 1991, a further decline of 10 per cent is predicted.

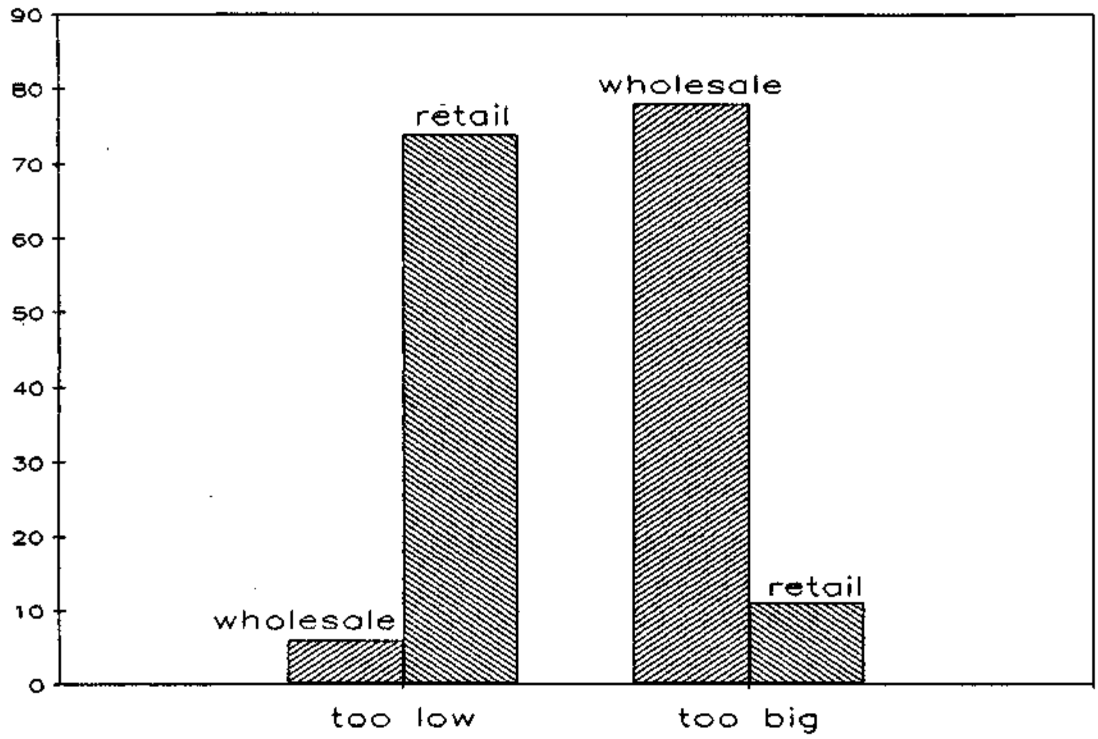
on real GDP of the GDR region are available, but it can be expected that the decline in the third quarter was much sharper than in the whole year on average. Nevertheless, most observers agree that adjustment pressure is strongest in manufacturing industries.

It could be objected that the decline in output is simply a statistical phenomenon - at least in part. Up to June 1990, the GDR was still a centrally planned economy, even if the plans were observed only to a limited extent. As premiums and gratuities mainly depended on reported output, it paid to blow up production statistics by fictions output that was never produced. This practice is commonly called "Pripiski", the Russian word for writing down in addition (Winiecki, 1990). Since July 1990, the incentives for Pripiski disappeared because the revenues of companies now depended on factual sales and not on reported production.

Notwithstanding these considerations, there is no doubt that East German enterprises suffer from insufficient competitiveness in open markets. Up to November 1989 East German consumers had no choice and even after the break-down of the Wall their choice was limited by the non-convertibility of the GDR currency. East German enterprises were still able, therefore, to sell low quality at high prices. As an immediate reaction to currency unification, however, retail trade in the GDR almost totally replaced GDR products by imports from West Germany or other western countries - literally overnight.

For most producers of consumer goods this strong demand reaction was an unexpected shock. They had been well aware of partial demand shifts, but not of an almost complete plunge of their sales. Declining demand rapidly diffused to producers of intermediate and investment goods. Moreover, their customers too faced enriched choices and often preferred to purchase western products.

Figure 2 - Evaluation of Inventories in Wholesale and Retail Trade of the GDR, July 1990 (per cent of reviewed enterprises)



Source: Ifo-Institut für Wirtschaftsforschung, Institut für angewandte Wirtschaftsforschung (1990).

The situation after currency unification is reflected in the stock of inventories in wholesale and retail trade (Figure 2): In July 1990 retail trade would have preferred higher inventories while wholesale trade inventories were judged as being too high. A shift of inventories between these two branches was impossible since retail trade was mainly demanding western products and wholesale trade was offering eastern products. It has been argued that the resulting difficulties for eastern producers have been aggravated by monopolistic behaviour of western trade companies. There is some casual evidence that West German suppliers tried to tie GDR shops exclusively to their products. It must be recognized, however, that most GDR consumers highly welcomed the opportunity of spending their new money on those products that had not been available to them before.

East German producers reacted to declining demand in a quite market-oriented manner: In July 1990 producer prices were cut by 48.3 per cent as compared to the average level in 1989.[1] Nominal factor prices, by contrast, even increased. Government levies for investment funds were substituted by interest rates, and nominal wages increased by about 35 per cent on average.[2] Hence, East German companies are now facing a significantly deteriorated cost price ratio.

There are also some signs of hope, especially from the establishment of new enterprises in the service sector (Table 3). In the past, central planners had almost ignored this part of the economy and its share in total employment remained at a level of about 40 per cent, whereas the corresponding share in western industrial countries was 60 per cent or even higher. In the future, expanding service industries will probably absorb the majority of workers that are dismissed from manufacturing. In the short and medium run, however, the buoyancy of services seems much too weak for bearing the whole burden of labour market problems.

Some economists are primarily attributing rising unemployment to the conversion rate of 1:1 that was chosen for currency unification with West Germany. They would have preferred a substantially lower rate for the Mark of the GDR in order to keep real wages down (see, e.g., Vaubel, 1990). It can be doubted, however, that a less favourable conversion rate would have substantially improved the competitiveness of East German companies.

From the theory of optimum currency areas it is well known that a real depreciation is impossible between currencies of

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[1] See Bundesministerium für Wirtschaft (1990).

[2] Sachverständigenrat (1990).

Table 3 - Registered Openings and Closings of Enterprises in the GDR 1990

	January-June	July	August	September	January-September
<u>Openings</u>					
Total	100 482	35 849	30 790	29 768	197 286
thereof:					
Handicrafts	18 399	4 965	3 665	3 232	30 126
Trade and restaurants	46 364	18 865	17 414	15 879	98 332
<u>Closings</u>					
Total	3 456	2 307	2 924	3 641	12 328
thereof:					
Handicrafts	1 696	814	844	828	4 182
Trade and restaurants	1 231	964	1 241	1 800	5 236
<u>Balance</u>					
Total	97 026	33 390	27 769	26 127	184 958
thereof:					
Handicrafts	16 703	4 137	2 823	2 404	25 944
Trade and restaurants	45 133	17 920	16 200	14 079	93 096

Source: Statistisches Amt der DDR (1990).

countries with a high factor mobility. If the nominal value of one currency is reduced, the outflow of capital and labour will quickly drive up nominal factor prices. With perfect factor mobility the increase in nominal factor prices will just offset the decrease in nominal exchange rates, i.e. real exchange rates will remain stable.

In fact, the political motivation for a conversion rate of 1:1 was exactly the intention to stop or at least slow down migration from East to West Germany.[1] The events since 9th

[1] One of the most popular slogans on East German rallies in early 1990 ran as follows: If the D-Mark does not come to us, we shall come to the D-Mark.

November 1989 had clearly demonstrated that the mobility of labour between the two Germanies was much higher than, say, between Germany and Spain or other low-wage regions of the EC. Admittedly, in the first days after the breakdown of the Wall many East Germans came to the West for political reasons, since the credibility of the new freedom to move was far from clear.[1] In the course of spring 1990, however, economic motives for migration increasingly dominated.

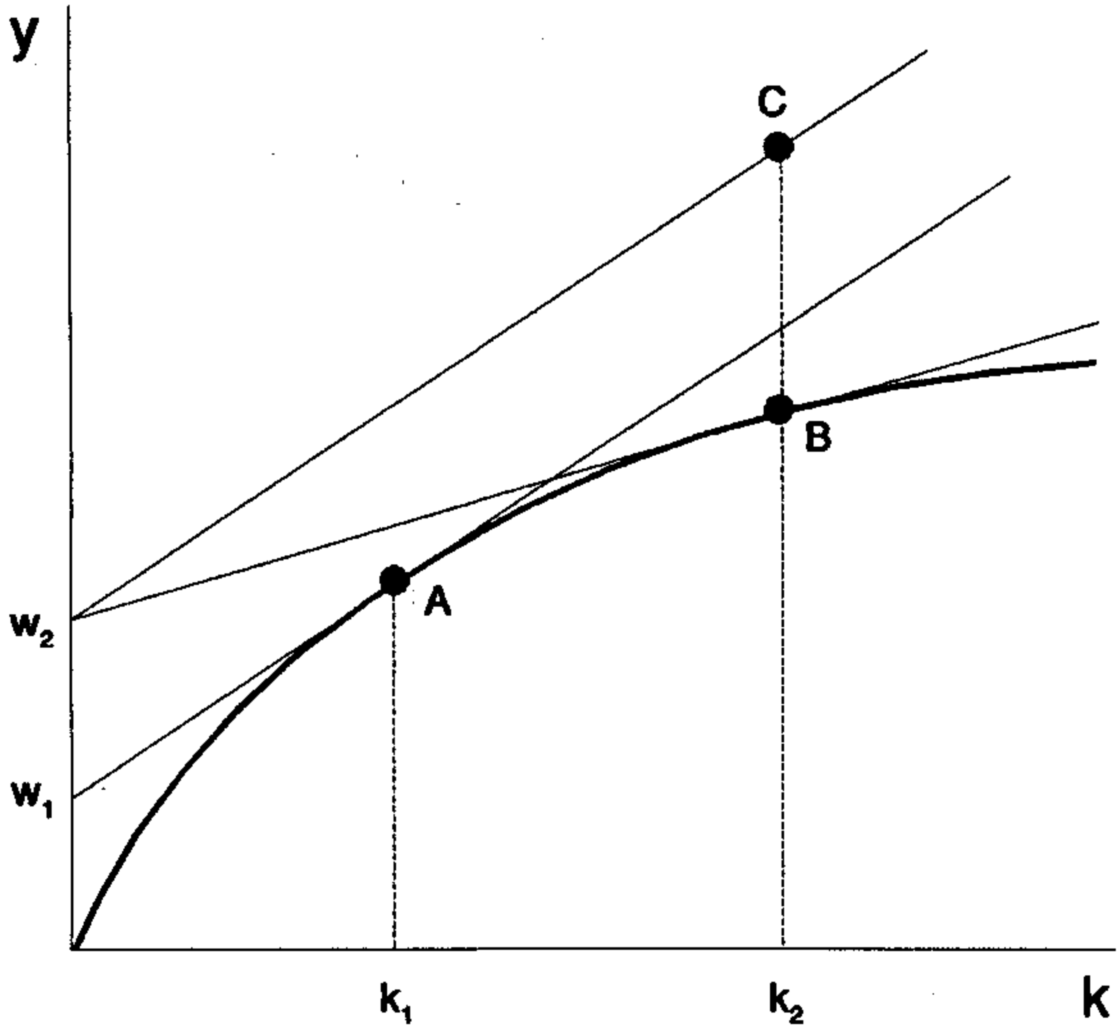
It must be noticed, therefore, that the two German governments did not have the choice of determining the price ratio between East and West Germany by fixing a more or less favourable conversion rate for currency unification. With no barriers to trade and migration, output and factor price ratios between East and West are determined by market forces, not by government treaties. Economic policies that are designed at restructuring the East German economy must accept as a fact that prices of East German products sharply declined and factor prices moved up. There is no way of reversing these events.

III. Criteria for evaluating different types of government support

In the context of neoclassical production theory all price adjustments that occurred in East Germany can be interpreted as an increase in real factor prices. From the producers' viewpoint a deterioration of output prices is equivalent to an increase of factor prices. The basic features of the changed situation are illustrated by Figure 3, showing a production function that relates different levels of capital intensity (k) to different levels of labour productivity (y). Before entering the details it should be carefully examined how to interpret the concept of a production function

[1] The changing political situation in the GDR since 1989 is analyzed by Hamilton (1990).

Figure 3 - Production Function, Factor Prices and Subsidies



for the former GDR. In traditional growth models international factor mobility is in general ruled out; the production function describes the productive capacities of a country with given factor endowment and technology. Hence, factor intensity is exogenous and the factor price ratio is endogenous.

Such a model does obviously not apply to East Germany after the breakdown of the Wall. Factor prices rather than factor intensities are exogenously determined, notably by prices that prevail in West Germany. In this situation, the production function of Figure 3 simply describes the state of technology that is available in the eastern part of the German economy.

Real interest rates (determined on world capital markets) are given by the shape of the straight lines running through points A and C, and w_1 is the level of real wages that would enable East German companies to compete on world markets. If wages were lower, competition among producers would drive them up; if wages were higher, fixed capital would be distracted from the region and unemployment (or emigration) would steadily rise. Economic stability can only be achieved at a wage level of w_1, and this level automatically leads to full employment.

Unfortunately, w_1 is not feasible, since it would not be accepted by the labour force. Real wages in West Germany are much higher and w_1 is often even lower than social security payments.[1] Instead, East German producers have to accept a real wage of w_2.

The most comfortable way out of this dilemma would be an increase of productivity that corresponds to the increase in real wages, i.e. an upward shift of the production function until it touches the straight line running through w_2 and C. In the long run, such an increase can be expected from the inflow of western capital and from technological cooperation between eastern and western companies. At present, however, technology transfer is strongly hampered by uncertainties on property rights on real estate, by slow and bureaucratic decisions on privatization by the Treuhand-Anstalt, by idle transport and telecommunication facilities, and - last not least - by a qualification of the labour force that is not adapted to western technologies.[2] In the long run, these

1 Since July 1990, East German citizens are entitled to receive the same amount of social aid as West Germans, with some adjustments only for the lower level of rents in East Germany. The social security system hence fixes de facto minimum wages for East Germany (and West Germany as well).

2 For an analysis of the qualification requirements in East Germany see Klodt (1990).

problems will probably disappear, but it must be recognized that the East German economy right now faces a significant transition period with severe labour market distortions.[1]

There is some need, therefore, for temporary government assistance.

The appropriateness of specific types of government intervention can be evaluated by four criteria:

(a) The adopted measures should be effective, i.e. they should increase aggregate demand for labour.

(b) They should be temporary, i.e. labour demand should remain high when government support will be gradually reduced in the course of the transition period.

(c) They should be fast-working, i.e. they should increase labour demand at early stages of the transition period when unemployment problems are most severe.

(d) They should be efficient, i.e. they should yield the desired result at minimum costs.

There is a broad variety of possible forms of government intervention. If the economic situation of East Germany is correctly described by Figure 3, however, they can be classified into three basic categories: A <u>first type</u> of measures aims at shifting the production function upwards by increasing overall economic efficiency, for instance by modernizing infrastructure or by public investment in the qualification of the labour force.

A <u>second</u> (and commonly used) <u>type</u> of measures reduces the user's costs of capital, in general by public grants or tax credits for private fixed capital formation. As these meas-

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[1] The five leading institutes of West Germany are expecting that the extreme point of depression in East Germany will be reached in summer 1991 (see Deutsches Institut für Wirtschaftsforschung et al., 1990).

ures are basically equivalent to an interest rate subsidy, they can be illustrated in Figure 2 by a downward twist of the line connecting w_2 and C to the line connecting w_2 and B. A <u>third type</u> of measures that reduces the producer's costs of labour input by subsidizing wages would bring this line down to the one running through w_1 and A.[1]

All of these measures comply with the above stated criterion (a), since they increase the profitability of economic activity and hence increase aggregate demand for labour. With respect to criterion (b), however, type-one measures are to be preferred against type-two and type-three measures, since improvements of infrastructure and qualification will raise economic efficiency and thus help to close the gap between real wages and productivity. After closing the gap no further subsidies will be needed. To some extent, subsidizing factor prices will also increase productivity by stimulating investment in new jobs. These investment activities will introduce modern capital-embodied technologies into the GDR region and hence shift the production function upwards. Hence, the amount of factor price subsidies that is necessary for sustaining full employment will gradually decline in the course of time. Nevertheless, the upward shift of the production function will be more rapid with type-one measures, since they are directly improving economic efficiency.

Unfortunately, type-one measures are inferior to the others concerning criterion (c), i.e. their positive impact on labour demand will not immediately show up. One can easily understand, therefore, why the two German governments decided to emphasize cost-reducing measures against efficiency-

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[1] It has been suggested that strict price controls on nontradables should be preferred to direct wage subsidies, since residence decisions of rational workers would depend on real and not on nominal wages (Burda, 1990). It might be agreed that low rents and low tariffs for public transport would give an incentive for staying in the GDR region, but freezing these prices at present low levels would severely discourage the modernization of the East German housing stock and transport facilities.

increasing ones. At present, government support for reconstructing and modernizing infrastructure and for improving the qualification of the labour force are only a small fraction of total subsidies to the former GDR.

Within the area of cost-reducing subsidies there is an unequivocal order of preference between interest rate and wage subsidies with regard to criterion (d). In Figure 3, the wage subsidy per head that is necessary to achieve full employment is equal to the distance w_1w_2. The corresponding interest rate subsidy per head is given by the distance BC. With any neoclassical production function[1] BC is larger than w_1w_2. It can be concluded, therefore, that a given increase in labour demand can be achieved by a less amount of wage subsidies than of interest rate subsidies.

The difference simply arises from the fact that wage subsidies are directly adjusting labour costs to labour productivity, whereas interest rate subsidies are indirectly closing the gap between wages and productivity by raising capital-labour ratio. In other words: part of interest rate subsidies are utilized for increasing the capital intensity of existing jobs and not for creating new jobs. Of course, interest rate subsidies would result in higher levels of labour productivity and total output, but it must be recognized that wage subsidies will attain full-employment at lower costs.

An evaluation of actual economic policy for restructuring the economy of eastern Germany in light of these criteria is quite difficult because there is a manifold and rapidly increasing collection of different government programmes. They are in general not documented in easily available publications and relevant information is scattered over numerous leaflets, booklets and newspaper articles. A selec-

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1 In this context, the term neoclassical refers to diminishing returns.

tion of the most important cost-reducing programmes is presented in Tables A2 and A3 in the appendix.

A brief glance at these tables clearly indicates that the majority of programmes is concerned to fixed capital formation, whereas subsidization of labour costs is of minor importance. This impression is confirmed by a comparison of financial volumes; the programmes listed in Table A3 are in general less expensive than those of Table A2. There exists, however, one important exception - payments for short-time work. This is the most expensive one among the government programmes in support of the GDR region.

It should be noted, however, that these payments do not exactly fit into the above described categories of efficiency-increasing or cost-reducing subsidies. Payments for short-time workers are not increasing labour demand but are simply preventing dismissal. The government intends to combine short-time payments with qualification measures, but the available evidences suggest that most short-time workers of eastern Germany are simply disguised unemployed.

IV. Prospects for economic policy

The sharp recession in East Germany mainly arises from the widened gap between real wages and labour productivity. As the barriers to migration between East and West Germany have disappeared, a significant rise in the level of wages was inevitable. A corresponding rise in productivity is hampered by various factors, notably by unsolved questions about property rights on real estate, by sluggish decentralization and privatization of state-owned companies and by deficiencies in infrastructure and qualification. Closing the productivity gap will probably take several years.

The central issue in economic policy is to remove these impediments to the reconstruction of the East German economy in order to retrench the transition period. In face of rapidly increasing unemployment, however, it seems inevitable to direct at least part of government funds towards mitigating the transition problems. Government support for sustaining labour demand should be effective, temporary, fast-working and efficient.

It is a fundamental problem for policy makers that efficiency-increasing measures are in general not fast-working and that cost-reducing measures tend to turn into ever-lasting subsidies. The German government responded to this trade-off by presenting a mixture of different programmes. A critical evaluation of these programmes should acknowledge that economic policy resisted the temptation of designing interventionistic subsidy programmes for the support of specific industries. The government does not pretend to know the winners of tomorrow and almost all programmes are open to any branch of the economy.

It can be criticized, however, that public funds are heavily concentrated on the promotion of fixed capital formation. In light of neoclassical production theory, reducing unemployment by subsidizing labour costs would be cheaper. It might be objected that the concept of the production function would be somewhat strained when drawing the policy conclusion that subsidies on capital input should totally be replaced by temporary subsidies on labour input. For instance, it could be argued that it may be more difficult for political reasons to get rid of wage subsidies when the transition period is over. Nevertheless, the analysis presented above should cast at least some doubts on the present approach of the German federal government that completely ignores the alternative of subsidizing wages.

Finally, the problems of improving the qualification of the labour force are not solved at all. It has been analyzed elsewhere that many workers from East Germany are lacking experience with modern technologies (Klodt, 1990). According to official announcements, the system of short-time benefits is intended to solve this problem by combining short-time work with qualification arrangements wherever possible. The central problem is, however, that those who want to get short-time payments are forced to stay in their old companies. And very often these old companies are unable to provide new qualifications. It should be considered, hence, to substitute short-time payments by personal grants that can also be used for qualification programmes outside old companies.

Table A1 - Unemployment and Short-Time Work in the (Former) GDR

1990	Unemployed			Short-time-workers	Unem-ployed	Unemployed and short-time-workers
	Total	Male	Female		as a percentage of total labour force	
January	7 440	6 409	1 031	-	0.1	x
February	10 994	7 080	3 914	-	0.1	x
March	38 313	22 273	16 040	-	0.4	x
April	64 948	37 670	27 278	-	0.7	x
May	94 807	54 078	40 729	-	1.1	x
June	142 096	72 893	69 203	-	1.6	x
July	272 017	131 536	140 481	656 277	3.0	10.3
August	361 286	169 082	192 204	1 439 412	4.0	20.1
Septemb.	444 875	200 073	244 802	1 728 700	5.0	24.2
October	537 800	.	.	1 767 000	6.0	25.7

(a) Estimated total labour force: 8.97 million.

Source: Statistisches Amt der DDR (1990).

Table A2 - Selected Measures for Promoting Fixed Capital Formation in the Five New States

M e a s u r e	D u r a t i o n
Investment grant for equipment (until 30.06.91: 12 %; until 30.06.92: 8 %)	01.07.90 - 30.06.92
Special depreciation for equipment purchased in 1990 (50 %; 30 %; 20 %)	01.01.90 - 31.12.90
Two-year exemption from personal and corporate income tax up to 10 000 DM for enterprises established before 01.01.91	01.01.90 - 31.12.90
Additional grant for building society depositors (unmarried: 1 200 DM; couples: 2 400 DM)	01.01.91 - 31.12.93
Creation of appropriations for tangible assets transferred to companies in the (former) GDR and for initial losses of affiliates in the (former) GDR	01.01.90 - 31.12.91
Investment grant (up to 23 %) from the joint programme "Improvement of regional industry structure" (total grants of 3 billion DM per year; jointly financed by the federal government and the five new states)	01.07.90 - 30.06.95
Investment grant (up to 90 %) for business-related municipal infrastructure	
Low-interest credits for municipal investment (credit volume: 10 billion DM, interest rate reduction: up to 3 % for 10 years)	01.01.90 - 31.12.93
ECCS-credits for investment in mining regions of the (former) GDR	unlimited
Disbursement credits for modernizing houses and flats (credit volume: 10 billion DM; maximum individual amount: 10 000 DM)	since 30.06.90
Promotion of equity capital of SMEs (low-interest credits up to 40 % of investment expenditures)	01.01.90 - 31.12.93
ERP-credits for establishment of new enterprises, modernization of enterprises a. investment in environmental protection (credit volume 1990: 7.5 billion DM; 1991: 6 billion DM; maximum individual amount: 10 million DM)	unlimited

Table A2 (continued)

M e a s u r e	D u r a t i o n
Investment-credits of the Deutsche Ausgleichsbank (max. individual amount: 1.5 million DM)	unlimited
Guarantees for liquid loans (80 % of credit volume, up to the liquidity requirements for 3 months)	unlimited
Payment guarantees for West German deliverers (80 % of deliveries guaranteed by the federal government)	01.07.90 - 31.12.90
ERP-credits for private investment in the (former) GDR (50 % share of the finance; maximum individual amount: 1 million DM)	unlimited
Programme for promoting tourism (low-interest credits for establishing, expanding and modernizing hotels and restaurants)	unlimited
Low-interest credits of the KfW for modernizing houses and flats (credit volume: 10 billion DM; interest rate reduction: up to 3 %; duration: 25 years)	

Table A3 - Selected Measures for Promoting the Employment of Labour in the Five New States

- Short-time payments also for non-temporary loss of working hours (limited until 30.06.91; can be extended until 31.12.95)

- Access to qualification programmes also for workers who are not unemployed

- Grants and credits to enterprises for promoting comencement of work

- Bridge-over financing for founders of new enterprises (equivalent to unemployment benefits for up to six months)

- Job-creating measures of private and public institutions (financial contribution to wages and salaries between 50 % and 100 %; regular duration: 1 year; maximum duration: 3 years)

- Promotion of external institution for qualification and technology transfer (financial contribution to investment up to 90 %)

- Promotion of arrangements for information and qualification (financial contribution to arrangement costs)

- Promotion of consulting services for SMEs (80 % of consulting fees, maximum individual amount: 3 000 DM)

REFERENCES

BUNDESMINISTERIUM FÜR WIRTSCHAFT, Die wirtschaftliche Lage in der Bundesrepublik Deutschland. Monatsbericht 9 '90, Bonn 1990.

BURDA, Michael C., Capital Flows and the Reconstruction of Eastern Europe: The Case of the GDR after the Staatsvertrag. Paper prepared for the Kiel Week Conference, 19-22 June 1990.

DEUTSCHE BUNDESBANK, "Die Wirtschaftslage in der Bundesrepublik Deutschland und in der DDR im Sommer 1990". Monatsberichte, Vol. 42, 1990, No. 9, pp. 5-45.

DEUTSCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG et al., Die Lage der Weltwirtschaft und der deutschen Wirtschaft im Herbst 1990. Berlin, 18 October 1990 (mimeo).

HALSTRICK-SCHWENK, Marianne, Klaus LÖBBE, Martin WENKE, "Die sektoralen Wirtschaftsstrukturen der Bundesrepublik und der DDR". RWI-Mitteilungen, Vol. 41, 1990, Heft 12, pp. 11-28.

HAMILTON, Daniel, After the Revolution: The New Political Landscape in East Germany. American Institute for Contemporary German Studies/The Johns Hopkins University, German Issues No. 7, Washington, D.C. 1990.

IFO-INSTITUT FÜR WIRTSCHAFTSFORSCHUNG, INSTITUT FÜR ANGEWANDTE WIRTSCHAFTSFORSCHUNG, Erste Anzeichen eines Aufschwungs der ostdeutschen Wirtschaft in Sicht? Ergebnisse einer Unternehmensbefragung. Berlin, 1 October 1990.

INSTITUT FÜR ANGEWANDTE WIRTSCHAFTSFORSCHUNG, Arbeitslosigkeit auf dem Gebiet der DDR? Ergebnisse einer Befragung. Berlin, 1 October 1990.

KLODT, Henning, "Arbeitsmarktpolitik in der DDR: Vorschläge für ein Qualifizierungsprogramm". Die Weltwirtschaft 1990, Heft 1, pp. 78-90.

KOSTRZEWA, Wojciech, Verpaßt Osteuropa den Anschluß auf den Weltmärkten? Kiel Discussion Papers, No. 144, September 1988.

SACHVERSTÄNDIGENRAT ZUR BEGUTACHTUNG DER GESAMTWIRTSCHAFTLICHEN ENTWICKLUNG, Jahresgutachten 1990/91. Stuttgart, Mainz 1990.

SCHNABEL, Claus, Structural Adjustment and Privatization of the East German Economy. Paper prepared for the conference "Economic Aspects of German Unification" of the American Institute for Contemporary German Studies/ The Johns Hopkins Univesity, Washington, D.C., November 13th-14th, 1990 (mimeo.).

SCHMIEDING, Holger, "Unschätzbare Vorteile". Wirtschaftswoche, 1990, No. 42, 12 October, pp. 171-175.

SIEBERT, Horst, The Economic Integration of Germany - An Update. Kiel Discussion Papers, No. 160a, September 1990.

--, Holger SCHMIEDING, Restructuring Industry in the GDR. Kiel Working Papers, No. 431, July 1990.

STATISTISCHES AMT DER DDR, Monatszahlen. September 1990, 2. Folge. Berlin 1990.

STEHN, Jürgen, Holger SCHMIEDING, "Spezialisierungsmuster und Wettbewerbsfähigkeit: Eine Bestandsaufnahme des DDR-Außenhandels". Die Weltwirtschaft, 1990, Heft 1, pp. 60-77.

VAUBEL, Roland, German Monetary Reunification: The Economic Consequences of Returning to the Pre-War Parity. August 1990 (mimeo).

VOGLER-LUDWIG, Kurt, "Verdeckte Arbeitslosigkeit in der DDR". Ifo-Schnelldienst, 1990, No. 24, pp. 3-24.

WEISS, Frank D., West Germany's Trade with the East. Hypotheses and Perspectives. Kieler Studien, No. 179, Tübingen 1983.

WINIECKI, Jan, "Heilsamer Druck. Beim Übergang zur Marktwirtschaft sinkt die Produktion, ohne daß sich der Lebensstandard verschlechtert". Wirtschaftswoche, 1990, No. 44, 26 October, pp. 104-106.

--, The Distorted World of Soviet-Type Economies. Pittsburgh 1988.

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