TRANSFORMATION: THE SHOCKING GERMAN WAY

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1. The German Approach to Transformation

The way in which the economy of East Germany – the former 'German Democratic Republic' (GDR) – is being converted to a Western type market economy differs considerably from the transformation processes taking place in other post-socialist countries. Most of the differences are grounded in the fact that the fall of the Iron Curtain and the collapse of the former Socialist government coincided with the process of unification of the two Germanies. The pact on the economic, monetary and social union between East and West Germany imposed the West German economic, monetary and social system as well as the West German legal framework upon the former command economy [Brezinski, 1992]. At the same time East Germany automatically became a member of the European Community (now European Union) and was thus confronted with fierce competition from the national and international markets. Systemic transition, reconstruction of the economy and the nearly total transfer of the West German system all took place simultaneously. Because all this happened within a period of less than one year, it is not surprising that these changes brought a severe shock to the East German economy, eliciting some dramatic effects.

This article attempts to describe and analyse this 'shocking' German approach to transformation, mainly from a macroeconomic perspective. The analysis begins with an assessment of the performance of the East German economy of the late 1980s, i.e. prior to the transformation process (Section 2). Section 3 then examines in some detail the various transformation shocks sustained by the East German companies while Section 4 analyses the consequences of the shock therapy. Finally, the paper draws conclusions and derives policy implications from the findings.

2. The East German Economy in the Late 1980s

It has become a common joke among economists that the true condition of the East German economy of the 1980s seemed to be one of the most successfully concealed secrets of the former East German government. According to official GDR statistics, East German productivity lagged behind that of West Germany by one quarter to one third whereas Western experts estimated it to be about 40%-55% [cf. Bundesministerium für innerdeutsche Beziehungen, 1987; DIW, 1990; Görzig and Gornig, 1991]. New calculations on the basis of data now available and collected by the East German statistical authorities rate the performance of the East German economy of the 1980s considerably lower. According to Beintema and van Ark

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(1993), labour productivity of East German industry in 1987 reached only 30.5% that of West Germany. Fritsch and Mallok (1994a, b) calculated that the productivity of East German plants in the food and beverage industry which survived the first three years of transition was, in 1987, about 35% that of West German levels.[1] Similar estimates are given by Hitchens, Wagner and Birnie (1993).

The East German economy suffered from obsolete, inadequate machinery and equipment, and from negative investment growth rates during the first half of the 1980s [Brezinski, 1992]. It was estimated that only 50% of the capital stock was ten years old or less and that about 20% of industrial equipment was older than 20 years [Priewe and Hickel, 1991]. This explains the low capacity utilisation, the low level of productivity and the relatively high hidden unemployment [Bundesministerium für Wirtschaft, 1995]. The poor economic performance was aggravated by the distortions caused by central planning, by major organisational deficiencies due, among other things, to the system of combines [Jeffries, 1993], the domination of political concepts [v. Hirschhausen, 1994] and the absence of true competition.

On the supply side, nearly all enterprises benefited from a monopoly situation. The soft budget constraints failed to create any pressure for the management to aim at efficiency and productivity and did not enhance motivation to use innovative potential effectively. Compared to other socialist economies the private sector was tiny and, moreover, totally controlled by the state [Brezinski, 1987]. Hidden unemployment in the enterprises was about 15% (1.4 million persons) [Priewe and Hickel, 1991]. Due to the specificities of foreign economic relations practised by the socialist economies the situation was aggravated by a lack of international competitiveness. The presence of a state monopoly in foreign economic relations and the inconvertibility of the currency isolated the national economy from international developments. Moreover, the GDR membership of CMEA (Council for Mutual Economic Assistance) impacted negatively on the geographic and commodity structure of foreign trade, increasing the inefficient participation in the international division of labour. Foreign trade with Socialist countries was given priority, trade with the West (except with the FRG) remained underdeveloped.[2] By the end of the 1980s, foreign trade turnover per capita was only 40% that of West Germany. Due to rising consumer subsidies,[3] domestic GDR indebtedness in 1989 amounted to DM 130 billion. The inefficient economic system had led to a net hard currency debt of US$18.5 billion. Compared to the other Socialist countries, however, the GDR benefited from the transfer of Deutschmarks from West Germany which, by the end of the 1980s, amounted to more than DM 3 billion. This additional inflow of hard currency helped the leadership disguise the major shortcomings of the country's inefficient economic policy.

To sum up, it can be said that the GDR was an outdated industrial economy. In 1989, its industrial structure corresponded to that of West Germany at the end of the 1960s with per capita income lagging at least 25 years behind. Lacking competition, an inefficient international division of labour and a monstrous centralised administration were characteristic of the GDR economy. As a consequence, the sudden and abrupt opening up of the economic, social and political system had serious repercussions which may be divided into a series of individual shock phenomena.

3. The Shock Phenomena

German unification left almost no aspect of East German society unchanged with the economic system being especially hard hit. An analysis of the various aspects of this development brings to light a number of different shocks at the production level regarding competition and demand, the supply of inputs, wages, regulations and mentality issues. Our analysis focuses on the implications of such developments from the perspective of East German firms and individuals.

3.1. *The Competition Shock*

The opening of the border that allowed East German citizens to visit the West in November 1989 led to an increase in competition for East German firms resulting in a severe drop in demand for many companies. While East German citizens could buy from Western suppliers, the demand was severely limited by the availability of hard currency. When the currency union was implemented on 1 July 1990 and East Germany was integrated into the World market, the competition shock took on dramatic forms. For starters, East German customers preferred Western goods. In addition, demand from other Eastern countries decreased: on the one hand, customers there found it hard to generate the necessary Western currency and tried to find substitutes for the goods elsewhere while on the other, when sufficient convertible currency was available, demand often switched to Western suppliers who were in most cases able to offer superior quality at lower prices.

Along with demand, customers' desires and the demand structure itself changed fundamentally. To sell anything at all, most East German firms in general had to rapidly introduce quality improvements or create completely new products. Demand became much more differentiated and diversified. Consumers asked for more individual goods instead of low quality mass products that had dominated supply in GDR times. East German firms were not used to competing and did not possess the necessary skills for competition (such as marketing). They were unable to offer products the customers wanted and in those cases when they were the products were too expensive due to the relatively low productivity of labour. Thus, the proportion of standardised goods produced in bulk decreased and small-scale production increased. This, in turn, often led to obsolescence of machinery which was frequently not flexible enough to be efficiently and profitably employed for small-batch production.

With currency union, competition from East European countries also increased since these countries now had relatively low wages and could offer their products at comparatively low prices. East German firms found themselves under attack on two fronts: Western companies offered high-quality goods that were preferred by the customers while an exceptionally cheap supply of standard goods, the mainstay of East German output, emerged from other former Socialist countries of Eastern Europe.

Resistance to adjusting employment to shrinking demand (mainly for social reasons) resulted in a drop in labour productivity[4] while wages rose quickly. As a consequence, labour-unit costs in East Germany rose far above West German levels

(Section 3.3. below). Finally, enterprise management was not used to reacting flexibly with managers trained simply to ask for subsidies.

3.2. *The Supply Shock*

East German firms were characterised by a high degree of vertical integration. Large combines were seen as a way of improving official planning in order to be able to react more flexibly to demand, improve the division of labour and control production. They were also seen as a means for reducing severe shortages in inputs.

Available inputs mainly consisted of standardised goods, frequently of low quality that required extensive treatment and preparation before they could be integrated in production. With the availability of more diversified inputs to East Germany complete lines of production became obsolete. This effect may be best illustrated by a typical example of an East German manufacturing firm in the transition process [for details see Mallok and Fritsch, 1994]:

> Under the GDR system a mechanical engineering company had access to a few sorts of steel. Very often, further treatment of the steel (mainly soft annealing) was necessary before the material had the properties needed for the production process. With the opening of the market a certain type of steel that already had all the properties needed became available at relatively low costs. By buying the steel with the desired properties from a supplier, costs could be reduced by 50% and also production time decreased considerably. The production line for the additional treatment of the steel was no longer needed.

The decision to make or buy, induced by the availability of more appropriate inputs, reduced the depth in manufacturing considerably – another factor that caused excess capacities in many East German firms.[5]

3.3. *The Wage Shock*

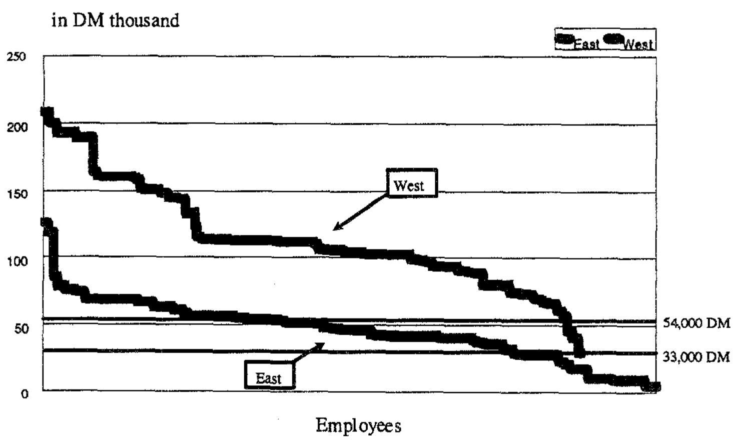
A standard hypothesis in the literature on currency unions says that the introduction of a single currency will lead to a convergence of regional wage levels [Kenen, 1994]. Just such a process was initiated by the introduction of German currency union and unification. Before currency union in early 1990, East German wages were a mere 7% of West German levels [Sinn and Sinn, 1993]; at the end of the same year they amounted already to around 39%. This represents a more than 500% increase. East German wages increased further to about 50% of West German levels by the end of 1991, to nearly 60% at end-1992, to 70% at end-1993 and about 80% by the end of 1994 [cf. Sinn, 1994].[6] It can be expected that East-West German wage differences in the official wage agreements will be levelled out completely by 1997. Yet, at the end of 1994 real East German wages amounted only to 72.9% (see Table A.5) and will reach the West German level only by the year 2000. This is due to the lack of performance-oriented components of the wages [Ragnitz, 1995]. A relatively low labour productivity at this high wage level caused great difficulties for many firms and forced them out of the market. The impact of wages on the East

German economy can be illustrated by means of a productivity distribution[7] which ranks the individual firms according to their labour productivity per employee. The number of employees in these companies is displayed on the horizontal axis, beginning with the firm which reflects the highest labour productivity. The vertical axis measures the labour productivity per employee. The size of a specific step of the resulting curve indicates the number of employees in the respective firm. Adding a curve for the wage level clearly shows which enterprises are profitable at their labour costs and which companies are not. Moreover, the number of jobs which might be endangered by rising wages becomes visible. Figure 1 shows the productivity distribution for a sample of small and medium sized industrial firms in East and West Germany for 1992.[8]

As was to be expected, the curve for the West German subsample is above the curve for the East German firms. At least three further issues are worthy of note:

- In the West German subsample, the firms with relatively low-productivity levels are few; they are marginal firms. In the East German subsample the low productivity firms are relatively many;
- For a large share – about 22% – of East German firms' wages, costs exceeded the gross value added (which is not the case in any of the matched West German plants).[9] Thus, it can be assumed that they are in a rather precarious condition and their survival in the market appears highly questionable.
- The curve for the East German firms is much less steep than that for the West German firms. It indicates a relatively high number of jobs being put at risk in East Germany if wages rise by a specific percentage. The East German firms are, therefore, much more vulnerable to rising wages than their West German competitors if productivity is not increased.[10]

Figure 1 - GROSS VALUE ADDED PER EMPLOYEE



Source: Fritsch, Mallok, 1994a.

It becomes patently clear from Figure 1 that if East German wages had equalled West German levels in 1992, the vast majority (nearly 90%) of the then existing jobs in East German firms would have been endangered.

3.4. *The Regulation Shock*

The German unification of October 1990 amounted to a complete dismantling of the East German state with the West German legal and administrative systems being almost completely adopted barring a few exemptions which lasted only for a short period of time. When the East and West German governments agreed upon the unification pact early in the summer of 1990, there were clear expectations regarding the stability of the system of property rights. This certainty may be regarded as a great advantage. On the other hand, it turned out to be an arduous task for East Germans to learn and adjust to the new rules of the game. Not only did the entire system of institutions and property rights change overnight, the intensity of the new regulatory system was much higher than it had ever been under the Communist regime. The new rules moreover were more strictly monitored and enforced than in the old days. In the old system economic regimentation could be evaded by going into the second economy but, in general, had to be followed and thus did not require any autonomous decision-making on the part of the individual. Whereas the socialist system provided security for the individual, the new system provided a framework of regulations within which the individual had to find the optimal strategy.

Furthermore, in many respects adjustment to West German regulations imposed enormous costs on the firms, e.g. in the field of environmental regulations.

3.5. *The Mental Shock*

It should be clear from the above that all these changes were something of a mental shock to many East Germans. The former command economy had attempted to create a 'new man'. Contrary to Adam Smith's *homo oeconomicus* this man was conscious of his responsibility to the Communist party and society; he endeavoured to build a socialist society and a powerful socialist state. The Communist system, however, was not able to freely create such a human being [Gumpel, 1992], giving birth instead to a *homo socialisticus* which has been described by Robert Deutsch (1986) as follows:

> This new type of socialist is not a member of nomenclatura; he is timid and cautious, draws a medium-sized income and sends his children to a technical college or university. The 'homo-socialist' has gained a number of cultural and material advantages under communism and politically is more inclined to be passive than to be a member of the opposition. Although interested much in a higher living standard, the new socialist breed is better educated and more mobile, geographically and socially than in the past. The 'homo-socialist' takes pleasure not so much in work as in material advantage that work may bring in the future. Then, he is interested in and oriented to the unplanned second economy. Above all, the 'homo-socialist' demands more from the system in economic terms then he is able to provide.

This description seems to hold true when looking at empirical research on social strata in East Germany which concludes that material aims are more relevant in East than in West Germany, that authoritarian values are more significant in the East than in the West, that people are more work-oriented and show significant symptoms of subjective alienation and a strong feeling of disorientedness [Ueltzhöffer and Flaig, 1994]. The theories of socialisation postulate that even after institutions disappear or have been transformed, their influence remains in the minds of those who have been socialised to accept them as normal [Rose, Page, 1995].

Consequently, entrepreneurial behaviour was not widespread in the East. Workers' initiative was very limited if we consider the workplace, a passive attitude predominating. More to the point, managers did not know how to manage an enterprise in a market economy. Quite often they were unable to decide fast enough and were unprepared for any kind of cooperative management style; they were not prepared to engage in new ventures and lacked the necessary drive [Gumpel, 1992].

Another mentality problem in East Germany was that the population distrusted their own products and refused both consumer goods and investment goods made in East Germany. In the beginning they preferred Western made products, thus contributing to a decrease in demand for their own products and increasing the rate of closure of East German enterprises.

The favourable attitude towards authoritarian styles helped perpetuate administrative inefficiencies. Administrative personnel was unable to act like its counterpart in the West. They did not understand the new regulations and the legal framework. Many supporters of the old system, used to the previous corrupt practices of the second economy, remained in office and frequently tried to obstruct the process of transformation. The population, in turn, still largely believed in the administration and bureaucracy, following out the orders of the authorities unquestioningly and waiting for advice. To their way of thinking, inculcated by years of socialist education, the government is responsible for everything. The people do not understand the interrelation between productivity and wages. The enormous amount of annual net transfers from the West (see Table A.4) are regarded as a regular payment to which the East German population is entitled after having suffered from socialism for 40 years. Moreover, the 'Paretian' promise of Chancellor Kohl, that no one shall be worse off from unification and that many will be better of, has been interpreted in the sense that the East German population has a right to the same standard of living as in the West in the shortest possible time period without taking into account economic performance.

Adoption of the West German economic, social and political system is, therefore, not sufficient to generate the same effects as in the West. Rather it is implementation which counts, something which will take longer than expected and which will probably also require an integrational process that not only imposes Western rules and values on the East but also provides room for further development of the market economy. As long as people lack an understanding of how a market economy works and as long as they feel they are not treated in the same way as the West Germans, the mental shock will stand in the way of many political measures designed to improve the East German economy. The legacy of Communism, with its economic mindset largely antithetical to a market-driven system, constitutes a lasting obstacle to a quick, smooth and successful transformation [Lewis, Webley, Furnham 1995].

4. Effects of Transformation on the East German Economy

4.1. *General Performance*

Due to the economic changes accompanying unification, the East German economy experienced a decline which was even worse than the so-called Great Depression of the 1920s that hit many western economies [see Sinn and Sinn, 1993, pp. 34-38]. Within the first year of currency union, East German GDP fell by nearly one third, industrial production by about two thirds. The corresponding decline in employment took somewhat longer but was even more dramatic; overall employment was reduced to around 65%, employment in the industrial sector to about 29% of its previous level.[11] Although there was a slight 'turnaround' in GDP and industrial production in 1991, East German GDP is still only around 88% of the level it had reached at the end of GDR times; current industrial production amounts to about 51% of the previous value. Taking into account the projected 6.5% growth of GDP in 1995 (9.2% in 1996) East Germany will, by the end of 1996, only have achieved its 1989 level, even though in the 1990s the structure of its consumer orientation and the enormous increase in the service sector makes it a completely different picture.

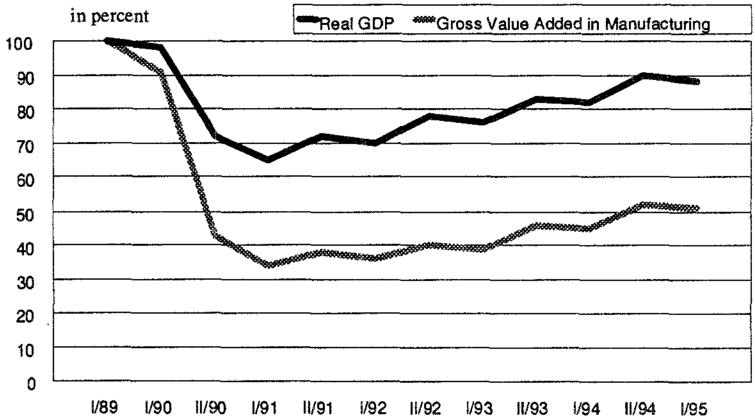
The strong decrease in GDP during the first two years after the fall of the wall impacted heavily on the labour market. Unemployment rose until 1993 and seems to have declined only slowly since the summer of 1994. The official unemployment rates, however, conceal much of the structural shock. Taking into account the hidden unemployment of those persons who work short time, are on early retirement or beneficiaries of retraining measures, the true rate of unemployment amounts to more than 29% at the end of 1994.

The number of employed persons seems to be a better indicator for reflecting the situation in the labour market. This shows that, compared to 1989, about one third of the population lost their job definitively. All in all two thirds lost their original jobs and only half of them found a new job. There are signs that unemployment is more or less stagnating at the level of 1992 (Figure 3). In manufacturing the decline even continued during the first half of 1995.

The most marked increases in consumer prices took place before 1991 since when inflation has come down to the West German level. For 1995 and 1996 marked increases may still be expected since administrative prices, especially for rents and transport, will be raised to the Western level and wages are likely to increase more markedly due to the expected levelling of wages.

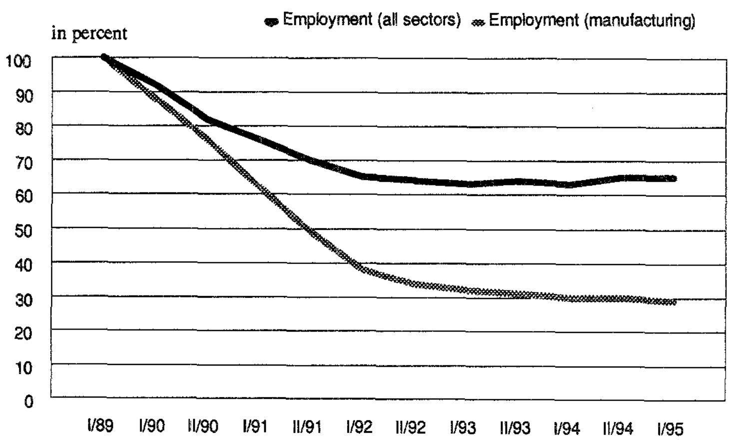
As for foreign trade, its volume declined dramatically. The decline seemed to have stabilised in 1994, corresponding to about 40% of 1990 export levels and approximately 38% of 1990 import levels. This is due to integration into the world market, an enormous revaluation caused by German Monetary Union, the reduction of state subsidies and the decline of the Eastern market. Table A.2 dramatically shows the changes in the geographical structure of exports and imports.

Figure 2 - CHANGE OF REAL GDP AND GROSS VALUE ADDED IN MANUFACTURING IN EAST GERMANY SINCE 1989 (I/89 = 100%)



Source: Beschäftigungsobservatorium Ostdeutschland, 1995.

Figure 3 - EMPLOYMENT CHANGES IN EAST GERMANY SINCE 1989 (I/89 = 100%)



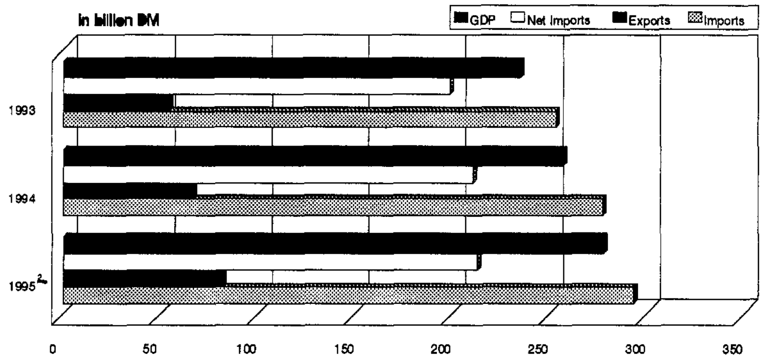
Source: Beschäftigungsobservatorium Ostdeutschland, 1995.

It should be kept in mind, however, that exports to the Western industrial countries declined from 1990 to 1993 by more than 25% in absolute terms while imports during the same period were reduced by 22%. It is only in 1994 that exports to and imports from the West increased. Apart from the CEFTA (Central European

Free Trade Area) countries, traditional Eastern markets, however, continued to shrink. East Germany will therefore still have to discover new markets and penetrate them successfully.

The export ratio of East German industry (13.1%) is just less than one half that of West German industry (28.7%). If on the one hand there seem chances for a turnaround, on the other, with wages still rising without regard to productivity, the situation seems very fragile for enterprises. East German industry still has to penetrate markets, a fact which becomes even more apparent when looking at exports/imports and German domestic trade.

Figure 4 - GDP AND FOREIGN TRADE IN EAST GERMANY, 1993-1995[1]



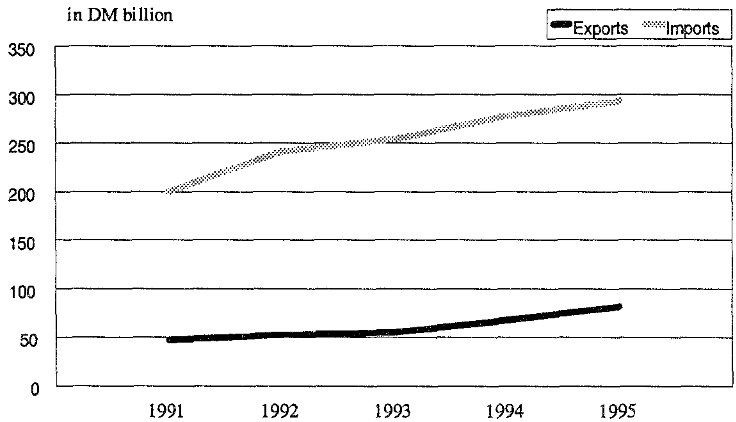
[1] In prices of 1991;[2] Forecast of German Research Institutes in Spring 1995.

Source: Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 1994; Arbeitsgemeinschaft deutscher wirtschaftswissenschaftlicher Forschungsinstitute, 1995.

As Figure 5 shows, the gap between overall imports and exports has not diminished. According to Table A.1, net exports will probably exceed DM 213 billion in 1995. Only 60% of East German domestic demand is satisfied by domestic value added. This is also due to the policy of creating a new capital stock, completely run down during GDR times when more then 50% of machinery and equipment was older than 10 years.

As Table A.6 clearly shows investment has increased steadily in recent years. In 1994 gross investment in equipment amounted to about DM 180 billion, i.e. to 60.5% of East German GDP. The major part (81%) relates to investment in enterprises and predominantly to investment in construction. About one third of these investments were financed by transfers granted by the state. This proves that a large part of private investment activity, which on a per capita basis is about 28% higher than in West Germany, was financed by the West (Table A.7). Public investment is more than 80% above Western levels, a massive growth in investment that can only be explained by transfers granted by the West to the new Länder since 1990.

Figure 5 - DEVELOPMENT OF EAST GERMAN EXPORTS AND IMPORTS WITH INNER GERMAN TRADE, 1991-1995



Source: Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 1994; Arbeitsgemeinschaft deutscher wirtschaftswissenschaftlicher Forschungsinstitute, 1995.

4.2. *West-East Transfers*

The above data and Table A.3 indicate that the rise in East German economic levels was caused by the massive transfers of goods and services from the West which increased steadily. In 1991, they amounted to DM 156 billion and rose to DM 212 billion in 1994, a level at which they will remain in 1995 and 1996. These gross payments from the federal budget, which in 1991 constituted more than 75% of East German GDP, are also rising in absolute terms and diminishing in relative terms. And yet, these gross transfer payments still represent about 50% of East German GDP. The net transfer payments which can be calculated by deducting the payments to the federal budget in 1991 amounted to DM 122.8 billion; they will be DM 161.5 billion in 1995. The returns to the federal budget from higher tax revenues in 1995 and 1996 will amount to about 25%.

This monetary transfer also caused a large demand for West German goods. The West benefited from the monetary transfer which worked like a gigantic deficit-spending programme, postponing the slump of the world-wide business cycle by two years. According to the national German accounting system, net transfers have been 5% to 6% of West German GDP since 1991 [Hoffmann, 1993]. Net transfers for the period 1991 to 1996 total more than DM 930 billion.

Since most transfers were financed by credits, the potential activities of the state will be reduced in future, a state of affairs that has had and is still having an impact on the German monetary system. At the beginning of German unification, interest rates were negatively influenced since their increase crowded out private investors.

These transfers created a second, perhaps even more important, problem. Only one third of the transfers were earmarked for investment expenditure, the major part being spent for consumption purposes out of which at least 50% were financed by credits. This contradicts intertemporal distributive equity and will have a negative influence on future growth. Thus, while the consequences of the wage shock were cushioned by social appeasement, the chance for a more equitable reallocation of resources was missed.

4.3. *Business Ecology of the Transformation Process*

Transformation affects microeconomic as well as macroeconomic structures, especially those of enterprise and entrepreneurship. The GDR economy was dominated by very large production units [Bannasch, 1993]. As a rule, each unit was responsible for several manufacturing stages. The high vertical integration was favourable for enterprises which became relatively independent in terms of suppliers and potential shortages; the size of their units, however, proved to be disadvantageous, requiring highly bureaucratic internal procedures and implying inefficiency and a lack of flexibility. Unlike in West Germany and other developed market economies, small and medium-sized companies played only a marginal role.[12] The GDR economy mainly employed people in sectors (e.g. agriculture, energy, and the basic goods industry) where the process of structural change had made many jobs redundant in preceding decades in the old federal German states. Producer-oriented services were largely integrated in manufacturing plants; consumer-oriented economic sectors were only of minor significance.

Just two years after German unification, the transformation process had already eradicated significant differences between the new and the old federal states in terms of enterprise sizes in the manufacturing sector.[13] Indeed, in many branches of the East German economy the share of employees in small companies was higher than in the West. Empirical studies show that during the said period the East German economy largely came into line with West German patterns in the degree of vertical integration [Fritsch and Mallok, 1994a and 1994b; Mallok and Fritsch, 1994]. At the same time, however, manufacturing employment in East Germany's total employed labour force fell from more than one third to around 20%, a share which is much lower than that for West Germany (approximately 30%). The share continued to decline and by the end of June 1995, workers in manufacturing in East Germany's total employed workforce reached 16.1%.

This dramatic change in the corporate structure of the new federal states is the result of two processes:

- many of the large formerly state-owned companies were segmented, privatised, returned to their previous owners, transferred to municipal ownership, or closed down ('top-down' transformation), all processes which were usually accompanied by huge cuts in manpower;
- numerous new businesses were set up and generated new jobs ('bottom-up' transformation).

Top-down transformation was the task of the *Treuhandanstalt.* Before this organisation began its work in October 1990, a so-called 'small-scale privatisation' had already been started by the last GDR government at the beginning of 1990. Under this programme some 25,000 properties – small hotels, restaurants, cinemas, retail outlets – were sold to private buyers. When the *Treuhandanstalt* began to operate it took over around 8,500 state-owned enterprises. Roughly 4.1 million people – at that time about 45% of all workers in the new federal states –became employees in *Treuhandanstalt* companies. The first step was to deconcentrate corporate units horizontally, vertically and geographically, raising the stock of *Treuhand* companies to 13,815 individual units. By the end of 1994 when the *Treuhandanstalt* ceased operating, all enterprises apart from 65 companies with 20,000 employees had been privatised [OECD, 1995]. As many as 1,570 properties had been returned to their previous owners (reprivatisation), and 264 enterprises transferred to municipal ownership. Approximately 85% of the enterprises privatised were taken over by West German firms, almost 10% were sold to foreign buyers and fewer than 6% passed into East German ownership – mostly management buy-outs. A total of 90% of all privatisation cases were mergers with Western firms of the same industry [Müller, 1993, p. 369]. Liquidation proceedings were initiated in 3,652 enterprises, although only 131 of them were settled by mid-1995.

When the *Treuhandanstalt* stopped operating some 930,000 persons were still employed in former *Treuhand* enterprises – approximately 23% of the initial number of *Treuhand* employees and 15% of all persons currently gainfully employed in the new federal states. Investors have promised to save 1.5 million jobs and to invest about DM 207 billion (about US$130 billion) by the end of the 1990s.

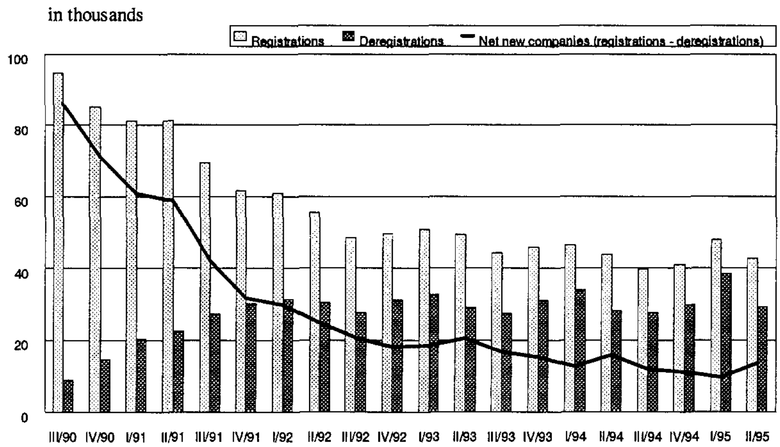
The number of new businesses set up and those closed down in Eastern Germany can be estimated by the number of businesses registered and unregistered by the authorities. Between 1990 and mid-1995 almost 1.24 million businesses were registered. An interpretation of this figure must, however, take into account that:

- not all registrations mean that new businesses are actually set up;
- agricultural companies and the so-called 'liberal professions' (e.g. medical doctors and lawyers) are not included in the statistics.[14]

A large share of the businesses registered in East Germany, i.e. about 46%, were in the trade and catering sectors while only 4.6% were industrial firms and 11% new trades. It can be assumed that many of these new businesses generated 'self-employment' only – with just one job for the entrepreneur him/herself and possibly further work for family members.

By mid-1995, 534,000 business registrations had been cancelled in the new federal states, although not every cancellation meant the closure of an enterprise which operated in the market. The figures also include many cases in which the intention to set up a company was not actually realised. The net number of enterprises entering the market – calculated as the difference between those registered and those unregistered – reached its peak as early as 1990 (cf. Figure 6 and Table A.4). It has fallen almost continuously since then, on the one hand because the number of registrations (new businesses) has declined, and on the other because the number of cancellations (closures) has risen significantly. However, the increase in cancellations must be seen against the number of existing enterprises which increased steadily from 1990 onwards, so that for a given probability of failure an increase in the number of closures is will have to be expected. Moreover, it is well known that new enterprises face a particularly high risk of insolvency, i.e. a high number of new businesses will be accompanied by a high number of closures. In view of the competitive disadvantage facing the economy in East Germany because of its location and the fact that many entrepreneurs lack business know-how, it is to be expected that the risk of insolvency will be particularly high in the new federal states. It will undoubtedly take quite a few years before the turbulence in the East German enterprise population has settled down to a 'normal' level and corporate structures have achieved a stability comparable to conditions in West Germany.

Figure 6 - BUSINESS REGISTRATIONS AND DEREGISTRATIONS IN THE NEW LÄNDER (II quarter 1990-I quarter 1995)



Source: Bundeswirtschaftsministerium, 1995.

Despite the 'new-business boom' which has taken place during the last few years, the proportion of the working population in the new federal states engaged in entrepreneurial activities is still relatively small. If one divides the number of private enterprises in East Germany by the working population (employed and unemployed), the result is a self-employed rate of approximately 5.5%, the current percentage in West Germany being 10%-11%. This can be seen as an indication that there is still considerable potential for new business start-ups in the new federal states.

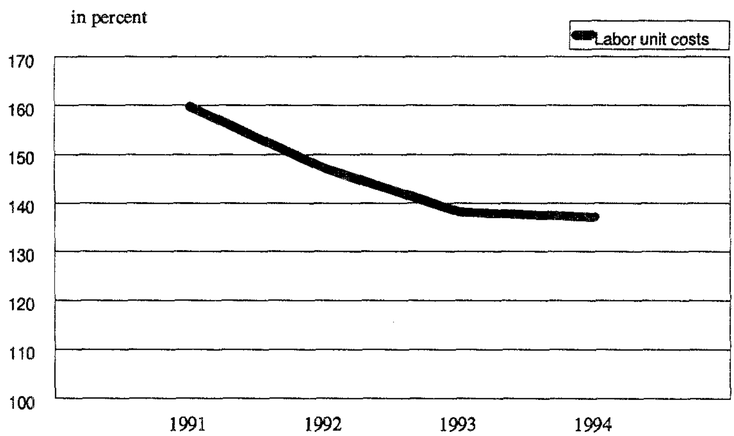
It is estimated that there were approximately 460,000 private enterprises (including agriculture and the liberal professions) in the new federal states in mid-1994 [Gruhler, 1994, p. 65]. Since only around 10,000 private enterprises emerged from the stock of the *Treuhandanstalt*, and around 25,000 companies were converted by way of 'small-scale privatisation', it can be deduced that it was bottom-up transformation – and not the policies of the *Treuhandanstalt* – that spawned the large majority of companies and enterprises currently in existence. Various studies based on sample surveys of new East German enterprises verify that at least 80% of these businesses are brand new establishments which are the product neither of privatisation nor the deconcentration of former state-owned enterprises [Hinz and Ziegler, 1995; May-Strobl and Paulini, 1994; Thomas, 1995]. *Treuhand* and ex-*Treuhand* companies only account for approximately 20% of all the jobs in the East German private sector.

The most striking feature of the sectoral structure of the new enterprises in East Germany is that the share of industrial enterprises and industrial employees is comparatively small. Sectors which primarily cater for local demand (e.g. retailing, catering and craft) are already relatively well developed, while enterprises selling goods on supra-regional markets still are largely the exception.

4.4. *Bottlenecks of East German Firms*

The low labour productivity in relation to wage levels jeopardises the survival of many East German firms. Table A.5 depicts the heterogeneity of productivity within various sectors.

Figure 7 - DEVELOPMENT OF LABOUR UNIT COSTS IN EAST GERMANY (West Germany = 100%)



Source: Bundeswirtschaftsministerium, 1995.

The causes for the relatively poor performance of East German firms are manifold. Based on a detailed analysis of a sample of East German industrial small firms the main bottlenecks of these firms can be characterised as follows:[15]

- Overstaffing; on average, the personnel utilisation rate in East German companies reached about 63% of normal full capacity compared to around 90% in the sample of West German matched plants.[16]

- Lack of demand may be seen as the main cause for the low capacity utilisation rate in the East German plants. This lack of demand is in many cases due to the fact that the conventional products of the firms are in no way competitive at the given wage level; now and then, product quality also causes problems. Consequently, a more or less complete redesigning of the product programme is necessary. If the firms succeed in improving their production programme they face the problem of getting into the market and establishing customer relations.
- Establishing relations with suppliers and customers normally takes time and is associated with considerable transaction costs. This holds particularly for an economic environment that is characterised by a high degree of turbulence (i.e. high levels of entries and exits) among firms. Moreover, many East German firms face difficulties in achieving terms and conditions in their supplier/customer relationships, comparable to those of their West German competitors: frequently they have to pay higher prices for their inputs and receive less revenue for the goods and services they produce. These are – at least partly – additional costs which the East German firms have to bear because they are newcomers to the market with no established reputation.
- Another reason for the relatively low productivity of East German firms are deficiencies in the organisation of internal work flows. In many cases, a more or less complete reorganisation is necessary. One problem in this respect is that the degree of specialisation is decreasing; the tasks for the single employee become more complex and more responsibilities have to be taken. Moreover, tasks that are completely new to firms have to be undertaken, e.g. marketing or coping with the much more complex West German laws and regulations.
- Although the qualification of the East German workforce is in general higher even than in West Germany, some types of qualification are rare, especially as regards management skills, the understanding of a market economy and the handling of modern technology.
- It has occasionally been argued that in order to reach West German productivity levels the old machinery in East German plants needs to be almost completely replaced. Closer inspection shows that this is only true for certain types of production and that the handling of the machinery is the decisive factor for productivity purposes [Mallok, 1995]. Nevertheless, at least some modernisation of the capital stock is necessary in most East German plants.
- Nearly all those East German firms with no West German owners are dramatically undercapitalised. One main reason for the lack of equity capital is that East German citizens have had relatively low incentives and only very limited opportunities to accumulate wealth. Another reason is the low profit levels due to the economic problems of East German firms.
- Industrial research and development activities, which constitute an important precondition for innovative and competitive production, are still insufficient. Spending on this item in East Germany amounts only to 2.5% of the overall German level [Bundesministerium für Wirtschaft, 1995].
- Finally, the relatively poor condition of the infrastructure – especially transport, telecommunications and East Germany's ecological heritage – have led in the

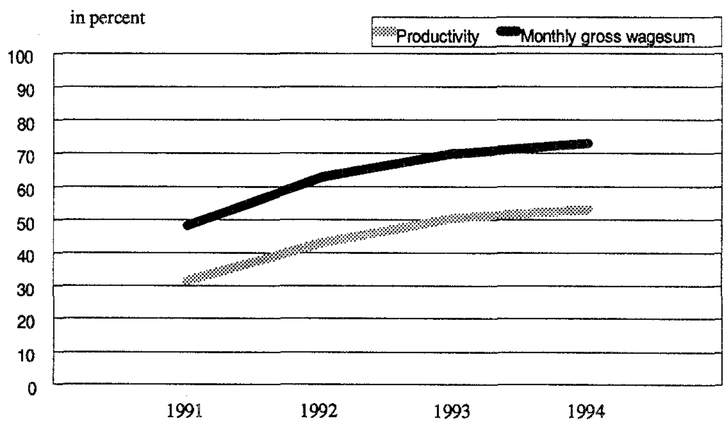
first five years to higher production costs, uncertainty and locational disadvantages for East German firms.

In addition to all these arguments it needs to be pointed out that during the first years private investment was hindered by unsettled restitution claims. In June 1995, 57% of the claims relating to enterprises were settled and about 53% of the claims regarding land.

4.5. *Prospects of the East German Economy*

Although much has been done to improve the performance of the East German economy there is still no stable self-sustained growth trend. The present high growth rates of GDP do not guarantee autonomous dynamic development. Job creation and growth are largely limited to consumer-oriented services, the industrial sector is still ailing and East Germany exports are very low. The development of consumer-oriented services has reached a level comparable to that in the Western part of the country, mainly as a result of the massive financial transfers by the government.

Figure 8 - DEVELOPMENT OF PRODUCTIVITY PER EMPLOYEE AND MONTHLY GROSS WAGES IN EAST GERMANY (West Germany = 100%)



Source: Bundeswirtschaftsministerium, 1995.

It is estimated that the real GDP per capita in East Germany will grow by about 9% in 1995 and that there will also be high GDP growth rates in the years to follow [Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, 1994, p. 174]. However, it is almost impossible to give any reliable forecast as to when East-West differences in productivity and wealth will be levelled out.[17] Labour unit costs (see Figure 7) are only slowly converging to West German levels. The development of monthly gross wages which is above West German productivity per employee does not however converge to the productivity ratio (see Figure 8).

One crucial factor in this respect is the speed at which a competitive export sector will evolve. Even extremely optimistic forecasts have estimated that it will take several decades before full convergence can be achieved [Dornbusch and Wolf, 1992; Hughes Hallet and Ma, 1993; Schiller, 1994]. However, since such long term projections are normally based on historical examples it should be noted that we do not know of any other economy where such a high proportion of existing firms was replaced by new ones in only five years. East Germany is still the most dynamically developing region within the European Union.

5. Summary and Policy Implications

The introduction of a currency union, the unification with West Germany and the immediate integration of the East German economy into the European Union constituted a veritable shock therapy for East Germany. Most East German firms did not have enough time to adjust and were forced out of the market. The dramatic rise in wages, which was not tied to real performance, can be seen as the most damaging factor in the whole story. There are still deficiencies in the competitiveness of enterprises. The actual number of unemployed persons is twice the official rate while the financial transfers contributed to social appeasement and 'bought time' for developing political and economic strategies. Yet, despite the material gains many East Germans feel the old Socialist system was better because of alleged job security and the calculability of living conditions. Most of these people belong to that category of persons who had to bear the immaterial/psychic burden of transformation and hence view the democratic market-type system based on efficiency and individualism and the human relations it engenders as being inferior to their old system. Such an attitude, though hardly favouring a quick implementation of the transformation process, can be overcome by the future performance of the social market economy. There are, however, still large imbalances in the East German economy and no self-sustained growth path.

Consequently, the German government will have to pursue a growth oriented economic policy which aims at preserving Germany as a location for future-oriented industries and services. Such an economic policy will have to include investment subsidies, market liberalisation, deregulation, making the labour market more flexible and encouraging the acceptance of technology and innovation. The German government is well aware of this task and has just initiated a second long-term programme for the improvement of economic and social conditions in East Germany. Considering the economic, political and social results of German unification – i.e. inflation, growth, equilibrium in the commodities markets, money and finance, restructuring of enterprises and property rights structures, establishment and evolution of institutions, and material living conditions – it may be correct to speak about a second German Economic Miracle.

This paper was received on 6 December 1995.

Annex

Table A.1 - DEVELOPMENT OF MACROECONOMIC INDICATORS IN EAST GERMANY

	1991[1]	1992	1993	1994	1995[2]	1996[2]
Growth of GDP (constant prices1991)	2.0	7.8	5.8	8.5	6.5	9.2
Share in overall GDP	7.2	8.5	9.8	10.4	-	-
Rate of unemployment	11.2	15.5	15.8	15.3	13.9	12.9
Employed (millions)	7321	6463	6273	6303	6440	-
Growth rate	-12	-11.7	-2.9	0.5	2.2	-
Persons benefiting from early retirement, retraining schemes, etc.	1883	1982	1641	1315	1004[4]	-
Inflation rate	8.3	11.2	8.4	3.2	2.0	2.6
Net exports (with inner German trade in DM billion)[5]	-152[3]	-140	-199	-211	-213	-
Exports (DM billion)[5]	46.9	51.7	54.6	66.9	81.9	-
Export growth rate	-	10.2	5.6	22.5	22.4	-
Imports (DM billion)[5]	199.2	241.6	253.8	277.7	293.5	-
Import growth rate	-	21.3	5.0	9.4	5.7	-
Export quota of industry	11.7[3]	13.8	12.2	13.1	-	-

[1] July to December; [2] Forecast; [3] January to December; [4] January to June; [5] In prices of 1991.

Source: Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 1994; Arbeitsgemeinschaft deutscher wirtschaftswissenschaftlicher Forschungsinstitute, 1995.

Table A.2 - GEOGRAPHICAL STRUCTURE OF EXPORTS AND IMPORTS IN EAST GERMANY

	Exports			Imports		
	Western Industrial Countries	Eastern Europe and CIS	Developing Countries	Western Industrial Countries	Eastern Europe and CIS	Developing Countries
1990	13.4	78.3	5.5	24.8	65.0	5.6
1991	25.5	65.4	8.0	36.3	56.3	6.4
1992	33.7	52.1	13.0	46.9	48.1	4.4
1993	31.7	52.3	13.6	50.5	45.3	3.8
1994	41.3	41.6	18.7	55.9	21.6	4.4

Source: Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 1994; Arbeitsgemeinschaft deutscher wirtschaftswissenschaftlicher Forschungsinstitute, 1995.

Table A.3 - PUBLIC TRANSFERS TO THE NEW LÄNDER

	1991	1992	1993	1994	1995	1996
Gross transfers						
Federal budget	74.6	88.2	113.6	113.5	145.5	129.8
Unity Fund	31.0	24.0	15.0	5.0	-	-
European Union	4.0	5.0	5.0	6.0	7.0	50.0
Pension Funds	-	5.0	9.0	14.0	14.0	-
Federal Labour Agency	24.0	25.0	15.0	14.0	14.0	-
Western Länder and Commons	5.0	5.0	10.0	14.0	14.0	-
Treuhandanstalt	20.0	29.6	38.1	34.4	-	-
Tax reduction	3.2	7.4	9.2	10.0	14.0	16.4
Total gross transfer	155.8	194.3	214.9	211.9	207.5	196.2
Gross payments to federal budget in % of East German GDP	75.6	74.0	69.6	61.1	56.2	48.5

Source: Bundeswirtschaftsministerium, 1995; own calculation.

Table A.4 - BUSINESS REGISTRATIONS AND DEREGISTRATIONS IN EAST GERMANY

	Registrations	Deregistrations	Net
1990	281,096	26,694	254,402
1991	292,997	99,767	193,230
1992	214,316	120,768	93,548
1993	190,032	119,557	70,475
1994	170,782	119,300	51,482
1995[1]	90,606	47,582	43,024

[1] January to June.
Source: Bundeswirtschaftsministerium, 1995.

Table A.5 - DEVELOPMENT OF LABOUR UNIT COSTS, PRODUCTIVITY PER EMPLOYEE AND MONTHLY GROSS WAGES IN EAST GERMANY (West Germany = 100%)

	1991	1992	1993	1994
Labour unit costs	159.9	147.0	138.2	137.0
Productivity per employee	31.0	43.1	50.7	53.0
in manufacturing	-	27.1	37.9	42.6[1]
in mining	-	29.9	70.0	86.1
in chemical industry	-	12.8	14.7	19.2
in machine building	-	19.1	29.3	33.3
in food industry	-	49.9	60.9	67.0
Monthly Gross wages	48.3	62.7	70.1	72.9

[1] January to June.
Source: Bundeswirtschaftsministerium, 1995; Sachverständigenrat, 1995.

Table A.6 - DEVELOPMENT OF GROSS INVESTMENT IN EAST GERMANY (DM billions)

	1990	1991	1992	1993	1994	1995
Equipment	34.4	91.8	126.7	151.1	179.7	-
machinery	13.2	41.8	46.6	50.2	53.8	-
construction	21.2	49.9	80.1	100.9	125.8	-
Investment in enterprises	-	77.6	104.6	124.0	146.8	171.5
manufacturing	-	32.5	41.1	45.2	49.2	56.2
services	-	23.7	34.6	46.9	63.4	78.9
Economic transfers to enterprises	-	25.3	40.2	52.1	49.5	24.5

Source: Bundeswirtschaftsministerium, 1995.

Table A.7 - DEVELOPMENT OF PER CAPITA INVESTMENT IN EAST GERMANY (West Germany = 100%)

	1991	1992	1993	1994
Total investment	66	90	118	138
Private investment	61	82	113	128
enterprises without construction	68	93	131	150
construction	44	64	82	106
Public investment	102	150	155	186

Source: Bundeswirtschaftsministerium, 1995.

Notes

[1] Under the assumption that those establishments that had been closed in the meantime were merely establishments with a relatively poor productivity, this figure overestimates East German productivity in 1987 because only data of surviving establishments are included in the sample.

[2] After Honecker's fall data on foreign trade were revised. Accordingly, in 1989 the Soviet Union's share of GDR exports amounted to 22.9% (official data for 1990: 37.5%), that of the entire CMEA to less than 50% and that of West Germany to 20.6% (officially 7.0%). The high share of inner German trade is due to the vast subsidies and the biased exchange rate for the East German Mark against the West German Mark [Jeffries, 1993].

[3] In 1989, 18% of state expenditure was for subsidies of consumer goods.

[4] The available data indicate that labour productivity decreased in the East German economy until mid-1991 and then started to rise again slowly.

[5] It may be argued that East German firms had the opportunity to use their capacities to act themselves as suppliers of such specific inputs. However, this was largely not the case because the respective capacities were below the minimum efficient size. Moreover, productivity was too low to compete against established suppliers from the West.

[6] These data represent only the average level. In such sectors as clothing and textiles, the level amounted only to about 60% in 1994, whereas in the tobacco industry the West German level was already achieved in that year. Moreover, there are considerable regional differences,

with wages in areas near the border to former West Germany (and West Berlin) being relatively high.

[7] In some of the literature [cf. Karlsson and Larson, 1993], this productivity distribution is named the 'Salter-curve', with reference to Salter (1966).

[8] Cf. Fritsch and Mallok, 1994a and b, Mallok and Fritsch, 1994; Mallok, 1995. The analysis is based on original interviews in 104 small and medium-sized industrial establishments, all of them being single plants with only one location. These plants were selected on the 'matched-pair' approach: i.e., for each of the 52 East German plants the sample included a West German establishment of similar size (number of employees), with a comparable product programme and located in a region with a similar degree of population density. Therefore, the result of the productivity comparison is not influenced by any differences concerning size or product programme. 30 of these matched pairs were specialised in mechanical engineering; the remaining pairs were selected from wood-working and wood-processing (8), from the clothing industry (4) and from the food and beverage industry (10). Generally, the plants had fewer than 200 employees; none of the plants had more than 230 employees at its disposal. Geographically, the East German establishments were relatively equally spread over the entire former GDR. At the time of the interviews, 15% (8) of the East German establishments were still subordinate to Treuhand. Although the available information indicates no significant bias in the sample, it cannot be completely excluded that the relatively efficient plants are slightly overrepresented in the East German sample.

[9] It should be noted that the wage levels in Figure 2 give the average wage costs per employee in the respective subsample. Some of the West German firms below this average wage level do not experience losses due to relatively low labour costs for less qualified personnel. Gross value added was calculated here as turnover minus expenses for raw materials and goods obtained. It is defined too extensively since further cost categories such as expenditures for services, insurance premium, bank-account fees etc. would have to be subtracted as well.

[10] Note that the wage level can have a direct impact on average productivity in the economy because rising wages may force low productivity firms to leave the market so that average productivity rises (at the expense of a decline in the number of jobs).

[11] It should be noted that the development of production and employment for the industrial sector must be interpreted with caution. Due to the extreme high degree of vertical integration the industrial firms (combines) in the former GDR comprised a relatively high share of service activities like child keeping, recreation facilities and medical care. During the transformation process many of such activities were singled out so that the decrease of GDP and employment in the industrial sector was partly a result of such reorganisations.

[12] In 1988, a mere 0.2% of the employees worked in companies with less than 50 employees. In West Germany the corresponding number amounted to 8.5%. In East Germany 75.7% of the workers were in enterprises with more than 1000 employees, in West Germany the corresponding number came up for 392%.

[13] 9.6% of the employees in the East worked in companies with less than 50 employees, in the West 8.8% belonged to this size of companies. In the East 31.0% of the employees were in enterprises with more than 1000 workers compared to 36.4% in the East.

[14] According to estimates by the Institut für Mittelstandsforschung (Institute for Research on Small and Medium-Sized Businesses, Bonn), probably less than half of all registrations are followed by actual creation of a company which operates actively in the market [May-Strobl and Paulini, 1994]. Other sources arrive at a considerably higher proportion of business registrations that become economically active firms [cf. Hinz and Ziegler, 1995].

[15] Cf. Fritsch and Mallok, 1994a and b, Mallok and Fritsch, 1994. An earlier study with a comparable methodology by Hitchens, Wagner and Birnie (1993) comes to quite similar results.

[16] The fact that the percentage of employees not occupied on the production floor of East German establishments in 1992 was on average 4% higher than in West German companies implies that overstaffing in East German industrial plants is especially in the administrative activities. The high employment share in non-production areas is a reflection of the fact that

employment reduction due to decreasing demand hit the production floor levels worst. By comparison, a low utilisation rate of administrative staff was less obvious because of new fields of activity that had, prior to reunification, been either non-existent or underdeveloped, e.g. marketing and purchasing. It appears noteworthy that East German establishments are planning a further increase of their employment share in the non-production areas of approximately 3% until 1995, whereas West German establishments expect no major change in this regard.

[17] A 1995 study done by the Institut für Wirtschaft und Gesellschaf Bonn [Ottnad, Wahl, Grünewald] came up with the forecast that up to 2005 the East German GDP per capita will grow from 48.8% in 1994 to 72.6% and that infrastructure will achieve 80-95% of Western levels by the year 2000. Productive capital will rise from one third in 1994 to two thirds in 2005.

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