EAST GERMAN ECONOMIC TRANSFORMATION: AN ANALYSIS OF PRIVATIZATION BY THE TREUHANDANSTALT

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I am originally from Fort Wayne, Indiana and have lived in St. Louis for the past nine years. I attended St. Louis Country Day School where I played Varsity Football and Tennis and graduated Cum Laude.

I first became interested in the Treuhandansalt while studying at the Humboldt University in east Berlin through the Duke-in-Berlin program. I was given the opportunity to complete an independent study on any subject and chose to write a paper on the regulatory problems with the Treuhandanstalt. Upon returning to Duke, I took an honors economics seminar and learned more about the privatization process. This led me to write my Honors Thesis during the fall of my senior year under the direction of Jim Leitzel. I then updated and edited this paper in spring of 1995.

In the beginning of April I was notified that I am the recipient of a full maintenance Fulbright Grant to study in Germany from August of 1995 through July of 1996. I intend to use the Fulbright to continue my research on the Treuhandanstalt and east German privatization program, while working in coordination with the University of Leipzig. I have completed majors in economics and history and will graduate Summa Cum Laude in May.

After my year of research in Germany, I plan to attend Law School. I am currently deferring admission to the University of Virginia and still waiting for a response from a few others including Chicago and Stanford. Ultimately, I would like to be involved in the international business market and be able to utilize my law degree and German language skills.

### **INTRODUCTION:**

The fall of the Berlin Wall on November 9, 1989 caught the world by surprise. The same can be said for the speed with which east and west Germany were unified, both politically and economically. On May 18, 1990, east and west German politicians signed a treaty of monetary, economic, and social union, which went into effect July 1, 1990. This treaty was followed by the Treaty of Unification on August 31, 1990 and the inclusion of the five new Laender under Article 23 of the Basic Law on October third of the same year. Looking back on the unification process, one feels a sense of Carpe Diem in the attitude of Chancellor Kohl and other west German politicians as they pushed for full economic, political, and social union.

The decision to go ahead with full unification posed a number of difficult questions for a unified German economy. Perhaps the largest question was what to do with the state-owned enterprises (SOEs) which comprised the east German economy prior to unification. East Germany was marked by a unique industrial organization of firms into Kombinate. The Kombinate were conglomerations of factories in similar production fields which operated under a particular ministry, but had some autonomy. They were created to improve central planning within the command economy and as such were unlikely to be compatible with a market based economy. Restructuring and disassembling these huge monopolies was a major element in bringing the eastern economy in tune with the west.

A related issue facing a unified Germany was the redefinition, redistribution, and restoration of property rights. The process of restitution was especially complicated due to the complex history of east Germany. Property had been expropriated by the Nazis before World War II, the Soviets during their occupation at the close of the war, and the east German government from 1950 until 1989. With the fall of the wall there were thousands of Germans, in west Germany and around the globe, who sought restitution of their former property. On the other hand, east Germans who technically did not own their property had been living in the same place for as many as fifty years and now faced the uncertainty of redefined property rights. The possibility of competing ownership claims was a significant hindrance to the establishment of formal private property rights in east Germany.

The task of converting the state-owned firms into private property was given to the east German Trust Agency, the Treuhandanstalt (THA). The THA was established prior to unification by the Modrow government in east Germany. Unified Germany assumed control of the THA in the summer of 1990 after economic and monetary union had been established by treaty. The THA was given control of some 9,000 firms with a total of 40,000 industrial plants, plus more than 20,000 businesses and smaller operations.

The charter of the THA laid out three major objectives: 1) to sell immediately those firms which were currently capable of competing in a market economy; 2) to restructure and maintain those firms which could potentially compete in a market economy; 3) to liquidate and close those firms which could not compete and would

require state subsidation to survive. The THA was to approach this tremendous task one firm at a time.

East German privatization is a special case in that none of the other eastern economies in transition have the benefit of a wealthy "big brother" to aid them in the process. East Germany through unification was assured significant financial support from west Germany, in addition to a wealth of market knowledge, membership in the EU, and a fully functional legal and institutional framework that helped ease the transition to a market economy. Despite these obvious advantages, east Germany has suffered through four years of economic recession, and high unemployment, while being a significant strain on the west German economy. The speed with which the east German privatization program was carried out, and the method embodied by the THA have contributed to these problems.

As of mid-1994, over 6,300 firms had been privatized by the THA. Poland, on the other hand, has had limited success with a much more gradual privatization process. The privatization program carried out by Poland may provide some answers to the problems now faced in Germany. This program did not benefit from unlimited financial backing and proven social and legal systems, and yet has made headway in areas where east Germany continues to stagnate; namely control of wages, quicker resolution of property rights disputes, and the improved performance of SOEs in a fledgling market system.

Hindsight suggests that had east Germany employed some of the tactics used by Poland, in conjunction with the already existing advantages in Germany, perhaps the unified German economy would be more vibrant today.

This paper will discuss the privatization program carried out by the THA in light of the unique advantages to east Germany and the experience of the Polish privatization program. It is clear that unresolved property rights in east Germany slowed the transformation of its economy, which could have benefitted from more monetary compensation in lieu of restitution. The THA was also forced to deal with political conditions beyond economic attributes which played an important role in the transformation, from determining ownership guidelines to the speed of transition.

The THA will be described in detail with an analysis of its firm-by-firm approach to privatization. Poland has taken a much different approach to privatization in terms of lingering SOEs, restraint of wages, and "hard" budget constraints. The Polish model will be contrasted to that of the THA and the results and consequences of the THA's privatization program evaluated based on Polish achievements and specific German conditions.

The privatization of east Germany has had resounding effects on the unified German economy, promoting significant growth in the east and decline or much slower growth in the west. The growth in the east has not been without cost, however. Wage rates in excess of productivity have contributed to significant unemployment in the east, while west Germany has been the source of subsidies to maintain the excessive wages.

### THE ROLE OF PRIVATIZATION IN REFORM:

One of the most interesting issues in the transformation process is whether

former SOEs should be restructured and allowed to exist within the market until they wither away in the face of competitive private firms, or are privatized. If the decision is made to privatize, as it has been in the case of east Germany, then restructuring can be carried out by the institution or government privatizing the firm, in this case the THA, or the private entity which purchases it. The first step in restructuring the state sector in east Germany was the disassembly of the Kombinate into smaller, more manageable enterprises. The 316 Kombinate which existed in 1989, operating on both the national and regional levels, were split into over 8,000 independently operating firms. This simplification of the SOEs into manageable firms did not entail in any way an increase in efficiency, which was the goal of the restructuring process. The way in which the Kombinate were separated by the THA did not imply that they could not be further or more efficiently broken-up.

### **RESTRUCTURING SOEs:**

The restructuring of former state-owned firms, whether carried out by the THA or private owners, could include shedding excess labor, management changes, capital improvements, finding a marketable product, dismantling vertical integration, and adjusting costs and prices. Due to the desire to fulfill the state plan and fixed wage rates, east German SOEs had an incentive to hire more labor than comparable market firms, resulting in Kombinate and other state-run firms which were mired in substantial excess employment. In order for a firm of this nature to compete in a market system, this excess labor had to be shed. Along with laborers, many managers of SOEs were ripe for removal or replacement.

Another major factor in restructuring is the improvement of the capital inputs. Although east Germany was the second most successful industrial nation in the Eastern Bloc behind the Soviet Union, this success was achieved through high labor input and antiquated capital rather than the latest in technology. Much of the capital plant in east German firms is obsolete, and needs to be replaced to enable firms to compete in the open market. Capital can be improved through investment which can come from either the THA (in an attempt to make a firm more enticing to possible buyers), venture capitalists, or the new private owners themselves.

### PROPERTY RIGHTS:

In order to understand the issue of property rights after the unification of Germany, it is first necessary to look at the situation under the pre-reform regime. The east German government was based on a rejection of private property. Instead, all property was under government control. According to economist Yoram Barzel in his analysis of property rights formation, however, the fact that there is government controlled property which is classified as "common" or "public," does not imply that the property is unowned. Some individuals control the use of the assets, and the returns from

the assets.

In the pre-reform SOEs, managers and workers had informal property rights. In fulfillment of the state plan, resources and production capabilities were often utilized for individual gain. The issue of these informal property rights becomes an important one when the sale of the firm to a private owner is considered. How then will the manager and employees be compensated for their pre-existing, informal property rights? Will they simply lose the rights to the new owners?

### THE ISSUE OF PROPERTY RIGHTS RESTITUTION:

In the case of east Germany, restitution of property rights has been one of the greatest hindrances to the privatization program. Uncertainty over property rights and a number of policy changes concerning restitution and compensation have clouded the situation even further. Restitution in east Germany is a complicated issue due to the complex history of the area. The Nazi reign in the 1930's and 40's, the Soviet occupation after World War II, and the forty year existence of the GDR have included numerous collectivizations, redistribution and socialization of previously owned private property.

The Nazis expropriated a significant amount of property from the Germans they persecuted. When the Soviets came on to the scene, rather than returning the property, they redistributed it, along with the land and businesses of the former Nazis. In 1945, the Soviets seized land from the Junkers as part of a three-decade-long collectivization program. By 1965, the GDR had expropriated 80% of private property and converted it to "people's property". By 1988, the GDR had recorded over 90% socialization of industry. In addition, the Kombinate were comprised of expropriated firms which were split-up and annexed by other firms, creating a situation in which there were multiple claimants to the same property.

Restitution was further hindered by the destruction of the war and terrible state of east German land records. Much of east Germany was so devastated by bombing in the war that it was totally rebuilt with new zoning in complete ignorance of the previous property lines. The land records for east Germany, which if laid out end to end would extend over fourteen kilometers, are spread across the entire country. In addition, many of these records were deleted, altered, or seriously damaged.

### THE OPTIMAL RESTITUTION POLICY:

Despite a concerted effort on the part of the German government to find the most equitable and expedient answer to the property rights question in east Germany, the policy changes and focus on restitution rather than monetary compensation created a major roadblock for privatization. Uncertainty over property rights has restrained outside investment, due to the fact that a newly purchased enterprise could be taken away and given back to the supposed previous owner despite the new owners' efforts to improve the firm. This uncertainty continues to detract from east German privatization practices.

The best possible solution to the property rights disputes would have been

<sup>&</sup>lt;sup>6</sup> Some of the firms held by the THA could possibly have been more efficiently divested once private ownership was established.

<sup>&</sup>lt;sup>7</sup> Thomerson (1991), 125.

direct compensation from the very beginning.8 Germany eventually relied on such a system, but only after failing to efficiently return property under the various restitution programs. Monetary compensation may not have been optimal for every previous property owner, but it certainly would have been popular in east Germany. The east Germans were denied the right to own property by the GDR government; why should this trend be continued by unified Germany?

Compensation from the beginning would have allowed for immediate sale of firms by the THA and avoided the significant hold-ups caused by restitution. In many cases, the current use of property was identical to the intended use by the previous owner. In a situation such as this, when utilization of the property will not be altered, the east German informal property rights should be formalized and the previous owners should be compensated for the loss. Although such compensation would demand considerable transfer payments, one must consider the possibilities of these pay-offs. Much of this compensation could result in investment in the east, and a step in that direction was taken by the German government in 1994 through the creation of a DM 1 billion re-invest fund

# POLITICAL ECONOMY OF PRIVATIZATION AND REFORM:

Economic reform and transformation through privatization is significantly affected by the political atmosphere in which it is instituted. Two major factors in the transformation process include the way in which property is distributed - who wins and who loses, and the speed with which the reform program is carried out. Due to the policy of restitution, the THA after 1990 was only able to sell those firms which did not have any outstanding property rights claims. This portion of the east German productive base was relatively small. The main alternative to restitution, monetary compensation, creates problems as well. In order to compensate, a value of the property must be devised. This is difficult to establish in a region previously without real estate markets. A policy which provides for compensation under some circumstances and restitution in others has the potential to create much unrest. If the restitution program is perceived as unfair, it could lead to an anti-reform sentiment, endangering the transformation process as a whole.

The speed at which transformation takes place can also seriously affect public opinion of the process. In a quick transition, where monetary union is established and people can immediately exercise property rights, there is a feeling of responsibility and an impetus to improve conditions by taking part. Some are of the opinion that the quicker the transformation, the less time it takes to alleviate the economic hardships.

On the other hand, slower transition can appear to a greater extent as a top-

down program, in which the citizens have no stake. When visible progress does not keep pace with political promises, the transformation is considered to be slow, and the public may perceive--perhaps correctly--that not enough or absolutely nothing is being done. This places the government in a precarious position of trying to reform while at the same time attempting to keep a lid on public discontent.

Along with restitution and the speed of transformation, the distribution of property and who suffers as a result is also a factor in the political economy of reform. Former state owned property in east Germany can be distributed to either east Germans, west Germans, or foreigners. To date, the lion share of distribution has been to west Germans, which despite the fact that proceeds have benefitted the east, annoved some of the east German population and created a situation much like colonization. Although the east Germans did not formally own property in the east, redistributing their homes and places of employment to west Germans creates political strain. East Germans can do little about this situation because they are so heavily outnumbered in unified German politics. and are relatively poor. Substantial subsidies may alleviate part of the problem, but it is doubtful that the situation can be totally erased by transfers.

The effects of the political atmosphere on reform can easily be seen in the east German transformation. The speed with which monetary and currency union were established was significantly affected by political pressure, against the will of most economists and financial analysts. Public sentiment and its effect on politics has also been readily apparent in the wage problems facing east Germany. It is politically advantageous for many west German politicians to raise wages in the East and work towards wage and living standard parity between east and west, despite the fact that this is detrimental to economic reform and progress. Had there been less political pressure for immediate economic, monetary, and social union, east German economic reform might have been instituted in a more deliberate fashion.

### SPECIAL CASE: EAST GERMANY

East Germany has a number of advantages for economic reform which are not available to the same extent in the other eastern transitional economies. Perhaps the most important, as mentioned above, is that east Germany has inherited a stable political system. This political stability allows the German government to take more effective, and at the same time less popular, measures than could be taken by less stable regimes. Potentially painful measures such as restructuring, which lead to open unemployment, are more likely in a secure political environment.

The second important advantage that east Germany has over the other eastern transitional economies is the west German financial sector and wealth. One manifestation of this wealth is the immediate establishment of west German branch banks in the east. Reform in transitional economies such as Hungary is hindered by difficulty in attracting investment and financing. This is not the case in east Germany due to west German deep pockets. The combination of readily available credit and responsible and experienced commercial and consumer banks provides a financial footing for east Germany that can not be matched elsewhere in the East.

Another special advantage for east Germany is easily accessible administrative

<sup>&</sup>lt;sup>8</sup> Determining the amount of compensation remains a difficult issue due to the lack of market valuation. The property could be auctioned off, establishing a market price, with the proceeds going as restitution to the original owner. But such a solution would not be feasible for things such as currently occupied houses.

<sup>&</sup>lt;sup>9</sup> The Economist Intelligence Unit Country Report. 1st quarter, 1994, GERMANY. 19.

experience. West German managers and market specialists are only forty minutes away, and speak the same language. Administrators with market knowledge and experience are better able to understand the situation in east Germany due to the similarities, than would be western administrators attempting to aid other eastern transitional economies.

The amount of new technology in east Germany will surpass that in any of the other eastern economies undergoing reform. 10 This will come as a result of the financial support and common language in west Germany. In addition, the purchase of east German SOEs by west German firms in similar or identical product markets and fields, will result in installation of the most advanced technology due to familiarity with the

One special advantage, which will become more beneficial as the transformation proceeds is automatic admission to the European Union. The EU will provide east Germany with economic opportunities along the lines of investment and trade which are simply not available to transformational economies outside the Union. East Germany will qualify for EU subsidies to its poorer sectors while being tied to the strong German economy. 11 Conditions for EU entry, which include substantial environmental standards, are costly, but these will be more than compensated for by the trade and investment opportunities offered by EU membership.

One final advantage, which is a consequence of the aforementioned conditions special to east Germany, is the fact that east Germany will attract more foreign investment. The combination of political stability, established laws and institutions, and easily obtainable market experience will enhance east Germany's reputation in the international market. One current deterrent to foreign investment, is the problematic pattern of escalating wages. Some other eastern transitional economies, such as the Czech Republic have garnered significant foreign investment simply due to low wages. If the wage crisis can be controlled, east Germany will continue to attract more and more

# CONVERGING ON WAGE RATE PARITY:

Real wages will increase significantly in any successful transition from a command economy to a market economy, but the speed at which east German wages have risen borders on the unimaginable. Under normal market conditions, increases in the wage level are related to increases in the level of productivity. The lack of this relationship between wages and productivity has been the most abnormal condition in east Germany. East Germans are now being compensated in excess of their productivity per capita. Productivity in the east is nowhere near that in west Germany, while east German wages will be comparable to those in the west in less than two years.

The rise in wage levels in east Germany began even before infiltration by western trade unions. By the second quarter of 1990, prior to the treaty on economic, monetary, and social union, nominal wages had risen 20% from the last quarter of 1989.12 This early rise was the result of east German managers compensating their employees and themselves as no one was monitoring each enterprise closely enough to represent the employer, the THA. The best possible scenario for east German wages would have been to allow for such small increases in wages, but to prevent the gigantic leaps that have been characteristic of the last three years. The current lack of sufficient investment, alternatively can be attributed to the fact that by early 1992, hourly wages in east Germany had exceeded those in U.S. heavy industry. Wages have increased so dramatically that as of 1992, the wage level in east Germany was ten times that in the contemporary transitional economy of the Czech Republic. 13

At the point of unification in 1990, the average monthly wage for a west German was approximately 3,200 DM. The figure in the east was 1,150 Ostmarks, which at the conversion rate of 1:1 placed the average east German monthly wage at 36% of the west German figure. 14 Average east German wages in 1993 represented 69.5% of those in the west, an increase of 13% over 1992 levels. Productivity in the same year saw 11% growth over the previous year to reach a level comparable to 38.5% of west German production. 15 East German wage negotiations at the close of 1993 provided for wages in the following year to reach 80% of the going west German wage rate. Wages of that magnitude in east Germany, considering the productivity at the time, placed east German cost per unit of production 75% higher than the same ratio in the west! 16 This unbelievable figure attests to the ever-widening gap between wages and production in east Germany and the amount of transfers funded by west Germany to cover this subsidy.

Wages in east Germany in the third quarter of 1994 reached between 82% and 90% of those in the west, encouraging some to call for full wage parity. 17 Specific

<sup>&</sup>lt;sup>10</sup> Dornbusch and Wolf (1992), 250-51.

<sup>11</sup> The EU has extensive subsidies available to its poorer sectors. These transfers usually go to Spain, Greece, and parts of Italy, but will be available to east Germany as it is now a part of the EU.

<sup>&</sup>lt;sup>12</sup> Schmidt and Sander (1991), Ghaussy and Schaefer eds., 62. The extent to which real wages increased is uncertain since the statistics on prices at that point reflect a considerable amount of fixed prices which still remained.

<sup>13</sup> Dornbusch and Wolf (1992), 238-39.

<sup>&</sup>lt;sup>14</sup> This figure is not precise due to the artificial nature of the 1:1 ratio. (Kalmbach (1992), Kurz ed., 119.)

<sup>&</sup>lt;sup>15</sup> Deutsche Bundesbank Annual Report 1993, 31.

<sup>16</sup> Ibid.

<sup>&</sup>lt;sup>17</sup> The Economist Intelligence Unit Country Report. 3rd quarter, 1994, GERMANY. 25.

industries, such as metallurgy, electric engineering, and retail have submitted proposals for parity by 1994 or 1995. Sources at the Bundesbank have suggested July 1996 as a probable date for full wage parity between east and west. 19 Clearly, the rapid increase in east German wage rates has slowed the transformation process orchestrated by the THA.

### THE TREUHANDANSTALT:

Perhaps the most unique aspect of east German transformation is the Treuhandanstalt (THA), or German trust agency. It was founded in December of 1989 by the Modrow government in east Germany prior to the first free elections and voted into law on June 17, 1990 under the Treuhandgesetz (Treuhand law). The THA was further modified and its existence guaranteed in the same year under Article 25 of the Unification Treaty. The THA became, in effect, a nearly autonomous agency which technically fell under the jurisdiction of the German Ministry of Finance. Its objectives, to be achieved within four years - after which the THA would cease to exist - were laid out from its inception. Prior to unification, the THA labor force was entirely east German. The some 600 east German employees included a significant number who had been communist functionaries or had ties to the communist party.<sup>20</sup>

### THE STRUCTURE OF THE THA:

The THA was established with a two-board system of governance under a Board of directors and supervisory board. Initial control of the THA by east German former communists was quickly tilted in favor of west Germans. The supervisory board, which was later expanded from sixteen to twenty-three members, was immediately split between east and west Germans, and east German representation on the Board of Directors, as of October 1992, was eroded to a single member. The make-up of the supervisory board includes management and board members of west German firms, a single east German manager, representatives from both the federal government and new east German states, Bundesbank officials, and trade union representatives.21

The THA, as trust agency for east Germany was given ownership of all stateowned property under the former communist government. The three-hundred plus Kombinate from the GDR period were split into 9,000 firms with over 45,000 places of business. The Treuhand also controlled 20,000 commercial businesses, 7,500 hotels and restaurants, 1,000 pharmacies, bookstores and movie theaters. Additionally, the THA held over 4 million hectares of farmland and forests.<sup>22</sup> Such vast holdings encompassed

Under the Treuhandgesetz the THA was given three options in dealing with SOEs: 1) to sell immediately those firms able to compete in the open market; 2) restructure those firms which have the potential to compete but are as of yet not viable; and 3) close those firms which will be unable to compete in a market system. The firms judged to be in the first category were quickly sold to the most enticing private offers. The firms which needed restructuring to continue operating after the transformation have sparked a significant amount of controversy concerning the most efficient method of restructuring, whether it be through the THA or a private concern.

more than 3 million employees and instantly made the THA the largest firm in the world.

Through privatization, the THA was to "promote the structural adjustment of the economy to the requirements of the market" (S2 (6) Treuhand Law). 23 The objective of the THA is to develop management skills and market experience within the former SOEs, rather than to actually actively participate in the affairs of the firms. As a result, THA employees do not sit on the boards of directors of the firms they control.<sup>24</sup> Unfortunately, the guidelines of the THA have done little to prevent THA employees from being actively involved in the firms they are attempting to privatize shortly after the deal is signed.25

### THE THA'S APPROACH TO PRIVATIZATION:

The THA approached privatization on a firm-by-firm basis, making an individual decision on each firm. Once an offer for an east German firm was made, the THA discussed that particular proposal, and that proposal only, until an acceptable purchase price was set or negotiations fell through, in which case the THA began deliberations with the next prospective owner. The scope of the THA's responsibilities and the time constraints involved can only be understood in light of the firm-by-firm approach to privatization. Before the sale of a firm was considered, the THA had to first guide each SOE through a four step process in preparation for privatization. This method was both time consuming and less efficient than a simple auction process.

The first step in the process was the establishment or reorganization of a supervisory board for each firm which faced possible privatization. Establishment of the supervisory board relieved some of the pressure on the THA to carefully monitor each firm. The THA maintained its control of each firm through liquidity credits, but left the

<sup>&</sup>lt;sup>18</sup> Schmidt and Sander, Ghaussy and Schaefer eds., 62.

<sup>&</sup>lt;sup>19</sup> Deutsche Bundesbank Annual Report 1993, 35.

<sup>&</sup>lt;sup>20</sup> Carlin and Mayer (1992), 326.

<sup>&</sup>lt;sup>21</sup> Ibid.

<sup>&</sup>lt;sup>22</sup> Boes (1993) Appendix A, 23.

THE THA's OBJECTIVE:

<sup>&</sup>lt;sup>23</sup> Siebert (1991), 18.

<sup>&</sup>lt;sup>24</sup> Blum and Siegmund (1993), 403.

<sup>&</sup>lt;sup>25</sup> The THA within a year of its privatization process faced significant problems with THA employees bargaining with potential purchasers in order to secure future employment in either the purchasing firm or privatized firm.

regular oversight and routine monitoring of management to the supervisory board.

The supervisory board was also an excellent way in which west German expertise could be brought into the picture. In nearly every case, the chairman of the board was a west German. The THA created supervisory boards with the following make-up:

Employee representatives (elected by Worker Councils)

West German Bank employees

20 - 25%

Local Officials (east Germans)

10 - 15%

Managers of eastern and western firms

60 - 70%

(active and retired)<sup>26</sup>

The second step in bringing east German SOEs to the table was determining which of the three categories of transformation each firm fell into. The THA was forced to develop a method through which the viability of each east German firm could be assessed. The first requirement established was an 'opening balance sheet' in DM for each SOE before it could be considered for privatization. Shortly after, the THA put together a group of 80 experienced and successful managers from west Germany to consider the balance sheets and the future of each east German firm. According to Carlin and Mayer (1992), the west German experts focused on marketable products, the efficiency of management, and whether or not a particular firm had western backing and investment potential. At first analysis, approximately 70% of the east German firms were considered either ready for sale, in need of restructuring but likely to succeed, or apparently viable after revision of plan or significant restructuring.<sup>27</sup> The remaining 30% were considered incapable of surviving in a market economy.

The third step was reorganization of those firms with potential and closure of those firms without it. Reorganization and restructuring encompass a number of different responsibilities and alternatives, from replacing management to dividing a firm into smaller, more competitive parts. In some instances, the pre-THA division of the Kombinate was not sufficient. Further division could increase the pool of prospective buyers due to a smaller required investment and purchase price, as well as a reduction in the risk of investment. Dissolution of a THA firm may be carried out by the THA through negotiations with a firms' creditors, or a special court in which the THA loses control of the firms' reorganization. <sup>28</sup> As of mid-1992, the liquidation of 1,400 firms was completed or at least begun; 85% of these shutdowns were carried out through THA closure rather than through special liquidation courts.<sup>29</sup>

The fourth and final step in preparation for privatization was attracting buyers and evaluating their proposals for investment, labor retention, and liability coverage. But before a potential purchaser was analyzed, he or she had to first be sought out. THA privatization has been characterized by little effort in attempting to attract potential purchasers. They have produced a catalog of firms for sale, but due to the enormity of the task, this catalog is rarely accurate. During its first two years of operation, the THA failed to advertise firms internationally or to actively seek out potential investors.

The THA relies on a one-buyer-at-a-time approach because it allows for a much closer look at the potential investor. According to THA analysts, the management experience and skills, financial standing, and investors' ability to guide an SOE into the future can be assessed through direct sale on a firm-by-firm basis. All potential investors must submit a tentative plan to the THA outlining future investment, restructuring plans. retention of labor, re-education opportunities, and proposed market utilization in terms of suppliers, distributors and customers. Once viability of the plan is established, a price for the firm is negotiated, based on environmental clean-up responsibilities, the speed of the transition, the number of jobs spared, and other costs to the investor once ownership is transferred. In many cases this lengthy process is carried out and no sale is made.

There are other disadvantages to the firm-by-firm sale approach to privatization. One possible disadvantage is the favor given to west German investors. This is a compound problem which results from poor dissemination of information, the proximity of west Germany, and west German direct involvement in east German economic transformation. In addition, participation by west Germans on the supervisory boards of the firms to be privatized creates a bias in favor of west German investors.

Another drawback to the firm-by-firm approach is the possibility of selling too low. The THA approach operates on a first come, first serve basis. Once negotiations begin, the THA is locked into negotiations with that particular potential investor. There may be another potential investor who has a better plan for restructuring and labor retention, and is willing to pay more, but the lack of an auction-type sales method prevents this investor from buying the east German firm, unless negotiations with the other potential investor fall through.

An auction, through which individual firms would be sold, would not allow for the careful analysis, which the THA claims to be important, but how effective can this analysis be? There is not a department within the THA which monitors investor compliance with their particular contracts for investment, labor retention, etc., which were

<sup>&</sup>lt;sup>26</sup> Carlin and Mayer (1993), 328.

<sup>&</sup>lt;sup>27</sup> Ibid, 329.

<sup>&</sup>lt;sup>28</sup> Ibid, 330.

<sup>&</sup>lt;sup>29</sup> Ibid.

<sup>&</sup>lt;sup>30</sup> VARTA Batterie AG was involved in negotiations with the THA over Zwickauer Batterie GmbH, an east German firm, and despite approval by the government anti-trust bureau, the deal had not been settled after a year. During that year the THA had already invested DM 40 million in restructuring. (Carlin and Mayer, 1992, 331.)

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a major factor in the procurement of east German SOEs. Therefore, since no regulatory body exists to hold the investors to their promises, how important are their claims for investment and labor retention? The advantages of the firm-by-firm approach are undermined due to a lack of enforcement of THA contracts, again making an auction a

# THA EMPHASIS ON INVESTMENT PLAN RATHER THAN PURCHASE

In 1990, before the privatization process was begun, the THA and other west German financial institutions expected windfall profits from the sale of former east German firms.<sup>31</sup> Four years later, the DM 600 billion figure that was projected at the beginning seems ludicrous. In fact, east German privatization has cost the German government significantly. The current THA debt, as of November, 1994, is calculated to be nearly DM 300 billion.<sup>32</sup>

The fact that the THA ran an ever larger debt, as a result of privatization, changed the focus of its sales method from purchase price to restructuring and investment plans.<sup>33</sup> Overestimation of the value of capital in east Germany, questionable property rights, enormous amounts of debt, and the need for investment, among other factors, forced the THA to re-prioritize its goals in the sale of east German SOEs. Soaring unemployment in east Germany also had an effect on the price negotiations between the

Through the guise of rose-colored glasses on the eve of unification, the east German economy, ranked second in COMECON, had a considerable capital plant. In reality, much of this capital was run-down or obsolete. The need for massive capital investment in east Germany caused the THA to focus on more than the selling price of an east German firm. In addition, potential investors when faced with assuming debt and the price tag for restructuring were unable to offer the supposed value of the firm. Paying a higher market-calculated price for a firm meant shedding additional labor.

In response to these problems, the THA developed a bargaining strategy which favored job retention and investment over actual sale price. When analyzing an investors' proposal, the THA focused on the plan which best restructured a firm and maintained the greatest possible amount of labor. Breaks in the actual sale price were given for labor retention and commitment to the future, such as environmental clean-up. 34

## THE GERMAN ECONOMY AFTER UNIFICATION AND TRANSFORMATION:

Unification has had significantly different effects on the east and west German economies. The most immediate effect in the west was a relative economic boom. In 1991, as a result of east German increased demand for western products and services, west German employment rose 2.5%, fixed capital investment saw growth, and disposable income for west German households rose 6%. West Germany also saw GNP growth of 3% in 1991.<sup>35</sup> Although some of this economic growth was fueled by west German transfers to east Germany, the fact remains that the west German economy was in the midst of an upswing. Economic union is currently being paid for by west Germany and there does not appear to be an end in sight. The cost of economic union can be seen in the changes in the west German public-sector debt since 1990. Prior to unification west Germany had a negligible public-sector deficit, but at the close of 1993 the deficit had risen to 7.5% of GNP.30

While west German economic standing improved in 1991, the east German economy was in dire straits. East German demand for western products caused a huge decline in domestic demand for eastern products. The sharp decline in demand for east German products coincided with a marked decline in output in the two most important sectors, manufacturing and construction. These shocks to the east German economy, in addition to the initiation of restructuring in the manufacturing and industrial sectors, hindered output and strained the east German economy.

By the spring of 1991 the tides began to turn.<sup>37</sup> Production in east Germany

had already increased in some service sectors as early as the end of 1990 and in 1991 demand for construction in east Germany began to pick-up, aided significantly by west German transfer payments. The west German economy, on the other hand, was headed in the opposite direction, with 1992 GNP growth less than 1%. This decline can be partly attributed to the abominable export market in 1992, but the honeymoon, characterized by the euphoria and boom of the unification, was clearly over.

Throughout 1993 and the first three quarters of 1994, the trends of a growing east German economy and a stagnant west German economy were perpetuated. As a result of the economic growth in the east and increasing transfer payments from the west, the standard of living in east Germany rose from 50.1% of that in the west in 1990 to 71% in 1993. 38 West German GNP fell 2.4% in 1993, the largest single year drop in the

<sup>31</sup> Ibid.

<sup>&</sup>lt;sup>32</sup> The Economist Intelligence Unit Country Report. 1994-95, GERMANY. 21.

<sup>33</sup> This change of focus was in reaction to a growing need for capital investment in the East rather, than a reflection of increasing debt.

<sup>&</sup>lt;sup>34</sup> The amount spent on restructuring was subtracted from the purchase price. Reductions from DM 20,000 to 50,000 were offered for each employee investors were willing to keep. (Carlin and Mayer (1993), 331.)

<sup>&</sup>lt;sup>35</sup> Deutsche Bundesbank Annual Report 1991, 14-16.

<sup>&</sup>lt;sup>36</sup> The Economist Intelligence Unit Country Report. 1993-94, GERMANY.

<sup>&</sup>lt;sup>37</sup> The figures and statistics presented after unification, much like those in the GDR, should be looked upon with some degree of skepticism due to the unreliability of statistics during economic reform.

<sup>&</sup>lt;sup>38</sup> Deutsche Bundesbank Annual Report 1993, 31.

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history of the Federal Republic of Germany. 39 The bill for east German economic transformation has become increasingly important due to the massive deficits Germany is currently running. The federal government deficit of DM 62 billion in 1993 was expected to remain static in 1994, but in the first ten months of 1994 showed signs of decline. 40 Unfortunately, the federal deficit is only part of the picture. It does not include the debt incurred by the Laender, local governments, and the significant debt and debt financing guaranteed by the THA. 41 The most recent estimations of the federal government deficit call for the deficit to remain relatively unchanged until 1996, at the

## WEST GERMAN TRANSFER PAYMENTS:

The massive amounts of investment pouring into east Germany by way of west Germany have come for the most part in the form of transfer payments. This is a result of the political atmosphere at the time of unification. Chancellor Kohl promised not to raise taxes and indicated that a 7.5% surcharge on income tax until 1994 would cover the cost of bringing the east German economy up to west German standards. The reality that this surcharge does not even begin to cover the costs associated with east German economic transformation can be seen in the numerous tax raises since unification and the vast transfer payments flowing annually from west to east.

The transfer payments began at relatively conservative levels, amounting to DM 38 billion in 1990. This figure was more than tripled the following year. Transfer payments in 1991, totaling DM 139 billion represented 75% of the east German GNP and 5.5% of GNP in west Germany, considerably more than the \$13 billion contributed by the Economic Cooperation Administration (ECA) through the Marshall Plan. 43

West German transfers allow east Germans to consume at levels in excess of their productivity. In 1992, east Germans spent twice what they produced, in terms of GDP. GDP growth in the first half of 1994 was 9%, but west German transfer payments continue to make up half of the east German yearly income.<sup>44</sup> The standard of living in east Germany is quickly approaching that in the west as a direct result of western transfer payments.

### THE EAST GERMAN LABOR MARKET:

The east German labor market has been a major source of concern since unification. The vast difference between the wage levels in the east and west at the time of unification threatened to result in a mass exodus of labor to the west. As noted, west German politicians were cognizant of this possibility and attempted to alleviate it by quickly creating wage parity. West German Labor unions have also played a major role in the east German labor market, wasting no time in incorporating the east Germans.

Transition to a market system from a command economy has also led to another major labor market concern: open unemployment. The east German SOEs were all over staffed, and economic transformation cannot be accomplished without shedding at least a healthy portion of this excess labor. Structural change in addition to the liquidation of firms which simply cannot compete has left the east German labor market in the midst of unemployment as high as 30%. There exists in east Germany a substantial amount of "hidden" unemployment as well.

Average measured unemployment for 1991 was 913,000, roughly 10.4% of the work force. Short-time work for the first quarter of 1991 was 1,925,800, another 21% of the work force. Hidden unemployment, including job creation schemes, further training and early retirement, accounted for another 320,000 workers, 46 creating an estimated unemployment rate of 35%. Early in 1994 this aggregate rate of unemployment was estimated at 25%, with 17% coming from those actually out of work. As of October, 1994, east German unemployment seems to be on the wane. Overall unemployment was estimated at 13.4%, short-time work has declined 50%, and the other hidden unemployment figures by 22%.<sup>47</sup> Yet, unified Germany is certainly not out of the woods. During 1993, 19 of the 20 largest German firms were forced to lay off workers.<sup>48</sup> In addition, 33% of the Germans who are currently unemployed have been so for over a year.

<sup>&</sup>lt;sup>39</sup> Ibid, 19.

<sup>&</sup>lt;sup>40</sup> During the first ten months of 1994, the federal government had a debt of DM 23 billion, less than half the deficit for the same period in 1993. (The Economist Intelligence Unit Country Report, 4th quarter, 1994, GERMANY. 18.)

<sup>&</sup>lt;sup>41</sup> The public-sector deficit does include these additional debts and is estimated to be in excess of DM 219 billion in 1994.

<sup>&</sup>lt;sup>42</sup> The Economist Intelligence Unit Country Report, 4th quarter, 1993, GERMANY. 18-19.

<sup>&</sup>lt;sup>43</sup> Dornbusch and Wolf (1992), 241.

<sup>&</sup>lt;sup>44</sup> The Economist Intelligence Unit Country report. 4th quarter, 1994, GERMANY. 22.

<sup>&</sup>lt;sup>45</sup> This figure ignores the effects of employment in the informal sector and substantial black markets, harkening back to the command economy.

<sup>&</sup>lt;sup>46</sup> Deutsche Bundesbank Annual Report 1991, 24.

<sup>&</sup>lt;sup>47</sup> The Economist Intelligence Unit Country Report. 4th quarter, 1994, GERMANY. 25.

<sup>&</sup>lt;sup>48</sup> Shales (1994), 117.

### THE POLISH ECONOMY:

On the first of January, 1990 the Polish government liberalized most prices. Other measures enacted in an attempt to create an atmosphere conducive to a market economy included drastic cuts in subsidies, currency devaluation and current-account convertibility, and the elimination of import and export controls. A significant hardening of the budget constraints of SOEs, coupled with the elimination of price controls reduced subsidies from 12.5% of GDP to 7.1% in 1990. As a result, measured productivity has dropped significantly and unemployment risen, but not to the levels experienced in other eastern transitional economies.

## **UNEMPLOYMENT AND WAGES IN POLAND:**

In 1991, Polish measured unemployment had increased to 13%, but Sachs (1993) estimates that this figure is overestimated by a third<sup>49</sup>, and therefore claims that Polish "transformation has not resulted in mass unemployment". 50 Polish unemployment figures were clearly not on the same page with the 30% and higher unemployment seen in east Germany at the same time. Manageable unemployment in Poland is a reflection of the emergence of an indigenous private sector in Poland, development of the service sector, and a grip on increasing wage levels. Over two million jobs have been created by new firms exploiting the dearth of service enterprises in the former socialist economy. The fact that a number of SOEs remain in the market has also contributed to retention of

One of the largest differences between Polish and east German economic transformation has been Polish wage control. The current wage level in Poland reflects bargaining between labor and management, which has produced much greater selfrestraint than witnessed in Germany. In addition, the Polish government has provided guidance in the form of an excessive wage tax. The "popiwek," as it was called in Poland, was a temporary tax on "excessive" average wage rates in both state and privately owned firms instituted to achieve economic stability before large scale privatization was

A number of managers complained that the popiwek merely got in the way of those with strong leadership skills and the foresight to prepare for future employment situations.<sup>51</sup> Despite the fact that many Polish firms found the popiwek to be repressive and to limit growth, its existence, at least temporarily, was influential in maintaining the relatively slow increase in Polish wages. As of 1992, Polish wages amounted to a mere 10% of those in west Germany, far below the escalating wages in east Germany. Poland's ability to keep a lid on wages has been a major contributing factor in its economic transformation and growth.

### POLISH PRIVATIZATION METHODS:

The Polish government chose to stabilize the economy and liberalize prices prior to privatization. This method was chosen based on a number of considerations, including the threat of hyperinflation, the belief that privatization before stabilization and liberalization would stifle growth in the new Polish private sector, and the simple fact that stabilization was a more important issue to the newly established government. 52 While this decision led to increases in enterprise lobbying for additional state credits, alleviation of debt, and other benefits such as tax breaks, the German THA faced the same situation although it pursued privatization before liberalization and stabilization.

Unlike German privatization, the Polish model has undergone a number of changes since its inception in 1987. Privatization in Poland began prior to the demise of the communist government in the form of spontaneous privatization. Poland then attempted a form of privatization known as the "UK Model," based upon British privatization in the 80s. This form of privatization shared the one-firm-at-a-time approached pursued by the THA. When this program proved to be slow and costly, a third method known as mass privatization was embarked upon. This privatization program in the past two years has continued the Polish economic turn around which began prior to its inception and has pointed it in the right direction with limited success in terms of production, unemployment, and the Polish government budget.

The Mass Privatization Program (MPP) was developed to further privatize the large industry sector of Polish SOEs. The program called for the sale of 400 large SOEs to 10 investment funds with Polish chairmen and western oversight and management.<sup>53</sup> The MPP, however, was not intended to be a broad based privatization program with the obligation of selling all the remaining SOEs. As of March of 1992, 173 firms had been transferred to private ownership through the MPP.<sup>54</sup> Many of the SOEs that were not included in the MPP are still state controlled today.

### **LINGERING SOES IN POLAND:**

Poland, in stark contrast to east Germany, has chosen a gradual privatization program which allows SOEs to co-exist with privatized firms until they either enter bankruptcy or are themselves privatized. New private firms in Poland in conjunction with those already privatized were responsible for 50% of GNP and 60% of employment in 1992.55 This has left a substantial portion of the firms in Poland in their original state-

<sup>&</sup>lt;sup>49</sup> According to Sachs, Polish analysts attributed this one-third overestimation to reported unemployed who were working in the second economy, on farms, or falsely declaring unemployment in order to increase their income.

<sup>&</sup>lt;sup>50</sup> Sachs (1993), 73.

<sup>&</sup>lt;sup>51</sup> Pinto, Belka, and Krajewski (1993), 248-49.

<sup>&</sup>lt;sup>52</sup> Sachs (1993), 57.

<sup>53</sup> Sachs (1993), 89.

<sup>&</sup>lt;sup>54</sup> Slay (1993), 20.

<sup>55</sup> Sachs (1993), 78.

owned form. A survey completed by Pinto, Belka and Krajewski (1993) traced the performance of sixty-four Polish firms from 1990 to 1992. After two years, thirty-seven of the original sixty-four firms were still considered SOEs, and a number of them were judged to be successful.<sup>56</sup>

The SOEs in Poland since transformation began have for the most part broken even or made money. SOEs in east Germany, on the other hand, continue to lose money and require government subsidies to ensure their existence. The main difference between the two situations is the gap between productivity and wage rates. The east German SOEs raise wages at a rate greater than their annual increase in productivity, resulting in the need for more transfer payments and west German subsidies. Polish SOEs have done a much better job of controlling wages, whether through self-restraint or the excessive wage tax, keeping wage increases in line with the productivity growth which began in 1991 and has increased steadily since.

Although SOEs are not optimal for every industry in the long-run, due perhaps to poor incentives for investment and inefficient operation, in the short and medium-run they can adjust to hard budget constraints, import competition, and restructuring just as private firms do. Polish SOEs, which are run by "self-governing" workers' councils with operating controls and the power to hire and fire management, have shed labor through restructuring, controlled wages, and maintained productivity. Free prices have forced SOEs to behave better in the market. Those Polish SOEs which have succeeded to this point have not been the beneficiaries of softer budget constraints or administrative guidance from the state. Instead, they have begun restructuring, reacted properly to tighter bank loans and other hard budget constraints, maintained production and sales, innovated, and invested.

### "HARD" BUDGET CONSTRAINTS IN POLAND:

One of the most important policies for economic transformation adhered to by the Polish government was the institution of hard budget constraints. Budgets were hardened within the government itself in terms of credit and subsidation, in the financial sector in terms of tightened lending practices, and in the Polish firms in terms of the extension of interfirm credit. The transition from "soft" to "hard" budget constraints did not take place immediately, but according to one Polish manager, "in 1990 banks acted like cashiers... by 1992, banks were behaving like partners... highly conscious of quality". The government participated in the hardening of budget constraints when the Ministry of Finance froze funds to 2,000 Polish firms considered to be unreliable. 59

Another impetus to observe the hard budget constraints was the simple fact that the Polish government, unlike west Germany could not afford to bailout any firms which were mired in debt or over-extended. Furthermore, the "hard" budget constraints led to improved economic performance, since free prices ensured that firms that lost money were likely to be those with negative social value.

### CONCLUSION: RATING THE EAST GERMAN PRIVATIZATION PROCESS:

While east German privatization has been hailed for its progress to date, there remain a number of issues, including unresolved property rights, massive unemployment, and wage rate parity, to name a few, which, as noted, could have been dealt with more effectively. The THA has done a remarkable job of disposing with thousands of east German state-owned firms in just four years, but its methods have not produced the best possible results for the east and west German economies. Harder budget constraints and a more equitable distribution of ownership in east Germany would have been desirable.

### i) SOEs:

The German method of privatization through the THA attempted to privatize SOEs as soon as possible, retaining only those firms for which they were unable to attract a suitable buyer. While this may at first appear to be a positive result, further analysis shows that immediate transformation of all SOEs is not necessarily optimal for economic transition. In fact, SOEs in Poland have remained four years into its privatization program and appear to be reacting to economic transformation in the same way that recently privatized firms are. When Polish SOEs realized that competition necessitated reduced subsidies and price liberalization, they adjusted rather quickly. 60

Pinto, Belka, and Krajewski (1993) found that restructuring was being carried out by the existing management in SOEs. This tends to run contrary to the popular belief that managers in SOEs are not suited for market conditions. SOEs in Poland were able during the first two years of transformation to shed labor, innovate and invest, despite a relatively unstable political structure, a newly emerging finance sector, and the development of a new legal and institutional framework. Polish success with maintenance of SOEs under these circumstances leads one to believe that SOEs in east Germany may have had equal success or even done better due to more political stability, an established financial sector, and a working institutional and legal system.

Maintaining SOEs in east Germany may have helped to ease east Germans into the market system. The costly and inefficient THA method of privatization first might more easily have been solved through maintenance of wage controls and SOEs. Polish SOEs were exposed to the possibility of bankruptcy, forcing them to either restructure or close, while THA firms were subsidized and protected as the THA deliberated as to what to do with them. SOEs were obviously not the long-run goal of economic transformation, but could have been instrumental in a more cohesive and smooth transition to the free market in east Germany.

<sup>&</sup>lt;sup>56</sup> Pinto, Belka, and Krajewski (1993), 215.

<sup>&</sup>lt;sup>57</sup> Ibid, 215.

<sup>&</sup>lt;sup>58</sup> Ibid, 246.

<sup>&</sup>lt;sup>59</sup> Ibid, 247.

<sup>&</sup>lt;sup>60</sup> Pinto, Belka, and Krajewski (1993).

## ii) HARDER BUDGET CONSTRAINTS:

The ease with which east German firms, both those privatized and those awaiting buyers, have received liquidity credits has slowed the transformation process. The "soft" budget constraints in east Germany have been propagated by the THA through its nearly autonomous position in the German government. German banks have done their part to establish hard budget constraints through tightening lending practices, but the THA has continued to protect and support firms which may not be viable in the market.

As of October 1991, over 98% of loans to THA firms had been guaranteed by the THA. 61 Reverting to THA guarantees for loans to east German firms has resulted in a moral hazard problem. The requirements for obtaining loans and the necessary conditions of the loans have been relaxed due to THA guarantees, which are ultimately backed by the German government. Banks are more willing to fund questionable operations knowing that the government will cover their losses. The unavailability of risk financing in east Germany has left most firms with THA guaranteed loans as the only

Many of the previously privatized east German firms have since sought financial help from the THA, unable to fulfill the promises of labor retention and investment found in their contracts with the THA. In its efforts to maintain employment and continue the transformation process, the THA has been generous in guaranteeing additional loans. Retention of the labor force has taken precedence over hard budget constraints and reduced subsidies. If these struggling, recently privatized firms were still SOEs, harder budget constraints could more easily be applied. Had the firms remained SOEs, those which were not viable may have been forced into bankruptcy rather than benefitting from the THA's soft budget constraints. 62

## iv) WAGE RESTRAINTS:

Perhaps the single largest issue concerning east German economic transformation in the last three years has been the rapid rate at which wages have risen. The opposite case has been true in Poland, where wages have been relatively restrained to levels of growth equal to those in productivity. Part of the difference can be attributed to the atmosphere in the two transformational economies and the existence of west Germany, but a large part of Poland's success in keeping wages at a manageable level has resulted from governmental policy.

While an excess wage tax similar to the popiwek may not have been feasible, nor desirable, in east Germany, the concerted effort on the part of both the Polish government and managers to restrain massive wage increases is something to be learned from. Government action in Germany to prevent such a rapid escalation of wages would have resulted in a much better economic situation today in both east and west Germany.

Had the Federal Republic of Germany stepped in and slowed the wage increases, unemployment would not be such a significant problem, the deficit would be smaller as a result of fewer transfer payments, and the private sector in east Germany may have seen more growth.

Low wages in Poland, in relative terms, have allowed for the growth of a significant indigenous private sector. The establishment of new private firms, for the most part in the service sector, has been made possible by the realistic wages in Poland. German wages have become so tremendously high, that they are a barrier to entry and prevent the establishment of new private enterprises. Allowing SOEs to remain in east Germany and holding down wages could have resulted in indigenous private sector growth in east Germany as well.

<sup>61</sup> Ibid.

<sup>&</sup>lt;sup>62</sup> There is also the possibility that another branch of the German government might have stepped in to subsidize such firms.

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