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## The Unification of Germany: A General Disequilibrium with Labor Migration

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The Unification of Germany:  
A General Disequilibrium with  
Labor Migration

A THESIS

The Honors Program  
College of St. Benedict/ St. John's University

In Partial Fulfillment  
of the Requirements for the Distinction "All College Honors"  
and the Bachelor of Arts  
In the Department of Economics

by

Geraint Powell

April 30, 1991

## Abstract

Among the many effects of German unification, there will be a disequilibrium in the labor market. The disequilibrium is a result of forty years of different economic systems. In East Germany, a relatively large percentage of the labor force is expected to become unemployed in the next year as compared to West Germany. The high rates of unemployment in the east compared to the west mean an excess supply of labor. There are reasons to expect both changes in the equilibrium wage, as well as migration from east to west. The purpose of the paper is to describe the process of migration and wage adjustment in re-equilibrating the labor market and analyze the expected welfare effects as a united Germany moves toward a new equilibrium in the labor market.

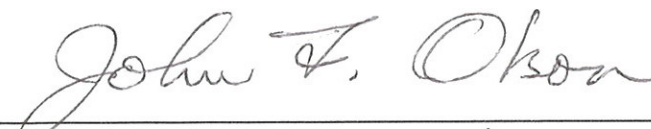
## APPROVAL PAGE

TITLE: The Unification of Germany: A General Disequilibrium  
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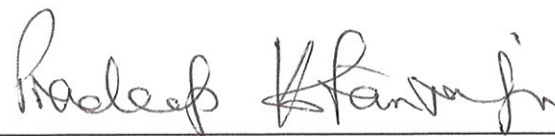
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German unification is the merging of two very different economies. East Germany is a centrally planned economy, while West Germany is a market economy which allocates factors of production according to a price system. In a centrally planned economy, factors of production are rarely allocated according to the relative demand for, and supply, of a factor of production. Since unification, the East German economy has been introduced to the price system of a market economy. Thus, as the centrally planned economy the east is merged with a market economy of the west, a re-allocation of resources will occur according to the new price system and the relative scarcity of different resources.

Although this is an analysis of the economics of the unification of Germany, it is important to also understand some of the political ramifications of this economic analysis. As Germany unites, many are leaving their homes in the East for a "better life" in the West. The migration reflects the relatively large differences in standards of living that exist between the two former countries (see illustration 1.1). However, many are now anxious about the possible results of such a large migration. In the news, there is much discussion about the growing social dissatisfaction with unification. Those in the east who have expectations of immediate increased prosperity may be disappointed with unification. Those in the west may have sudden doubts about subsidizing their neighbors in the east, especially as taxes may need to be increased to fund programs.

The elected officials of Germany must solve a very complicated problem of integrating the two nations not only politically or economically, but socially. This will require that those in the east do not feel like second class citizens, and those in the west do not feel like subsidizers of a foreign cause. Elected officials, if they wish to remain in power, will try and please as many as possible. Therefore, there will be political pressure to encourage and control migration. Given the political circumstances of unification, one should contemplate this analysis within a larger discussion of "social unification."

Rather than trying to analyze all factor mobility, this paper will limit its analysis to the mobility of labor. The analysis will develop incrementally in two stages. First, migration will be discussed from the perspective of the individual migrant. This section will evaluate the process and probability that returns to labor will be equalized throughout a unified Germany. Such a process will involve an analysis of labor mobility; as the returns to factors of production depend on the relative abundance or scarcity of factors in different parts of the country. This section will concentrate on the mobility of labor and changing returns (wages) for labor. Some question raised in this section will be: How much migration would be needed in order to equalize wages throughout Germany? What is the relative size of the recent migration in comparison to past experiences? What about the possibility of a more permanent wage gap? The second section will discuss the effects of migration on national welfare. This will involve a welfare analysis of the various effects that migration may have to

different segments of the population. The effects of migration on national welfare, moreover, depend on the reaction of wage rates to migration (discussed in the first part of the paper). This section will also discuss the effects of "brain drain" in formerly East Germany on the national welfare. Ultimately, this paper would like to evaluate the extent and impact that migration will have on a unified Germany.

### III. 1.1

#### Low Skill Production Worker:

East: \$594/month, 44 hour week, 35 years of experience

West: \$1260/ month, 37 hour week, 8 years of experience

#### Doctor:

East: \$15568/year, 44 hour week, 10 years of training.

West: \$48,600/year, variable week, 9 years of training.

#### Teacher:

East: \$599.4/month, 44 hour week, cost of housing equal  
10% income.

West: \$2295/month, cost of housing equal 30% income.

(Source: The Sunday Times Magazine, 32).

### ASSUMPTIONS

The focus of this paper is the migration of labor. By focusing on this activity, it is hoped that some of the short-run changes in the unified German economy may be explained. One particular aspect of the first section of the paper concerns itself with the possibility of a future wage gap between the two formerly separate economies. In the short-run, this paper will assume that the only major effect on changing wage rates will be due to changes in the supply of labor. There are, however, two other ways in which wages may be equalized in the two economies. The first is the mobility of capital and the second is through the mobility of goods. The following discussion will explain the two possibilities, as well as the reasons for not considering them in a short-run analysis of wage rate differentials.

As the two economies unify into a single market, many eastern German firms are being forced to compete with western German companies. However, many are unable to do so and are forced out of business. This creates large pools of unemployed labor in the East which keeps wages down. If on the other hand, eastern German firms had the modern capital of the West, many of them would be able to compete more effectively with their western counterparts. Additionally, if accompanied with western management skills, an influx of capital could raise the productivity levels of eastern workers to that of their neighbors in the West. For the moment, productivity in the East is at approximately 50 percent of that in western Germany (Bofinger,



32). Higher productivity levels is an increase in output per worker. Thus, the increased levels of production raises the marginal value of the worker to the employer. Through the combined effects of lower unemployment and higher productivity, an influx of capital could minimize the size of an East-West wage gap.

This paper, however, will not consider the mobility of capital. Capital will not be considered as mobile in the short run for several reasons. First, former East Germany lacks the infrastructure expected by most businesses. It is difficult to create a subsidiary in a part of the country where telecommunications and roads are in poor repair. Second, there are many legal battles in former East Germany about the rightful ownership of property nationalized by the communist government. The lack of clear property rights will increase the risk of investing in the east and thus deter further investment. Third, there is a general feeling of social instability which might create added risk. All of these problems are unlikely to be solved in the immediate future.

The assumption that capital is immobile allows the analysis to consider the newly unified Germany as two distinct labor markets. As stated before, if capital were to move into eastern Germany in great quantities, capital-labor ratios would equalize and there would be a corresponding change in the wage-rental ratio. Labor would become scarce relative to capital. If the capital-labor ratio in eastern Germany resembled that of western Germany, one would expect the wage rates of the east to resemble

those of the west. However, capital has been assumed to be immobile in the short run. Therefore, one must continue to treat a unified Germany as two distinct markets where the scarcity of labor, relative to capital, is different in each "region."

The mobility of goods can also have an effect on wages. Factor-price equalization theorem states, under a long list of assumptions, that the opening of trade would equalize the prices of each factor of production between countries. Essentially, the country which is labor abundant would produce those goods where it enjoyed a comparative advantage and the country with an abundant supply of capital would also. The trade can be thought of as the mobility of labor or capital embodied in the goods produced. The factors which cannot migrate between countries end up being implicitly shipped between countries in commodity form. Thus, international differences in factor supplies cannot cause any international differences in factor prices.

However, factor-price equalization theorem also will not be considered in this analysis as a potential equalibrating factor of wages between the East and the West. The reason for this can be explained by high-lighting several of the key assumptions. One of the major assumptions is that both countries enjoy equal technology. This obviously violates the present situation in Germany. Another assumption is that each factor is fully employed in each country with or without trade. As mentioned before, unification of Germany has brought eastern firms in competition with western firms. The result has been numerous

plant closings and much unemployment. There are other assumptions of factor price equalization, but are unnecessary to elaborate as it seems as though the possibility of factor price equalization through trade alone has adequately been shown to be insufficiently applicable to the situation in Germany at the moment.

As we are assuming that capital in the short run is immobile, and that factor price equalization theorem is insufficiently applicable, then the only other mechanism which may have an effect on wages in the two countries is the mobility of labor. A change in the quantity of labor, due to a movement from east to west, will result in western Germany becoming more labor intensive and eastern Germany becoming more capital intensive (see illustration 3.1).

III. 3.1

$$\frac{K_W}{L_W + 'L_W^*} = \frac{K_E}{L_E - \bar{L}_E^*}$$

$K_W$  and  $L_W$  are capital and labor endowments in the west, and  $K_E$  and  $L_E$  are capital and labor endowments in the east, and  $'L_W^*$  and  $\bar{L}_E^*$  are those laborers entering the west and leaving the east respectively.

Equally, as the endowments labor change, the wage-rental ratios should also expect to change (see illustration 3.2). This is due to a change in the relative scarcity of labor relative to capital.  $A^*$  is some constant showing the relationship between the relative quantities of capital and labor and the respective prices.

III. 3.2

$$\frac{K}{L} = A^* \cdot \frac{w}{r_k}$$

This relationship assumes a constant demand for the factors of production throughout the unified country. In other words, that wages are reacting only to changes in the supply of labor, and not to exogenous circumstances (such as increased government spending). Ultimately, a re-allocation of labor from east to west will add pressure to wages to equalize throughout the country.

## DISEQUILIBRIUM IN THE FACTOR MARKETS

The two formerly separate countries have very different endowments of factors of production. East Germany, compared to West Germany, has an abundant supply of labor and a scarce

supply of capital. West Germany, however, is an industrialized nation with capital intensive modes of production (see illustration 2.1). If each country were to use the existing quantities of labor and capital, eastern Germany would become an economy with labor intensive modes of production, while western Germany would maintain its capital intensive modes of production. This paper, however, would like to consider the possibility that capital-labor ratios will become more similar, i.e. labor in eastern Germany will become more scarce. As labor in eastern Germany becomes more scarce, only then will wages feel upward pressure.

In a comparison of the two German economies, Schnitzer compares the capital intensity of both West and East Germany (357). The evidence presented in the study supports a position that West Germany is comparatively more capital intensive than East Germany. Although the data is dated, it probably only underestimates the disparities between the two countries when they were unified. With respect to the capital intensity of the FRG and GDR during the period 1960-1968, both countries increased their capital investment. However, the gap between the two countries widened. Capital intensity in the FRG increased by 71 percent, while capital intensity in the GDR increased by 56 percent. In 1960, the capital intensity for all industries in the GDR was 87.4 percent of the capital intensity of the same industries in the FRG; in 1968, the capital intensity ratio of the GDR relative to the FRG had decline to 80 percent.

## Ill. 2.1

Industrial Group	Investment* (million DM)		Labor Force (thousands)	
	West	East	West	East
Energy	27.1	7.2	202.0	72.5
Mining	14.3	8.4	337.4	193.5
Metallurgy	43.1	5.7	615.9	172.5
Chemical	82.9	18.6	836.9	304.0
Construction	12.5	3.1	229.3	91.0
Electrotech.	36.2	8.6	926.3	261.0
Shipbuilding	3.2	1.0	77.6	42.0
Machinery	100.3	19.4	2462.4	809.0
subtotal	319.6	72	5687.8	1945.5
Woodworking	14.7	4.6	337.0	144.0
Textiles	21.7	6.6	489.1	283.0
Clothing	12.3	3.4	366.5	108.0
Shoes	5.0	1.2	144.5	69.0
Food	57.5	18.9	505.2	209.5
total	431.2	106.7	7529.9	2759.0

\* Estimated amounts for 1968.

(Source: Schnitzer, 360-61)

## DISEQUILIBRIUM IN THE LABOR MARKET

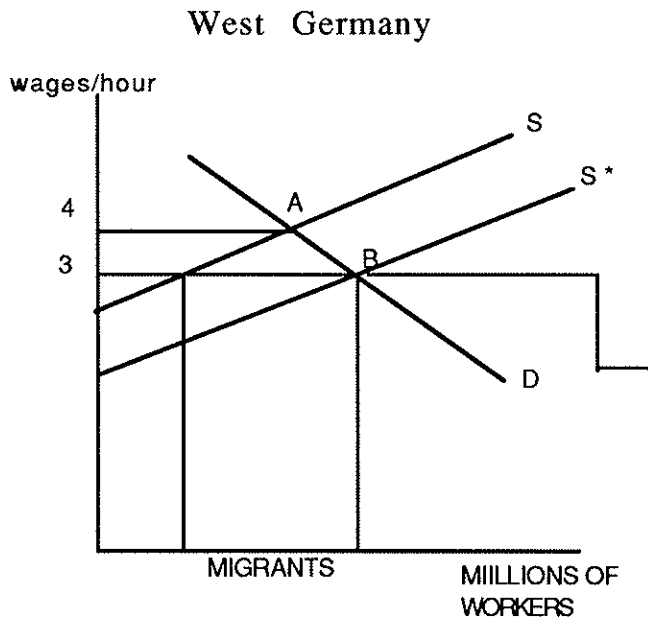
Illustration 1.1 shows differences in reported incomes in West and East Germany before unification. The differences show a constantly lower income in the east than in the west. The differences in income reflect a lower equilibrium wage (assuming hours worked per year are similar in the east and west). Therefore there is a wage gap between eastern and western Germany (see illustration 5.1 and 5.2). Assuming perfect labor mobility, any economic rents which accrue to labor in one part of the country will be quickly competed out as additional factors of production arrive to take advantage of higher returns. However, the migration of labor is a very complicated socio-economic phenomena. Thus, perfect labor mobility seldom occurs. One must consider all the possible costs and benefits of migration. If the migration is worthwhile, then all the benefits will outweigh the costs. The following paragraph will outline the economics of individual labor migration.

For the purpose of this discussion, East Germany is depicted as a low-income country and West Germany as a high-income country. Without any migration between the two countries, as was the case before unification, we would be at position A in the

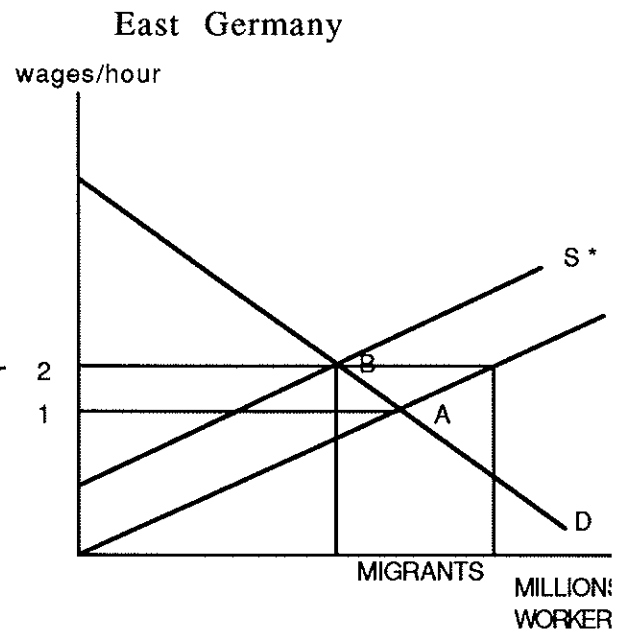
diagram. At this point West German workers would earn 4 marks per hour while those in the east would earn only 1 mark per hour.

Since unification, political barriers which inhibit the free movement of labor within the country have been removed. East German workers are now free to sell their labor in the west. In a simplistic world, people react only to the comparative price offered for their labor. Assuming that there are no costs associated with the migration, people will continuously be moving from places of lower wages to places of higher wages. Such an activity would equalize wages throughout the country. Any economic rents which would accrue to labor would be competed out by a migration of labor.

III. 5.1 & 5.2



III. 5.1



III. 5.2



However, there are certain costs involved with migration. These costs are both explicit, such as the transportation, and implicit, such as the psychological effects of moving in uncertain conditions. This cost prevents the two labor markets from reaching an identical equilibrium wage. Regardless of the wage gap, the two labor markets are in equilibrium. This new equilibrium is illustrated by point "B". At this point, all those who find the wage rate differential high enough to compensate them for their migration costs, set at 1 mark per hour of work, may benefit from migration. The new equilibrium is set when the lower wage of 3 marks per hour just equals the costs to the individual of migrating. Someone from the east with individual migration costs of 1 mark per hour of work would equally accept 2 marks an hour in the east or 3 marks an hour in the west. Due to the costs of moving, the two hourly wages are considered equivalent. At point "B", only those who could possibly gain from migration have actually done so. All those who do not migrate are presumed to have "costs" higher than the new wage gap. Therefore, it would not be worth their while to move to western Germany; the costs would exceed the benefits.

#### COSTS OF MIGRATION

The possible costs of migration are economic as well as "psychological." The cost of migration is a controlling factor which operates as an "invisible hand" to control migration from east to west. For the purpose of the discussion, we have estimated the cost of migration to be as high as 1 mark per hour of work. Those who have costs higher than 1 mark per hour will not consider migration worthwhile. This section will bring forth some possible economic and "psychological" costs of migration.

By exploring some of the costs of intra-German migration, the probability of a potential wage gap between eastern and western Germany can be determined. As shown in illustration 5.1 and 5.2, the new equilibrium in both labor markets may exist without an equivalent wage rate in both markets. The difference in the two wage rates is attributed to the costs of migration. Depending on the various economic and "psychological" costs of migration, there could be reason to believe that a wage gap between eastern and western Germany may still exist in the short-run (i.e. while capital is immobile) regardless of the political freedom of labor to move.

The economic and psychological costs of migration will be different for people who have families than for those who are single. Although the additional economic costs for those who have families may be avoided if the family does not move also, the psychological costs will almost always be greater for those who have families. Generally, those who migrate first will be the ones with minimal costs (much less than 1 mark). This would suggest

that young workers without marital responsibilities will be more likely to migrate than someone who is married and much older. Typically, young workers are the least skilled. Therefore, one could expect a large migration of young, unskilled labor to migrate to western Germany.

A psychological cost of western migration is congestion. Before unification, West Germany's population density was approximately 250 people per square kilometer. By comparison, East Germany had 160 people per square kilometer. As migration increases the population density of what was formerly West Germany, the population density in the west will be substantially greater than the population density in the east. The added demand for accommodations by the newcomers will have an effect on housing rents. Evidence of shortage of housing can be found already in the west. The German government, concerned about a shortage of housing in the west, issued a message to all possible migrants in the east to secure a home before moving to resettle in the west (Kempe, Wall Street Journal). Those who were among the first to migrate to the west did not face the economic and psychological cost of finding housing in a congested western Germany. Therefore, the cost of congestion increases over time as more individuals migrate to the west. This particular cost may be very influential in controlling the extensive migration that is expected as unemployment rates in eastern Germany increase.

Another possible cost to migration is social friction between the migrants and those who presently reside in the west. In German, the word *Ueberfremdung* means "fear of strange or

foreign." It was originally used by those who wished to express discontent about the numbers of Turkish immigrant workers in Germany. While East and West Germans share a language, increased competition for jobs may bring resentment among those in the west. As noted with the difficulty of finding housing, the increase in population density in certain areas may bring about a type of regional inflation. Even while the initial celebrations of unification continued, there were already many who were concerned with how unification would effect them, and if it would involve any sacrifices on their part. It cannot be assumed that those in western Germany feel a partnership with those in the east.

Thus far, an assumption has been made about the availability of employment in western Germany. It has been assumed that wages would be flexible enough to absorb the additional labor (this assumption will be developed further in a later section on wages). However, the realities of the labor market can often mean rigid wage negotiations which may last several years. Therefore, there is the psychological cost of possibly not finding a job, while still incurring the economic costs of migration.

## OBSERVED MIGRATION

While there is much information about the migration of labor from east to west, there is very little about the movement from west to east; those who are returning to their original homes in the east. For this reason, there is no way of determining from the available data the actual number of workers who have remained in the western part of Germany. However, this section will still attempt to explain observed migration in terms of the various costs of migration within a unified Germany. When East Germany initially opened its borders, approximately 130,000 people crossed the border in the first month. During the first several months of 1990, the GDR's population decreased by about 500,000 persons. However, this mass exodus was possible only because the West Germany granted immediate social benefits to all East Germans, including unemployment benefits, at a fixed percentage of West German income levels (Bofinger, 20). FRG unemployment payments are about 68 percent of West German net incomes. In comparison, net incomes in the GDR are only about one-third of that in the FRG; 50 percent of unemployment benefits in the west. The difference between West German unemployment benefits and East German income levels explains, in part, the massive migration of East German workers. However, these incentives have since been eliminated and all social benefit payments to East Germans are now based on East German income levels.

An interesting aspect of regional migration, such as the case with German unification, is the potential effect that proximity of different regions may have on an individual's decision to migrate.

As reviewed before, one must consider the possible costs of migration. If the costs are minimal, even the smallest additional benefits will make migration worthwhile. Currently, it is estimated by the German government that approximately 100,000 East Germans commute daily to work in the West. These people are able to "afford" the migration on a daily basis. Presumably as the eastern economy is reconstructed, better roads, availability of trains and the increasing numbers of individual automobiles will increase the mobility of the eastern population and reduce the economic and psychological costs of moving westward. However, for the moment the number of people commuting to the west is relatively small.

Many studies on migration conclude that it is usually the educated "middle class" of a country who choose to migrate (Lindert, 536). In the German case, approximately 20 percent of the eastern population leaving for the west have post secondary degrees (Drouin, Wall Street Journal). This is compared to the 7 percent of the East German population who have a post secondary education. A disproportionate amount of educated work force is migrating, as compared to the rest of the East German labor force.

The migration of today does not stand out in history as unusual when compared to other historical migrations. West Germany has actually experienced a situation with labor migrations very similar to the current one. It was stimulated by the end of the Second World War, in 1950. The migration was called the "migration of unknown extent" (Hardach, 70). The estimated percentage of refugees in the Federal Republic in 1950's

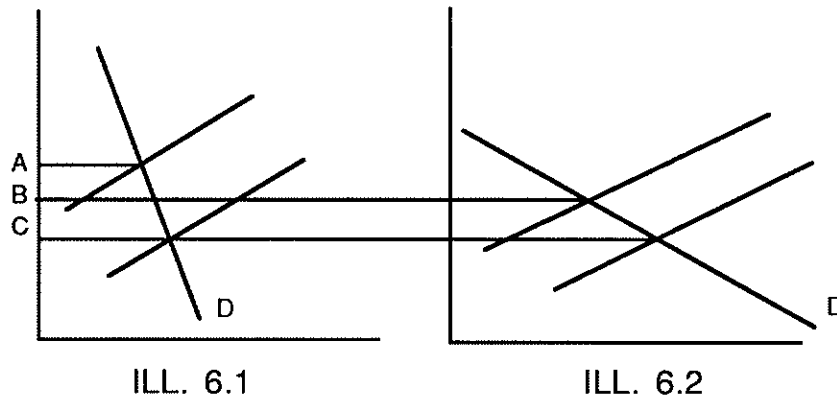
was nearly twenty percent. This means that approximately one in five members of the Federal Republic was newly arrived. There was an incredible strain on the local authorities as they attempted to rebuild a country destroyed by war. There were large shortages of shelter and most of the nation's food had to be imported from other countries. Unlike the historical comparison, the modern day migration is far less extreme with seemingly less dire circumstances for those who are migrating.

#### OBSERVED WAGE FLUCTUATIONS

Wages are directly affected by the changing supply of labor due to migration. One should expect wages in the west to fall and wages in the east to rise as the supply of labor in the west and east increases and decreases respectively. This section will discuss further some of the observed changes in wages and possible influences over the rate of change.

The impact of migration on the wage rate in each area will depend on the relative elasticities of the demand curves for labor. A shift in the supply curve of labor is a movement along the demand curve. The steeper, more inelastic, the demand curve, the greater the expected change in wage rates (see illustration 6.1 and 6.2). Illustration 6.1 and 6.2 show an identical shift in labor supply. However, illustration 6.1 has an inelastic demand curve

resulting in a greater wage rate change than illustration 6.2 (from C to A versus C to B). Among other things, the



elasticity of the demand curve depends on the availability of substitutes over time. In the short run, eastern Germany will not be able to substitute capital for labor due to the lack of capital. Therefore, the demand for labor in the east will be inelastic. In the west, however, there is an adequate supply of capital to serve as a substitute for labor in production. There is evidence which suggests that in the past West German employers responded to growing demand by "economizing on labor-use rather than by importing foreign labor, *ceteris paribus* ." (Bhagwati, 290) Therefore, given the hypothesized elasticities of demand for labor in the two sections of Germany, it should be expected that a shift in the supply curve of labor will result in greater wage rate changes in the east than in the west.

There has been some observed decline in the (growth of) wage rates in the West. A large western union, I.G. Metall, was pressuring for wage increases of 8.5 percent. The union



eventually settled for a 6 percent wage decrease (Drouin, Wall Street Journal). However, there is reason to believe that migration may only offset upward pressure on wages due to an increase in the demand for labor. This could be caused by the exogenous increase in consumption from eastern consumer spending. This increase in consumption is in part due to the transfer of wealth which occurred when East German Mark denominated savings were replaced by West German DM denominated monetary assets at a ratio of 1-1. Due to the recent increase in consumption of durable goods by those in the east, the effect of migration on the wage rate may actually have been negligible.

While the western market for labor is already showing signs of increased supply of labor in the form of lower wages, the eastern labor market is not experiencing any increase in wages due to the exodus of labor. Eastern railroad workers are on strike for higher wages. So far, the western railroad, Reichsbahn, has resisted union demands for pay raises which would close the gap between the western workers and the eastern workers (Roth, Wall Street Journal). This may also be explicable by observing changes in the demand for labor. The decreasing demand for labor in the east is apparent by observing the sudden increase in unemployment of eastern workers. Eastern German firms are having difficulties competing against western firms. Thus many eastern firms are facing bankruptcy. Roughly half of the eastern German labor force is expected to be unemployed or underemployed in 1991 (Kempe, Wall Street Journal). At the moment, east German wages are estimated to be 37 percent of

west German wages (Bofinger, 32). This is compared to an estimated productivity rate of 50 percent of west German rates. Thus, the average DM wage level in the GDR is not so high relative to the average productivity differential between the east and the western workers that it would eliminate the possibility of future wage negotiations.

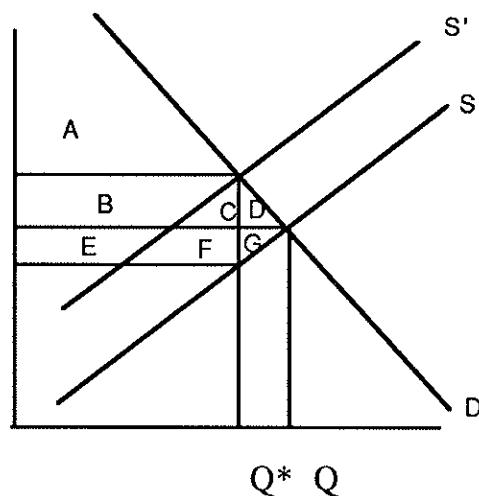
## ECONOMIC WELFARE ANALYSIS

Migration is a form of trade. Through trade, people attempt to make themselves as well off as possible. In an attempt to measure the gains from trade, welfare theory is used. It uses the marginal value and the marginal cost of the good being traded. In this analysis, that good is labor. This section will evaluate questions posed in the introduction of the paper. Who gains and who loses from migration? How will migration effect national welfare? These questions will be evaluated in the following section in the order in which they were raised.

In eastern Germany, the supply curve for labor will shift inward and upward, increasing wages. Remembering that the supply curve represents the marginal cost of labor, the marginal cost per unit of labor is increased as the supply curve moves inward and upward.

The welfare effects of this shift in the supply curve are illustrated in 7.1. Before unification and migration, the producer surplus (that welfare gain accruing to labor due to trade) is equal to areas E, F, G, and below, but above the original supply curve of labor.

### III. 7.1



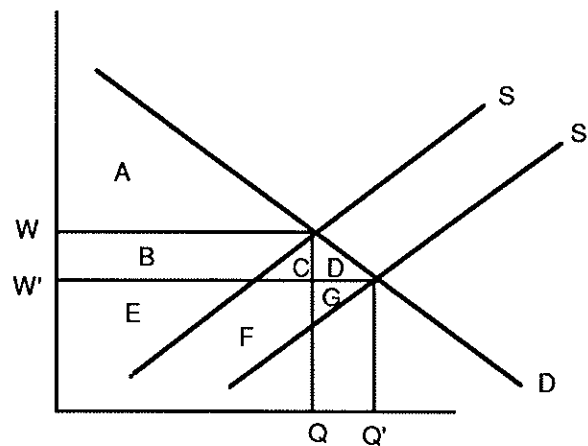
After unification and migration, the quantity of labor supplied decreases from  $Q$  to  $Q^*$ . However, wages shift upward due to the decreased competition for jobs. The producer surplus thus increases to include areas B and C, but no longer includes area G (deadweight loss). Additionally, areas B and C are areas which formerly belonged as a part of consumer surplus, i.e. the employers. Therefore, those workers remaining in the east will gain in the form of increased wage rates due to diminished competition for jobs.

In western Germany, the supply curve for labor will shift outward and down. This exemplifies lower marginal costs of

labor. As the supply curve shift outward, the equilibrium wage will fall.

The welfare effects of migration in western Germany are illustrated in 7.2. Before migration, producer surplus equals areas B and E. After migration, producer surplus is equal to areas E, F and G. The net effect on labor is a loss of area B, but a gain of areas F and G. Depending on the relative elasticity of demand for labor in the west, F and G may be larger or smaller than area B. Thus, the effect on labor in the west is uncertain. A clear gainer, however, due to migration is the consumer of labor, western German employers; i.e. consumer surplus is increased by areas B, C, and D.

### III. 7.2



If demand for labor is perfectly elastic, a shift in the supply of labor will increase the area of producer surplus; and if perfectly inelastic, there will be no increase in producer surplus. Earlier in this paper, it was hypothesized that the demand for labor in the West would probably be rather elastic, as there is ample capital to

substitute for labor. Therefore, in the western German example, areas F and G will probably compensate for the loss of area B.

The nation as a whole will clearly gain. As mentioned before, the net impact of migration on economic welfare in the West will be positive; i.e. the gain of areas C, D, F, and G. This will be brought about by lower wages, and a corresponding increase in the quantity of labor demanded. However, the impact on welfare in the East will be negative due to the deadweight loss of areas D and G (not necessarily equal to western D and G). This will occur due to a lower quantity demanded of labor. If we assume that area D and G are equivalent in both the East and the West (i.e. an equivalent change in quantity of labor demanded and an equivalent change in wage), then the result of migration is a welfare gain of areas C and F.

The above analysis is perhaps simplistic in that it ignores certain negative externalities which add to the national costs of migration. While the externalities do not effect the individual's cost of migration, they do influence the welfare effects of eastern Germany. In this particular case, the negative externality is the exodus of eastern Germany's educated workforce. As mentioned before, a disproportionate number of migrants have post secondary educations compared to the national average. The migration of many skilled workers to the West has caused the economic situation in the East to substantially deteriorate (Bofinger, 20). Eastern German industrial production and employment has decreased and most eastern enterprises have been unable to fulfill production plans. The shortages of goods

and services in eastern Germany is producing growing social unrest in some areas.

## CONCLUSION

The purpose of this paper has been to evaluate the extent and impact that migration will have on a unified Germany. Given the political circumstances of unification, one should have also understood the agenda of the eastern German population; to improve their relatively low standard of living as quickly as possible.

Although theoretical in many respects, this analysis considered the possibility of equalizing capital-labor ratios through the migration of labor. It is uncertain what impact the 500,000 eastern Germans who migrated to the west in the first few months had on capital-labor ratios in east and west Germany. It is unknown how many later returned to the east, or even how many were absorbed into the labor force. It is possible that many of the migrants could simply have replaced "foreign" workers from other countries. Rather than west Germany becoming more labor intensive, it might be that capital-labor ratios will be equalized mainly through an inflow of capital into the east. This, however, will only occur over longer periods of time.

When considering the possibility of a future wage gap, one must remember that which prevents the two markets from reaching the same equilibrium wage; the cost of migration. If costs of migration are high enough, one should imagine a persistent wage rate gap even with the complete freedom of labor to migrate. Labor will not find the wage differential substantial enough to compensate for the costs of migration. While some of the economic costs may be low, such as those who live close to the border who now commute daily to work in western Germany, there may be continually high psychological costs such as the uncertainty of finding employment. Additionally, a large economic and psychological cost to future migration is the lack of housing in the west. Such costs could prevent any future substantial migration. Therefore, one should not expect to observe significant migration in the future which will alter the existing wage rate gap between the east and the west.

The effect of migration of national welfare is positive. Assuming that the two "regions" of Germany are separable for a moment, it is clear that West Germany experiences positive welfare gains in the form of lower wage rates and an increase in the quantity of labor demanded. Eastern Germany, however, experiences negative economic welfare gains due to a smaller quantity of labor being demanded. It is ironic, therefore, that the the greatest apparent social opposition and discontent with the west-ward migration is from those who live in West Germany. According to the welfare analysis, it is those who still reside in the

east, and not those in the West, who should be concerned with the effects of migration.

A central concern of this paper was to investigate the effect that migration may have on living standards in the east. It was hoped that migration could serve as a short run solution to the immobility of capital. Contrary to initial intuition, predicted future levels of migration will not be sufficient to close the wage rate gap. Additionally, many of those who are migrating contribute to the "brain drain" of eastern Germany. While migration does result in a positive welfare gain for a unified Germany, the effects of migration on east German living standards seem to be negative rather than positive.



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