Tijdschrift voor Economie en Management
Vol. XLVI, 2, 2001

Migration and Labour Mobility in an Enlarged European Union

By T. STRAUBHAAR

ABSTRACT

How many will come? Thousands, millions? Does Europe need a New Iron Curtain? These questions dominate the ongoing negotiations of the East Enlargements of the European Union (EU). Western Europeans are afraid of being overflowed by cheap(er) eastern European labourers. It is feared that the removal of barriers to migration would lead to a mass exodus from eastern to western Europe. In this article, I draw a parallel between the southerly enlargement of the EU and the EU east enlargement with respect to migration. Then, I undertake an econometric estimate of South-North migration flows and assume that the estimated parameters are of exemplary significance for the eastern enlargement of the EU. As a result of some simulation exercises my calculations advocate that rather modest immigrant flows from Eastern Europe have to be expected in the EU, if free mobility of labour was allowed today.

This paper is part of the HWWA researc programme "International Mobility of Firms and Workers"

I. INTRODUCTION

The closer the Central and Eastern European countries (CEEC) get, the hotter becomes the issue: How many will come? Thousands, millions? Does Europe need a new Iron Curtain? These questions dominate the ongoing negotiations of the East Enlargement of the European Union (EU). Western Europeans are afraid of being overflowed by cheap(er) eastern European labourers. It is feared that the removal of barriers to migration would lead to a mass exodus from eastern to western Europe. It is stressed that this "trek westwards" would place severe economic and great political strains on the western European target countries. "Wage dumping" is the saying that goes in Austria and Germany to mobilize political pressure against a free movement of persons from Eastern Europe.

And indeed, the East-West migration potential seems to be substantial. There is no doubt at all that the standard of living, the average per capita income and the wages are much lower in the CEEC. According to some guesstimates the migration flows from Central and Eastern to Western Europe could go up to more than 10 million people (see *Financial Times Deutschland* 2000). Newer assessments reveal more modest figures in the magnitude of about 4 million immigrants from Eastern Europe to the old EU countries. Most of them (i.e. about 3 out of 5) might go to Germany (for an overview see *Sachverständigenrat* 2000:156).

More recently, the political discussion and the academic debate as well have gained both momentum and roughness (see Brücker (2001), Flaig (2001) and the comments by Dustmann (2001)). Dustmann (2001) argues that according to the underlaying assumptions and the model specification almost every magnitude of a migration potential could be estimated and consequently, that such guesstimates are inappropriate for a political debate and that they might even be dangerous due to the fact that they could be misused for populistic headlines (like the one in the *Welt am Sonntag* of April 22, 2001: „Deutschland erwartet bis zu sechs Millionen Zuwanderer – Forschungsinstitute sagen grosse Migrationswelle nach EU-Erweiterung voraus"). I think that Dustmann is right in his analysis (that every forecast is assumption driven). But I am more optimistic than Dustmann with regard to the political usefulness of such guesstimates. The different forecasts have initiated a fruitful controversy about the optimal research design. My contri-

bution is intended to add some more arguments to the ongoing discussion.

Of course, it remains an open question, whether the right of a free movement towards the West will stimulate substantial East-West migration flows. But independently of the different assumption and models that how been used to forecast potential East-West migration flows, should we expect from a *theoretical* perspective that a free movement of persons leads to more or less migration within an integrated (and enlarged) European labour market? The answer is "it depends" as I will demonstrate in the next section II. Could we learn something from the *empirical* experience of the Common Labour Markets in the EEC (EC, EU)? The answer is "of course". The historical experience of the EU gives us a very clear picture of the relationship between economic integration and migration (see sections III to V). Could we even get a well based *expectation* on the potential migration effects in a EU enlarged by some Eastern European countries? Again the answer is a clear "yes" as section VI will show. Section VII provides some conclusions.

II. MIGRATION AND INTEGRATION: SOME THEORETICAL EXPECTATIONS

The *theoretical* roots of the European integration process have lain in the raising literature on "second best solutions" in the mid-1950ies that are related to names like Leopold Kahr, Jacob Viner, James Meade and Richard Lipsey. It was thought that free trade within some relatively similar countries in close geographic proximity would act as a perfect substitute for cross-border movements of workers. Consequently the political message of the fifties was simple and clear: Integrate national economies into regional Common Markets, open up national borders to trade of goods and there will be no migration!

This kind of thinking was theoretically supported by the very famous *neo-classical models* of the Heckscher-Ohlin-Samuelson (H-O-S) type that are developed by Eli Heckscher, Bertil Ohlin and Paul Samuleson. One of the iron pillars of the H-O-S model is the factor *price equalisation theorem*. It predicts basically that within a perfect H-O-S world there is no need for international capital mobility and migration because "trade does the job" to allocate efficiently economic ativities.

1) According to the *neo-classical world of thinking* labour migration is a rather temporary arbitrage phenomenon. Workers migrate from regions with abundant labour and consequently relatively low wages to places with scarce labour and consequently relatively higher wages. Migration, trade and international capital flows are more or less substitutive instruments to push economies towards their (long run) equilibrium and to reach the efficiency benchmark of neo-classical economics, that is the equalisation of goods and factor prices.
   However, the basic neo-classical theory and most of its more advanced extensions rely on a set of relatively rigid assumptions. There is the assumption of more or less identical production functions, of homogeneity of the production factor labour or the belief that markets normally clear and reach a stable equilibrium with no unemployment. It is also assumed that transport or transaction costs and externalities are negligible.

2) In more advanced models of international transactions [allowing for persistent international differences in production technology, increasing returns to scale (including positive or negative externalities of production) and the existence of non competitive markets], migration is much more than a short run arbitrage phenomenon.
   In this world of thinking [that actually goes back to the famous contributions by Myrdal ((1956) and (1957)) and Hirschman (1958) and that has further be elaborated by the New Growth theory à la Lucas (1988) and Romer ((1986), (1987), (1990)) migration might lead to *cumulative causation*. The more mobile factors of production in a technologically disadvantaged location are, the lower are the monetary incentives to invest in location-specific, immobile factors. If in the extreme case all input factors were mobile, the disadvantaged location would in the long run face a total outflow of production factors, until "the last turns off the light". This is the well known "mezzogiorno" *core-periphery pattern* with a growing centre and an economically slowly dying outer area. In such a diverging (Ricardian) world, trade and migration might become mutually complementary.

Thus, the theoretical assumptions about the relationship between trade and integration is not clear cut. Much more it depends on the

model that underlies the analysis. To make short a long theoretical debate between protagonists of *neo-classical convergence* and of *Ricardian divergence* arguments, it might be a good idea to summarise the main issues in a nutshell. Therefore, international migration can be the consequence of different sources:

1) Labour mobility can be a reaction to existing trade impediments or a reaction to the physical non-tradability of certain goods which prevent "goods for goods" trade. In the absence of commodity trade, emigration from the labour-abundant country would reduce factor price disparities, thereby driving commodity prices together and reducing the basis for international commodity trade. In this sense, international labour migration is a substitute, whole or partial, for international commodity trade. Actually this argument has been further developed by the 1999-Nobel price winner Robert A. Mundell in a path-breaking article in 1957 – the birth year of the EEC (see Mundell (1957)).
2) Labour mobility can be a reaction to the existence of intersectorally immobile factors (as in the so called specific-factors models). In this case, international labour migration is a substitute for an imperfect inter-sectoral factor mobility within a given country and it takes place as long as international trade and capital flows themselves do not produce factor-price equalisation. Thus, international commodity trade plus international labour migration causes factor price equalisation, regardless of endowment differences and factor intensity reversals. International labour migration allows international commodity trade to substitute completely for both international capital movements and the movements of sector-specific factors (equivalently, international commodity trade allows international labour migration to substitute for capital mobility).
3) Labour migration may reflect a reaction to international differences in labour productivity due to the persistence of internationally different production technologies, the existence of increasing economies of scale or imperfect markets. If this international reallocation of labour increases the degree of comparative advantage, commodity trade will also be stimulated. In that case, commodity trade and international labour migration are complements rather than substitutes.
4) If highly developed and specialised economies experience asymmetric macroeconomic shocks, labour mobility can be an effec-

tive and efficient short-run adjustment mechanism avoiding persistent unemployment increases and structural problems. In this case, migration corrects for trade and internal labour market inefficiencies.

In the cases 1) and 2) the international movement of workers is a substitute for a trade in commodities where this is prohibited by law or rendered impossible by technical factors. In cases 3) and 4) the international mobility of labour and international trade tend to be complementary rather than substitutive. Basically, a number of fundamental conclusions stem from integration theory:

1) A Single Market (including a Common Labour Market) opens up and deregulates markets. It creates a high degree of legal certainty and clear rules for inner-Community transactions – particularly for the protection of property rights, the rights of shareholders and, thus, for direct investments. Obstacles to inner-Community trade in goods thus disappear. But above all the risks of inner-Community capital transfers are reduced. Because the transaction costs for trade in goods and movements of capital are as a rule lower than those for the migration of labour, trade and direct investments are likely to function to a large extent as a substitute for the migration of workers. In as far as there is a complementary relationship between capital transfers and migration, direct investments and the migration of labour are necessary in order to exploit the advantages of a common market. In this case, however, it is usually a question of the migration of highly qualified specialists and not of the mass migration of unskilled workers, who dominate the picture in the negative expectations.
2) A common internal market supports efficiency and thus stimulates economic growth. On average, the general economic situation improves rapidly and decisively, which has a strong inhibitory effect on migration.
3) We might also expect that simply the prospect of having the opportunity at a later date to be able to migrate within a common internal market at any time, as long as a job is available, reduces present individual readiness to migrate quite decisively (this is the concept of the „option value of waiting" developed by Burda (1995).

The discussion in this section was intended to make one point as clear as possible: The relationship between migration and integration within a common labour market is theoretically not self evident. The theoretical controversy is the consequence of different assumptions:

1) If we live in a H-O-S world of more or less similar economies, migration is a temporary phenomenon of adjustment on the path towards a converging equilibrium.
2) If we live in a Ricardian world of rather different economies (with regard to technology or development), migration is a dynamic self-feeding cumulative process that leads towards a diverging polarising core-periphery pattern of development.

Because the H-O-S and the Ricardian view of the world are both theoretically consistent, it becomes a question of empirical experience in which world we really live (in Europe). Consequently, I turn now to some empirical evidence for the question whether free movement of persons has increased migration or not.

III. MIGRATION AND INTEGRATION: SOME EMPIRICAL EXPERIENCE

From the very beginning of the European integration process, i.e. in 1957, the freedom of workers has been an integral constitutional part of the European Economic Area (EEA). Article 48 of the original EEC Treaty of Rome of 25 March 1957 stipulated that "freedom of movement for workers" entailed the "abolition of any discrimination based on nationality between workers of the member states as regards employment, remuneration and other conditions of work and employment". Consequently, the Single Market has lowered transport and transaction costs for trade in goods and movements of production factors. Workers with a passport of a country of the European Union (EU) are allowed to move without any substantial legal restrictions from one country to all other member states – similar to movements within a country. After the European Legal Court has taken some path-breaking decisions in the early 90ies, the right of free movement within the EEA has been enlarged from "workers" to "people" in general. As long as people are able to live on their own financial resources (or by social transfers from countries where they have

worked before) they are free to move and to stay without legal restrictions in the whole EEA.

The free movement of persons was and is one of the lasting and extremely controversial issues in the debate whether to integrate European labour markets or not. When in 1957 the Benelux countries, Germany and France joined Italy to built together the original European Economic Community (EEC), the Germans and French were afraid of being overflowed by Italian guest workers. However, something completely unexpected happened really: Only for a very short period of time some Italians went North to become "Gastarbeiters" in Germany. Much more – but relatively still just a few – Southern Italians just went to the fast developing Northern Italian economy and they did not even think about going to other EEC member countries. When in 1981 Greece and in 1986 Portugal and Spain have become members of the European Community (EC), Northern European member countries again worried about the South-North-migration potential. And again, Portuguese and Spaniards as well as Greeks did not follow conventional prejudices. They just stayed home and did move North only in extremely limited numbers.

The empirical experience of the EU gives a clear cut picture. The economies involved in the Common Labour Market have been similar enough to reflect a typical H-O-S world with relatively similar production technologies. Consequently, trade and capital flows have been rather well working substitutes for migration. The adjustments towards the factor- and price equalisation took place above all via the trade in goods and services and via capital transfers, and not so much via the migration of workers. The trade in goods and the international capital transfer reacted much more elastically to the formation of the Single Market than did the supply of labour. The reduction of protectionist barriers led to a strong growth in inner-Community trade and in inner-Community direct investment. To a large extent the trade in goods and capital transfers made the migration of labour unnecessary. Some very briefly reported statistics might enforce this statement (for details and data sources see Eurostat (2000)):

1) The free movement of persons is still the least used freedom of the Single Market in the EU. Less than 2% of EU citizens presently live in another EU country. In the immediate future it is therefore less likely to be too much migration which causes a problem for the EU than too little, for it is becoming ever more

urgently necessary to open up national labour markets and in this way to overcome regional or sectoral labour market disequilibria. In the 1970s and 1980s it became more than clear that the economies which were particularly successful in coping with structural change were those in which the labour markets were open and unregulated. They were able to react more quickly and more flexibly to changes in the macroeconomic environment. The comparison of employment trends in the USA and in the EU offers convincing empirical evidence in support of this thesis[1].

2) The empirical fact that intra-EU migratory flows did not take place is also astonishing because the relative welfare gap between southern and northern Europe continues to be considerable. Per capita incomes adjusted for purchasing power in Greece and Portugal, but also in Spain, were still only 60% to 70% of the income level in Germany in the mid 90ies. Unemployment in southern Europe has also permanently remained at a high level. For a long period, the average rate of unemployment in Spain has been far beyond 20% and youth unemployment (persons under 25 years of age) was over 50% for females and close to 40% for males. Despite this fact there is scarcely any migration from Spain to the other EU member states. It might look even more strange that a strong inter-European North-South-movement has emerged in the very near past. Some of these movements are not directly business oriented and concern the "Snow bird" flights from retired Germans to Spain (esp. Mallorca), Portugal or Greece. Some other North-South-movements is related towards the going home of former emigrants (like "German" Italians going back to Italy).

All migration between the Southern European countries and the EC-member states prior to their accession was quantitatively restricted and subject to bilateral migration treaties[2] just as it is currently the case between the EU and the CEEC. Membership in the EC involving the abolition of such restrictions should undoubtedly have had a positive impact on migration. From a theoretically point of view, however, it is not completely clear whether this should inevitably have also increased South-North net migration flows resulting in higher migrant stocks. Although most economically induced migration models would argue in favour of increased South-North net migration flows (due to large income differentials), there are arguments which claim the opposite: in a potentially freely accessible

labour market, free mobility might even encourage repatriation of foreigners who would otherwise not dare to leave the host country for fear they might not regain a work permit.

What does empiricism suggest in this respect? What migration patterns can be observed before and after the Southern EC-Enlargement (SEC)? In order to answer this question we study the development of migrant flows and stocks focussing on the case of the SEC and Germany only[3] It should in this context be kept in mind that the admission of the SEC was characterised by a seven year transition period (that in practice has been shortened to five years) which allowed free mobility of labour only thereafter. Hence, Greek workers could freely migrate only from 1986/88 onwards, Portuguese and Spanish workers only after 1991/1993.

Figure 1 shows net migration flows into Germany in the period between 1967 and 1997. Figure 2 displays the stock of Greek, Portuguese and Spanish citizens living in Germany. In the time until the early 1970s we observe a steady inflow of migrants from all three countries leading to an overall increase in the *stock*. The positive slope of the curves reflects Germany's active guest worker policy between 1955 and 1973: Germany signed bilateral immigration contracts with Spain and Greece in 1960 and Portugal in 1964 which provided the basis for the rapidly rising inflow of foreigners[4] These contracts, however, did not imply the free mobility of labour. No foreigner could simply come to Germany and apply for a job. The initiative had to be taken by German employers who intended to hire a worker from Southern Europe. Thus, migration was mainly demand determined. The same kind of pull-migration policy was applied by most other EC- member states. The beginning of the 1970s marked a turning point in Germany's immigration policy. In 1973 the first oil price shock and the resulting recession lead to a growing labour market crisis. The effect was the end of the massive recruitment abroad. Net immigration flows decreased sharply, until in 1974 there even was a net outflow from Germany. With the exception of Portuguese citizens, also the stock of foreigners fell. A large scale exodus of foreign workers, however, did not take place, not even when financial incentives were given in 1983 because economic and social prospects in the home countries were not attractive at all.

In 1988, the year in which the free mobility for Greek workers was eventually permitted, we observe a distinct, positive change in the curves reflecting net immigrant flows and stocks. Apparently, Greek

workers used the chance to go, work and live abroad considerably. The number of Greeks living in Germany has been increasing since and seems to be converging to a level of about 350'000 people.

The free labour mobility between Germany and Portugal as well as Spain is not as evident: The stock of Spanish citizens in Germany has almost remained unchanged since the beginning of the 90s, ignoring the year when free mobility was made possible. The stock of Portuguese citizens has been in a moderate upward tendency since 1988. The stock of immigrants from each of the two countries seems to gradually move to a value of 130'000 people. The important year of 1993 does only show an effect on Portuguese flow statistics: Net immigration from Portugal rises by 26% in 1993 and another considerable 91% in 1994 although it again falls thereafter. Spanish net migration flows do not show any effect at all to the introduction of the free mobility of labour.

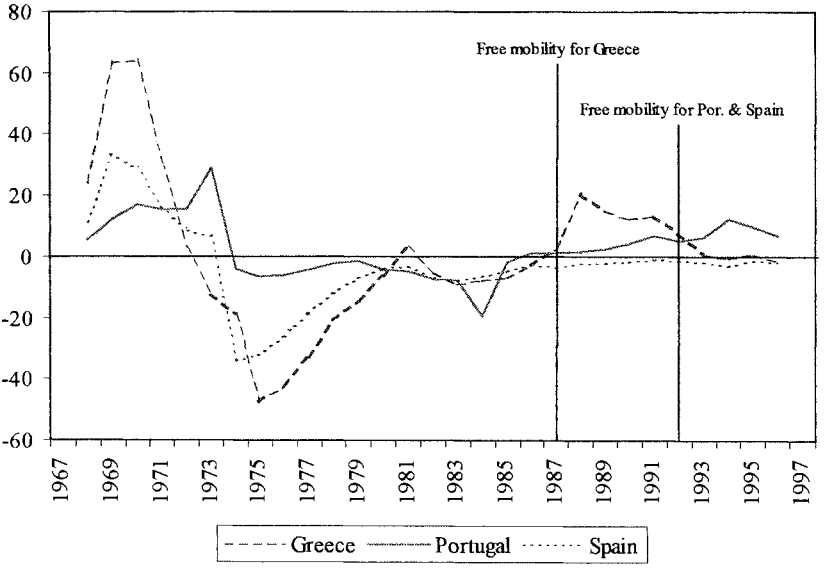
Since all data after 1990 concern unified Germany and data before 1990 only West Germany the question may arise if this change might have had any significant influence on the pattern of the curves. It is unlikely that the unification has influenced the stock observations at all. After all, almost no Southern Europeans lived on the territory of the German Democratic Republic (GDR) before 1990. An exchange between people of the GDR with any of the countries of the (ideologically despised) western hemisphere did simply not take place. The stock and flow of migrants into the GDR originating from Greece, Portugal and Spain is likely to have been equal or close to zero. Unification itself, however, might have slightly influenced post-unification migration flows. The so-called *"Aufbau Ost"* (building of the East) particularly in the construction sector contributed to a higher demand for workers. Mainly Portuguese workers were reported to come to Germany and work on Eastern German construction sights. The steady increase in the stock of Portuguese people and the positive net immigration statistics in the early 1990s might be the image of this stronger demand for labour.

Summing up the observations from the descriptive analysis it is possible to derive the following points: (i) Although the unrestricted mobility of workers has not been allowed until 1988 and 1993 respectively, bilateral contracts have lead to considerable net immigration before these dates already resulting in larger stocks of immigrants. (ii) Strong political intervention in the migration policy (as in the 60s and 70s) have increased the magnitude of flows in both ways (immigra-

tion and emigration). (iii) The stocks of foreigners seem to approach some kind of long run equilibrium level. (iv) The free mobility of labour generates migration flows which are much more balanced (smaller amplitude) i.e. immigration almost equals emigration. Thus, in an integrated labour market, the mobility of people rather follows the pattern of mutual exchange than of one-sided immigration. In this context it should not be forgotten that mutual exchange concerns mainly Southern European citizens. Those who immigrated into Germany were counterbalanced by their fellow countrymen who emigrated from Germany back to their homeland. Flows of German citizens migrating into the South have been a rather rare incident.

FIGURE 1

Net Migration Flows into Germany (in 000's)



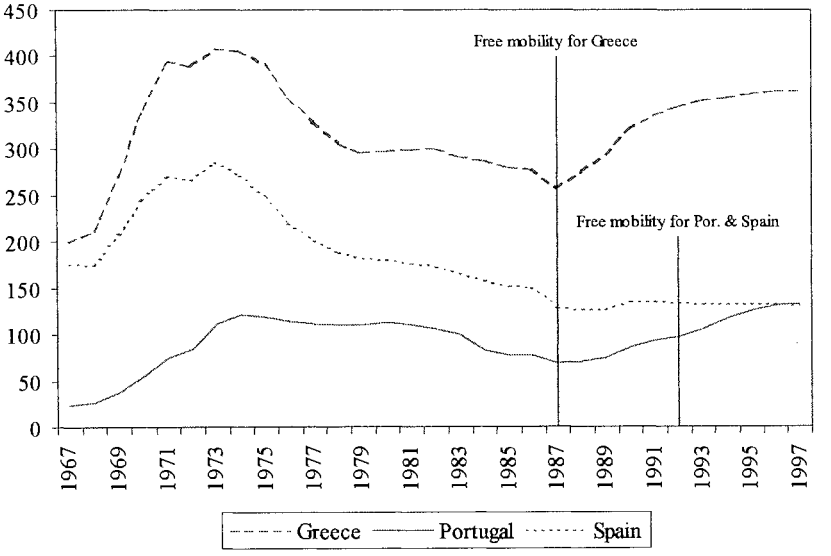
Source: Own figure from data from Statistisches Bundesamt, Germany

IV. WHAT COULD WE LEARN FROM EUROPEAN EXPERIENCE IN GENERAL?

The empirical evidence of the EU provides a rather clear picture. It must have been the case that most EU individuals evaluated the subjec-

FIGURE 2

Stock of Foreign Population in Germany (in 000's)



Source: Own figure from data from Statistisches Bundesamt, Germany.

tive costs of migration as far outweighing any expected economic gains (higher net present value of expected earnings), with social aspects (loss of integration in changing place of residence), cultural factors (adjusting to new habits and customs in a different environment) and political motives (loss of some political voting rights) being particularly important. Apart from a few exceptional events there has been little fluctuation in intra-European migration flows during the last thirty years. A major part of migration within the Common Labour Market was made up by individuals deciding to migrate regardless of any economic considerations determined by business cycle fluctuations.

1) The free movement of workers did not initiate large inner-E(E)C migratory movements. EC or EU citizens preferred to live in their home country, even if wages were higher in other EC member states. Neither the considerable inner-EU welfare gap in individual purchasing power nor large differences in unemployment rates succeeded in creating strong incentives for cross-border migration within the EU from southern to northern Europe.

2) Sociological and psychological factors at the individual level as well as social, cultural and language differences between home country and host country remained strong barriers to inner EU-migration. At the macroeconomic level the cross-border movements of workers within the EC were determined by the requirements and the employment opportunities in the host countries. The abolishment of formal obstacles to mobility does not necessarily guarantee that the knowledge and abilities of the workers willing to migrate correspond to the requirements and demands of the potential employers. It should be recalled here that EU freedom of movement does not apply to the unemployed. Unemployed persons may look for employment in other EU countries and they may enter other member states for this purpose, but this does not entitle them to any financial support whatsoever from the (temporary) host country[5]

What we definitely might learn from the European empirical evidence is that immobility has a certain positive economic value (see Fischer (1999)). It allows people to use their specifically local know-how for earning an income (i.e. mainly on the labour market) and for spending that income (consumption decisions). This specifically local know-how cannot be transferred. It would be lost in the case of migration and would have to be acquired once more at the new place of residence. A further advantage of immobility lies in the option value of waiting. Analogue to investment decisions on financial markets, waiting (i.e. not to migrate but to stay) has a positive option value[6] This positive option value arises because the postponement of the migration decision until later reduces the relative uncertainty and therefore the risk which is involved in the migration decision. The period of waiting can be used to gain information. This reduces the risk of a wrong decision. If during the period of waiting the differences in income between the home region and the potential host region diminish, the actual migration flow will be much smaller than originally planned[7] Precisely this value of immobility explains why most people prefer to stay even if "go" seems to be an attractive alternative at the first glance. For most people, however, the second glance clearly shows that the value of immobility is higher than the expected net present value of a move abroad. Consequently, it is a very rational individual behaviour to stay.

V. A CLOSER LOOK AT THE EU SOUTH ENLARGEMENT[8]

A more careful analysis of the migration experience after the South Enlargement of the EU might give at least some additional insights. Several exogeneous variables might be useful in explaining the migration patterns in the case of Southern Europe. They reach from simple wage differentials, unemployment rates and transaction costs to more sophisticated factors such as job specific aspects, intertemporal expectations, attitudes of migrants towards risk, job finding probabilities, time preference rates, imperfect information, population densities and ethnic and information networks. Partly it is assumed that the lagged or predicted form of these factors is required in order to theoretically explain today's migration. So far so good. It frequently, however, happens that practical i.e. empirical models differ some good deal from their theoretical counterparts. This is often due to the fact that the precise quantification of some of the independent variables is rather difficult or that statistical data about them does simply not exist. In fact for quite a few of the factors mentioned above this is the case.

In what follows, I estimate a pooled time series, cross sectional model of bilateral migration flows from each of the three Southern European countries Greece, Portugal and Spain into each of the Northern EC-member countries[9] Only those intra-European migration flows are being considered which existed after the unrestricted mobility of labour between the South and the North had been made possible. In all three cases of enlargement this was seven years after admission to the EC i.e. for Greece from 1988 and for Portugal and Spain from 1993 onwards. In the specification of dependent and independent variables as well as our functional form I follow most other recent empirical models:

EQ. 1:

$$migrate_t^{s,n} = \beta_0 + \beta_1 \log\left(1 - \frac{y^s}{y^n}\right)_{t-1} + \beta_2 \log\left(\frac{UE^n}{UE^s}\right)_{t-1}$$

$$+ \beta_3 \log\left(MS^n\right)_{-1} + \beta_4 \log(D^{ns}) + u_t$$

where *migrate* is the respective migration rate, *log* is the natural logarithm, β are the coefficients, y is per capita income, UE is unemployment rate, MS is stock of migrants, D is distance, u is the error

term, *n* is the Northern country superscript, *s* is the Southern country superscript and *t* is time period. EQ. 1 suggests that the estimated coefficient values imply an aggregation of both, the emigration as well as the immigration region.

I am aware of the fact that a pooled cross sectional, time series econometric estimate can lead to so-called "country clusters" which would rather suggest the use of the panel method with individual country intercepts (fixed effects) or varying parameter values, or both. Panel estimations are, however, not applicable in our case since it is my intention to obtain estimates for two aggregated regions only i.e. the SEC as the emigration region and the EC as the immigration region. Thus, country specific effects would not be of any use. The problem of country clusters could alternatively be tackled by summing up the emigration or the immigration countries to one region prior to the estimation. Due to the fact that this would reduce the number of observations and consequently also the degrees of freedom considerably, I have abstained from this procedure.

The *dependent* variable on the left hand side is the bilateral rate of migration taking place between emigration country *s* (South) and immigration country *n* (North) in time period *t*. It is expressed as a rate since it measures the percentage of the absolute number of migrants on the total population in s, ($mig^{s,n}/pop^{s}$). The model is being estimated twice using two different forms of the dependent variable. In a first estimate I use *SEC' emigration rate* and in a second estimate *SEC' net migration rate*. With this differentiation an idea about the relationship and differing magnitude of absolute migration rates to net migration rates is obtained.

All *independent* variables are specified in logarithms. In choosing this functional form I take into consideration that a linear functional form which results in a constant marginal propensity to migrate will lead to an overestimation of migration potentials and suggests a non-linear pattern. A logarithmic relationship makes sense because it is realistic to assume that the amount of push migration will not rise linearly with increasing values of the independent variables. This implies that free migration follows some kind of saturation pattern. There is an upper threshold which free mobility will not surpass.

The *first* term on the right hand side (r.h.s.) is the intercept term. The *second* r.h.s. variable is the logarithm of the difference of rela-

tive per capita income, y_s to y_n, of the previous time period, t-1. It is a proxy for differing wages and wealth expectations between s and n. The larger it is, the greater is the income difference of country s compared to n. Large income differentials should have a positive influence on migration into n so that the coefficient should be positive. The *third* r.h.s variable is the logarithm of the unemployment rate of n relative to that of s of the previous period. The theory suggests that higher relative unemployment possibilities in the immigration country deter people from immigrating. The coefficient should therefore be negative. The *fourth* r.h.s. variable is the logarithm of past period's stock of migrants from s living in n. In fact, this variable includes the stock of foreign or foreign-born population from origin country s. It has been included in order to estimate migrants' network effects. The more immigrants live in a particular country the more likely it is that they drag further immigrants into that country. We should thus expect a positive coefficient for this variable. The *fifth* r.h.s variable is the absolute distance between the capitals of s and n[10]The distance is assumed to be a proxy for transport and transaction costs of moving as well as cultural differences between two countries. The fact that transportation costs increase with distance is obvious. Nevertheless it is also likely that cultural differences increase with distance. The financial burden of moving as well as the cultural strangeness of the immigration country are assumed to have a migration reducing effect. Hence, a negative coefficient is likely to exist. *Finally*, the last r.h.s. term is the white noise disturbance term.

DATA

For the estimations the following yearly data have been used:

- Bilateral flows of foreigners [a]
- Population in potential immigration country [a]
- Gross domestic product per capita in both countries [a]
- Population density in both countries [b]
- Unemployment rates in both countries [b]
- Stock of foreign or foreign born population in immigration country [a]
- Absolute distance between countries' capitals

Sources:

[a] OECD SOPEMI International Migration Statistics Database (various issues).

[b] Eurostat Luxembourg, Regional Statistics (REGIO) found on the International Statistical Yearbook CD-ROM 1998.

Apart from the distance which does not change, all independent variables have been lagged by one period. This has been done in order to model a migrants' decision making process. The individual judgement whether to stay or to move abroad is normally not an ad hoc decision where present variables are taken into account. It rather is a longer-term process where expectations about potential costs and benefits are formed by carefully evaluating past income and expenditure experiences and establishing ties to existing migrant networks.

A. *Estimation Results*

1. Parameter Values

Table 1 shows the regression results of Eq. 1 using the two different dependent variables. Table 1 (A) displays the results using *SEC' emigration rate* as a dependent variable. All coefficients have the expected signs. Since all independent variables are defined in logs and the dependent variable is not, the estimation's coefficients reflect semi-elasticities. Coefficient β_1 implies that a 10% increase in this years difference of relative per capita income will, ceteris paribus, result in next years increase of net migration rate into country n by approximately 0,04 percentage points. β_1 is significant at a 95% confidence interval. With a relatively high value of $\beta_1=0,39$ and the fact that the coefficient is significant, "differentials in relative per capita income" turn out to be the most important independent variable in this estimate. Coefficient β_2, in contrast, displays a negative sign indicating that a 10% increase in the relative unemployment rate leads to a reduction in the net migration rate by 0,005 percentage points. β_2 is significant at a 95% confidence interval. Coefficient β_3 is also significant expressing the idea that each 10% additional foreign residents in immigration country n lead to network effects which enhance net migration in the consecutive period by 0,007 percentage points. Finally, distance appears to have a negative effect on net migration. Each 10% additional distance leads to a reduced net migration rate of 0,006 percentage points although this coefficient turns out to be insignificant at a 5% significance level. I tested for the joint significance of the coefficients using the F-statistic. All four coefficients appeared to be jointly significant.

Table 1(B) shows the regression results using *SEC' net migration rate* as dependent variable. All independent variables as well as the functional form remain unchanged. The signs of all coefficients are correct just as much as in the previous estimates. Without exception, all coefficient values are smaller. Now, only β_1 and β_3 are significant at a 5% significance level. All other coefficients and the intercept term are insignificant. It looks like relative unemployment rates were not very important in determining the net migration rate.

All in all, estimations from this second regression are a weaker form to the former estimations. This is not particularly surprising since the dependent variable also takes smaller values. Additionally, return migration from the EC to the SEC which is implicitly included in net migration rates must be determined by other than economic factors. In view of this, smaller coefficient values and the insignificance of the unemployment parameter seem to make sense. The smaller importance of economic determinants is also supported by the significantly lower values of R^2 and adjusted R^2: The explanatory power is reduced by almost 40%.

I also tried to include a variable into both estimates intending to quantify the concentration of people in a country proxying the receptivity of immigrants. This was done by using data on population densities (following the example of Barro/Sala-i-Martin (1995)) in emigration as well as immigration regions. Population density was measured as the average number of inhabitants per square kilometre. The larger its values in the potential immigration country, the lower could the receptivity of further migrants be assumed to be. Thus, the coefficient was expected to be negative. Although estimations including data on population densities provided a coefficient with the expected sign we eventually omitted this variable because it lead to a failure of diagnostic tests.

2. Diagnostic Tests

Autocorrelation (serial-correlation) means that the disturbance terms are correlated over time, i.e. that the residuals are not randomly distributed. It can lead to an invalidation of the standard errors and t-ratios although coefficients may be unbiased. However, it is not possible to test for autocorrelation since the residuals may either stem from a cross sectional or alternatively from a time series observation. Therefore, the results are based on

TABLE 1

Regression Results SEC' Migration Rates

(A) Estimation of SEC' Emigration Rate

Dependent variable: Emigration rate$_t^{s,n}$ Observations: 32			
Indep. Variables		Coefficient	t-Statistic
intercept	β_0 =	-1,29	-2,93
$\log(1-(y^s/y^n))_{t-1}$	β_1 =	0,39	6,62
$\log(UE^n/UE^s)_{t-1}$	β_2 =	-0,051	-2,82
$\log(MS^n)_{t-1}$	β_3 =	0,066	9,64
$\log(D^{ns})$	β_4 =	-0,062	-1,02
F-statistic		34,04	
R^2		0,84	
Adj. R^2		0,81	
S.E. of regression		0,05	
Durbin-Watson		2,06	

Source: Own estimations

(B) Estimation of SEC' Net Emigration Rate (Includes Return Migration)

Dependent variable: Net migration rate$_t^{s,n}$ Observations: 32			
Indep. Variables		Coefficient	t-Statistic
intercept	β_0 =	-0,42	-1,18
$\log(1-(y^s/y^n))_{t-1}$	β_1 =	0,17	3,55
$\log(UE^n/UE^s)_{t-1}$	β_2 =	-0,016	-1,11
$\log(MS^n)_{t-1}$	β_3 =	0,023	4,13
$\log(D^{ns})$	β_4 =	-0,043	-0,88
F-statistic		7,30	
R^2		0,52	
Adj. R^2		0,45	
S.E. of regression		0,04	
Durbin-Watson		2,04	

Source: *Own estimations*

the hypothesis that there is no time dependent correlation in the residuals. We tested for *heteroscedasticity* which exists when the variance of the disturbance term u_t is not constant. Heteroscedasticity poses a problem since it leads to biased standard errors and t-ratios. The coefficient estimates, however, mostly continue being unbiased. Applying *White's Heteroscedasticity Test* (see White (1980) 817-838) we found out that our disturbance are homoscedastic. Finally, we conducted a *normality* test which checked whether the residuals were normally distributed. The *Jarque-Bera statistic* provided satisfactory evidence that the residuals were normally distributed.

VI. WHAT COULD WE LEARN FOR THE EU EAST ENLARGEMENT?

After Helsinki 1999 and Nice 2000, it has become clear that ten Eastern European countries (i.e. Poland, Hungary, Czech Republic, Slovenia, Slovakia, Romania, Bulgaria and the Baltic states) will become EU members. It is no longer a question whether but only when this enlargement of the EU will taken place. Consequently, the free movement of workers and of persons will become valid – also for the citizens of the new member states. This legalisation of free movement for Eastern Europeans is regarded as a very central issue. It is stressed that a "trek westwards" would be the consequence that places severe economic and virtually insurmountable political strains on the western European target countries. But what could we learn from economic theory (see section II) and from the previous experience of the EU (see sections III to V):

1) In the 1980s the EC was enlarged southward by Greece (1981), Portugal (1986) and Spain (1986). At the beginning of the membership negotiations these southern European countries were also far behind the EC member states in their economic development. Furthermore, these countries had also experienced dramatic political changes a short time previously. In Greece the military dictatorship was not removed until the end of 1974. In Portugal it was the "revolution of carnations" of 25.4.1974 which led to the removal of the Caetano regime. Spain's departure from the dicta-

torship of General Franco did not take place until after his death in November 1975. In other words, at the beginning of the EC membership negotiations at the end of the 1970s southern Europe was also just at the beginning of its political transformation from a long period of dictatorial-ideological dominance to democratic structures.

2) In the case of the southern enlargement of the EC, too, the discussion was also dominated by misgivings about mass migration from the poorer south to the richer north of the EC. Yet the removal of barriers to migration at the EC level was not enough to overcome the individual (microeconomic) barriers. Mass migration from the south to the north did not take place. Instead, southern European workers preferred to remain where they were, despite lower wages or even unemployment, rather than to look for work in other EC member countries. This behaviour was made possible for the individual worker by the well developed social networks.
3) The development of the economy in the second half of the 1980s particularly in Spain, but also in Portugal and, in part, in Greece, shows that the adjustments due to integration into the Single Market took place above all via trade in goods and services and via capital transfers, and not so much via the migration of workers. The trade in goods reacted much more elastically to the formation of the Single Market than did the supply of labour. The reduction of protectionist barriers led to a strong growth in inner-EC trade and in inner-EC direct investment. To a large extent the trade in goods and capital transfers made the migration of labour unnecessary.

Of course it is, and remains, speculation as to how far the empirical experiences of EC southern enlargement are relevant to EU eastern enlargement. Whether the Southern European Countries (SEC) can serve as an analogy for the CEEC must remain a hypothetical question. Of course, there are many important differences which can be found when comparing these two groups of countries. After all, the CEEC have been undergoing a transformation process from a centrally planned to a market economy which is unique in history. This obviously places an extra burden on CEEC' economies which is not considered in a potential South - East comparison. Also the degree of proximity as well as their cultural ties to the EU might be distinct.

Nevertheless, is the Southern Enlargement of the EC still the most suitable and similar example of economic integration which exists and shall therefore be the basis in the descriptive as well as quantitative analysis.

The estimation results in Table 1 reflect the pattern of net migration between Greece, Portugal, Spain as net emigration countries and the Northern EC-member states as typical net immigration countries. Under the assumption of analogy between the SEC and the CEEC, the obtained coefficient values can be used to calculate the amount of migration between the CEEC and the EU (extrapolation). Therefore, the following results have to be interpreted as projections and not as forecasts. To make this point very clear: The following projections do not predict that the projected migration flows will taken place. Actually, I do not even indicate a probability to which the estimations will become reality. My results are pure simulations. They have to be interpreted as follows: „*Let us assume that* the GDP per capita gap between the CEEC and the EU is 40, 50, 60 or 70%, *what migration flows should we then expect?*"

It is important to keep in mind that all results implicitly assume that (i) the Southern European countries are exemplary for the CEEC and that (ii) free mobility of labour between CEEC and the EU does exist[11]. Since the supposed economic conditions more or less reflect the current economic situation, our calculations simulate the hypothetical situation of the CEEC becoming a member of the EU and permitting the free mobility of labour today.

A. *Migration Rates*

Complementary to the two regressions undertaken above, we also obtain two sets of extrapolation results displayed in. The first reflects CEEC' *emigration* rates (A), the second reports *net migration* rates between the CEEC and the EU (B).

Both tables calculate the respective values for the CEEC-EU (net) migration rates. The four rows differ in that they contemplate different values for *income differentials* between the CEEC and the EU. Whereas row (1) assumes an income differential of "only" 40% between the CEEC and the EU, row (4) calculates with a value of considerable 70% (thus the CEEC are believed to have a very low income compared to the EU). With rising income differentials we also obtain increases of migration rates.

TABLE 2

Extrapolation of CEEC-EU Migration Rates

(A) CEEC-EU Emigration Rates (Without Return Migration)

Dependent variable:		Independent variables:	
CEEC' emigration rate (as % of population in		$1-(y^s/y^n)_{t-1}$ (income differentials)	Other variables (ceteris paribus)
CEEC)			
(1)	0,19	40%	$(UE^n)_{t-1}$: 10,5% $(UE^s)_{t-1}$: 15% $(MS^n)_{t-1}$: 1 000 000 (D^{ns}) : 1 500 km
(2)	0,27	50%	
(3)	0,34	60%	
(4)	0,40	70%	

Shaded area: Current income differentials.
Source: Own calculations.

(B) CEEC-EU Net Migration Rates (Includes Return Migration)

Dependent variable:		Independent variables:	
CEEC' emigration rate (as % of population in		$1-(y^s/y^n)_{t-1}$ (income differentials)	Other variables (ceteris paribus)
CEEC)			
(1)	0,06	40%	$(UE^n)_{t-1}$: 10,5% $(UE^s)_{t-1}$: 15% $(MS^n)_{t-1}$: 1 000 000 (D^{ns}) : 1 500 km
(2)	0,10	50%	
(3)	0,13	60%	
(4)	0,15	70%	

Shaded area: Current income differentials.
Source: Own calculations.

As can be seen in Table 2(A), CEEC' emigration rates vary between 0.19% and 0,40% of its population depending on which income scenario we consider in the calculations. It is evident that this is quite a large range of emigration potential. Statistical data suggests a current average income differential between the EU and the CEEC of roughly 55%. Hence, rows (2) and (3) calculating with an income differential of approximately 50-60% reflect the actual income difference between the CEEC and the EU the best. Potential emigration rates should consequently lie somewhere between 0,27-0,34% of CEEC' population p.a.

Table 2(B) displays the calculated net migration rates between the CEEC and the EU resulting from our extrapolations. All migration rates are substantially lower than in part (A) of the table since they implicitly include return migration of CEEC-citizens. Focussing on the actual income differentials in rows (2) and (3) we obtain net migration rates of 0,1-0,13% of CEEC' population p.a.

Altogether, our calculations advocate that there would be net immigration from the CEEC into the EU if free mobility of labour between the CEEC and the EU was permitted. The substantially smaller values of net migration rates compared to pure emigration rates suggests that there would be a considerable amount of return migration. Thus, people would return back home after a certain time period living and working inside the EU.

It is likely, however, that the calculated migration rates in Table 2(A)+(B) currently still underestimate potential free migration flows originating from CEEC. Since the CEEC have still not reached an equivalently high ratio of migrant stock in the EU as the SEC, it is probable that immigration from the CEEC would initially be larger. Also *return migration* being implicitly included in *net migration rates* will only be of significance if there is a sufficiently large stock of CEEC migrants living in the EU already. As long as this long-run equilibrium stock of migrants is not reached, it is likely that net immigration is larger than what is suggested by the estimates. In other words, the CEEC-EU migration pattern will resemble the calculated coefficients more closely as soon as CEEC' migrant stock has piled up to a ratio equivalent to that of the SEC (roughly 3% of the population). Hence, the calculated migration rates should be understood as long run values. In the short run, they can rather be interpreted as a lower threshold.

B. *Absolute Number of Migrants*

In a next step I take the extrapolated values of migration rates from Table 2 and employ them on the amount of population in the CEEC (using the 1997 data). The outcome is an estimate of the magnitude of CEEC' migration into the EU (Table 3). Again we differentiate between pure emigration (part A) and net migration (part B).

The calculations in Table 3(A) advocate that under the assumption of an EU-CEEC income differential of 50-60% and ignoring return migration, approximately 270'000 to 340'000 immigrants p.a. would be moving from the CEEC into the EU if free mobility of labour was permitted. With progressive income convergence push migration from the CEEC would decrease over time. As soon as we incorporate return migration into our calculations, we obtain a magnitude of net migration of approximately 99'000-129'000 people from CEEC as TABLE 3(B) illustrates.

TABLE 3

Extrapolation of the CEEC-EU Magnitude of Migration

(A) Magnitude of CEEC Emigration to EU

Supposed population in CEEC: 99 000 000		
(Scenario) Income Differential		Magnitude of Migration
(1)	40%	188 100
(2)	50%	267 300
(3)	60%	336 600
(4)	70%	396 000

Shaded area: Current income differentials.
Source: Own calculations.

(B) Magnitude of CEEC Net Migration to EU
(Includes Return Migration)

Supposed population in CEEC: 99 000 000		
(Scenario) Income Differential		Magnitude of Migration
(1)	40%	59 400
(2)	50%	99 000
(3)	60%	128 700
(4)	70%	148 500

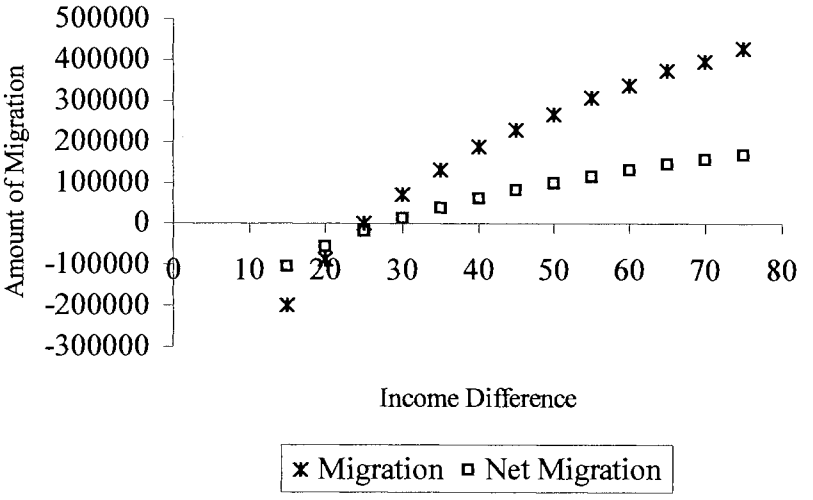
Shaded area: Current income differentials.
Source: Own calculations.

The findings from our extrapolations are illustrated in Figure 3. On the x-axis we have depicted a whole range of different income scenarios ranging from relatively homogeneous 15% income differentials to a very heterogeneous 75% ceteris paribus. The ceteris paribus assumption implies that all other variables (unemployment, stock of migrants and distance) remain unchanged. The y-axis outlines the corresponding amount of migration p.a. The first curve displays the pure emigration potential from the CEEC and is based on the coefficient values from Table 1(A). The second curve focuses on the net migration potential corresponding to Table 1(B). It is interesting to see that emigration from the CEEC can even turn negative (implying net immigration to the CEEC) as soon as we get close or below income differentials of about 25%. Income incentives in the EU would in such a case not be high enough in order to attract a larger number of CEEC citizens. Their return migration would then surpass the emigration flows.

As I mentioned previously, the amount of return migration is likely to be overestimated for the CEEC as long as the stock of CEEC migrants has not reached its long run level. Hence, return migration will initially lie somewhere between zero (implying that there is only emigration from the CEEC) and the amount which is implicitly suggested by the estimated parameter values of net migration. The two illustrated curves in Figure 3 could then be interpreted as a corridor

FIGURE 3

CEEC' Emigration and Net Migration Potential



displaying potential net migration which, depending on the real degree of return migration, is bounded on one side by the curve of net migration and bounded on the other side by the curve of emigration. Hence, we might see our coefficient values as a lower and an upper extreme scenario of potential CEEC-EU net migration.

C. *Discussion*

Depending on the degree of return migration our results suggest that between 100'000 and 340'000 migrants p.a. would be moving from the CEEC into the EU on a net basis if the free mobility of labour was permitted. At first sight, this amount of annual net migration, particularly the upper threshold, seems to be a lot. There are two points which should be mentioned in this context. Firstly, it should be made clear for whom this is a lot of net migration. For an immigration region like the EU consisting of 380 million inhabitants, the calculated net migration flows would accrue to 0,0003-0,0008% of the population only, depending on the assumed scenario. Effects of immigration are then likely to be rather small. For the CEEC as a net emigration region, a departure of 0,1-0,34% of its population would, in contrast, be quite substantial not to say harmful.

Secondly, the parameters applied in these calculations were derived from the Southern European experience in the first few years after free labour mobility was permitted. It is possible that the migration performance in these first years was in some way excessive and not really representative for the longer run. It is a bit like with a child which has never been allowed to eat chocolate. In the first few days after permission, the child will eat much more chocolate than it would under regular circumstances do. Maybe migrants behave similarly. The sudden freedom might induce many more migrants to move than would under normal circumstances do. Martin ((1993),136) calls this kind of migratory pattern the *"hump effect"*. After an unreasonable initial period of strong immigration, net migration flows decrease thereafter.

VII. CONCLUSIONS AND OUTLOOK

The empirical experience of the EU is largely in accordance with theoretical expectations. If labour is legally free to move, this makes

people (especially in border areas) more mobile internationally: but it does not in itself induce mass migration from one country to another. People's social and cultural ties to their local environment are an important obstacle to migration which has been commonly underestimated from the perspective of theoretical economics.

In the Common Labour Market of the EU, labour has been extremely immobile internationally. The *large majority* of people want to live, work and stay immobile where one has ones roots. People usually prefer the status quo to an unfamiliar or insecure change. The simple abolishment of legal impediments to migration is usually insufficient to overcome individual (microeconomic, social and cultural) obstacles to migration and to overshoot the value of immobility. Contrary to what one may expect at first from the theory of international economic integration, European labour has reacted little to the opportunity of free movement within a common labour market. This conclusion can be drawn with respect to the Nordic Common Labour Market as well as for the Single Market of the European Union. European workers prefer to stay unemployed at a certain location. They can afford this strategy due to the relatively generous social nets that as a tendency discriminate mobility and refund immobility. The development of systems of social security and welfare allows for immobility even under conditions of long term unemployment. The provision of increasingly comprehensive social security in the EU is one of the most important factors explaining the preference of immobility.

On the *macroeconomic* level international labour migration has proved to be mainly *demand-determined:* it usually depends to a major extent on the needs and employment opportunities in the *immigration* countries. In the EU trade has reacted much faster and more elastically to economic integration than labour. The removal of formal and informal protectionist impediments led to a strong increase in intra-community trade. The equalisation of good and factor prices expected on the ground of the neoclassic H-O-S international economic theory thus materialised through trade rather than through the increased mobility of labour. To an important degree, *trade has replaced the economic demand for migration* in the EU.

Economic integration promotes welfare. The removal of obstacles to trade and the integration of international finance markets make trade in goods and services easier and capital and know-how more mobile internationally. Labour migration thus becomes increasingly

dependent on the progressive liberalisation of trade in goods and services and the international mobility of capital. More and more, *multinational firms* may become a key 'media' for this increasingly interdependent flows of trade, labour and capital. Multinational firms create 'international systems' that allow qualified labour and direct investment capital to move from one international location to the other avoiding the cost of leaving the system.

A common economic area primarily increases competition between immobile labour and local social and economic systems for the mobile production factors of capital and know-how. Locations that are particularly attractive in this respect manage to gather highly skilled specialists. The more technological innovations regarding the transfer of data, information, goods, services and the mobility of people reduce the costs of geographical distance, the more locational aspects of relative macroeconomic attractiveness and microeconomic (cost-determined) competitiveness matter. If policy making and institutions neglect that fact, economic agents and people in general are bound to "vote by their feet" and move their action and/or themselves to other locations.

The *relative attractiveness of immobile production factors* (which apart from immobile labour, invested physical capital, locational bound resources and infrastructure, also include institutional arrangements) determines to what extent mobile production factors may be kept respectively attracted to a certain location. Within international specialisation and diversification of labour, mobile factors are directed to the places at which they are most productive and thus earn the highest return. Immobile production factors ask "what shall we do?" (to attract mobile ones) while mobile factors wonder "where shall we go?" (to generate the highest possible marginal utility, in co-operation with complementary immobile factors specific to a location).

In a nutshell, the consequences of integrating economies within a common labour market produce two answers:

1) The migration of relatively lower qualified workers might follow a neoclassical H-O-S pattern. Trade and capital flows substitute sooner or later more or less the need for strong migration flows of rather unskilled workers. It is cheaper to move standardised products and machines than people.
2) The migration of relatively higher qualified workers might follow the Ricardian (or New Growth) dynamic of a core-periphery pat-

tern. People with skills and knowledge might go the centres what makes them more attractive for capital and skilled workers in the next round. Rich agglomerations and poor outbacks might be the long term consequence.

Taken together, it is worth to stress one single point: In both worlds it is not (too much) immigration that might cause a "problem" but rather (too much) emigration!

NOTES

1. Blanchard/Katz (1992) show that in the USA it is the workers in particular who, by means of migration, are responsible for the relatively rapid adjustment to changes in the economic environment. An exogenous shock (growth spurts abroad, strong fluctuations in exchange rates, increases in prices of imports and raw materials, recession in sales outlets) which originally reduces total employment in an American region by 1%, leads on average to an increase in the unemployment rate of half a percentage point after two years. After six years the unemployment rate goes down to its original level, while total employment is reduced by a further percentage point compared to its original level (i.e. there is a fall of about 2% altogether). It takes ten years for employment to balance out at a new equilibrium level, which is about 1% below the original level. However, in the USA the 1-2% of those originally employed and who have been made redundant do not remain in their accustomed place of residence and stay unemployed, but move away and find productive employment in another region. Exogenous shocks therefore hardly led to any permanent rise in structural unemployment in the regions of the United States.
2. In the case of Germany these were *guest worker treaties* encouraging the immigration of blue-collar workers from southern Europe.
3. We concentrate on Germany because it has the longest migration tradition with each of the three SEC and data series have been incomparably long.
4. For an overview about German as well as European migration policies see Fassmann/Münz (1994).
5. According to the basic principles of social security law in the EU, employed persons are socially insured in the country in which they live and work. The right to social security benefits can only be gained by a person who has made payments into the social security schemes of the host country by being employed there. For example, if a Portuguese building worker has worked in Germany and becomes unemployed then he has exactly the same rights regarding unemployment benefits as his German colleagues who have also been made unemployed. He can, however, only claim these rights in Germany since the right to benefits only exists in the country in which the employed person was last insured. Payment in another EU country is therefore ruled out - even if he returned to Portugal. A "migration of the unemployed" is thus prevented by the fact that "normally" unemployment benefits are not paid in another EU country. An unemployed person can under certain conditions continue to receive unemployment benefit from his previous country of residence if he has been given permission to reside in another member state for at most three months in order to look for work there. The same principle, that social insurance protection only exists in the country of residence and employment, also prevents "social security tourism". Rights are based exclusively on previous contributions. If workers have been

employed in more than one EU member state in the course of their lives and made payments to the social insurance schemes there, then the insurance claims are mutually recognised so that there are no gaps in coverage and no periods of insurance cover are lost. For individual legal questions concerning EU freedom of movement see, in particular, Séché ((1988) and (1994)).

6. On this see Burda (1995).
7. The concept of the option value of migration could be extended by the aspect that people are not risk-neutral but rather, tend to be averse to risk. The bird in the hand tends to be given preference over the two in the bush, and a "worse" alternative which can be anticipated with a high degree of probability may be preferred to a "better" alternative which is uncertain. It is also possible that the decision to migrate is not based on the long-term perspectives but takes place instead for short-term reasons. In this case the high fixed costs at the beginning of migration can act as a deterrent and be overestimated, although the later advantages would be much greater than the initial costs. Both extensions of the model – risk aversion and the preference for the short term – work in favour of waiting.
8. This section draws on joint work with Hubertus Hille and on his dissertation (see Hille and Straubhaar (2001) and Hille (2001)).
9. Particularly Belgium, Denmark, France, Germany, Luxembourg, the Netherlands and the United Kingdom showed to have an exchange of labour with the SEC.
10. The distance to Germany has been calculated by using the city of Frankfurt a.M. since pre unification data have also been used.
11. Remember that econometric estimations were only about the period of free mobility of labour. Thus, coefficient values will also reflect free mobility only.

REFERENCES

Baldwin, R., 1994, Towards an Integrated Europe, (CEPR, London).

Barro, R.J.; Sala-i-Martin, X., 1995, Economic Growth, (McGraw Hill, New York).

Blanchard, O.J. and Katz, L.F., 1992, Regional Evolutions, *Brookings Papers on Economic Activity*, 1-61.

Brücker, H., 2001, Die Folgen der Freizügigkeit für die Ost-West-Migration. Paper presented at the 64. meeting of the Arbeitsgemeinschaft Deutscher wirtschaftswissenschaftlicher Forschungsinstitute (ARGE), Berlin, April 26/27, 2001 (mimeo).

Burda, M.C., 1995, Migration and the Option Value of Waiting. Seminar Paper No 597, (Institute for International Economic Studies, Stockholm University, Stockholm).

Dustmann, C., 2001, Comments on Brücker, H. (2001) and Flaig (2001) presented at the 64. meeting of the Arbeitsgemeinschaft Deutscher wirtschaftswissenschaftlicher Forschungsinstitute (ARGE), Berlin, April 26/27, 2001 (mimeo).

Eurostat, 1998, Regional Statistics (REGIO) found on the International Statistical Yearbook, (CD-ROM Luxembourg).

Eurostat, 2000, Europäische Sozialstatistik, Wanderung, Ausgabe 2000, (Luxembourg).

Fassmann, H.; Münz, R.; eds., 1994, European Migration in the Late Twentieth Century: Historical Patterns, Actual Trends and Social Implications, (Edward Elgar, London).

Fischer, P.A., 1999, On the Economics of Immobility, (Haupt, Bern).

Financial Times Deutschland (2000): Ökonom Sinn warnt vor starker Zunahme von Einwanderern nach der EU-Osterweiterung,.FTD, 61, March 27, 2000, (page 15).

Flaig, G., 2001, Zur Abschätzung der Migrationspotentiale der osteuropäischen EU-Beitrittsländer. Paper presented at the 64. meeting of the Arbeitsgemeinschaft Deutscher wirtschaftswissenschaftlicher Forschungsinstitute (ARGE), Berlin, April 26/27, 2001 (mimeo).

Hille, H., 2001, Enlarging the European Union (A Computable General Equilibrium Assessment of Different Integration Scenarios of Central and Eastern Europe). *Schriften zur Wirtschaftstheorie und Wirtschaftspolitik* 20, (Lang, Frankfurt a.Main).
Hille, H. and Straubhaar, Th., 2001, The Impact of the EU-Enlargement on Migration Movements and Economic Integration: Results of Recent Studies. In: OECD, ed., Migration Policies and EU Enlargement (The Case of Central and Eastern Europe), (Paris), 79-100.
Hirschman, A. O., 1958, The Strategy of Economic Development, (Yale University Press, New Haven).
Hönekopp, E., 1999, Central and East Europeans in the Member Countries of the European Union since 1990: Development and Structure of Migration, Population and Employment. Unpublished manuscript, (Nürnberg).
Hönekopp, E., 2000, Auswirkungen der EU-Osterweiterung auf die Arbeitsmärkte der Mitgliedsländer der Europäischen Union, (Friedrich-Ebert-Stiftung, Bonn).
Layard, P., Blanchard, O., Dornbusch,P.; Krugman,P., 1992, East-West-Migration - The Alternatives, (Cambridge).
Lucas, R.E., 1988, On the Mechanics of Economic Development. *Journal of Monetary Economics* 22, 3-42.
Martin, P., 1993, Trade and Migration: NAFTA and Agriculture, (Institute for International Economics, Washington).
Mundell, R.A., 1957, International Trade and Factor Mobility, *American Economic Review* 47, 321-335.
Myrdal, G., 1956, An international economy, (Harper & Row, New York).
Myrdal, G., 1957, Rich lands and poor, (Harper & Row, New York).
OECD, 2000, SOPEMI, International Migration Statistics Database, (Paris).
Romer, P.M., 1986, Increasing Returns and Long-Run Growth, *Journal of Political Economy* 94, 1002-1037.
Romer, P.M., 1987, Growth Based on Increasing Returns Due to Specialization, *American Economic Review* 77, 56-62.
Romer, P.M., 1990, Endogenous Technological Change, *Journal of Political Economy* 98, 71-102.
Sachverständigenrat, 2000, Jahresgutachten 2000/01. Deutscher Bundestag, 14. Wahlperiode Drucksache 14/4792 vom 29.11.2000, (Berlin).
Séché, J.-C., 1988, Freizügigkeit in der Europäischen Gemeinschaft (Einreise und Aufenthalt), (Luxemburg).
Séché, J.-C., 1994, Berufsausübung im Gemeinsamen Markt (Ein Leitfaden), 2 Ausgabe, (Luxemburg).
Weyerbrock, Silvia, 1995, Can the European Community Absorb More Immigrants? A General Equilibrium Analysis of the Labor Market and Macroeconomic Effects of East-West Migration. *Journal of Policy Modelling* 17, 2, 85-120.
White, Halbert, 1980, A Heteroscedsticity-Consistent Covariance Estimator and a Direct Test for Heteroscedasticity, *Econometrica* 48, 817-838.