# GREEK LABOUR MIGRATION TO GERMANY

## 1960 - 1974

by

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The causes and effects of Greek labour emigration to West Germany 1960-1974 are the subject of this thesis. It seems that the problem has suffered from a relative neglect in economic theory. In the literature the main emphasis has been on the effects of the immigration of labour rather than on the effects that emigrants have on the economy of the country that they leave. The difference between a permanent-settlement type of population migration and the 'new' short-run labour movement across national borders is emphasized in this study.

Three approaches have been used in dealing with the problem of emigration:

a) a 'technocratic approach' emphasizing the relationship between migration and the employment issue in the economy,

b) a 'cost-benefits' approach, analyzing the pros and cons of migration,

c) a 'structural' approach, examining the impact of emigration in the general framework of economic development.

Several hypotheses have been suggested in the literature as important ir explaining Greek emigration. The hypotheses specifically examined in this thesis are:

a) that both 'push' and 'pull' factors jointly influenced labour emigration from Greece. (The relative importance of the 'push' or 'pull' factors is also assessed.)

b) that wage differentials between Greece and Germany were significant in explaining migration.

c) that policy measures imposed by Germany were significant for Greek emigration to Germany.

d) that a lag existed in the decision-making process regarding migration, thus present migration was dependent on past migration.

A linear regression analysis is utilized to test these hypotheses. Various problems referring both to the reliability of the data and the limitations imposed by using this approach are discussed in Chapter III. The results achieved from the exercise should be considered indicative rather than definite. The following are some of the conclusions drawn from the exercise:

a) 'Push' and 'pull' factors were found to be equally significant for emigration to Germany.

b) Though wage differentials were found to have little significance in explaining emigration, a high correlation between the wage-ratio and the ratio of unemployed as indicated by the data makes it difficult for us to ignore the wage variable entirely.

c) Policy measures were found to be insignificant.

d) It was found that past emigration is significant in explaining present migration.

Two recent models of migration by J.E. Meade and G. Myrdal were considered. It was indicated that the Myrdal model can better explain the case of Greek emigration to Germany in terms of appropriateness of assumptions and validity of predictions.

In assessing the effects of emigration, two approaches have been followed:

a) a 'cost-benefits' approach, juxtaposing the positive and negative effects of emigration.

b) a 'strategic variables' approach, examining the impact of emigration on certain variables deemed important for the economic development of the country.

The second approach was chosen. In Chapter V the impact of emigration on the following factors is briefly examined:

a) the balance of payments of Greece,

b) the level of employment,

c) the composition of the Greek labour force,

d) the evolution of the population,

e) the profitability of Greek industry.

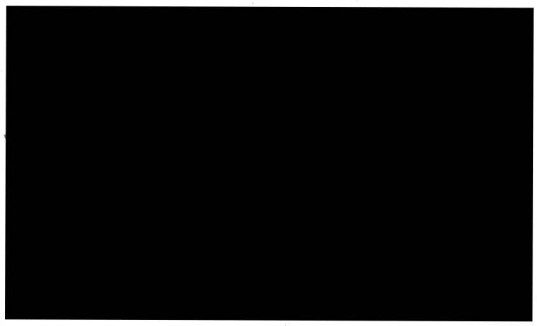
It seems that emigration relieved balance of payments shortages, and also eased the unemployment problem in Greece to some extent. However, emigrants' remittances may have increased levels of consumption and imports, rather than productive investment.

Furthermore, emigration depleted the labour force and created shortages in some sectors of the economy. There are indications that the proportion of skilled workers migrating was high. When the stock of skilled labour is already small the loss of skilled manpower is a very serious obstacle to development.

In Greece, the highly selective character of emigration has changed the age, sex, and occupational structure of the labour force in a negative way. Since young people provided the bulk of the emigrants, the age structure of the Greek population has deteriorated badly.

Population growth rates have fallen to a very low level, and the related imposition of wage equalization may destroy Greek industry.

In conclusion, the positive effects of emigration on the balance of payments of a country and the relief that it may offer from unemployment do not necessarily lead to long-term economic development. Instead, they may impede it.



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DEDICATION

To my beloved family who were with me all the way through, with their minds, and to Dr. Pal, who believed that I could.

Πάλι τὰ ἴδια καὶ τὰ ἴδια, θὰ μοῦ πεῖς, φίλε.
Ὅμως τὴ σκέψη τοῦ πρόσφυγα τὴ σκέψη τοῦ αἰχμάλωτου
τὴ σκέψη
τοῦ ἀνθρώπου σὰν κατάντησε κι' αὐτὸς πραμάτεια
δοκίμασε νὰ τὴν ἀλλάξεις, δὲν μπορεῖς.

The same things over and over again, you will say, my friend,
But the thought of the refugee, the thought of the prisoner,
the thought
of man when he too has become a commodity -
try though you may, you cannot change it.

From "The Last Stop" by George Seferis.

# CHAPTER I

## INTRODUCTION

A. Migration of labour across national boundaries has been examined in the past from various perspectives. Economic geographers, sociologists and economists among others have dealt with this international phenomenon in trying to describe, explain and predict it. The migratory phenomenon has two distinct sides. There is labour migration from a country (emigration) and labour migration to a country (immigration). This thesis will deal only with one side of this international phenomenon, that of emigration from an underdeveloped country, namely Greece, to industrialized West Germany, for the period 1960 - 1974. The first part of the thesis will deal with the causes of emigration from that country, while the second part will briefly outline some of the effects of emigration on the growth potential of the Greek economy.

In the writings of economists from A. Smith on, labour migration has not attracted the interest one would expect it to, at least to the degree expected. This neglect of the topic is clearly stated by C.P. Kindleberger:

> Most textbooks on international economics, and most courses, steer clear of the question of migration. This is probably only partly due to the pious classical assumption of factor immobility between countries; capital movements have been accommodated into the corpus of the subject. In part, migration may be thought to have been overwhelmed in importance by trade; the fact that Europe exported 60 million people overseas between 1851 and 1970 and that today approximately 4 million migrants in Europe are working outside their native countries, however, suggests that migration is not small. ... The more likely reason is that the subject is thought to belong rather to sociology or demography than to economics. More recently, however, the reduction in transport costs brought renewed interest in the economics of international migration and national migration policy. The latter may be largely in the social field, but the economic questions are neither uninteresting nor unimportant.[1]

This relatively unrealistic attitude of economists towards the migratory phenomenon has, as noted above, had its origin in the work of the earliest economists. In the Hume-Smith scheme the immobility of factors of production is given between countries. For example, A. Smith observes that of all "kinds of freight, man is the hardest to transport". Given this immobility of factors between countries, international trade benefits both partners and increases economic welfare. In transforming the theory of comparative advantage to one of comparative cost, D. Ricardo also considered the immobility of factors as a given factor. In this problem, he was only interested in the effects of the given factors' immobility on the maximization of their rewards between countries in relation to their respective productivities. As noted by A. Emmanuel[2], the basic assumption of factor immobility remained unaltered and went unchallenged although all the subordinate assumptions (constant costs, equality in potential of production and consumption in the two countries concerned, wages everywhere equal to the subsistence minimum, identical techniques, identity in respect of money and incomes, identity in balance of payments and trade balance, full employment of the factors) have been questioned and rejected. Wages were supposed to be regulated by demographic pressures and kept close to a "subsistence" level. Consequently, labour mobility was not a primary concern since wages were irreducible anyway!

K. Marx[3] commented extensively on the negative effects of emigration for the Irish economy. The increasing mobility of the factors of production (labour, and especially capital) observed at the second part of the 19th century began to cast doubts on the static comparative costs doctrine. At this time, Alfred Marshall spoke of a "relative" immobility of the factors of production when he attempted to formulate and further expand

the theory of comparative cost.[4]

E.F. Heckscher[5] and B. Ohlin[6] introduced the so-called "modern" theory of trade in which they proposed that under a specific set of assumptions trade could be looked upon as a substitute for the mobility of the factors of production:

> If both countries have the same input-output coefficients, and if free trade forces both countries to face the same commodity prices, they must have the same wage rates and the same rentals on capital equipment.[7]

The assumptions of the model are restrictive and render the applicability rather narrow. Criticism against it centered around the possibility of these assumptions obtaining in the real world.

This neglect of the labour mobility issue prevailed until the relatively recent attempt to construct a labour migration "model" for the North Atlantic economy by B. Thomas.[8] He argued that in the nineteenth century a unified North Atlantic economy experienced long cycles of capital export following mass migration and population-sensitive investment in North America. According to evolutions in the population of Europe and North America, capital was lent domestically or in North America. Labour emigration was induced by both 'push' and 'pull' factors alternating through time. As 'push' factor he considered a cycle of births which caused a swelling of the age groups most prone to migrate.

B. As noted above, the migratory phenomenon has two distinct sides, namely immigration and emigration. The main body of the existing literature on recent, short-run European migration has dealt with the immigration side of the migratory phenomenon, trying to explain its causes and effects on the economies of the receiving countries. Even there, research into migration is a recent pursuit, which was initiated only after <u>massive</u> immigration into Western European countries took place. W.R.

Böhning notes that:

> International migration is one of the least explored areas of economic theory and research. It was only when social and political forces questioned the desirability of massive migratory movements into Europe's developed countries during the 1960's that the economists' interest was kindled.[9]

The need for research on emigration was felt even more than that for research on immigration. Among others G. Kade and G. Schiller noted this need emphatically in 1969:

> Instead there is no never well-founded research on the effects of the labour force emigration on the economic development of the sending countries.[10]

T.P. Lianos noted that research on Greek gross migration was missing, by emphasizing that

> the volume of gross out-migration has reached a total of about 1,155,000 people during the period of 1955-1973 (approximately 13 percent of the Greek population). And yet this phenomenon that has assumed dramatic dimensions, in absolute as well as in relative terms, has received little attention in terms of research devoted to it. Our knowledge of the causes, the process and the consequences of Greek gross migration is far from being satisfactory. Still worse is our knowledge of the phenomenon of return migration.[11]

The thesis deals with the problem of labour migration as such and not with the traditional type of population emigration for the purpose of permanent settlement. This is in recognition of the changed character of migration in modern times, especially in Western Europe. In the past, movements from one country to another predominantly had the character of permanent settlement. They were population migrations. However, the so-called 'new' migration tends to be a manpower transfer on a more-or-less extended-visa basis. In this respect T. Zubrzycki states:

> Migration in the sixties and the seventies is no longer a movement of population but of manpower. Economic forces have become dominant.[12]

The temporary character of labour migration is also stressed by M.R.

Böhning who suggests that:

> In the final analysis, all countries define immigration, certainly future immigration, in terms of temporary labour immigration - having accepted, grumblingly, that this phenomenon will be with us for the foreseeable future, as in the Federal Republic of Germany for example, or seeing in it the continuation of an earlier differently-based historical development, as in France.[13]

When emigration is the main concern, the assumption underlying most of the existing research is that emigration is a beneficial thing for the sending country. This point is emphasized by W.R. Böhning who states:

> Until well into the sixties it was taken for granted that the massive outflow of workers from the developing countries around the Mediterranean Basin was wholly beneficial to these countries in that it provided unemployment relief (at least in the short run) and much needed foreign currency. This view has been increasingly challenged in recent years. Doubts have been raised with regard not only to the relief of unemployment but also to the purely beneficial nature of remittances, and some observers have considered emigration detrimental to the development of these countries.[14]

In a similar manner, Carlos C. Almeida challenges the widely accepted assumption that emigration is always a beneficial measure for the sending country, by noting that:

> In general, these analyses describing migratory 'costs' and 'benefits' for the countries of origin, tend to consider emigration as favoring a rationalization of the system which would be profitable to the nation, considered as being socially undifferentiated. According to these authors, emigration has the odd faculty of equilibrating the economic system, whereas the contradictions of the economic system explain the extent and even the form of the actual migratory movement.[15]

C. Migration research has related to either national economies or to areas (for example, migration from Greece, from the Mediterranean basin and so on).

A brief survey of the existing literature on emigration at this point would serve several purposes:

a) it would clarify certain methodological approaches to the

problem,

b) it would put into perspective both the methodology and the specific theme of this thesis,

c) it would show where this thesis fits into the literature in terms of differences and similarities with other works.

A useful categorization would be according to country concerned. A detailed survey of the literature dealing with migration in countries other than Greece is contained in Appendix I.

The case of Greek emigration has attracted the attention of various social scientists, relatively early.[16] Attempting to generalize one could differentiate between three general types of approach used in analyzing the problem:[17]

a) a technocratic approach which looked at emigration as part of the more general problem of the overall employment level. The works of A.A. Kintis (47) and R.E. Fakiolas (28) are prominent in this type of research, along with the work of E.N. Botsas (16) and A. Sapir (80).

b) A cost-benefit analysis approach, whereby the relative costs and benefits of emigration were considered and conclusions reached as to its desirability. The special issue of the Epoches Journal published in 1965 is the most representative example of this type of research. Also the research done by X. Zolotas (95) belongs to this area.

c) A structural approach which looked at the problem of emigration from an economic but also from a political and institutional perspective. Certain articles in the Nea Oikonomia Journal and the Epoches Journal[18] paved the way to this approach, examining both the short but also the long-run effects of emigration on the economy. The best example of this type of research is a volume edited by M. Nikolinakos (65) in 1973.

Most of the works mentioned above have one thing in common. They are not

quantifying the causes of Greek emigration.

Different in that sense are the more recent works mentioned above by E.N. Botsas (16), A. Sapir (80), T.P. Lianos (52) and W.R. Böhning (11), which are explicit efforts to quantify emigration and its causes by using econometric methods.

In this context E.N. Botsas attempted to explain Greek labour migration to Germany from 1958 to 1966 in terms of wage-rate differentials, unemployment rate differentials and a stock variable: the stock of Greek emigrants having already been admitted in Germany. He concluded that

> the claim that wage-rates differentials cannot explain short-run migration has no foundations in the case of Greek emigration to Germany[19]

and that

> it is evident ... that the 'push' forces are very weak in the case of Greek emigration.[20]

In a similar manner A. Sapir (80) recently attempted to explain short-run Greek labour emigration to Germany by using wage ratios between Greece and Germany, unemployment differentials and a dummy variable for restrictive immigration policy followed by Germany during certain years.[21] He concluded that both 'push' and 'pull' factors are important in explaining emigration. The work done by T.P. Lianos (51) emphasized the effect of both pecuniary and non-pecuniary factors on Greek emigration to Western Europe for the period 1955 - 1967. Wage rate differentials and unemployment rates were used as explanatory pecuniary factors. The unemployment rate was found to have greater explanatory power. As non-pecuniary factors were used the community size and the number of churches. Dummy variables were used for several European countries to take account of differences in their attractiveness. Time lags in the diffusion of information and in the decision to emigrate were found significant (lagged dependent

variable used as explanatory), when used together with wage ratios. In a more recent article (52), he dealt with the issue of gross versus net out-migration from Greece.[22] He also tested certain hypotheses about the emigrants characteristics and the factors determining migration. As explanatory 'push' variables he used per capita income in Greece and unemployment level. As 'pull' factors he used per capita income in Germany, unemployment levels there and a lagged variable, that of past Greek emigration to Germany. He also added a dummy variable to take care of the interruption in normal economic life of Greece caused by the military dictatorship established in early 1967. He concluded that Greek migration is mainly explained by changes in the employment opportunities in Germany. That result was in agreement with W.R. Böhning's finding who, trying to explain immigration into Germany in 1968 had concluded that:

> ... as far as labour movements from less developed countries with large labour surpluses to developed countries are concerned, the demand and supply conditions are the exclusive determinants. One could go further and say: the demand pressure in the labour receiving country is the sole determinant as long as there is a large labour pool of unemployed or underemployed in the sending country.[23, 24]

D. This thesis will attempt to integrate and contrast differing views on both the causes and the effects of Greek labour emigration on the overall economic development course of the Greek economy.

The methodology followed is along similar lines to the ones mentioned above. It is attempted to explain Greek labour emigration by the following independent variables:

a) official number of registered unemployed in Greece (push factor),

b) male-female wage mix in Greek industry (push factor),

c) number of unfilled vacancies in Germany (pull factor),

d) number of registered unemployed in Germany (pull factor),

e) male-female wage mix in Germany industry (pull),

f) a dummy variable for German policy towards foreign labour migration into Germany,

g) the number of emigrants lagged by one period.

The hypotheses tested were:

a) that both 'push' and 'pull' factors were instrumental in explaining Greek emigration,

b) that restrictive or open admittance policies of the German authorities towards immigration of foreign workers (institutional variable) were significant in explaining migration of labour across national borders,

c) that there is a lagged response between present and past emigration,

d) that the relative movement of wages had an influence on the decision to migrate.

Also an attempt is made to determine the relative importance of the 'push' and the 'pull' factors and to rank them accordingly.

Thus this work also employs the useful classification of variables as either 'push' or 'pull'. Its features which distinguish it from other works are that:

a) it brings <u>all</u> suggested important variables together by postulating that both push and pull factors were instrumental in Greek migration,

b) it tests similar hypotheses, but for a different period of time 1960 - 1974,

c) it emphasizes the differences between internal and external migration, by using a dummy variable for policy (along with A. Zapir),

d) it employs the dependent variable lagged by one year as an explanatory variable, testing the existence of decision lags and the

attractiveness of friends and relatives having emigrated there already.

**E.** As far as the second part of the thesis, which deals with the effects of emigration, is concerned, the following observations are in order. In analyzing these effects two approaches were followed in the literature:

a) they were either analyzed by juxtaposition, e.g., according to several criteria those effects were deemed positive or negative. The relative merits of the positive effects (benefits) were juxtaposed to the negative effects (costs) and weighted against them,

b) or, certain economic variables deemed strategic for the long-run economic development of the country were chosen. The effects of emigration on those variables were analyzed and conclusions were drawn on the effective merit or onus of emigration. The discussion of the pros and cons for choosing the first or the second approach is contained in Chapter V. Suffice it to say here that the critical variables approach was used in the thesis. As variables important for future Greek economic development were chosen:

a) the balance of payments of that country,

b) the level of employment,

c) the age, sex and occupational characteristics of the remaining labour force,

d) the occupational and educational characteristics of returning former emigrants,

e) the level and composition of the population after emigration.

**F.** The deliberate choice of the case of Greek labour emigration to Germany has to be justified at this point. There are several reasons:

a) Greek emigration is more-or-less typical of the emigration which took place from a variety of Mediterranean countries (Italy, Spain, Portugal, Turkey and even Yugoslavia) towards the industrialized North.

As such, it displays two prominent features, also common to the emigration from the other countries mentioned above, (i) it is a short-term movement from a relatively underdeveloped to a developed country; (ii) it is a manpower movement mainly, not a movement of permanent settlers accompanied by their families. Therefore it is a very good example of the so-called 'new' migration.

b) Greece has been traditionally a country of emigration, mainly overseas. However Greek emigration has undergone significant changes since World War II. The countries of final destination were in Western Europe and emigration assumed a huge volume surpassing the natural increase of the population for some years. Germany is the most important receiving country since it absorbed a very large proportion of all Greek emigrants and an even larger one of Greek emigrants to Western Europe (more than 50% of the total). In terms of structure of the economy Greece would be typical again of undeveloped countries in the Mediterranean Basin (backward agriculture, a large proportion of the labour employed in agriculture, small degree of industrialisation, atrophic industry and an ever increasing tertiary sector).

c) A large volume of emigration has created a manpower shortage especially in some sectors of the Greek economy. This evolution however has not stopped Greek workers from emigrating abroad. M. Mikellides detects similar evolutions in other countries of emigration and notes:

> The case of Greece is typical. Italy and Spain could be mentioned as similar cases, although the case has not presented itself so dramatically there as it has in Greece. At any rate, Yugoslavia has just recently realised the effects emigration at its present volume will have on the Yugoslav economy and society.[25]

d) In contrast to Greece, Germany is an industrialised nation where demographic pressures, coupled with boom expansionism have created acute

labour shortages since the early sixties. In a short period of time, Germany has received an influx of foreign workers. Lack of infrastructure and social investment to accommodate these emigrants has led to deplorable conditions for foreign labourers working in that country, a fact which stimulated discussion concerning the costs and benefits of further emigration into Germany. To the extent that useful results are reached in the case of Greek emigration to that country, they could be contrasted and compared to results from other countries and their realities. In that case our understanding of emigration to industrialised Western Europe would be widened.

G. A final consideration in this chapter would be: Why was emigration chosen? What is the relationship between labour migration and economic development? From the point of view of the country of emigration, out-migration is deemed important because of its negative effects on the supply of labour (especially skilled labour) and because of labour and wealth transfers to another country (rearing educational costs, 'sunk' investment costs, cost of infrastructure). Both the possibility and the type of economic development pursued by a particular country would seem highly interdependent with the full employment of its labour force and the determinants of its volume. Migration is perhaps the most important of these determinants as

a) it directly influences both the present and the future size of the labour force,

b) it could potentially provide for an increased volume of employment in the country, through remittances, productively invested in capital saving processes. Emigration thus becomes an endogenous variable in the system. Economic development affects emigration and emigration in turn affects population. Population influences the production function,

demand and employment potential and, consequently, the entire process of accumulation and growth.[26]

## CHAPTER II

## CHARACTERISTICS OF GREEK ECONOMY AND EMIGRATION

A. An important aspect of Greek labour migration to the Federal Republic of Germany is that it is a manpower movement from an undeveloped or rather an underdeveloped country to an industrialized society. As such, it would be expected to differ from labour mobility between two industrialized societies. This difference is pointed out in the writings of W. R. Böhning (11) who suggests the existence of a dichotomy between less developed sending countries = demand dependent emigration and developed sending countries = wage dependent migration. To appreciate this dichotomy one has to compare the relative strength of the two economies, both in structural and in quantitative terms. Thus the first part of this chapter is devoted to a comparison between the German and the Greek economies. Several tables are provided in Appendix II. They are summarized in this part, in order to focus on certain quantitative and qualitative features of the two economies.

Emigration is a historical phenomenon which is the outcome of certain given economic and demographic evolutions not only in the country of emigration, but also in the receiving country. As such it has undergone significant changes over time. Therefore, an exposition of the historical pattern of emigration would throw light on the qualitative changes of emigration over time. While emigration up to almost 1960 was mainly directed overseas for permanent settlement, the emigrants after that date were going mainly to Western European countries for a more-or-less limited period of time (not permanent settlement). For these reasons the second part of the chapter is devoted to a brief description of emigration from

Greece over time.

Finally the third part of the chapter examines certain emigrants' characteristics. A widely accepted assumption about emigrants is that they are a homogeneous group in terms of educational levels and occupational skills. This assumption is coupled with the tacit assumption that the emigrants are a random sample of the population, exhibiting the same characteristics on average as the population (labour force). Both these assumptions are tested by the empirical evidence provided in that part of the chapter. The selectivity of emigration emerges clearly, along with the non-homogeneity of emigrants.

B. Greece has been described as a country "on the way to development." Observers point to the fast growth rates of the Greek economy in the post-war years, as reflected in various quantitative indicators. The country appears to have achieved relatively high income levels while maintaining its monetary equilibrium. According to GNP per capita at market prices, Greece in 1973 ranked twenty-third among 125 countries of the world (with GNP equal to U.S. $ 1370). Within Europe, Greece ranked eighteenth among 35 countries. The GNP average annual growth rate performance was quite impressive, too. Greece ranked fifth in the world for the period 1960 - 1973 with an average annual growth rate of 7.3% and sixth for the period 1965 - 1973 with a rate of growth of 7.6%. Among European countries its growth rate was the second highest after Portugal for both periods.

Several tables are provided in Appendix IIa, in order to focus on certain quantitative and qualitative features of the Greek economy (Tables II1 to II8). These features will put the emigration phenomenon in perspective and will also facilitate a comparison between the Greek and the German economy which is our main subject here.

The following quantitative features of the Greek economy in the

postwar period emerge from the tables:

(i) There has been a significant increase in the absolute level of the Greek GNP and GDP. Moreover, the growth rate is not very much larger that the growth rate in per capita GNP, as the population growth rate was very small for the period (0.7 percent).

(ii) A large part of GDP comes from agriculture and a disproportionately large part of the economically active population in Greece is still employed in agriculture.

(iii) A low rate of fixed capital formation existed which however accelerated at the end of the period.

(iv) Slowness of change in the productive structure is detected.

(v) There is relatively small participation of industry in the GDP, which also shows signs of improvement at the end of the period.

(vi) The export's value as a percentage of imports is low. Furthermore it is only lately that the export content has changed in favor of manufactured goods which in 1973 were still only 33.3 percent of the total (Prodromidis, 78).

(vii) The trade deficit has increased at a rate faster than imports. However, a favorable evolution of the invisibles has helped to ease balance-of-trade deficit pressures.

For comparison purposes these evolutions are juxtaposed by the evolutions in the Germany economy and other European economies (appendix IIa).

The following characteristics of the German economy emerge:

(i) Both GNP and GDP have increased considerably. From 1966 to 1971 the annual volume of growth was 4.7 percent.

(ii) Primary production contributed only 3 percent of the GDP and employed only 7 percent of the labour force. The corresponding percentages for contribution of primary production to the Greek GDP and employment

were 19 and 34 percent, respectively.

(iii) At constant 1963 prices, gross fixed asset formation in Germany almost doubled between 1960 and 1971.

(iv) There was a slow change in the productive structure which, however, was close to ideal.

(v) There was relatively large participation of industry in the GDP (52 percent of GDP and 49 percent of employment as opposed to 34 percent of GDP and 26 percent of employment for Greece).

(vi) Exports value as a percentage of imports was consistently very high.

The Federal Republic of Germany ranked fifth in the world, in terms of a per capita gross national product at Market prices of U.S. $ 5,320 in 1973 and third among 35 European countries. The average annual growth rate was 3.7 percent for the period 1960-1973 and 4.0 percent for 1965-1973. The difference in per capita GNP between Germany and Greece seems to be huge (3,450), with a ratio of almost 1 to 3.5 between the two countries.

The tables juxtapose certain critical economic magnitudes of Greece and Germany. These aggregates reinforce the impression that the level of well-being in Germany is 4 to 5 times that of Greece. But is this impression correct?

Intercountry comparison studies have proven that per capita income differences are not representative of actual differences in levels of community welfare between countries.[28] The use of exchange rates for conversion to a common currency introduces more distortion.[29] Problems of comparison are aggravated if the comparison takes place between a developed and an undeveloped country.[30] Other indicators of economic performance have to be used in intercountry comparisons.[31] Binary comparisons have shown[32] that national income figures are not good indicators of welfare

,since the price levels differ between countries.[32] In a comparison of incomes between Thailand and the U.K., D. Usher (91) found that comparisons on the basis of national income figures are systematically biasing downwards the performance of poor countries.

In comparing welfare levels between Greece and Germany, non-monetary, real indicators might prove better approximations of reality. However, such a comparison was beyond the scope of this thesis. What is attempted here is to compare the cost of a 'consumer's basket' in Greece and Germany.. The difference in the level of prices both for a Greek and a German worker is then taken to represent differences in cost-of-living between the two countries. To the extent that the cost-of-living is higher in Germany, wages there should be deflated by that proportion to be comparable to wages in Greece. The method is outlined and the results obtained in Appendix II.b. The difference in price levels suggested by differences in cost of 'shopping basket' was found to be 25 percent. Thus German wages should be discounted by 25 percent to be comparable to Greek wages. This result suggests that wage differentials may not be as important 'pull' factors as conventionally expected. The relative 'pull' of Germany may be lower, if emigrants took into consideration the difference in cost-of-living between Germany and Greece. The nominal wage ratio may prove insignificant as a determining factor of emigration.

C. Although the absolute volume of emigration has undergone changes between periods, Greece has always been a country of emigration, not immigration.[33] Greek emigration could be roughly divided into three periods:

a) Emigration up to the turn of the twentieth century. Up to the end of the last century Greek emigration had a sporadic character and was mainly directed towards Egypt, Russia and the other Balkan countries.

b) Emigration from 1900 to 1955: Existing data point to a shift to overseas emigration at the beginning of the century. Thus, emigration to the U.S.A. for example, was 2,333 in 1899
8,104 in 1902
14,090 in 1903

During the decade 1901 - 1910 the average number of emigrants yearly was estimated to be approximately 17,351 people with the annual average number of emigrants going to the U.S. being 16,751.

Table 2.1 Transoceanic Migration from Greece: 1821 -1972

| Years | Number of emigrants | | | Years | Number of emigrants | | |
|---|---|---|---|---|---|---|---|
| | Total | To U.S.A. | To other countries | | Total | To U.S.A. | To other countries |
| 1821-1830 | 20 | 20 | - | 1950 | 4.635 | 1.890 | 2.745 |
| 1831-1840 | 49 | 49 | - | 1951 | 14.155 | 8.930 | 5.225 |
| 1841-1850 | 16 | 16 | - | 1952 | 6.640 | 2.155 | 4.485 |
| 1851-1860 | 31 | 31 | - | 1953 | 8.820 | 1.320 | 7.500 |
| 1861-1870 | 72 | 72 | - | 1954 | 18.682 | 3.487 | 15.195 |
| 1871-1880 | 213 | 210 | 3 | 1955 | 19.766 | 6.896 | 12.870 |
| 1881-1890 | 2.310 | 2.308 | 2 | 1956 | 23.147 | 8.982 | 14.165 |
| 1891-1895 | 5.790 | 5.790 | - | 1957 | 14.783 | 1.807 | 12.976 |
| 1896-1900 | 11.189 | 11.189 | - | 1958 | 14.842 | 3.870 | 10.972 |
| 1901-1905 | 51.479 | 49.962 | 1.517 | 1959 | 13.871 | 2.528 | 11.343 |
| 1906-1910 | 122.034 | 117.557 | 4.477 | 1960 | 17.764 | 3.561 | 14.203 |
| 1911-1915 | 128.521 | 118.916 | 9.605 | 1961 | 17.336 | 3.471 | 13.865 |
| 1916-1920 | 67.598 | 65.285 | 2.313 | 1962 | 21.959 | 4.460 | 17.499 |
| 1921-1925 | 50.531 | 42.323 | 8.208 | 1963 | 24.459 | 4.564 | 19.895 |
| 1926-1930 | 40.838 | 27.352 | 13.486 | 1964 | 25.327 | 2.890 | 22.437 |
| 1931-1935 | 14.797 | 11.363 | 3.434 | 1965 | 29.035 | 2.782 | 26.253 |
| 1936-1940 | 15.703 | 10.540 | 5.163 | 1966 | 33.093 | 12.193 | 20.900 |
| 1941-1945 | - | - | - | 1967 | 26.323 | 11.778 | 14.545 |
| 1946 | 1.558 | 1.326 | 232 | 1968 | 25.891 | 9.839 | 16.052 |
| 1947 | 4.901 | 2.571 | 2.330 | 1969 | 28.425 | 12.716 | 15.709 |
| 1948 | 4.819 | 2.047 | 2.772 | 1970 | 24.153 | 11.484 | 12.669 |
| 1949 | 4.263 | 1.483 | 2.780 | 1971 | 18.690 | 8.275 | 10.415 |
| | | | | 1972 | 13.239 | 6.613 | 6.626 |

Source: NSSG, Statistical Yearbook of Greece, 1972.

From 1910 - 1921 the average number of emigrants rose to 19,612 yearly, with wide fluctuations between years due to the Balkan Wars and the First World War. From 1901 to 1921 a total of 398,607 people left the country for overseas of which 95 percent went to the U.S.A. In 1921 however, a quota system was imposed in the U.S.A. As a result, the number of Greek emigrants to that country fell to 9,137 people annually between the years 1921 and 1930. The economic crash of 1929 further decreased the annual average of emigrants to 3,111 people in the period 1931 - 1937. Between 1922 and 1940, it is estimated that a total of 92,684 people emigrated. After the Second World War and the Nazi occupation, the annual number of emigrants was on the increase again. While most of the overseas emigrants went to the U.S.A. before World War II, the post-war picture as depicted in Table 2.2 has substantially changed.

Emigration from 1955 to 1974: This period has witnessed substantial changes both in the volume and the characteristics of the emigration flow. Emigration assumed mass exodus proportions for some of the years, a fact which prompted an animated discussion on its relative merits for Greece. Some of the main characteristics of this period of emigration are analyzed below:

a) After 1955 the main feature is a drastic shift of Greek emigration from overseas to European countries. In 1960 (30.3 1960), a labour agreement was signed by the Greek and the German governments pertaining to free emigration of Greek workers to Germany for employment there according to German manpower needs. As a result the number of Greek emigrants to Germany has absorbed a very large proportion of both the total and the European emigration. Table 2.2 shows the distribution of Greek emigration between overseas and European countries up to 1972.

TABLE 2.2 OVERSEAS AND EUROPEAN EMIGRATION

| Year | Overseas | % of Total | Europe | % of Total | F.R.G. |
|---|---|---|---|---|---|
| 1955 | 19,772 | 66.4 | 6,068 | 20.4 | - |
| 1956 | 23,147 | 65.4 | 7,780 | 22.0 | - |
| 1957 | 14,783 | 41.8 | 13,043 | 42.9 | - |
| 1958 | 18,842 | 60.5 | 6,567 | 26.8 | - |
| 1959 | 13,871 | 58.5 | 6,713 | 28.3 | - |
| 1960 | 17,764 | 37.1 | 26,927 | 56.4 | - |
| 1961 | 17,736 | 30.0 | 39,564 | 67.2 | 31,107 |
| 1962 | 21,959 | 26.1 | 60,754 | 72.3 | 49,532 |
| 1963 | 24,459 | 24.4 | 74,236 | 74.2 | 64,662 |
| 1964 | 25,327 | 24.0 | 79,489 | 75.3 | 73,343 |
| 1965 | 29,035 | 24.7 | 87,242 | 74.5 | 80,569 |
| 1966 | 33,093 | 38.0 | 53,050 | 61.0 | 45,494 |
| 1967 | 26,323 | 61.6 | 15,658 | 36.6 | 9,730 |
| 1968 | 25,891 | 50.9 | 23,501 | 46.2 | 20,201 |
| 1969 | 28,423 | 31.0 | 62,393 | 68.1 | 59,450 |
| 1970 | 24,156 | 26.0 | 68,105 | 74.0 | 65,283 |
| 1971 | 18,690 | 30.2 | 42,556 | 69.8 | 40,057 |
| 1972 | 13,239 | 30.5 | 29,089 | 67.0 | 26,681 |

Source: NSSG, Statistical Yearbook of Greece, Various Issues.

The relative importance of overseas emigration has changed over time. While at the beginning of the period it was 66.4 percent of the total, in 1972 it was only 30.5 percent of the total. The decreasing trend of overseas emigration has persisted for most of the period. However, it is important to note that in 1967, 1971 and 1972 this trend was dramatically reversed. Those were years of recession in the German economy. Also in 1966, the quota system was abolished in the U.S.A.

The tables above indicate clearly the dependence of the volume and direction of emigration on both domestic and external factors.

D. As mentioned above, two assumptions were made about emigrants:

a) that they were a homogeneous group of people in terms of skills and occupations,

b) that they were a random sample of the domestic labour force and the Greek population, in terms of age, occupational characteristics, sex and place of origin.

## (i) Sex Composition of Emigration

Table 2.3 below shows the number of emigrants and the sex composition of the migratory flow, along with the sex composition of the Greek population for the census years.

TABLE 2.3 SEX COMPOSITION OF GREEK EMIGRATION AND GREEK POPULATION

| | EMIGRATION | | | | | POPULATION | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Total | Males | % | Females | % | Total | Males | % | Females | % |
| 1960 | 47768 | 33278 | 69.6 | 14490 | 30.4 | | | | | |
| 1961 | 58837 | 36209 | 61.5 | 22628 | 38.5 | 8389 | 4092 | 48.7 | 4297 | 51.3 |
| 1962 | 84054 | 51868 | 61.7 | 32186 | 38.3 | | | | | |
| 1963 | 100072 | 61966 | 61.9 | 38106 | 38.1 | | | | | |
| 1964 | 105569 | 66265 | 62.7 | 39403 | 37.3 | | | | | |
| 1965 | 117167 | 65341 | 56.7 | 51826 | 43.3 | | | | | |
| 1966 | 86896 | 46369 | 53.3 | 40527 | 46.7 | | | | | |
| 1967 | 42730 | 22885 | 53.5 | 19845 | 46.5 | | | | | |
| 1968 | 50866 | 27232 | 53.5 | 23634 | 46.5 | | | | | |
| 1969 | 91552 | 51633 | 56.4 | 39919 | 43.6 | | | | | |
| 1970 | 92684 | 53033 | 57.2 | 39651 | 42.3 | | | | | |
| 1971 | 61748 | 33934 | 54.9 | 27814 | 45.1 | 8769 | 4280 | 48.8 | 4439 | 51.2 |
| 1972 | 43397 | 24469 | 56.3 | 18928 | 43.7 | | | | | |
| 1973 | 28000 | 15000 | 53.5 | 13000 | 46.5 | | | | | |

Source: NSSG, Statistical Yearbook, Various Issues.

The table above indicates the following:

a) There is wide fluctuation in the composition of the migratory flow. The percentages are ranging from 69.6 percent in 1960 to 53.3 percent in 1966 for males. However the males proportion in the total migration is consistently higher than that for females, which ranges from 30.4 percent in 1960 to 46.5 percent in 1973.

b) Males are overpresented among emigrants in the sense that the proportion of males in the migratory flow is consistently higher than the proportion of males in the population.

c) In the long run, the trend was for the percentage of males in total migration to diminish. This may indicate that with the passage of time, proportionately more women were leaving to either meet or accompany

their husbands abroad.

d) Concerning Greek/German migration, the proportion of males in the migratory flow was 61.1 percent for the period 1955-1973. This would indicate that on the average more among those who left for Germany were men and that men were overrepresented among emigrants to Germany, in comparison with the males proportion of the total population.

(ii) Sex and Destination of Emigrants

It is assumed that there is no connection between the place of destination and the proportion of the sexes in the migratory flow. If that is the case, there is no qualitative difference between 'old', permanent settlement migration and 'new', labour movement migration. This assumption was tested by T.P. Lianos (52). He found that considerable differences existed inthe sex mix of the migratory flow between emigrants going to Western Europe (Germany) and overseas countries (U.S.A., Canada, Australia). The relative percentages for the period 1955 - 1973 were:

| | | | |
|---|---|---|---|
| Australia | 50.0 percent males | U.S.A. | 52.6 percent males |
| Canada | 51.9 percent males | Germany | 61.1 percent males |

The proportion of males fluctuates widely according to country of emigration. In Table 2.4 below the figures for overseas countries were combined to test the difference between Western European and overseas migration.

TABLE 2.4 MIGRANTS BY SEX AND BY COUNTRY 1955-73

| | Men | Women | Total |
|---|---|---|---|
| Germany | 364 | 231 | 595 |
| Australia ) Canada ) U.S.A. ) | 185 | 175 | 360 |
| Total | 549 | 406 | 955 |

Reprinted from T.P. Lianos, (52) p. 121.

Lianos applied the $X^2$ test for independence between country of destination and sex of emigrants. On the basis of this test, the hypothesis of independence between sex and destination had to be rejected. This result supports the existence of a qualitative difference suggested earlier, between 'old' and 'new' migration. It also brings into fore the selectivity of emigration. Overseas migration is taking place for the intended purpose of permanent settlement. Hence proportionally more women go with their husbands. Intra-European migration is a transitory, short term phenomenon of manpower mobility, hence fewer women go with their husbands.

(iii) Age Distribution of Emigrants

A comparison of the age distribution of emigrants with that of the economically active population for the census years is attempted below.

A comparison of the age distribution of emigrants with that of the total population is also attempted. The purpose of these two comparisons is twofold:

a) to see if emigration is selective in terms of the age of emigrants as compared to the age of economically active population.

b) to see if emigration had any effects on the structure of the total and the economically active population.

TABLE 2.5 AGE DISTRIBUTION OF POPULATION

| Age | 1961 | 1971 |
|---|---|---|
| 15 | 25.1 | 24.9 |
| 15-19 | 0.7 | 0.7 |
| 20-34 | 25.6 | 19.8 |
| 35-64 | 23.2 | 36.6 |

Source: Demographic Yearbook, U.N. Various Issues.

TABLE 2.6 AGE DISTRIBUTION OF ECONOMICALLY ACTIVE POPULATION

| Age | 1961 | 1971 |
|---|---|---|
| 15 | 3.7 | 2.3 |
| 15-19 | 9.6 | 7.4 |
| 20-34 | 37.2 | 28.1 |
| 35-64 | 34.3 | 54.9 |

Source: U.N. Demographic Yearbook, Various Issues.

TABLE 2.7 AGE DISTRIBUTION OF EMIGRANTS

| Age | 1960 | 1965 | 1972 |
|---|---|---|---|
| 15 | 7.32 | 7.85 | 18.5 |
| 15-19 | 11.7 | 11.4 | 11.0 |
| 20-34 | 65.3 | 57.8 | 44.9 |
| 35-59 | 13.1 | 21.2 | 38.29 |

Source: NSSG, Statistical Yearbook of Greece. Various Issues.

The following points are indicated in the tables:

a) Through the period the same age category (20 to 34) has consistently attracted proportionally the most emigrants.

b) This age bracket has been over-represented among emigrants, in the sense that while only 37.2 (or 28.1) percent of the economically active population is from 20 to 34 years of age, the corresponding percentages are 65.3 and 44.9 percent in the migratory flow. This of course is not surprising since recruitment procedures were in effect which discriminated against older migrants. The detrimental effects of emigration, attracting mainly people in their productive ages, are apparent in Table 2.5. There the proportion of population from 20-34 years of age

has decreased from 25.6 percent in 1961 to 19.8 percent in 1971. Similar evolutions took place in the economically active population aged 20-34 years.

Similar conclusions were arrived at by T.P. Lianos when he examined the overall emigration for the period 1955 - 1973. He states that

> ... Approximately 2/3 of all emigrants fall in the age group 20-39, usually considered as the most dynamic group of the labour force.[34]

c) The younger ages have diminished from 25.1 percent of population in 1961 to 24.9 percent in 1971. This can be attributed, at least partially to emigration.

(iv) Emigration By Province of Residence

In this subsection the geographical selectivity of emigration will be examined. This is an important feature of emigration. If emigrants are not homogeneous as to area of origin, then the regional impact of emigration will be differentiated in the country. Furthermore, if the assumption of independence between area of origin and country of destination is invalid, then the regional impact of migration will be differentiated, in the event that a certain receiving country stops admitting immigrants. By homogeneity as to area of origin, it is meant that emigration is a random sample of population. That is, the proportion of emigrants coming from a certain province in the total volume of emigration is similar to the proportion of the residents of that province in the total population. Table 2.8 below does not support this assumption.

TABLE 2.8 POPULATION AND EMIGRATION BY AREA OF ORIGIN, AS PERCENTAGES OF TOTAL

| Year | | Greater Athens | Sterea | Peloponnese | Ionian Islands | Epirus | Thessaly | Macedonia | Thrace | Aegean Islands | Crete | Non Declared | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1961 | Area Population | 1855 | 972 | 1098 | 213 | 353 | 696 | 1892 | 357 | 478 | 484 | - | 8398 |
| | Percent . . . . | 22 | 11 | 1.3 | 2.5 | 4.2 | 8.2 | 22.5 | 4.2 | 5.6 | 5.8 | - | 100% |
| | Area Emigration | 7474 | 1270 | 4381 | 851 | 1875 | 1019 | 13531 | 3326 | 2764 | 928 | 21418 | 58.837 |
| | Percent . . . . | 12.7 | 2.1 | 7.4 | 1.4 | 3.1 | 1.7 | 22.9 | 5.6 | 4.6 | 1.5 | 36.4 | 100% |
| 1965 | Area Population | 2088 | 984 | 1056 | 203 | 334 | 712 | 1890 | 362 | 436 | 486 | - | 8550 |
| | Percent . . . . | 24.4 | 11.5 | 12.3 | 2.3 | 3.9 | 8.3 | 22.1 | 4.2 | 5.0 | 5.7 | - | 100% |
| | Area Emigration | 16694 | 4706 | 12990 | 3811 | 8161 | 6478 | 44903 | 7413 | 6500 | 3502 | 1709 | 117167 |
| | Percent . . . . | 14.5 | 4.0 | 11.0 | 3.2 | 6.9 | 5.5 | 38.3 | 6.3 | 5.5 | 2.9 | 1.4 | 100% |
| 1971 | Area Population | 2.540 | 992 | 987 | 184 | 310 | 660 | 1891 | 330 | 418 | 457 | - | 8769 |
| | Percent . . . . | 28.9 | 11.3 | 11.2 | 2.0 | 3.5 | 7.5 | 21.5 | 3.7 | 4.7 | 5.2 | - | 100% |
| | Area Emigration | 9.114 | 2613 | 4550 | 1217 | 4617 | 5702 | 22816 | 2969 | 3979 | 2528 | 1643 | 61748 |
| | Percent . . . . | 14.7 | 4.2 | 7.3 | 1.9 | 7.4 | 9.2 | 36.9 | 4.8 | 6.4 | 4.1 | 2.6 | 100% |

1. Population in Millions
2. Emigration in Thousands

Source: NSSG, Statistical Yearbook of Greece, Various Issues

It may be noted from the table above that Macedonia, Epirus, and Thrace while they have only 21.5, 3.5 and 3.7 percent of total population respectively, send 36.9, 7.4 and 4.8 of the total number of emigrants abroad. This suggests a depletion overtime of the labour force in these regions.[35] Another researcher, B. Kayser notes:

> Emigration is selective and much of the effect of emigration depends on this selectivity which operates at several levels. Geographical selectivity is a salient feature of Greece and makes Macedonia the main centre from which emigrants are recruited....[36]

Next, we turn to the issue of the independence between area of origin and country of destination. The table below shows the area of origin of Greek emigrants going to Germany.

TABLE 2.9 AREA OF ORIGIN OF GREEK LABOUR MIGRANTS TO GERMANY

| | 1970 | % | 1969 | % | 1968 | % |
|---|---|---|---|---|---|---|
| Macedonia & Thrace | 26,915 | 54.1 | 31,615 | 61.8 | 13,[illegible] | [illegible] |
| Sterea & Thessaly | [illegible] | [illegible] | 5,737 | 11.2 | 1,[illegible] | [illegible] |
| Epirus | 5,[illegible] | 11.0 | 5,169 | 10.1 | 3,[illegible] | [illegible] |
| Attica & Euboea | 4,254 | 8.5 | 3,197 | 6.2 | [illegible] | [illegible] |
| Peloponnese | 1,953 | 3.9 | 1,867 | 3.6 | 1,037 | [illegible].3 |
| Crete, Ionian & Dodecanese | 3,898 | 7.8 | 3,365 | 6.[illegible] | 1,[illegible] | [illegible] |
| Aegean Islands | 329 | 0.7 | 367 | 0.7 | [illegible] | [illegible] |
| | 49,793 | 100 | 51,234 | 100 | [illegible] | 100 |

It is seen that certain areas consistently send a large proportion of emigrants going to one particular country, Germany.[37] If a recession took place in Germany and emigrants were expelled, certain areas would suffer much more than others. The differential regional impact of migration is very clear here, too. These observations will be reinforced if one examines the distribution of emigrants by area of origin and several countries of destination at two different points in time.

Data correlating area of origin and country of destination for the years 1962 and 1972 are compiled in the following table.

TABLE 2.10 PERCENTAGE DISTRIBUTION OF EMIGRANTS BY GEOGRAPHIC REGION OF ORIGIN AND COUNTRY OF DESTINATION 1962 AND 1972

| Year | Geographic Area | U.S.A. % | Canada % | Australia % | Germany % |
|---|---|---|---|---|---|
| | Greater Athens | | | | |
| 1962 | | 10.6 | 5.9 | 8.0 | 46.3 |
| 1972 | | 31.0 | 9.6 | 10.8 | 30.7 |
| | Sterea | | | | |
| 1962 | | 11.7 | 7.5 | 22.9 | 37.1 |
| 1972 | | 24.9 | 7.0 | 10.9 | 48.4 |
| | Peloponnese | | | | |
| 1962 | | 10.6 | 15.8 | 41.0 | 23.5 |
| 1972 | | 30.1 | 17.2 | 15.1 | 31.2 |
| | Ionian Islands | | | | |
| 1962 | | 5.6 | 4.8 | 23.2 | 44.8 |
| 1972 | | 32.7 | 5.9 | 9.8 | 44.4 |
| | Epirus | | | | |
| 1962 | | 1.4 | 0.3 | 4.4 | 84.7 |
| 1972 | | 3.5 | 1.1 | 1.7 | 88.1 |
| | Thessaly | | | | |
| 1962 | | 1.9 | 1.7 | 4.2 | 81.6 |
| 1972 | | 3.8 | 2.9 | 7.6 | 79.0 |
| | Macedonia | | | | |
| 1962 | | 1.5 | 1.6 | 8.2 | 77.8 |
| 1972 | | 5.5 | 2.5 | 6.8 | 76.1 |
| | Thrace | | | | |
| 1962 | | 0.2 | 0.1 | 0.5 | 70.5 |
| 1972 | | 0.7 | 0.2 | 0.8 | 92.6 |
| | Aegean Islands | | | | |
| 1962 | | 9.5 | 3.8 | 43.3 | 9.0 |
| 1972 | | 46.1 | 4.9 | 21.1 | 17.9 |
| | Crete | | | | |
| 1962 | | 3.8 | 4.6 | 10.8 | 56.6 |
| 1972 | | 12.2 | 6.7 | 8.9 | 62.9 |

Source: NSSG Statistical Yearbook of Greece, Various Issues.

A comparison of these results would indicate that the relative importance of Germany as a receptor country for each emigration region has remained roughly the same over time. The border areas of Macedonia, Epirus and Thrace are predominantly sending emigrants to one country (Germany). The selective character of migration is very clear. Thus regional imbalances in rates of growth, industrialization, per capita incomes and vulnerability to external conditions will be reinforced.

## (v) Occupational Characteristics of Emigrants

Of considerable importance is the occupational distribution of Greek emigrants. The importance lies in the fact that if those who emigrated were unskilled, then emigration has helped to alleviate unemployment and underemployment while it provided the country with much needed foreign exchange. If, however, those who emigrated were skilled workers already employed, then emigration should be considered an unbalancing factor, creating shortages of much needed skilled labour, on top of other shortages already hindering economic development.

Unfortunately, available Greek data leaves much to be desired in terms of specific occupational distribution of emigrants. Also, data on the detailed occupational distribution of the economically active Greek population are unavailable. The existing data are provided in an aggregated form. What is therefore attempted here is to reach some tentative conclusions as to the type of worker who emigrated. This exercise will be useful for one more reason. In a latter point, the relative contribution of wage and/or employment factors to variations in emigration will be assessed. If wage factors are found to be more important, ther it can be argued that the type of workers who emigrated were predominantly skilled workers (who are sensitive to wage, not employment differentials). So, the conclusions of this subsection could be utilized as a cross-check of the statistical results. These conclusions will also have a direct bearing in assessing the influence of emigration on the Greek economy.

Table 2.11 contains the distribution of emigrants by profession. The professional categories however are rather wide and not clearly defined. (For example industrial workers contain both skilled and unskilled workers).

TABLE 2.11 PERMANENT EMIGRANTS BY PROFESSION 1961-1972

| Year | Total | Without Profession | Total Professionals | Agr. Workers | Ind. Workers | (Unskilled) |
|---|---|---|---|---|---|---|
| 1961 | 58,837 | 21,607 | 37,230 | 4,395 | 26,994 | |
| 2 | 84,054 | 23,571 | 60,483 | 6,203 | 47,267 | (40,431) |
| 3 | 100,072 | 25,244 | 74,828 | 7,719 | 54,070 | |
| 4 | 105,569 | 41,263 | 64,306 | 28,725 | 27,706 | |
| 5 | 117,167 | 52,328 | 64,839 | 28,520 | 29,718 | |
| 6 | 86,896 | 46,657 | 40,239 | 21,213 | 12,719 | |
| 7 | 42,730 | 26,441 | 16,289 | 5,788 | 6,383 | |
| 8 | 50,866 | 26,327 | 24,539 | 10,891 | 9,152 | |
| 9 | 91,552 | 38,630 | 52,922 | 32,675 | 13,410 | |
| 1970 | 92,684 | 42,061 | 50,623 | 28,511 | 15,725 | ( 2,385) |
| 1 | 61,748 | 32,168 | 29,580 | 14,538 | 9,977 | |
| 2 | 43,397 | 22,371 | 21,026 | 10,319 | 6,703 | |

Source: NSSG Monthly Statistical Bulletin, Various Issues.

Several points are indicated in Table 2.18.

a) The largest occupational category of emigrants would be that of 'professionals', followed by the 'without profession' category which includes new entrants to the labour force and children.

b) A large category is that of agricultural and industrial workers combined (Lianos, 52). Their proportion in the total emigration flow fluctuated from 28 percent in 1967 to 64 percent in 1962. It is interesting to note that up to 1965 industrial workers emigrating were more than agricultural workers, while the trend was reversed afterwards. This suggests that after 1965 either the stock of unemployed skilled industrial workers was depleted in Greece or an increase of industrial employment took place. This observation points to the issue of how many people listed under the general category of industrial workers' were skilled industrial workers and how many were unskilled (aside from the problem of defining skilled versus unskilled labour). The relevant percentages were 52 percent skilled in 1962 and 97.4 percent in 1970: eg. although the number of industrial workers diminished, the proportion of skilled workers increased (almost all 'industrial' workers emigrating in 1970 were skilled industrial workers). Shortages

of skilled labour had appeared in the Greek economy in the early '70's, as expected. The selective character of emigration had created one more bottleneck situation to economic growth on top of capital shortages and raw material shortages. Greece is characterized as a country "on the way to development". Even if the proportion of skilled labour in the total emigration was relatively low (which it was not), one should be more concerned with the absolute level not the relative proportion of emigrating skilled labour. The present inability of the Greek educational system to meet the present needs of the economy in skilled manpower, let alone prepare for the future makes this aspect of emigration most unwelcome.

On the basis of this result, wage differentials would be expected to be more significant in explaining emigration than employment considerations.

E. The overall conclusion suggested by the preceding subsections is that emigrants are not a homogeneous group and are not a random sample of the domestic labour force. In fact, the importance of emigration as a development factor stems from its selectivity.

Emigrants were predominantly young and male, coming predominantly from a border area and going usually to one country, especially if they originated from a border area. Depending on where the emigration was directed the sex mix in the emigratory flow was different. In the beginning of the period emigrants were predominantly industrial workers, while during the second half they were agricultural workers. Data unfamiliarity and aggregation prevents definite conclusions to be reached as to whether the general category of industrial workers contained more skilled or unskilled workers. However, there is some evidence indicating that the proportion of skilled increased over time (as would be reasonably

expected).[38]

Finally, emigrants characteristics were subject to change over time.

## CHAPTER III

## STATISTICAL ANALYSIS OF THE ECONOMIC CAUSES OF MIGRATION

A. The purpose of this chapter is to introduce an econometric 'model' of migration through which a set of hypotheses will be tested. The model has the form of a single equation, incorporating certain independent economic variables. These variables are examined in detail and classified as either 'push' or 'pull' factors. Both the short and the long run regression coefficients are calculated and an investigation of the relative importance of various explanatory variables in predicting emigration is performed. Finally, conclusions are reached as to the validity of the hypotheses tested.

The method of multiple regression analysis was utilized. The framework suggested had the form of a single equation linear model:

$$Y = B_0 + B_1X_1 + B_2Y_2 + B_3Y_3 + \ldots\ldots B_mX_m + E_i$$

or $Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3$

B. The hypotheses to be tested are described below:

a) Unemployment in Greece seems to be the most important economic 'push' factor in Greek emigration. Unemployment and underemployment have been two of the most critical <u>structural</u> problems of the Greek economy for extended periods of time. Hence the first hypothesis is that the level of Greek unemployment is a determinant of migration flows.

b) On the 'pull' side, the volume of German unemployment would be a significant indicator of the demand situation in that labour market. Since immigration was pursued by the German Authorities as a means of alleviating shortages in the German labour market, emigration seems to be directly connected with the volume of employment in that market. Hence the second hypothesis is that the level of German unemployment is a determinant of migration flows.

c) In the late fifties the F.R.G. had already absorbed the Eastern German refugees along with other displaced persons into the productive process. However the heavy war losses and a low birth rate produced a considerable shortage of labour in the early 60's. The shortage of workers was further aggravated by a very fast rate of expansion in the German economy and of German exports. The number of unfilled vacancies would appear to be a good indicator of the demand-supply conditions in the German labour market in terms of a 'pull' force exerted on other countries suffering from unemployment to export their labour to the Federal Republic. Hence the third hypothesis is that the level of unfilled vacancies in Germany is a determinant of migration.

d) Wage differentials between the two countries exert a 'pull' force in favour of Germany. Both the absolute level and the relative movement of wages would influence the prospective emigrants' decisions to emigrate. Hence the fourth hypothesis to be tested is that wage differentials are a determinant of migration.

e) Institutional factors can impede or accelerate labour movements across international borders. Various policies are formulated from time to time by governments and their agencies, which decisively bear upon the number of emigrants accepted in a country. During the mild recession in the German economy in 1966-1967, the German Authorities put an end to labour recruitment policies in Greece. The numbers of emigrants fell significantly in 1966 and 1967. When these restrictive policies were relaxed later, the flow of emigrants was very high again. Although it is debatable whether Greeks already in Germany were forced to leave 'en masse' due to unemployment, it is ascertained that during the recession period, fewer worker visas were issued to people in Greece who wanted to work in Germany. This policy has been pursued again in the last few years

(1972, 1973 and 1974). No recruitment is done in Greece, with the effect that net emigration of labour from Greece to Germany assumed negative values in 1974. Hence the fifth hypothesis to be tested is that the German policy concerning foreign workers was a determinant of migration.

Finally the "friends and relatives" hypothesis is tested. Emigration lagged by one year is used as an explanatory variable. The lagged variable may, as suggested by T.P. Lianos, have a double interpretation.

> It may represent the effect on current migration of past migration through the information which becomes available to the people of the origin by friends and relatives already in their destination. In addition friends and relatives may, at least temporarily, supply the new migrants with housing accommodation and offer them some financial support. The introduction of lagged migration may also be interpreted as the result of information and decision lags in the process of migration.[39]

As explanatory variables, the following were used:

a) the number of registered unemployed in Greece

b) the number of registered unemployed in Germany

c) the male-female industrial wage mix in Greece expressed in U.S. dollars

d) the male-female industrial wage mix in Germany expressed in U.S. dollars

e) the number of unfilled vacancies in Germany

f) the number of emigrants lagged by one period

g) a dummy variable for Germany policy towards immigration into the country. The dummy variable assumed the value of one for the years of restrictive immigration policy (1966, 1967, 1972, 1973, 1974) and zero for the years of relative ease of entrance.

C. As a first step ratios between wages and unemployment figures in Greece and Germany were formed. This is in accordance with the postulation that relative movements were important for emigration. Also it was

done, because in this way, degrees of freedom were economized. The result of the following regression model:

$$EMG = b_o + b_1 \, VDD + b_2 \, URAT \qquad \text{where } URAT = UG/UD$$

Was

$$EMG = -36.1 + 0.09 \, VCD + 81.5 \, URAT \qquad R^2 = .74$$

(Standard error) (0.02) (27.1)

The b's were both statistically significant at a=.05 and had the correct signs.

On the basis of this result it could be argued that both push and pull factors were instrumental in Greek emigration to Germany, for the period 1960 - 1974.

Next, we turn to the relative importance of unfilled vacancies (pull factor) or the unemployed ratios (push factor), in explaining variations in emigration. To measure the separate contribution of each explanatory variable to the variation of the dependent variable the partial correlation coefficients were utilized.[40]

$r_{y1} = .74$ $r_{y2} = .71$ $r_{12} = .43$

$r_{y1.2} = .70$ $r_{y2.1} = .61$

The partial correlation coefficients were both significant at the 1 percent level. Also their squares were calculated:[41]

$r^2_{y12} = .44$ and $r^2_{y2.1} = .43$

The above results show

a) that the contribution of unfilled vacancies or the unemployed ratio to the variation of emigration is almost the same,

b) the proportional increment in the explained variation due to the unfilled vacancies as a proportion of the variation in emigration unexplained by the unemployed ratio is roughly equal to the proportional increment in the explained variation of emigration due to the unemployed ratio, if it is fitted first.

Next, we turn to a test of the wage differentials hypothesis. The level of Greek unemployment was relatively high for most of the examined period. However, one could argue that even after the pool of the unemployed was depleted in Greece, people kept on emigrating because the overall performance of the German economy, as indicated by the volume of demand (both low unemployment level and high job vacancy volume) and the higher wages attracted them. To test the hypothesis of whether wage rate differentials were significant in explaining Greek emigration, the wage ratio $\frac{WD}{WG}$ was added as an explanatory variable. The equation became:

$$EMG = a + b_1 VCD + b_2 \frac{UG}{UD} + b_3 \frac{WD}{WG}$$

resulting in:

$$EMG = -73.08 + 0.08\ VCD + 109.6\ URAT + 11.19\ WRAT$$

(Standard error) (0.03) (38.9) (11.26) $R^2 = .76$, D.W = 1.36

As seen above the partial regression coefficient of the wage ratio was statistically insignificant and its sign correct. The inclusion of the wage variable changed the $R^2$ only by 2 percent. On this basis, it could be argued that wage rate differentials were not significant in explaining Greek emigration. However, economic theory postulates a negative correlation between unemployed levels and wage levels. The correlation coefficient was found to be = -.67. Thus it is impossible to discern the separate influence of the wage ratio on emigration. One can only say that that influence was exercised through the unemployment variable which is highly correlated to it.

Next, inclusion of the dummy variable for German policy was not possible as the F.level or tolerance level (t = 0.01) was insuffucient for further computation. The correlation coefficients matrix for that equation is reproduced below:

| | EMG | VCD | URAT | DUMMY |
|---|---|---|---|---|
| EMG | 1 | | | |
| VCD | 0.74 | 1 | | |
| URAT | 0.71 | 0.43 | 1 | |
| DUMMY | -0.60 | -0.55 | -0.61 | 1 |

The coefficients have the expected signs, and are all significant at the 5 percent level except for the one between URAT and VCD. High correlation is indicated between the policy variable and emigration. The correlation signs are correct coefficients, indicating that high levels of emigration were associated with permissive entrance policies. Also decreasing levels of unfilled vacancies were associated with the imposition of entrance restrictions.

Finally, the 'lagged response' hypothesis is tested. It is assumed that present emigration is a function of VCD, URAT and past emigration volumes.[42] The estimation equation becomes:

$$EMG = b_0^* + b_1^* VCD + b_2^* URAT + b_3^* EMGB$$

resulting in: $EMG = -38.1 + 0.08\ VCD + 69.9\ URAT + 0.33\ EMGB \quad R^2 = .82$

(Standard error) (0.02) (23.3) (0.14)

The 'lagged response' hypothesis is thus validated. After setting EMG equal to EMGB equal to EMG*, the long run equation was derived:

$$EMG^* = -56.6 + 0.11\ VCD + 104.3\ URAT$$

The short and long run elasticities of emigration with respect to vacancies and the ratio of unemployed were calculated

$$\eta_{ev,SR} = 3.07 \qquad \eta_{eu,SR} = 0.34$$

$$\eta_{ev,LR} = 4.22 \qquad \eta_{eu,LR} = 0.51$$

D. The conclusions of this chapter are summarized below and the results compared to results of other investigations.

a) The assumption that both 'push' and 'pull' factors were signifi-

cant was validated by the statistical analysis.

b) It was shown that both 'push' and 'pull' factors considered jointly influence migration, that is relative movements is important, not absolute levels. This is reinforced by the consideration that unemployment in Greece existed even before 1960 along with wage differentials. However, emigration picked up only after 1960. This result is in sharp contrast to E.N. Botsas' (16) and agrees with A. Sapir's finding.

c) 'Push' and 'pull' factors exerted a similar influence on emigration for the period under examination. This result refutes W.R. Böhning's (11) that only 'pull' factors were important.

d) The influence of the wage ratio could not be disentangled from the influence of the unemployed ratio, since those two variables were highly correlated. As was seen in Chapter II, the influence of wages in Germany would tend to be smaller, if real not nominal wages were considered. Also, two combined factors would be active here. As the pool of unemployed in Greece was depleted over time, wage considerations would be more important in the decision to emigrate. Furthermore, wage differences between Germany and Greece have increased over time instead of decreasing, although wages in Greece have increased considerably.[43]

The regression coefficients and the $R^2$s are possibly biased because the equation may have been misspecified. These coefficients are not equivalent to the partial **derivatives** of calculus.

e) The volume of unfilled vacancies was important in explaining Greek emigration to Germany. The low correlation coefficient between VCD and UEAT would suggest a fragmentation of the German labour market, where large numbers of unfilled vacancies could be associated with either a large or a small volume of unemployed people.

f) The impact of the power variable could not be assessed with the

inclusion of a dummy variable. Correlation coefficients indicate a strong negative correlation between the existence of large volumes of remittances for example and imposition of a restrictive policy measure. This is logically consistent with the imposition of restrictive measures in years of high unemployment or recession, which took place. This agrees with A. Fagin's result (80) who found that the policy variable was important for labour mobility across national borders.

g) The analysis indicated that the existence of friends and relatives at the place of destination exerted an influence on the decision to emigrate. Or alternatively, there was some lag in the information and decision process of a prospective emigrant. This is contrary to what would be empirically expected, as the German recruitment services were disseminating information almost momentarily in Greece.. However, the decision lag and the 'attraction' of friends and relatives already being in Germany stands to reason. A lag would certainly be expected to exist anyway, due to the time consuming process of recruitment. This result agrees to that of T.P. Hianos (50) who found that there are considerable decision and information lags in the migration process.

e) The long-run elasticities were found to be higher than the short-run ones as expected, since emigration of the years past is bound to have a compounded impact over time, on present emigration.

## CHAPTER IV

## PROBLEMS WITH STATISTICAL ANALYSIS OF EMIGRATION

A. The purpose of this chapter is to evaluate the data and the method used for the statistical analysis of emigration. There is considerable evidence that the indiscriminate use of models intended to be used in developed countries with highly accurate data for the description of underdeveloped economies is erroneous. Four types of problems are prevalent in migration analysis:

a) Problems stemming from unreliable or wrongly collected data.

b) Problems of choosing the appropriate functional form of the equation.

c) Problems of interpreting the results, especially when there exists multi-collinearity among the independent variables.

d) Simultaneous equation bias problems.

The chapter is divided into four subsections to investigate the existence of those types of problems in the linear regression analysis of Greek labour emigration to Germany. Some problems of using regression models of emigration are considered first. The reliability of Greek time series is next examined.

The problems connected with choosing the proper functional form in this case is the main theme of the following subsection.

The existence of multi-collinearity in the data is considered in the next subsection, in the context of the interpretation of regression coefficients.

The problem of establishing a line of causation, that is choosing the variables to be used as explanatory and the dependent variable is

examined in the following subsection.

Finally the last part of the chapter summarizes the findings. It is argued that data unreliability problems along with collinearity in the independent variables and double lines of causation between emigration and unemployment or emigration and wage levels render the findings indicative rather than definite.

B. In a recent article, A. Shurie[44] has expressed serious concern about the validity and utility of using macroeconomic regression models in the case of developing countries, especially for forecast and policy prescription purposes. His second objection is against using time series data of questionable quality. He argues that the use of time series data, generally available for only a few years and of questionable quality frustrates the inclusion of all independent variables, a priori considered relevant, into the model since the degrees of freedom are soon exhausted and there are collinearities between variables included and variables excluded and between variables which are later included. In the specific case of labour immigration into Germany, W.R. Böhning lucidly summarized the problems of using linear regression techniques in analyzing migration by saying that:

> One objection which may be levelled against this approach is that the demand and wage factors may be highly intercorrelated with each other, as well as with the stage of industrial development and that the correlation of a single factor with the inflow of workers does not in itself indicate whether variations in this inflow are due to variations in that factor or due to the influence of one variable or another which happens to be correlated with it. This problem cannot be satisfactorily resolved within the framework of the statistics presented here. All one can do is take the results as indicative rather than conclusive.[45]

C. Besides these considerations on the validity of using linear regression techniques, there are also basic problems with the data of develo-

ing countries: the time series data cover only a few years, the figures are of varying and often very low reliability and the national accounts of many of those countries are in their infancy and are being revised periodically. These problems are also encountered with Greek data, along with some other specific problems peculiar to the collection and classification of Greek Data.[46] According to C. Drakatos[47] there are no time series of a longer time span and there is no possibility to test for reliability, as the necessary information is lacking in Greece. Considerable quality differences exist between data being a by-product of other administrative functions of the state and data coming out of surveys.

Concerning the specific time series used for this thesis there are many questions as to their exactitude and their theoretical definition.

(i) Emigration Series

According to the National Statistical Service of Greece there are two types of emigrants, permanent and temporary. As permanent emigration is considered any movement abroad exceeding a year, while temporary emigration is emigration to work abroad for less than a year or to work in the Merchant Marine. Thus people who for objective or subjective reasons declare they are going to stay and work abroad less than a year are not considered emigrants. However the criterion should be intention to work abroad and not the time period of stay abroad. Merchant Marine personnel leaving Greece to work on foreign ships should also be listed as emigrants, since they are offering their labour for sale in a foreign market. In the case of Greek-German emigration the usual contract is of more than a year's duration, but emigrants residing already in Germany when they come back are enumerated as return migrants and upon leaving as emigrants. This artificial character of differentiating between two types of indi-

genous labour force working abroad comes more into focus when considering that

> temporary migrants are now universally recognized as having among them a much larger proportion of permanent emigrants than was thought likely in the 1950's or 1960's.[48]

(ii) Unemployment Series

The unemployment data provided by the Greek Authorities are deemed as constantly underestimating the absolute volume of unemployment in the country for several reasons:

a) They are data of registered unemployed in the cities where there is an Unemployment Office. In order to be registered as unemployed, one must have worked in the past in a paying employment -- thus new entrants to the labour force as well as helping members of the household in agriculture who are not renumerated, are by definition excluded.

b) Unemployment offices in Greece do not function as clearing houses for labour demand. The job-research part is entirely the unemployed's responsibility. People have a motive to register with them only if they are eligible for unemployment benefits and the unemployment office is nearby located. Those unemployed but not eligible for benefits (people who have not kept a job three years continuously before claiming benefits) are also excluded.

c) In the Census Year (1961) the official number of registered unemployed was 76,000, while the census results reported 238,700 people as unemployed. In the same year underemployment in agriculture was estimated from 450,000 to 625,000 (A. Sapir, 1975) generally and 475,000 in agriculture particularly.

M. Negreponti-Delivanis and D.A. Germidis[49] estimated total underemployment in the economy for the period 1960 - 1970 as follows:

Estimated Underemployment in the Greek Economy

| | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 |
|---|---|---|---|---|---|---|---|
| Off. Unempl. figures | 5.80 | 5.90 | 5.55 | 5.25 | 4.90 | 4.60 | 4.30 |
| Off. un. and underempl. | 5.80 | 10.70 | 15.65 | 14.55 | 14.70 | 11.40 | 12.80 |
| Ratio of off. unempl. | 1 | 0.55 | 0.35 | 0.36 | 0.33 | 0.40 | 0.34 |

Off. unem. + underemployment

| | 1967 | 1968 | 1969 | 1970 |
|---|---|---|---|---|
| 1. Official unemployment | 4.00 | 3.90 | 3.90 | 3.70 |
| 2. Official unemployment + underemploy. | 12.0 | 11.40 | 7.40 | 3.70 |
| Ratio of 1 to 2 | 6.33 | 0.34 | 0.51 | 1.00 |

Thus the official unemployment figures account for only half the total estimated underemployment (official unemployment plus estimated underemployment).

In view of all these, the relative weaknesses of unemployment data are clear.

(iii) Wage Series

a) As wage data were used those of Earnings in Manufacturing for a male-female mix. It would be appropriate to disaggregate the data for male and female workers and for the agricultural and industrial sectors. However, Greek agricultural wages data are not available. Most Greek emigrants going to Germany worked in the secondary sector there as unskilled labourers. It would be appropriate to use a 'pull' factor wages for unskilled labour in manufacturing. Such series exist for Germany but not for Greece. At any rate, it was assumed that over time the trends exhibited by the existing data would be good proxies of the relative changes in the overall wage structures of the two countries. Wage rates in manufacturing extend back to 1961. The figure for 1960 was estimated by using

the average increase in wages from 1961 to 1962 backwards one year. There is no indication in the literature that wages increased dramatically between 1960 and 1961.

b) A far more serious concern with the wage data is their convertibility and comparability, when used for comparisons between two countries so different from each other. Wages were divided by the foreign exchange rate to convert them to U.S. dollars. In the case of Greek wages this procedure would not present major problems as the exchange rate remained the same (30 Greek Drachmas to the U.S. dollar) for most of the period. But in the case of Germany, the conversion of German nominal wages to U.S. dollars is fraught with danger. Foreign exchange equivalence varied widely through the period and the problem of comparability between Greek and German wages converted into a third 'international' currency, still looms in the back. However, it was felt that problems of exact comparability should not distort the fact that on the average the trend over time was for wage differentials to increase. Wages in Germany were approximately two and a half times higher than Greek wages.

D. There was no 'a priori' justification for using either the linear or the double logarithmic form in the estimating function . Simple scattergrams indicated the existence of linear relationships, between the dependent and the independent variables. However double logarithmic forms have been used in the literature, on account of the fact that they were increasing the equation's goodness-of-fit. In the same article by A. Shurie there is a strong warning against using statistics without theory in the process of specifying the functional form.

> However the choice between one functional form and another is not a matter of indifference . . . Each form implies a very specific view of underlying economic relationships.[50]

And later

> ... one cannot just abdicate responsibility and choose that particular form which gives 'the best fit' to the sample period data. For in many cases various alternative forms yield similar $R^2$s.[51]

To determine whether a logarithmic linear or a simple linear functional form should be used, power transformation of each of the variables was performed to arrive at a generalized functional form of the equation whose special cases are the linear and the logarithmic functional forms.[52] However, the derivation of this general functional form which would be helpful in discriminating among the logarithmic or the simple linear form was not possible due to the very small number of observations. In a trial experiment, a logarithmic transformation of the variables significantly increased the goodness-of-fit. However, since there was no 'a priori' reason to use double-log logarithmic transformation, the simple linear regression model was retained.

E. It is suggested that regression techniques are useful in migration analysis because they can be used without cross-classification of variables. Cross-classification is a rather unusual although very welcome feature of data, especially in undeveloped countries. The assumptions underlying the model are that the errors in each variable have a zero mean, that they are independent of the variable, that they are independent of other variables that appear in the equation and independent of the errors of other variables. Is this the case in the regression variables used? If it is not, is it legitimate to treat individual coefficients as the partial derivatives of calculus? These are the questions that it is attempted to answer in the next few pages.

The existence of multicollinearity is put forward by A. Shurie along with collinearity between excluded and included explanatory variables. He

feels that

> For a large number of reasons we are not justified in using regression equations and their coefficients for control purposes. . . First, there is the fact that in a very large number of cases the explanatory variables that have been included in an equation are highly collinear and, second, the likelihood that the equations are unspecified and that some of the excluded variables may well be collinear with the variables that have been included in the equation.[53]

The main problem emerging in migration analysis is multicollinearity in the data. Multicollinearity exists if one of the independent variables is a close linear combination of another explanatory variable. The separate influence of each one of them cannot be ascertained, only the joint one is determined. For prediction purposes that is sufficient. If however one is interested in structural questions the results cannot be definite. Since there is no generally accepted technique to eliminate multicollinearity from the data I had to exclude one of the collinear independent variables, namely wages, although 'a priori' it would seem to be relevant.

The only other 'solution' would be to have external or 'a priori' information to supply estimates for the coefficients of all but one variable. This information is non-existing, however! A. Shurie forcefully warns against the practice of excluding variables since

> the omission of a variable that has some causal links with Y means not only that in the end we do not have an estimate of the coefficient linking the excluded variable with Y but also that the estimates of coefficients linking all the other $X_i$ to Y may be vitiated. Incidentally, if the Z are included when in fact Y is independent of them, or if they are left out when (though influencing Y) they are linearly independent of X, then the estimates of B are not vitiated. If O=0 or if A=0, then E(b) = B in (vii).
>
> If we are interested only in forecasting and have reason to believe that the future relationship between (X) and (Z) will be the same as in the past, there is nothing wrong in using an abbreviated model Y = f(X) and having the (X) do the work for themselves as well

> as for the (Z). But if we are going to use the coefficients for policy prescription then this is precisely the situation when leaving out (Z) as in the abbreviated model will give us highly misleading estimates of the coefficients linking (Y) and (X). Instead of leaving (Z) out, the model-builder should search out the parent variables that explain (Z) and (X) themselves - if such variables exist - and substitute those variables into the equation. If the search does not yield the ultimate explanation for the collinearity of (X) and (Z) one can indeed argue that both sets of variables, (X) and (Z), should be included even if the t-ratios of one or both are not significant so that mechanical regression procedures do not attribute to one of them the variance of the dependent variable that the two together help explain. From this negative point of view a variable may be very important even if it is 'statistically insignificant'.[54]

On theoretical grounds the level of unemployment and the wage levels both in Greece and in Germany would be expected to be correlated. High unemployment would have a suppressing influence on wage levels, even if the 'stickiness' of wages downwards is taken into account. The correlation matrix in the equation fitted, (page 40) showed high correlations between wages and the level of employment. Therefore in interpreting the results one had to be cautious (a) to mention that the excluded variable is important as a predictor for the criterion (dependent) variable, but its influence is exerted through the other included independent variable. The joint effect could be detected by using multiple correlation techniques (b) to stress that the regression coefficients and the $R^2$s are possibly biased because of probable mis-specification in the equation. These coefficients can not be considered equivalent to the partial derivatives of calculus as the 'ceteris paribus' hypothesis does not obtain.

F. In formulating the model one aspect of the problem was particularly disturbing. It was attempted to use the volume of unemployed as one of the explanatory variables and gross Greek emigration as the dependent

variable. However the line of causation would seem to be both ways. Emigration was influenced by unemployment, but at the same time it influenced the general level of employment itself (although indirectly). If emigration had not taken place, the unemployment figures would have been higher. For most of the period under consideration, emigration would seem to attract those unemployed first. So emigrants would have to be considered as a potentially unemployed labour force if they had not emigrated. This double line of causation tends to obscure the issue, especially if one extending the argument, wished to consider unemployment created by emigration (for example a fall in the effective demand, a fall in the demand for infrastructure and state services, an underutilization of existing social investment and so on).

For the purposes of this work, it was implicitly assumed that the main or most important line of causation runs from unemployment and underemployment to migration and not vice-versa. This seemed a plausible approximation, especially since Greek emigrants answering questionnaires in Germany have repeatedly indicated that the main cause for their emigration is 'to find a job' in Germany.

G. The conclusions of this chapter are presented below.

Reliability problems are clearly existing in Greek unemployment data, as well as the emigration data. The use of industrial wages is questionable. However, they were used as the only ones available. The dividing of Greeks seeking employment abroad into temporary and permanent emigrants consistently underestimates the volume of the migratory flow. The conversion of Greek and German wages to a common currency for purposes of comparability is distorting the issue. In terms of statistical problems, the collinearity between independent variables is impairing the correct specification of the estimating equation and the interpretation of the

regression coefficients. There are two way lines of causation between the dependent and an independent variable, which create simultaneous equation bias problems. For all these reasons, the findings of Chapter III should be considered as indicative, not as definite statements.

## CHAPTER V

## ECONOMIC EFFECTS OF MIGRATION

A. The purpose of this chapter is twofold: In the first part it is attempted to introduce two modern 'models' of emigration, those suggested by J.E. Meade[55] and by G. Myrdal.[56] Their appropriateness in explaining the phenomenon of Greek labour migration to Germany is also considered.

In the second part it is attempted to assess the effects of emigration on the Greek economy.[57]

Two approaches have been suggested in order to briefly assess these effects, the 'cost-benefits' approach and the 'critical variables' approach. In the third part, the relative merits of these approaches are discussed and the 'critical variables' approach is selected.

The fourth part of the chapter is devoted to a brief consideration of the effects of emigration on the following variables deemed important for future Greek economic development:

a) the balance of payments,

b) the level of employment in Greece,

c) emigration and the improvement in the occupational skill mix of the labour force,

d) emigration and the structure and profitability of Greek industry.

e) emigration and its impact on population growth.

In the last part of the chapter, a summary of conclusions is presented.

B. As noted above, two recent theoretical models will be considered here. For lack of a better term J.E. Meade's formulation is called a migration 'model'. However this exposition follows only one chapter of

J.E. Meade's (Chapter 28), while his formulation is scattered in all chapters of his book.

The Meade model is neoclassical in scope, in the sense that it is a causal model of explanatory nature.

The Myrdal model deals with the dynamic process of emigration and is emphasizing the long-run effects of that process. While the Meade model predicts a convergence towards equilibrium, albeit immiserising, the Myrdal model predicts a divergence from equilibrium.

We begin with the Meade model.

Meade examined the effects of international migration upon the wage level and the world population. He assumed two countries A and B: B is a country in which there is a Malthusian pressure of population upon the means of subsistence together with an egalitarian system of distribution of income, whereas in A there are no Malthusian pressures. Labour is the relatively abundant factor in B, and capital in country A. Consequently the marginal product of capital is higher in B than in A, and the marginal product of labour lower. Wages will be lower in B than in A, and the interest rates higher. A flow of capital from A to B, and a flow of labour from B to A is to be expected, once institutional obstacles to factor movements are removed.

The marginal productivity of the factors will be increased by moving, but this conclusion needs to be modified for two reasons. In the case of labour, if there is an egalitarian distribution system in A and if Malthusian conditions prevail, the increase in the standard of living enjoyed by an immigrant from B into country A will induce growth of numbers until the standard of living falls to subsistence level in country A, too. Then, Malthusian checks on population growth will apply in country B and equilibrium will be restored. A temporary alleviation from

distress will have resulted in immiserization of an increased population in both countries. If, however, the distribution system in A was not egalitarian, the pre-existing residents of country A would eventually benefit at the expense of the new comers from country B. The first immigrants to come would be paid according to their marginal physical productivity. Increased immigration into A however, would lower wages there and raise interest rates and the rent of land in that country. This would cause a shift of incomes away from wages towards interest payments and rents and thus would benefit the citizens of A. The population of B origin would not grow in such large numbers as it could potentially grow if distribution was more egalitarian in A.

The existence of an non-egalitarian system of distribution of income in Country A could potentially maintain this system in balance ad infinitum, at least in an economic sense. However other non-economic, exogenous factors would cause disequilibrium (lack of infrastructure, human misery. immigrant ghettos in urban areas are some of these exogenous factors).

This would seem to be the case in Germany, since immigrant workers there (Greek and others) are a 'non-competing' group in the labour force. They are meant to be a non-competing group as they are called 'guest-workers', not permanent workers. They are heavily concentrated in certain jobs and the 'rotation principle' ensures that after a certain time they are obliged to leave. It is only lately that the plight of foreign workers was brought into light and obliged German authorities to reassess their policies.

However, there are two considerable drawbacks in adopting this model:

a) The assumption is that there were Malthusian pressures of population on resources in Greece. Greece is a notoriously underpopulated

country. In a physical sense, Malthusian population pressures did not exist there.[58]

The issue is still open to debate, with some investigators thinking that disguised unemployment did exist and others maintaining that it did not. The high number of emigrants especially in the first half of the '60's tends to indicate the existence of unemployment and underemployment in agriculture.[59] However, there is no evidence that all those who emigrated were unemployed. Thus the issue is still unsettled .

b) The second objection to using this formulation to describe short-run labour migration from Greece to Germany is that it is mainly concerned with the effects of migration on the receiving country's economy, not on the effects of migration on the sending country's economy. As such, it would not be appropriate in explaining the effects of emigration on the Greek economy.

We now turn to the Myrdal model. Myrdal's 'hypothesis of circular cumulative causation' replaces the assumption of stable equilibrium of the neoclassical Meade model. Development in this context is a dynamic process, within which economic, social and political variables lead to disequilibrium. The economic system does not return to equilibrium, a fact which explains the ever widening international differences in living standards over time. Rather, imbalances are reinforced through 'time', as in the case of migration either from one area to another within the national boundaries, or among nations differing in levels of economic development. A.P. Thirwall[60] used the example of two regions in the same country having different rates of growth, to illustrate graphically the Myrdal model. His diagrams are reprinted below:

DIAGRAM 5.1

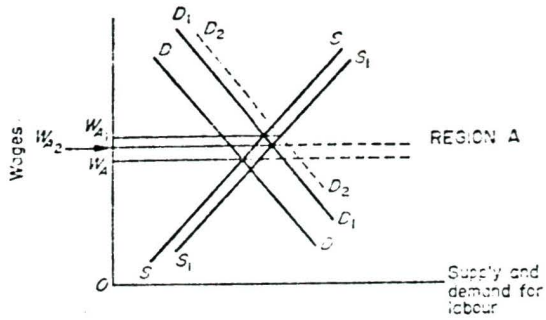
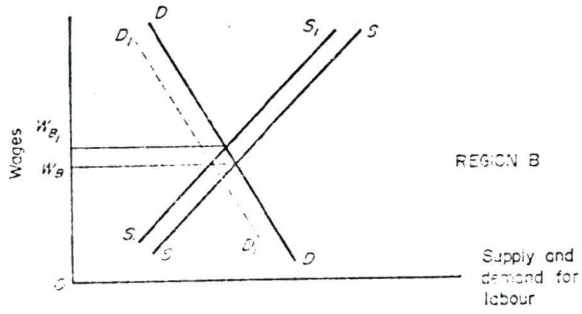



FIG. 5.1




Reprinted from Growth and Development by A.P. Thirwall, The MacMillan Press Ltd., London and Basingstoke, 1972, p. 122.

Suppose that initially there is equality of wages between areas A and B. An outward exogenous shift in demand in area A would push wages up and create an influx of labour from area B to area A. The prediction in the neoclassical model would be that the system will return to equilibrium in area B at a higher level of wages than before and a wage equalization process will be in motion, between the two areas. Myrdal however predicts that the movement of labour away from B towards A will diminish effective demand for goods and services in B and increase it in A. This will lead to a new increase in the demand for productive factors in A and increases in wages of area A. On the other hand area B will suffer a decrease in wages and a further fall in effective demand for goods and services through emigration. Thus income differences will tend to increase, not decrease over time, between the two regions. Migration

into A region starts a chain of cumulative expansion which has so-called 'backwash' effects on area B. If production in A is subject to increasing returns to scale and there is an increase in the supply of factors of production the competitive advantage of this region will be enhanced. Free movement of production factors between nations will tend to enhance the more rapidly growing nations of the world. This expansion of certain nations may have secondary expansionary effects on the economies of those left behind, in terms of increased demand for their products and diffusion of knowledge and technology, the so-called 'spread' effects on area B. Myrdal feels the 'spread' effects are much weaker than the 'backwash' effects. Thus labour emigration along with movements of capital and international trade create and/or perpetuate international inequalities.

a) Assumptions

(i) The cumulative causation hypothesis assumes free trade and free mobility of factors of production. Especially the second part of this assumption would seem to be valid only in the case of internal migration and would render the hypothesis invalid as a tool of analyzing international labour migration. However, in the case of Greek gross emigration to Germany it could be applied fairly appropriately since the intergovernmental agreement signed in 1960 provided for a quasi-free movement of labour, between Germany and Greece, according to demand for labour in Germany. The econometric analysis in Chapter III indicated a relative insignificance of the power variable, that is emigration can be reasonably assumed not to have been influenced by restrictive measures.

b) Predictions

(i) Wages. Wage and income differences are predicted to increase over time between country of immigration and country of emigration. That seems to be the case between Greece and Germany. The difference (or the

ratio) of Greek and German wages remained constant or increased faster over time, since Germany wages increased faster than Greek wages.[61]

(ii) The price of capital. If it is assumed that a relative abundance of labour and a relative scarcity of capital prevails in the underdeveloped country, Myrdal postulates that because of underdevelopment (or lack of institutional support) the effective demand for capital is also lacking. Capital may be scarce

> but the need for it does not represent an effective demand in the capital market. Rather, if there were no exchange controls and if, at the same time there were no elements in their national development policies securing high profits for capital, i.e. if the forces in the capital market were given unhampered play - capitalists in underdeveloped countries would be exporting their capital.[62]

This intuition would seem to be justified in the case of Greece where the supply of capital is admittedly small, but is accompanied by a small effective demand for it. The reluctance of big businesses to rely on the Greek capital market (which is in an embryonic state) for financing expansionary and modernization investment is notorious. Internal financing and family ownership remain the dominant permanent features of capital formation in Greece.[63]

Both the assumptions and the predictions seem to conform pretty close to reality in the Greek/German case. The model of cumulative cyclical causation seems to explain emigration in the undeveloped country more closely than the neoclassical model of stable equilibrium.

C. The question to be answered in the majority of emigration research was whether emigration was a good or bad thing for the particular country respectively. It was attempted to answer that question by grouping together the pros and cons or 'costs and benefits' of emigration. The importance of asking the right question has been justifiably emphasized by social scientists. It has been suggested that to ask whether emigration

is a good or bad thing is obscuring the issue:

> It would be ridiculous to attempt to show whether the effects of immigration are a 'good thing' or a 'bad thing' . . . There can be no peremptory conclusion to a controversy in which there are so many factors and so many intermingled and conflicting interests. For whom are the effects good or bad? What are the effects good for? The labour market, social relations, an improvement in the workers' status? There is not a single one of the advantages . . . which has not its counterpart in the form of a disadvantage or a prejudice of some kind . . . The problem of immigration is either bound up with or leads to an involved controversy.[64]

The appropriateness of using a 'cost-benefit' approach to analyze the effects of emigration has been questioned on the following grounds:

a) There is a reciprocity between sending and receiving country. What could constitute a cost for one of those countries could be either a benefit or a cost to the other at the same time. Likewise what is classified as a 'pull' factor for the receiving country could also be considered as a 'push' factor for the sending country. Depending on what country one is looking at, a factor can be either a 'push' or a 'pull' factor. In the case of Turkey R.E. Krane[65] remarks that

> when analyzing the respective advantages and disadvantages,or push-pull factors, inherent in a trans-national movement of these dimensions for each of the countries reciprocally involved, it quickly becomes apparent that few, if any, issues are clear-cut. For example, what is advantageous for West Germany is in certain respects advantageous for Turkey as well, but in still other respects undoubtedly leads to undesirable consequences for both nations and vice versa.

b) The use of 'cost-benefit' analysis may not be appropriate since that method does not take account of non-monetary costs. There are non-monetary and other psychic costs involved in emigration which cannot be easily included in quantitative evaluation and thus are not part of a 'cost-benefit' analysis.

c) The cost-benefit categorization is not an attempt to understand

the original causes of the emigration phenomenon. Rather it is an attempt to classify the effects of a non-fully explained phenomenon.

d) Analysis of the costs and benefits of migration to the individual emigrant is plausible. However the divergence between private benefits and social costs is large especially in inflationary pressures, as shown by W.R. Böhning.[66]

e) Another deficiency of the 'cost-benefit' method is its failure to take into account power (policy) variables, which of course cannot be quantified. Not everyone who wants to obtain employment in a foreign country is allowed to do that either by his home country authorities, or the authorities of the receiving country, unless there is a labour agreement between countries. Even in the case of relative freedom of movement for workers between Greece and Germany, there is no provision in the 'cost-benefit' method for the fact that emigration of only certain types of labour was encouraged by the selective procedures applied by the German Recruitment Services in Greece.

A different approach has been suggested and used by S.L. Friedlander.[67] The approach is to examine the impact of emigration on some crucial variables that are closely connected to the economic development effort. The merit of this approach is (a) that there is no ambiguity as to who is benefitting and who is not from emigration. (b) There is an explicit criterion of evaluation (i.e. contribution to the overall economic growth of the country), which makes the evaluation of the contribution more straightforward. (c) The nature of the emigration process is understood and its causes explained, especially as relating to long-run economic development. For all these reasons, this approach is also used here for a brief evaluation of the Greek emigration problem.

D. We turn first to the impact of emigration on the Greek balance-of-

payments. The balance-of-payments constraint was of tremendous importance in a quickly developing country like Greece needing a considerable volume of imports to create the necessary infrastructure and to embark on industrialization.

(i) Emigration and the Greek Balance of Payments

The main argument for emigration during the period under consideration was the beneficial effect it had on the Greek Balance of Payments. K.P. Prodromidis notes:

> During that period (and in fact since the end of the Second World War) Greece has experienced large and widening balance of trade deficits, so that it would not be unjustifiable to label her a perennial deficit country. More particularly, in the sixties, the overall ratio of exports (f.o.b.) to imports (c.i.f.) of commodities, measured at current prices average 39.9 (34.6) percent when ship were not (were) taken into account. However thanks to a favorable balance of invisibles, the average ratio of exports to imports of goods and services was higher, namely 54.6 (47.9) percent when ship were not (were) included.[68]

There is wide agreement in the literature that emigration helped to ease foreign exchange shortages (Zolotas 1966, Nikolinakos 1971, Botsas 1968, Kavouri: ris 1973). The evolution of the trade deficit and workers remittances from abroad are shown in the table below:

TABLE 5.1 GREEK TRADE DEFICIT AND WORKERS REMITTANCES 1960-72 IN MILLION $ U.S.

| Year | Trade Deficit | Remittances | Coefficient A |
|---|---|---|---|
| 1960 | - | 90.5 | - |
| 1961 | 332.9 | 107.5 | .309 |
| 1962 | 397.7 | 139.1 | .349 |
| 1963 | 435.7 | 169.1 | .385 |
| 1964 | 555.0 | 176.8 | .318 |
| 1965 | 685.6 | 206.9 | .301 |
| 1966 | 745.4 | 255.0 | .315 |
| 1967 | 696.7 | 232.1 | .333 |
| 1968 | 771.9 | 239.4 | .310 |
| 1969 | 888.2 | 277.3 | .313 |
| 1970 | 1,083.9 | 344.6 | .316 |
| 1971 | 1,302.2 | 469.6 | .351 |
| 1972 | 1,571.6 | 571.4 | .363 |

Reprinted from: Marios Nikolinakos, "Zur Frage der Auswanderungseffekte in den Emigrationsländern", Das Argument, December 1971, Heft 9/10, p. 785.

The table shows the importance of emigrants remittances for the external balance of the Greek economy. Remittances covered 30.1 to 38.5 percent of the Greek trade deficit with an average of approximately 33 percent. M. Nikolinakos has pointed out[69] that although the absolute number of emigrants was increasing over time and the stock of Greek emigrants living permanently abroad increased, the remittances covered a steady portion of the trade deficit around 33 percent. In the specific case of Greek-German trade we have the following:

TABLE 5.2 GREEK/GERMAN TRADE DEFICIT AND WORKERS REMITTANCES

| Year | Greek Trade Deficit with Germany | Workers Remittances from Germany to Greece | Coefficient S |
|---|---|---|---|
| 1964 | 88.6 | 63.2 | 0.71 |
| 1965 | 103.1 | 86.7 | 0.84 |
| 1966 | 125.9 | 96.2 | 0.77 |
| 1967 | 144.7 | 92.5 | 0.64 |
| 1968 | 134.1 | 75.5 | 0.56 |
| 1969 | 168.6 | 100.5 | 0.59 |

Reprinted from M. Nikolinakos, "Zur Frage der Auswanderungseffekte in den Emigrationsländern", Das Argument, December 1971, Heft 9/10, p. 786.

M. Nikolinakos calculated that on the average only 68.5 percent of the ever-increasing trade deficit between Greece and Germany was covered by emigrants remittances.

Increased emigration was accompanied by an ever increasing trade deficit, a fact that was made possible partly by exactly the availability of money transfers (62). The following table shows the evolution in Greece's terms of trade.

TABLE 5.3 TERMS OF GREECE'S FOREIGN TRADE

| Year | Index of Volume | | Index of value | | Terms of Trade |
|---|---|---|---|---|---|
| | Imports | Exports | Imports | Exports | |
| 1961 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1962 | 109.2 | 109.6 | 99.1 | 102.1 | 109.0 |
| 1963 | 128.7 | 111.2 | 98.9 | 116.8 | 118.1 |
| 1964 | 141.9 | 119.6 | 102.2 | 115.6 | 113.1 |
| 1965 | 174.7 | 129.9 | 103.5 | 113.0 | 109.2 |
| 1966 | 181.8 | 156.7 | 105.0 | 116.0 | 110.5 |
| 1967 | 188.7 | 194.9 | 104.1 | 113.8 | 109.3 |
| 1968 | 204.6 | 188.2 | 104.7 | 111.3 | 106.3 |
| 1969 | 232.2 | 220.9 | 104.8 | 112.2 | 107.1 |

Reprinted from M. Negrepontis-Delivani and D. Germidis, (33), p. 161.

This table indicates that the rate of growth of exports in the 1961-69 period was lower than that of imports. The country's terms of trade have not improved between 1961 and 1969. These evolutions along with the structural deficiencies of Greek exports[70] make the importance of foreign exchange earnings and thus emigrant's remittances very pronounced.

Beneficial effects of emigration would materialize only if emigrants remittances were invested productively. However, this is not the case in Greek experience. First because it is not the big farmer who emigrates.[71] Second, because emigrants have to satisfy consumption needs first and then save enough and invest productively.[72]

Third, because the mentality of creating a secure, though lower income from real estate than productive investment is prevalent.

Fourth, because the proper channels are missing, which would turn emigrants foreign exchange savings to productive investment.

Fifth, the adoption of modern consumer patterns by returning migrants brings sharply into focus the serious conflict existing between private individual gains and social costs of emigration. Adoption of modern consumer patterns is a welcome improvement for the individual emigrant and his family. However on an aggregate social level modern consumer patterns

may create: a) demand exceeding supply in inelastic supply situations in the home country (durables, non-durables and partly housing). For the period 1951-1970 in Greece, housing absorbed over 50 percent of total investment in the secondary sector.[73] This may lead to demand-pull inflation that may be followed by cost-push inflation and even higher imports, given the familiarization with foreign goods and the higher import content in higher income levels. Thus the balance of payments will tend to deteriorate as seems to be the case in Greece since the liberalization of imports in 1953.

Items owned by emigrants during their stay abroad can be imported to Greece duty free. Since durable goods are much cheaper in Germany, the emigrant has a double incentive to buy there. Thus, the expenditure of Greek emigrants in Germany will be much higher.

Finally in all this discussion, the assumption is that remittances will be at a high level originally and will be kept high through time. This does not necessarily have to be the case, especially if the emigrant takes his family abroad with him or severs his ties due to integration in the country of immigration. There are even cases of countries which have a relatively high number of emigrants, but remittances by those emigrants are not high (Finland). M. Nikolinakos (62) notes;

> It is both false and unsubstantiated by evidence to speak of a capital formation or investment effect of emigration. On the contrary, one should talk of a consumption effect, which although raising the living standards of the emigrants and their families, finally benefits mainly the industrialized countries which employ foreign workers, since the consumer goods which make the raising of living standards possible are imported from those countries.[74]

Thus the vicious circle is complete: workers working abroad not only cannot cover the deficit by their remittances, but they themselves contribute to its enlargement. Even if they did cover it, the issue would

still be that capital goods would occupy a very small part of all workers expenditures, thus economic development in Greece will not be helped by this form of capital transfer.

C.C. Almeida nicely summarizes the argument by noting that:

> ... there is another aspect less often analyzed which lies in the existence of these 'remittances'. In quickly and 'artificially' increasing mass consumption, they in fact accelerate the process of expansion of the internal capitalist market, as well as its internationalization.[75]

The general conclusion would be that remittances were indeed beneficial to Greece, in partially neutralizing foreign exchange shortages. However, when they are examined in relation to other considerations their purely beneficial nature becomes doubtful. The emergence of political and economic dependency on the economic cycle abroad would be a sufficient alarm. These remittances partly alleviated a structural problem of deficiencies in Greek exports. These structural deficiencies were not corrected since an 'easy' alternative was found. Remittances are not an automatic avenue to growth, unless they are administered wisely.

The problem of unemployment was a very serious one for post war Greek governments. One by one, they recognized its urgency, but none embarked on a courageous employment growth program. Industrial output increased, but industrial employment increased in a much slower fashion (Kintis 1969, Fakiolas 1970, M. Negreponti-Delivanis - D. Germidis 1975). The overall employment figures actually show a decrease in employment in Greece from 3,352,390 people in 1960 to 3,195,903 in 1970, a fall in employment of 4.67 percent between these two dates. Thus the effects of emigration on employment are briefly referred to next.

(ii) Emigration and the Level of Employment in Greece

In assessing the effects of emigration on the level of employment in Greece, it is useful to distinguish between the effects in the rural and

the effects in the urban sector.

In the rural sector, emigration reduces the labour supply directly and indirectly.[76] This reduction in the supply of labour may lead to decreased land utilization, decreased production and/or changes towards extensive cultivation, (labour saving innovations), instead of intensive cultivation (V. Filias, 1966). Intensive cultivation crops are more income elastic and they are heavily demanded in Western Europe (fruits, vegetables). Mechanization could substitute labour only partially:

a) tractors cannot be used in the more refined areas,

b) fragmentation of land holdings makes it uneconomical to implement mechanization in agriculture,

TABLE 5.4 DISTRIBUTION OF FARMS BY SIZE IN 1961

| Size Category Hectares | Farms Number | Percent | Total Area Hectares | Percent |
|---|---|---|---|---|
| 0.1 - 0.9 | 261,772 | 23.0 | 131,988.2 | 3.6 |
| 1.0 - 4.9 | 658,432 | 57.8 | 1,658,339.2 | 45.1 |
| 5.0 - 9.9 | 172,745 | 15.1 | 1,143,208.9 | 31.1 |
| 10.0 - 19.9 | 38,912 | 3.4 | 493,130.8 | 13.6 |
| 20.9 - 49.9 | 6,863 | 0.6 | 185,291.8 | 5.1 |
| 50.0 - and over | 655 | 0.1 | 56,316.7 | 1.5 |
| Total | 1,139,379 | 100.0 | 3,673,275.6 | 100.0 |

Source: 1961 Agricultural Census. Reprinted from: Agricultural Development in Southern Europe, OECD, p. 82.

TABLE 5.5 STRUCTURE OF FARMS BY REGIONS

| | Total area (hectares) | Number of farms[a] | Percentage of area leased to tenant farmers | Average no. of parcels | Fragmentation: Average area of parcels (hectares) | Fragmentation: Average area of farms (hectares) |
|---|---|---|---|---|---|---|
| Thrace | 250,693.8 | 67,832 | 10.5 | 7.6 | 0.5 | 3.7 |
| Macedonia | 940,526.4 | 294,122 | 15.7 | 6.7 | 0.5 | 3.2 |
| Thessaly | 465,715.9 | 111,528 | 7.4 | 6.9 | 0.6 | 4.2 |
| Epirus | 127,547.9 | 62,336 | 9.5 | 5.5 | 0.4 | 2.0 |
| Central Greece | 626,942.2 | 185,831 | 10.5 | 7.3 | 0.5 | 3.4 |
| Peloponnese | 681,918.5 | 197,585 | 9.5 | 6.7 | 0.5 | 3.5 |
| Ionian Island | 76,406.8 | 40,385 | 12.3 | 6.1 | 0.3 | 1.9 |
| Aegean Islands | 201,576.9 | 92,096 | 24.0 | 7.3 | 0.3 | 2.2 |
| Crete | 301,946.2 | 104,457 | 8.7 | 10.5 | 0.3 | 2.9 |
| Total | 3,673,275.6 | 1,156,172 | 11.8 | 7.1 | 0.4 | 3.2 |

a. Including holdings without any agricultural land.
Source: 1961 Agricultural Census. Reprinted from: Agricultural Development in Southern Europe, OECD, no date, p. 83.

c) the quality of the produce is ill-affected by use of machinery (cotton, fruit picking, olive crop). The rate of replacement of working hands by machinery is, of necessity, very low indeed.

d) Removal of labour from agriculture through emigration induces wage pressures upwards. Empirical evidence suggests that wages increased so much in agriculture, especially at crop time that they rendered cultivation and gathering of crops uneconomical. This would further decrease food production and increase imports.

e) Emigration effects on the traditional sector on balance are probably beneficial and manageable where it relieves a gross labour surplus. However, it does not provide an easy short-cut to sustained growth and full employment for the economy as a whole. Nor does there appear to be a reliable endogenous mechanism that would automatically transmit economic progress via the channel of migration.

Emigration from the urban sector is classified by Böhning as harmful or beneficial depending on whether those who emigrated were skilled or unskilled workers. This classification would seem insufficient in its generality for two reasons:

a) The meaning of skilled/unskilled is very difficult to determine empirically. Statistics are dubious in this respect. Should somebody working in a chain process factory in Germany be classified as skilled or unskilled worker?

b) It assumes a perfect substitutability of capital for labour and a perfect mobility of labour. Experience from Greece would indicate that that is not the case! Shortages of labour emerged and at the same time Greek labour kept on emigrating to Western Europe. It is argued that if industrial workers were considered skilled labourers and agricultural workers were mainly unskilled workers, the probable number of skilled workers who left from 1960 to 1973 would be approximately 280,000 and the number of unskilled ones 210,000. On the basis of these numbers emigration was harmful to Greek economic development. The departure of skilled emigrants implied increasing private costs to employers if the emigrants were employed, replacement problems, output and productivity losses. These losses to the extent they are passed on to society cause a welfare loss. Mechanization leads to increase in the capital output ratio and a further decrease in employment. Finally, the implied underutilization of infrastructure involves higher social costs.

c) The selective character of emigration involves a higher proportion of trained workers in the migratory flow (young people are better educated on the average). Emigration of skilled versus unskilled labour could be regarded as an 'opportunity cost' made good only over the very long run. In the short run it can immobilize the industry. P. Merlopoulos[77] in a

very interesting line of argument suggested that there is no automatic transference mechanism between factor movements and economic development. Economic development according to him does not necessarily lead to full employment: a) first because it involves lags and delays along with evolutionary procedures which take time, b) economic development perceived as a 'structural change' phenomenon presupposes full employment and full employment involves full utilization of production factor no. 1, labour.

> But productive employment and the full exploitation of manpower in a country does not at all depend on the degree of its economic development, if by economic development we mean, as in the current terminology, a considerable concentration of capital and technological knowledge during the production process and the higher productivity rate of the labour involved.[78]

This way of looking at the problem suggests the role of emigration as a safety valve for economic pressures on an individual and national level. Emigration was used as a short run, 'easy' solution, instead of applying a definite effort to increase the volume of employment in the country.[79]

(iii) Emigration and Skills Acquisition

It is assumed that emigrants upon return to their country of origin will have enlarged their professional knowledge and will be able to contribute to their country's economic development. This assumption has been under constant fire both on theoretical and empirical grounds for quite some time now. Some of the counterarguments are suggested below:

a) It assumes that Greek workers for example do get ample training while in Germany and that the type of training they receive is matching the needs of their own country. Relevant empirical research has proven both assumptions wrong. In Germany in 1969, the percentage of emigrant workers who had undergone any occupational training was only 5 percent of the total. This includes emigrant workers from both developed and underdeveloped European countries. When only workers from the latter are

listed, the percentage becomes 2 percent.

Twenty-six percent of the male and 18 percent of the female guest workers had been promoted from unskilled to skilled workers through learning by doing. Only 3 percent of the unskilled had reached 'supervisory' level and only 2 percent of skilled had done the same. No emigrant women reached that level. Of course, this type of training cannot be significant for their employment in industry upon return.

The majority of emigrants in Western Europe work in construction works and housing (10-20 percent throughout Europe). This is clearly not going to improve their skills in any sort of way.

Gerhard Ahl notes that although it is recommended that foreign workers take up vocational training for economic and other personal reasons they do not.

> Up to the present, few foreign workers have made good use of this opportunity. It was apparently more important for them to make the highest possible wage during their stay in Germany. They were therefore more interested in piece and overtime work than in systematic professional training especially since the latter often involves financial sacrifice and personal effort for longer periods of time. Moreover, training often failed due to insufficient knowledge of the language and inadequate educational preparation. For these reasons, participation by foreign men in further job training projects amounts to 0.3 percent (1972) and among foreign women to 0.2 percent (1972). On the average this is considerably lower than the figures for German participants (Men, 1.4 percent and Women, 0.7 percent for 1972). During the course of the 1973 year, a total of 6,100 foreign workers began training programs which were instituted by the Federal Ministry of Labour. That was a total of 700 or 10.4 percent less than in 1972 and 1,000 or 13.7 less than in 1971.[80]

b) The second assumption is that the proportion of skilled workers among foreign workers is minimal, and that once somebody becomes a skilled worker he will probably want to go back home and work in industry. Again this assumption seems to have been refuted by reality for several reasons: a) A sizeable proportion of emigrants <u>are</u> already skilled. How

much more skilled does a builder become when he starts working in his trade in Germany? Hence shortages of skilled manpower were noticed in Turkey, Yugoslavia, Algeria and Greece around 1969. Discrepancies have appeared between German and Greek statistics as to the percentage of skilled workers into the stream of emigrants from that country. This would suggest a possible underestimation of foreign workers qualifications in Germany.

c) Even if foreign workers did appraise their skills that would not necessarily benefit their country. Once a worker becomes skilled, his wages increase substantially and the attraction 'pull' would seem to become stronger. Thus skilled workers are probably more prone to stay than go back!! B. Kayser[81] found that returning migrants in Greece are not going back to industry. He also noted that in the case of Greece, industrialists even if there were positions available were reluctant to hire former emigrants because of their demands. Concerning the type of skills obtained by emigrants if and when they were trained, it is suggested that the knowledge and skills obtained are by definition geared for usage in Germany and not so for the country of origin, especially in the cases of on-the-job training. T.P. Lianos examined occupational characteristics of leaving and returning migrants. On the basis of the table reproduced below he concluded that

> migration does in fact change the skill mix of returning as compared to leaving emigrants, and their occupational preference.[82]

TABLE 5.6 LEAVING AND RETURNING MIGRANTS BY OCCUPATION

| | Agricultural Occupation | Manufacturing Occupation | | Total |
|---|---|---|---|---|
| | | Total | Unskilled | |
| Leaving Migrants 1968-72 | 96.9 | 55.0 | 8.0 | 340.2 |
| Percent | 28.5 | 16.2 | 2.3 | 100 |
| Returning Migrants 1969-72 | 1.5 | 33.2 | - | 93.0 |
| Percent | 1.6 | 35.5 | | 100.0 |

Source: Statistical Service of Greece. Annual Statistical Yearbooks. Reprinted from T.P.Lianos, Flow of Greek Outmigration, [illegible] (52), p. 126.

Certain observations are in place here:

a) The period of observation and comparison is very short, only five years.

b) Due to a certain social stigma attached to manual work both in developed and underdeveloped societies, workers in declaring their occupation would tend to classify themselves as manufacturing workers rather than landless farmers. It was probably true that they did work in a factory, but what they actually did there is a different story!

c) Change in occupational preference is clear from the table above. Intention to work in manufacturing is one thing - to be able to find a job in industry is another. It could be argued that change in occupational preference was not the outcome of their emigration. Rather it was the motive behind their emigration decision in the first place. It would be questionable to argue on the basis of the table above that there is strong evidence that Greek emigrants had a changed skill mix and occupational preferences, because of their emigration.

Similar tendencies were observed in Turkey by R. Krane (1976) and B. Kayser (1972). In a OECD project W.R. Böhning's reasoning is summarized thus:

> Foreign workers seem wholly suitable for filling jobs which demand neither a true occupational training nor a knowledge of the national language. Large manufacturing enterprises

> realize also that foreigners are easily utilizable in mass production or in jobs which the workers of the country tend if possible to avoid, thus finally create new work opportunities for the foreigners.[83]

From the evidence presented above, it is not indicated that emigrants during their temporary stay abroad learned any skills useful to their own countries' development after their return.

(iv) Emigration, Wages and the Structure and Profitability of Greek Industry

Abundant and thus cheap labour in a developing economy is an investment incentive to foreign and local industrialists. To the extent that this pool of cheap labour was depleted in Greece through emigration, this investment incentive would be neutralized. Greek industry would avoid labour using investment and would lose its competitiveness further, if by emigration wages in Greece tended to be equalized to Western European wages. Emigration would be expected to increase the bargaining power of the remaining labour force. If labour demands for wage increases higher than productivity increases were satisfied due to labour shortages, cost-push inflation would set in.

Surplus labour to the extent it existed, exercised a depressive influence on wages. The military junta had abolished normal forms of collective bargaining for seven years. Regardless of that fact, Greek wages did increase. However the wage difference between Greece and Germany continued to grow overtime, a fact which encouraged foreign investment in Greece. The structural deficiencies of Greek industry have been elaborated upon by G. Koutsoumaris (1961) and lately by D. Germidis and M. Negrepontis-Delivanis (1975).[84] Its competitiveness should be seriously threatened if German wages prevailed in Greece. Emigration and the ongoing process of Greek 'integration' into the Common Market tend to diminish the advantage of lower Greek wages. The competitiveness of Greek

industry will have to be based on productivity increases higher than wage rate increases, if cost-push inflation and further deterioration of the trade deficit is to be avoided. The deficiencies of Greek industry were coupled with a lack of correlation between industrialization and employment policies in Greece. Investment by foreign concerns was of the labour saving type, a fact which further upsets equilibrium in the Greek labour market.

(v) Emigration and Population Growth

In the discussion of characteristics of Greek emigrants in Chapter II certain results emerged, giving a more or less emphatic overtone on the selectivity of emigration in terms of age, sex, occupation and area of origin!

Selectivity of emigration could potentially create bottlenecks to the growth of the Greek economy, since certain types of labour are over-represented among emigrants. Thus, shortages of especially skilled but also of unskilled labour could be added to other shortages already impeding the economic development of the country. This selectivity is also bound to have an influence on the rate of population increase and the age distribution of the population. It was shown above that the age pyramid in Greece has changed, with the ratio of older people in the population increasing. The aging of population has considerable economic effects. The overall load onto the shoulders of the economically active population will be heavier. Also this change will affect the production function, potential demand, volume of employment and eventually economic development itself. The line of causation is two way here, too. Economic development affects population growth, it affects employment which in turn affects emigration. And emigration affects population growth, potential demand and so on. Emigration thus as a determinant of population

growth becomes an endogenous variable in the economic system. The regional impact of emigration is already being felt in under utilization of social infrastructure and whole villages being abandoned.

The population evolution of a specific country is determined by its physical movement (mortality-natality and the emigration movement). Emigration influences both the formation of the population size, as well as its age and sex composition, that is both the quantitative and qualitative characteristics of the population. Table 5.7 below shows the evolution of mortality and natality over time.

TABLE 5.7 MORTALITY AND NATALITY IN GREECE 1956-1966 AND 1971

| Year | Mortality ‰ | Natality ‰ | |
|---|---|---|---|
| 1956 | 7.4 | 19.7 | |
| 1957 | 7.6 | 19.3 | |
| 1958 | 7.1 | 19.0 | |
| 1959 | 7.4 | 19.4 | |
| 1960 | 7.3 | 18.9 | |
| 1961 | 7.6 | 17.9 | |
| 1962 | 7.9 | 18.1 | |
| 1963 | 7.9 | 17.5 | |
| 1964 | 8.2 | 18.0 | |
| 1965 | 7.9 | 17.7 | |
| 1966 | 7.9 | 17.9 | |
| 1971 | 8.4 | 15.9 | OECD data |

Source: NSSG, Statistical Yearbook, 1972, Athens 1973.

Birth rates were pretty low for the period and decreasing while mortality rates were steady or increasing. C. Drakatos notes:

> In Greece, as in most developing countries, the birth rate has shown in the long run a declining trend, which was accompanied in recent years by an increase in the emigration of Greek workers, especially to Western European countries. If allowed to continue, the substantial decrease in the rate of population growth caused by both these factors would have adverse effects on the country's socioeconomic dynamism and viability.[85]

The rate of natural increase will fall further, since natality will show a falling or a slightly increasing trend, while mortality will increase

due to changes in the age composition of the population.[86]

E. Conclusions

Two theoretical models of emigration were introduced in this chapter. Their assumptions and predictions as relating to the Greek/German case were examined. It was found that the 'cyclical cumulative hypothesis' model better fits what actually happened in this particular case.

Second it was attempted to assess the effects of emigration on certain economic variables deemed important for Greek economic development. The cost-benefit approach was found inappropriate for this assessment.

The clearly positive contribution of emigration on easing foreign exchange shortages in the Greek balance of payments was apparent. However, what was not so apparent from this brief assessment was the linkage between easing short-term pressures on the balance of payments and generating or promoting economic development. Capital formation or an investment effect does not necessarily follow the export of manpower.

The effects of emigration on the level of employment were briefly assessed. Emigration seems to have eased unemployment pressures. However, the lack of job creation programs, along with the lure of higher wages abroad have transformed emigration into a self-feeding mechanism which keeps on functioning even after worker shortages appear in certain sectors.

The effects of emigration on acquisition of occupational skills would seem to be marginal. Where on-the-job training took place, the skills acquired were tuned to the German, not the Greek economy. Furthermore, skilled workers had an incentive to stay in Germany longer, than go back to Greece. Acquisition of skills does not necessarily guarantee a job in Greece, or willingness to go back to lower wages.

The selective character of emigration may worsen shortages of the already scarce Greek skilled labour. It will also affect negatively the

volume of economically active population and the population growth of the country.

Finally, emigration will force Greek industry to invest on labour saving equipment. This is a mixed blessing, since increases in labour productivity do not necessarily lead to increases in the volume of productive employment, at least in the short-run.

The multifaceted character of migration has been apparent in this work. Emigration is not only an economic, but also a political and even a sociological problem. The deliberate effort to narrow the subject and to focus on its purely economic aspects may not be warranted.

Complicated problems may require a 'problem solving' and not a 'discipline' type of approach. This approach may perhaps not be as scientifically rigorous as the 'discipline' approach. However it could potentially lead to more relevant insights and perhaps a more thorough understanding of a phenomenon which is neither economic nor political, but both combined.

Effects cannot be assessed on a pure economic basis. Their evaluation would have to be wider.

## FOOTNOTES

The numbers in parentheses refer to works referred to in the Bibliography list.

1. C. P. Kindleberger (45), p. 209.
2. A. Emmanuel (27), p. IX (Introduction).
3. K. Marx (56), Vol. I, pp. 767-772.
4. See A. Emmanuel (27), p. 42
5. E. F. Heckscher (37).
6. B. Ohlin (73).
7. R. E. Caves and R. W. Jones (79), p. 149.
8. B. Thomas (85).
9. W. R. Böhning (12), p. 48.
10. G. Kade + G. Schiller (39), p. 336, my translation.
11. T. P. Lianos (52), p. 119.
12. J. Zubrzycki (97), p. 135.
13. W. R. Böhning (12), p. 157-158.
14. W.R. Böhning (12), p. 251.
15. C. C. Almeida (2), p. 116.
16. Besides economists, demographers I. Manganara and E. Serokos (55) have dealt with the problem. The sociological perspective is represented in the works of S. Valsamidis (92) and E. Dimitras (23) along with M. Goutos (35 and V. Filias (29, 30). V. Filias distinguishes between primary and secondary causes of emigration. As primary causes he considers economic pressures; whether direct (lot fragmentation, unemployment, seasonal underemployment) or indirect (daughter's dowry, education of children, paying off debts). As secondary causes he considers, a) imitation, b) boredom of living on the land, c) social benefits of a permanent job, d) the attraction of city life.
17. The Epoches Journal started a fruitful discussion on the causes and effects of migration in Greece. The discussion was supplemented by several articles in Nea Oikonomia. This was a hotly debated issue, which at some points became the focus of an election campaign. Many articles have also dealt with the problem from the psychological, demographic, and military perspectives. The work done by X. Zolotas (95) has gained international fame. Within a cost-benefit frame-

work, he concluded that uncontrolled emigration would soon become a hindering factor for Greek economic development.

18. The articles by A. Angelopoulos (6), V. Filias (30), D. P. Karagiorgas (40), P. Merlopoulos (59), as well as research conducted in seven Greek provinces (nomoi) belong to this category. The article by G. Kade (38) emphasized the relationship between lost manpower through emigration and the future economic development of Greece.

19. E. N. Botsas (16), p. 599.

20. Ibid., p. 599.

21. The difference between internal and external migration of labour is very crucial, as models of internal migration have been used indiscriminately in the case of external migration. M. Greenwood (36) and K. G. Willis (93) have examined the issue of internal mobility and the problems in estimating internal migration. However to attempt to generalize their conclusions to the case of external migration, that is migration crossing national boundaries, would be equivalent to assuming away a most important institutional factor, that of national sovereignty. In some cases workers cannot leave even their own countries without obstacles. But what is more important is that workers emigrating from their country of origin cannot enter and settle at will in another country without political hindrance, unless there is a labour agreement between the two countries. To assume a fairly liberal entry and residence policy of the receiving country, especially at times of economic hardship, would be out of step with the kind of restrictive entry policies adopted by industrialized nations (eg. Canada, Australia, Federal Republic of Germany, France, United Kingdom, Scandinavian countries). As W.R. Böhning mentions: Immigration everywhere originates in socio-economic structures but is regulated by important political considerations - laissez faire is a thing of the past. Hence the justification for A. Sapir to use a dummy variable for entry policy in Germany.

22. Gross, not net migration figures for Greece are used, since return migration figures between Greece and Germany started to be compiled only in 1968. From 1968 to 1972 approximately 26 percent of all emigrants returned.

23. W. R. Böhning (11), p. 196. He attempted to explain immigration to Germany using German unfilled vacancies and wages as 'pull' factors; as 'push', he used the demand pressure of sending country (- for vacancies and + for unemployed) and the wage level of the sending country.

24. The proviso suggested by Böhning that there should be a large labour pool of unemployed or underemployed brings to mind the work by A. Pepelasis and P. Yotopoulos (76). They had concluded that there was not extensive underemployment in Greek agriculture prior to 1960. Because of emigration, Greek agriculture suffered from labour shortages especially at crop time.

25. M. Nikolinakos (71), p. 2, my translation.

26. This section has closely followed the argument developed by M. Nikolinakos (72), p. 6.

27. The dummy variable assumed the value of one for 1966, 1967, 1972, 1973, 1974 and zero for all other years.

28. For an analysis of the reasons, see I. Adelman, Theories of Economic Growth and Development (1), especially p. 2.

29. I. B. Kravis (49), p. 3-4, found that on the first phase of the International Comparison Project (ICP), the 1970 per capita real GDP relative to the U.S. ranged from 16 percent higher than that indicated by the exchange rate conversion in the case of West Germany to 249 percent higher in the case of India.

30. See G. M. Meier, (58), p. 23-24.

31. See A. Pepelasis, L. Mears and I. Adelman (77), especially Chapter I, as well as I. Adelman (1), p. 3. Also, the article by W. Beckerman and B. Bacon (9), p. 519-536, is a classic in the field. After traditionally utilized non-monetary indicators are summarized, it is attempted to predict GNP levels by using these predictors in an econometric test.

32. For an elaboration of this point, see D. Usher (91), p. 16-18.

33. This trend to export rather than import manpower was reversed in the early 70's when labour shortages in certain sectors rendered the employment of many Egyptians and Pakistanis in Greece possible. The trend was reversed again when unemployment increased again after 1973 because of the return of Greek emigrants from Germany.

34. T. P. Lianos (52), p. 121.

35. In the period under examination, emigration gathered momentum from poor, high unemployment and non-industrialized areas. For some features of these areas, see Appendix IIb, p.

36. B. Kayser (42), p. 127. He also noted the selectivity of migration within the same area. In Macedonia, some regions exhibit high emigration rate and others small.

37. Within the same line of argument, it would be worth mentioning that over time the relative contribution of certain areas has been drastically changed. Macedonia contributes four times more, Thessaly nine times more, Crete four times more emigrants than at the beginning of the period. Thus not only the absolute, but also the relative outflows of emigrants from the various areas were increased.

38. B. Kayser (42), p. 131, however felt that the German statistics reveal that only a small minority of Greek emigrants occupy skilled jobs in factories (in Germany); i.e. less than 15 percent of the

total number. He explained this situation in Germany by the fact that since most of the emigrants have no technical knowledge or training, it is perferable and more profitable to give them jobs as plain labourers. However, to explicitly assume that in general, all these workers 'had no technical knowledge or training' is just by no means proven.

39. T. P. Lianos (52), p. 128.

40. In partial correlation, the effect of $X_2$ ($X_1$) is first taken out of both Y and $X_1$ ($X_2$) and then the resulting two residuals are correlated with each other.

41. The squares of the partial correlation coefficients between Y and $X_1$ and Y and $X_2$ are

$$r^2_{y1.2} = \frac{R^2_{Y.12} - R^2_{Y.2}}{1 - R^2_{y.2}} \qquad \text{and}$$

$$r^2_{y2.1} = \frac{R^2_{Y.12} - R^2_{Y.1}}{1 - R^2_{Y.1}}$$

They represent the proportional increment in the explained variation due to $X_1$ ($X_2$) expressed as a proportion of the variation unexplained by the other explanatory variable $X_2$ ($X_1$). It is thus a proportional reduction of unexplained variation.

42. The Koyck method is used here. Thus it is assumed that the influence of emigration in the distant past on present emigration is decreasing as an exponential function of time. Last year's emigration has the largest impact. Long-run emigration is the product of a compound influence of emigration of many years past.

43. According to E.N. Botsas (16, 17), the issue hinges on whether workers were accustomed to wages prevailing in Greece or abroad. Information about higher wages abroad is common knowledge though. Of course, imperfections in the labour market as well as non-substitutability of labour can explain the existence of high wages and emigration from Greece. While at the same time Greece was accepting for the first time in its history foreign immigrant labour.

44. A. Shurie (82), p. 1.

45. W. R. Böhning (11), p. 193.

46. G. Tapinos in a note concerning the use of statistics in the study of migration observes that (83) "the statistics on migration have not generally gone beyond the stage of administrative observation. These statistics may therefore answer the internal needs of government departments but have no connection on the face of it with the variable explaining this phenomenon. Their use in the absence of any theory may lead to erroneous conclusions, if not to an impasse. In fact, the theoretical hypothesis should precede statistical observation; it is the former which should determine the type and

quantity of information to be collected. It is first necessary, therefore, to consider the state of development of the problem and hence the nature of the available observations in order to decide next whether the statistics can be used."

47. C. G. Drakatos, (21), p. 48-49.

48. W. R. Böhning (13), p. 254.

49. M. Negreponti-Delivanis (33), p. 104.

50. A. Shurie (82), p. 1.

51. Ibid., p. 16.

52. Method suggested by among others P. Zarembka (94).

53. A. Shurie (82), p. 19.

54. Ibid., p. 30-31.

55. J.E. Meade, (54).

56. Gunnar Myrdal (60,61).

57. At this point, it would be appropriate to examine the detailed effects of Greek emigration on the German economy. However, this is beyond the scope of this work. Unfortunately it was not possible for me to survey that part of the German literature, due to lack of time. An indicative list of this research, suggested by M. Nikolinakos in his book (64), is given below: on whether emigrants were a profit or a liability see: H. T. Rüstow: "Gastarbeiter-Gewinn oder Belastung für unsere Volkswirtschaft?" in Probleme der ausländischen Arbeitskräfte in der Bundesrepublik, Beihefte der Konjuktupolitik, No. 13 (Berlin: 1966), p. 35 ff. By the same author in "Kyklos," XX (1967), 119-146. On the differences between the microeconomic and macroeconomic approach to immigration and private and social costs differences see: Chr. Rosenmöller: "Volkswirtschaftliche Aspekte der Ausländerbeschäftigung," in Bundesarbeitsblatt, No. 4 (April, 1970), p. 231, ff. or K. R. Rotschild; "Arbeitskräfteknappheit und ausländische Arbeitskräfte," in Gewerkschaftliche Monatshefte, Year 13 (1962), pp. 229-233. On the issue of immigration influence on plant rationalization see H.J. Rüstow; "Gastarbeiter: Gewinn oder Belastung für unsere Volkswirtschaft?" op.cit., p. 35 ff. On the wage suppressing function of immigration see: U. Mehrländer: Beschäftigung ausländischer Arbeitnehmer in der Bundesrepublik Deutschland unter spezieller Berücksichtigung von Nordheim-Westfalen, Koln and Opladen (1969); or V. Lutz, "Foreign Workers and Domestic Wage Levels with an Illustration from the Swiss Case," Banca Nazionale del Lavoro Quarterly Review, XVI (1963), No. 64, p. 3-68; on the pressure of immigration on infrastructure and the ensuing costs see: K. R. Rotschild, Arbeitskräfteknappheit, op.cit., p. 231; and H. T. Rüstow - Gastarbeiter. . . op.cit., p. 42. Finally, on the effects of immigration on public finance see: S. Bullinger, P. Huber, H. Köhler, A. G. Ott, A. Wagner: Die volkswirtschaftliche

Bedeutung der Beschäftigung ausländischer Arbeitsnehmer in Baden-Württemberg (Tübingen 1972), p. 261 ff.

58. The birth rate after the war has been one of the lowest in the world oscillating around 7 percent, while for the period under examination it was 5 percent. As a matter of fact, birth rates in Germany were consistently higher than in Greece.

59. Research, however, has questioned the view that extensive underemployment existed in Greek agriculture before 1960. See A. P. Pepelasis and P. Yiotopoulos (76).

60. A. P. Thirwall (84), p. 122.

61. Most researchers feel that immigration did have a suppressing effect on the German wage level as predicted by the theory although they suggest that this is only a short-term effect: the longer emigrants stay the more unionized they will be (Kindleberger (46). W. R. Böhning and D. Maillat (14, p. 88-90) emphasized that the initial restraint on wage growth is later (at the stage of maturity) largely compensated for by an increase in real income per head produced by immigration. In the absence of immigration the initial increases in wages will be eliminated by price inflation and/or reduction in investment (especially in a stagflation situation). M. Nikolinakos (64, p. 109-117) pointed to (a) the effective presence of labour unions in the FRG representing also foreign workers. (b) the structural parameters in the economic system which put a limit to the potential level up to which real wages could have risen, in the absence of foreign workers.

62. Gunnar Myrdal (61), p. 483.

63. S. Triantis (89).

64. M. Allefresde (5), p. 87.

65. R. E. Krane (48), p. 113.

66. W. R. Böhning (13), p. 252.

67. S. L. Friedlander (32), p. 8.

68. K. P. Prodromidis (78), p. 379.

69. M. Nikolinakos (62), p. 785.

70. See K. P. Prodromidis (78), p. 379.

71. I. Baučic notes in Yugoslavia that in the cases where small farmers came back with tractors, the machinery was bought as a status symbol and was inefficient on small plots. (7)

72. Research conducted by B. Kayser (42, p. 134) also suggested that returned emigrants do not invest their savings in sectors and ways which enhance the country's economic development. Rather, they

increase consumption in their own countries.
M. Trebous (89) reached similar conclusions in the case of Algerian emigration. I. Baucic noticed the same evolutions in Yugoslavia and a pattern of investment predominently in housing which was also amply demonstrated in Greece. R. E. Krane notes that in Turkey "there is a strongly demonstrated tendency on the part of returned skilled migrants not to associate themselves with industrial occupations in Turkey nor to invest their assets in such ways as would create new industrial capacity in Turkey" (48, p. 115). Similar tendencies were noted in the case of Senegalese emigrants working in France and Carlos C. Almeida found that the same was true in Portugal (3, p. 114).

73. See Maria Negreponti-Delivanis (33), p. 62. This can be hardly termed irrational, especially since Greece has suffered hyperinflation during World War II. Only real estate proved a 'hedge' against that.

74. M. Nikolinakos (62), p. 788, my translation.

75. C. C. Almeida (3), p. 114, my translation.

76. The indirect reduction comes about when members of the extended family unit left behind on the land find it unprofitable to work, since they have a secured income every month from remittances.

77. P. Merlopoulos (59).

78. Ibid., p. 48-49.

79. Professor A. Angelopoulos had earmarked the problem as early as 1966, and was suggesting employment creation as an alternative to emigration.

80. G. Ahl (2), p. 28-29.

81. B. Kayser (42), p.

82. T. P. Lianos (52), p. 126.

83. W. R. Böhning (14), p. 55, Summary of OECD Secretariat followed here.

84. Ninety-five percent of all industrial undertakings employed fewer than ten persons from 1958 to 1969. Regional distribution of industry is most unbalanced (Athens region mainly). Most important employment in manufacturing increased by no more than 1.2 percent between 1958 and 1969, with consumer good industries employing most of the industrial labour force.

85. C. Drakatos (22), p. 596.

86. X. Zolotas (95) emphasized the interdependence between economic development and population growth arguing that models of economic growth based on unlimited supplies of labour, while relevant for

overpopulated countries at early stages of development, have also served to introduce a bias towards overlooking the limits beyond which a drastic decline in the growth of population - especially in its active part - could develop into a major constraint for economic progress.

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## APPENDIX I

Both forms of external migration, that is emigration and immigration, have been analyzed on either a regional or a country-to-country basis. A useful model of organizing a survey of existing literature would be according to whether emigration from a region or a particular country was examined.

Prominent among the regional type of analysis would be that done by Brinley Thomas on the issue of North European labour migration to North America. He also suggested a cost-benefit analysis of the Mediterranean emigration to Western European countries. The issue of the contribution of an exogenous labour force to the post-war economic growth of Western Europe was examined by C. Kindleberger who concluded that foreign labour mobility was a very significant contributor to Western European growth (44). The effects of the employment of foreign workers on the western economies were also the subject of an O.E.C.D. study authored by W. R. Böhning and D. Maillat (14). Emigration from the Mediterranean region is also the subject of a more recent article by W. R. Böhning (13), where he challenges some of the assumptions of emigration research. Emigration from the Mediterranean Basin was also the subject of the work by G. Kade and G. Schiller (39), who regarded emigration as a new economic policy measure for those countries, in terms of labour force mobility. M. Nikolinakos (see bibliography) has extensively written on the problem of migration and its function in Late Capitalism, on the concepts of 'South' and 'North' in examining migrations and specifically on immigrant labour in Germany and emigration from Greece and its consequences on future economic development in that country. Finally, B. Kayser has also written extensively on emigration from the peripheral countries Spain, Portugal, Italy, Greece and Yugoslavia with Turkey. He has also

examined the issue of return migration to the emigration countries.

In terms of migration research referring to migration from or into one particular country, Puerto-Rican emigration to the mainland U.S.A. was examined first by B. Fleischer (31) who argued that short-run migration is more closely related to the unemployment-rate-differential hypothesis than to the wage rate differential one. Puerto-Rican emigration was also examined by S.L. Friedlander (32) who using an econometric model also especially emphasized the effects of emigration on certain key economic variables.

Labour migration from 1920 - 1938, taking place between the Madras area, India and Sri Lanka was examined by A. Dutta (24), who concluded that 'pull' forces of the Ceylon export industry may be suspected to have been only of a purely temporary nature. Wage rates in Ceylon were found to be significant. The case of Finnish emigration to Sweden was examined by both M. Allefresde (47) and A. Majara (54) in a cost-benefit analysis scheme.

Algerian emigration to France was examined in an O.E.C.D. study by M. Trebous (88) who used the structural approach to emigration. The case of Moroccan emigration to France and Germany was examined by A. Belguendouz (10). The case of Italian emigration has been extensively examined and discussed. Among others G. Blumer (15) and P. Cinnani (20) have used the structural approach to the subject. V. Lutz (53) has looked at the connection between Italian emigration and industrialization, as well as the effects of emigration on various other socioeconomic variables.

Among others, R.H. Eldridge (25) and R.E. Krane (48) have examined Turkish emigration, especially to West Germany. They argued that while the ready availability of Turkish and other foreign labour has allowed the German economy to flourish in an unprecedented manner, this prosperity

is fraught with potential danger, because of lack of infrastructure. The effect of emigration on the Turkish Balance of Payments was explored by I. Bortucene and T. Ersoy (15). The Portuguese case has been briefly examined by Carlos C. Almeida (3), who using a structural approach examined the relationship between emigration and the 'development of underdevelopment' in Portugal. I. Baučic (7) has extensively researched the causes and effects of skilled labour emigration from Yugoslavia.

## APPENDIX IIa

### TABLE II.1 GDP AND GNP 1953 - 1972

Million drachmae at 1958 prices

| Year | GDP | GNP |
|---|---|---|
| 1958 | 83.5 | 84.0 |
| 1960 | 90.0 | 92.1 |
| 1965 | 128.7 | 132.4 |
| 1966 | 136.3 | 140.2 |
| 1967 | 143.5 | 147.9 |
| 1968 | 152.5 | 157.6 |
| 1969 | 166.5 | 171.6 |
| 1970 | 181.4 | 186.5 |
| 1971 | 195.8 | 202.8 |
| 1972* | 216.6 | 225.1 |

Source: NSSG, Statistical Yearbook of Greece, various issues.

*Data provisional

### TABLE II.2 GDP AND TOTAL CIVILIAN EMPLOYMENT BREAKDOWN BY SECTOR-GREECE

| | GDP | | | Employment | | |
|---|---|---|---|---|---|---|
| Year | Agr. | Industry | Other | Agr. | Industry | Other |
| 1969 | 20.3% | 28.2% | 51.5% | 48.2% | 22.5% | 29.3% |
| 1971 | 19.5% | 30.5% | 50.0% | 37.3% | 24.6% | 38.1% |
| 1973 | 20.4% | 32.4% | 47.2% | 34.1% | 25.7% | 40.2% |

Source: OECD Economic Surveys, Greece
Basic Statistics International Comparisons, Various Issues.

## TABLE II.3 GROSS DOMESTIC PRODUCT, PER CAPITA, IN PURCHASERS' VALUES

In U.S. dollars at constant 1963 prices.

| | 1960 | 1966 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|
| 1. Germany | 1,527 | 1,887 | 2,147 | 2,253 | 2,251 |
| 2. France | 1,534 | 1,996 | 2,316 | 2,429 | 2,528 |
| 3. Italy | 818 | 1,073 | 1,265 | 1,320 | 1,331 |
| 4. Netherlands | 1,133 | 1,374 | 1,604 | 1,685 | 1,740 |
| 5. Belgium | 1,305 | 1,659 | 1,902 | 2,013 | 2,079 |
| 6. Luxembourg | 1,643 | 1,842 | 2,065 | 2,123 | 2,126 |
| 7. United Kingdom | 1,491 | 1,718 | 1,825 | 1,862 | 1,885 |
| 8. Ireland | 700 | 838 | 993 | 1,014 | 1,042 |
| 9. Denmark | 1,530 | 1,934 | 2,241 | 2,297 | 2,370 |
| EEC of Nine | 1,329 | 1,651 | 1,872 | 1,951 | 1,995 |
| 10. GREECE | 450 | 683 | 836 | 904 | 966 |
| 11. Turkey | - | - | - | - | - |
| 12. Norway | 1,378 | 1,795 | 2,017 | 2,074 | 2,163 |
| 13. Sweden | 2,262 | 2,577 | 2,852 | 2,964 | 2,943 |
| 14. Switzerland | 1,823 | 2,148 | 2,309 | - | - |
| 15. Austria | 1,003 | 1,261 | 1,408 | 1,515 | 1,592 |
| 16. Portugal | 291 | 402 | 485 | 531 | 569 |
| 17. Finland | 1,255 | 1,601 | 1,840 | 1,999 | 2,045 |
| 18. Spain | 399 | 614 | 707 | 742 | 767 |
| 19. United States | 2,924 | 3,624 | 3,895 | 3,832 | 3,888 |
| 20. Canada | 2,093 | 2,636 | 2,886 | 2,913 | 3,042 |
| 21. Japan | 537 | 903 | 1,269 | 1,385 | 1,457 |

Sources O.E.C.D. (a) "National Accounts 1960-1971", Paris 1973
(b) "Economic Outlook", No. 13, Paris, July 1973

E.E.C. "Statistiques de base de la Communaute", Brussels, 1973.

TABLE II.4 ORIGIN (%) OF GROSS DOMESTIC PRODUCT, AT FACTOR COST, YEAR 1971

On the basis of current prices

| | Agriculture | Industry | Services | G.D.P. |
|---|---|---|---|---|
| 1. Germany | 3,5 | 51,3 | 45,2 | 100 |
| 2. France | 6,3 | - | - | 100 |
| 3. Italy | 9,8 | 38,7 | 51,5 | 100 |
| 4. Netherlands | 5,7 | 41,8 | 52,5 | 100 |
| 5. Belgium | 4,2 | 43,7 | 52,1 | 100 |
| 6. Luxembourg[1] | 4,4 | 57,5 | 38,1 | 100 |
| EEC of Six | 5,7 | - | - | 100 |
| 7. United Kingdom | 2,9 | 43,3 | 53,8 | 100 |
| 8. Ireland | 16,4 | 35,6 | 48,0 | 100 |
| 9. Denmark | 7,5 | 38,7 | 53,8 | 100 |
| EEC of Nine | 5,3 | - | - | 100 |
| 10. GREECE | 18,6 | 31,0 | 50,4 | 100 |
| 11. Turkey[1] | 31,0 | 27,0 | 42,0 | 100 |
| 12. Norway[2] | 5,3 | 37,8 | 56,9 | 100 |
| 13. Sweden | - | - | - | - |
| 14. Switzerland | - | - | - | - |
| 15. Austria[2] | 6,0 | 49,0 | 45,0 | 100 |
| 16. Portugal | 16,2 | 44,3 | 39,5 | 100 |
| 17. Finland | 13,7 | 42,3 | 44,0 | 100 |
| 18. Spain | 13,5 | 34,4 | 52,1 | 100 |
| 19. United States[1,2] | 2,9 | 34,2 | 62,9 | 100 |
| 20. Canada | 4,3 | 36,7 | 59,0 | 100 |
| 21. Japan[1,2] | 6,5 | 44,4 | 49,1 | 100 |

[1]. 1970
[2]Gross Domestic Product in Purchasers' values.

Sources: O.E.C.D. (A) "National Accounts 1960-1971", Paris 1973
(B) "Economic Outlook", No. 13, Paris, July 1973

E.E.C. "Statistiques de base de la Communaute", Brussels, 1973.

## TABLE II.5 GROSS FIXED ASSET FORMATION

In U.S. billion dollars at constant 1963 prices

| | 1960 | 1966 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|
| 1. Germany | 20,86 | 29,24 | 32,36 | 36,04 | 37,66 |
| 2. France | 13,98 | 24,55 | 30,49 | 32,77 | 34,42 |
| 3. Italy | 8,84 | 10,48 | 13,88 | 14,35 | 13,64 |
| 4. Netherlands | 3,00 | 4,57 | 5,37 | 5,81 | 5,91 |
| 5. Belgium | 2,39 | 3,54 | 3,74 | 4,11 | 3,98 |
| 6. Luxembourg | 0,13 | 0,17 | 0,15 | 0,18 | 0,19 |
| EEC of Six | 49,20 | 72,55 | 85,99 | 93,26 | 95,80 |
| 7. United Kingdom | 12,57 | 17,32 | 19,34 | 19,82 | 19,71 |
| 8. Ireland | 0,28 | 0,50 | 0,72 | 0,71 | 0,73 |
| 9. Denmark | 1,31 | 2,09 | 2,55 | 2,70 | 2,75 |
| EEC OF Nine | 63,36 | 92,46 | 108,60 | 116,49 | 119,04 |
| 10. GREECE[1] | 0,72 | 1,38 | 1,93 | 1,97 | 2,18 |
| 11. Turkey | - | - | - | - | - |
| 12. Norway | 1,35 | 2,01 | 1,92 | 2,22 | 2,49 |
| 13. Sweden | 3,30 | 4,73 | 5,23 | 5,39 | 5,31 |
| 14. Switzerland | 2,41 | 3,56 | 4,00 | - | - |
| 15. Austria | 1,73 | 2,63 | 2,77 | 3,10 | 3,50 |
| 16. Portugal | 0,45 | 0,75 | 0,79 | 0,87 | 0,86 |
| 17. Finland | 1,52 | 1,94 | 2,01 | 2,27 | 2,31 |
| 18. Spain | 2,31 | 5,00 | 5,87 | 6,10 | 5,98 |
| 19. United States | 88,90 | 121,90 | 133,00 | 128,30 | 134,80 |
| 20. Canada | 8,11 | 12,40 | 12,97 | 13,08 | 13,83 |
| 21. Japan | 14,01 | 29,28 | 49,43 | 56,21 | 60,89 |
| (1) Excluding ships operating overseas the value of which is: | 0,28 | 0,12 | 0,24 | 0,16 | 0,32 |

Sources: O.E.C.D. (a) "National Accounts 1960-1971", Paris 1973.
(b) "Economic Outlook", No. 13, Paris, July 1973.

E.E.C. "Statistiques de base de la Communaute", Brussels, 1973.

## TABLE II.6 EXTERNAL TRADE

Imports c.i.f. and Exports f.o.b.: 1956-1972

| Year | Imports | Exports | Trade balance | Exports as % of imports | Imports | Exports |
|---|---|---|---|---|---|---|
| | | Million drachmae | | | $ HIIA - | USA $ |
| 1956 | 13.911 | 5.698 | - 8.213 | 41,0 | 57,50 | 23,55 |
| 1957 | 15.734 | 6.588 | - 9.146 | 41,9 | 64,67 | 26,99 |
| 1958 | 16.946 | 6.953 | - 9.993 | 41,0 | 68,77 | 28,21 |
| 1959 | 17.009 | 6.127 | -10.882 | 36,0 | 68,31 | 24,60 |
| 1960 | 21.060 | 6.096 | -14.964 | 28,9 | 84,89 | 24,57 |
| 1961 | 21,422 | 6.700 | -14.722 | 31,3 | 85,41 | 26,71 |
| 1962 | 21.037 | 7.503 | -13.534 | 35,7 | 82,98 | 29,60 |
| 1963 | 24.129 | 8.703 | -15.426 | 36,1 | 94,85 | 34,21 |
| 1964 | 26.552 | 9.256 | -17.296 | 34,9 | 104,00 | 36,26 |
| 1965 | 34.012 | 9.833 | -24.179 | 28,9 | 132,60 | 38,33 |
| 1966 | 36.685 | 12.179 | -24.506 | 33,2 | 141,97 | 47,13 |
| 1967 | 35.588 | 14.856 | -20.732 | 41,7 | 136,12 | 56,82 |
| 1968 | 41.830 | 14.047 | -27.783 | 33,6 | 158,26 | 53,19 |
| 1969 | 47.824 | 16.608 | -31.216 | 34,7 | 180,37 | 62,64 |
| 1970 | 58.750 | 19.276 | -39.474 | 32,8 | 222,71 | 73,07 |
| 1971 | 62.942 | 19.874 | -43.068 | 31,6 | 237,02 | 74,84 |
| 1972 | 70.373 | 26.125 | -44.248 | 37,1 | | |

Source: NSSG, Statistical Yearbook of Greece 1972, Athens 1973, p. 255.

TABLE II.8 COMPARATIVE DATA FOR GREECE AND THE EEC

G N P at market prices

Per capita

| Country | At 1970 prices and exchange rates (U.S. $) | At current prices (U.S. $) | Average annual rate of change at constant prices | | Average annual rate of change in gross fixed capital formation (at constant prices) | Average annual rate of change in industrial production |
|---|---|---|---|---|---|---|
| | | | % | % | % | % |
| | 1975 | 1975 | 1962-1975 | 1975 | 1962-1975 | 1962-1975 |
| Belgium | 3,140 | 6,640 | 4.4 | -2.5 | 3.9 | 3.5 |
| France | 3,210 | 6,280 | 4.7 | -2.0 | 6.6 | 4.2 |
| Germany, West | 3,300 | 6,950 | 3.7 | -3.7 | 2.6 | 3.6 |
| Italy | 1,820 | 3,090 | 3.9 | -4.5 | 1.4 | 4.3 |
| Luxembourg | 3,330 | 6,120 | 3.4 | -3.5 | 2.3 | 1.4 |
| Netherlands | 2,680 | 6,010 | 4.6 | -2.0 | 4.1 | 6.0 |
| EEC-6 | 2,800 | 5,580 | 4.2 | -3.2 | 3.8 | 4.2 |
| Denmark | 3,330 | 7,000 | 3.5 | -1.5 | 3.2 | 5.7[1] |
| Ireland | 1,390 | 2,590 | 3.3 | -3.7 | 6.0 | 5.2 |
| United Kingdom | 2,380 | 4,090 | 2.4 | -2.2 | 3.2 | 2.3 |
| EEC-9 | 2,700 | 5,240 | 3.8 | -3.0 | 3.8 | 3.7 |
| Greece | 1,432 | 2,407 | 6.8 | +5.0 | 6.3 | 9.4 |

[1] 1966-1973.

Note: Data for 1975 are based on estimates.

Sources: OECD National Accounts of OECD countries, 1953-1969, 1962-1973.
" Economic Outlook No. 18, Dec. 1975.
" Main Economic Indicators, Mar. 1976.
" Economic Surveys, France, Jan. 1976.
EUROSTAT Basic Statistics of the Community, 1973-1974.
ILO Yearbook of Labour Statistics, 1975.
Ministry of Co-ordination and Planning, National Accounts of Greece, 1958-1974 and 1975.

TABLE II.9 GDP AND TOTAL CIVILIAN EMPLOYMENT
BREAKDOWN BY SECTOR - GERMANY

| | GDP | | | Employment | | |
|---|---|---|---|---|---|---|
| Year | Agr. | Industry | Other | Agr. | Industry | Other |
| 1970 | 3.1 | 54.2 | 42.6 | 9 | 50.3 | 40.7 |
| 1971 | 2.8 | 53.5 | 43.7 | 8.4 | 50.1 | 41.5 |
| 1973 | 2.9 | 52.1 | 45.0 | 7.5 | 49.5 | 43.0 |

Source: OECD Economic Surveys, Germany

Basic Statistics - International Comparisons, various issues.

TABLE II.10 COMPARATIVE DATA FOR GREECE AND THE EEC

| Country | Area (thous. sq. km) | Population (000) | Employment (000) | Percentage breakdown of: (a) GDP[1] and (b) employment | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Primary production | | Secondary production | | Services | |
| | | 1974 | 1974 | a | b | a | b | a | b |
| Belgium | 30.5 | 9,772 | 3,799 | 4 | 4 | 40 | 41 | 56 | 55 |
| France | 547.0 | 52,492 | 21,165 | 6 | 12 | 46 | 39 | 48 | 49 |
| Germany, West | 248.6 | 62,054 | 25,705 | 3 | 7 | 52 | 49 | 45 | 44 |
| Denmark | 43.1 | 5,045 | 2,355 | 8 | 10 | 40 | 32 | 52 | 58 |
| United Kingdom | 244.0 | 56,068 | 24,767 | 3 | 3 | 42 | 42 | 55 | 55 |
| Ireland | 70.3 | 3,086 | 1,047 | 18 | 24 | 34 | 31 | 48 | 45 |
| Italy | 301.3 | 55,361 | 18,898 | 9 | 16 | 41 | 44 | 50 | 40 |
| Luxembourg | 2.6 | 357 | 157 | 4 | 9 | 42 | 49 | 54 | 42 |
| Netherlands | 40.8 | 13,545 | 4,550 | 5 | 7 | 45 | 36 | 50 | 57 |
| EEC-9 | 1,528.2 | 257,790 | 102,433 | 5 | 9 | 46 | 43 | 49 | 48 |
| Greece | 132.0 | 8,962 | 3,320[1] | 19 | 34 | 34 | 26 | 47 | 40 |

[1] 1973.

Sources: OECD — National Accounts of OECD countries, 1953-1969, 1962-1973.
" — Observer, No. 74.
" — Economic Surveys, France, Jan. 1976.
" — Economic Outlook, No. 18, Dec. 1975.
" — Main Economic Indicators, Mar. 1975.
EUROSTAT — Basic Statistics of the Community, 1973-1974.
UN — Monthly Bulletin of Statistics, Jan. 1976.
ILO — Yearbook of Labour Statistics, 1975.
Ministry of Co-ordination and Planning, National Accounts of Greece, 1958-1974 and 1975.

TABLE II.11 GERMAN IMPORTS - EXPORTS $ MILLION

| Year | Imports | Exports | Exports as % of imports |
|---|---|---|---|
| 1965 | 16630 | 17870 | |
| 66 | 17215 | 20097 | |
| 67 | 16505 | 21701 | |
| 69 | 29331 | 34385 | |
| 1970 | 32220 | 36100 | |
| 71 | 43900 | 47010 | |
| 72 | 51150 | 55730 | |

Source: Basic Statistics, International Comparisons
OECD Economic Surveys, Germany, Various issues.

## APPENDIX IIb

It is attempted here to consider the average expenditure of a Greek and a German worker in both Greek and German prices. A word of caution is in place: why was the Usher methodology chosen instead of another way of comparing? This was done for two reasons: a) it was felt that in relation to this study this was the most useful approach, as it brought forward the relative welfare function of both countries while the major obstacle of different consumption patterns in the two countries was kept at bay; b) the lack of sufficiently detailed long-term data, especially for Greece, made impossible the use of other economic or non-economic indicators for comparison purposes.

The choice of the expenditure items is by necessity arbitrary. However, it is hoped that a huxtaposition of the amounts a Greek worker would have to spend for the same bundle of goods in Greece and Germany would provide an intuitive feel for the differences in cost-of-living levels between Greece and Germany. Similarly, the bundle of goods the average German worker buys is kept the same and the worker is conceptually 'moved' from Germany to Greece in order to buy the same items in Greek prices. It is felt that this might be a better approximation of 'welfare' levels in Greece and Germany, than the one suggested by simple gross national income per head comparisons for the following reasons:

(a) There are problems involved in converting national income figures expressed in Greek Drachmas and German Marks to U.S. Dollars. A. P. Thirwall ( [illegible] , p. 16) lucidly summarizes these problems.

> ... Exchange rates are generally a very poor reflection of relative prices and purchasing power in different countries. Foreign exchange rates basically reflect the relative prices of goods and services which enter international trade. Typically goods and services produced and used within low income countries are cheaper, relative to the same goods in

developed countries, than those that enter into foreign trade, so that the conversion of less developed countries' national incomes into dollars by the use of the foreign exchange rate understates their true income.

Moreover, the mix of goods bought and sold in one country may be radically different from the mix bought and sold in another, so that the equivalent of a dollar's expenditure in, say, India, at the current rate of exchange, may buy a very different standard of living from a dollar in America.

TABLE II.12 NET FOOD SUPPLIES PER CAPITA

| Country | Year | Cereals (as flour) | Potatoes, etc. | Sugar and sweets | Pulses, nuts and seeds | Meat | Milk | Fats and Oils | Calories Per day Total | Calories Per day % animal origin | Protein Grams |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Germany, Fed. Rep. of | 1960-62 | 217 | 359 | 89 | 11 | 186 | 546 | 73 | 3160 | 40 | 82 |
| | 1963-65 | 203 | 322 | 94 | 12 | 196 | 546 | 73 | 3140 | 41 | 81 |
| | 1966-68 | 192 | 303 | 95 | 12 | 209 | 562 | 74 | 3150 | 42 | 82 |
| | 1969-70 | 189 | 298 | 95 | 11 | 220 | 567 | 74 | 3180 | 43 | 83 |
| Greece | 1960-62 | 430 | 108 | 44 | 39 | 72 | 344 | 50 | 2940 | 15 | 96 |
| | 1963-65 | 386 | 134 | 48 | 39 | 92 | 387 | 50 | 2920 | 17 | 97 |
| | 1967 | 331 | 161 | 56 | 46 | 111 | 448 | 51 | 2900 | 20 | 99 |

Source: U.N. Statistical Yearbook, 1972

A glance at the table above would show that there are considerable dietary differences in the patterns of consumption of a Greek and a German on the average. Of course, tastes and consumption patterns also change over time. These differences are due to both economic and non-economic reasons. It may be true that certain products are expensive in a particular country and therefore they are not consumed. But factors like the climate, custom, fashion could also have a decisive impact on the pattern of consumption and the mix of goods bought and sold in a particular country. The reciprocity of consumption patterns and price levels is thus accentuated: things are cheap because they are produced in quantity and they are demanded and thus produced in quantity just because they are cheap.

a) In inter-country comparisons the usage of the exchange rate against a third currency, presently the U.S. $, not of the exchange rate between the two countries compared would seem to aggravate the problems of comparison of GDP or GNP in dollars.

b) This approach of comparing the cost of a 'consumer's basket' was chosen on the assumption that tastes of a Greek in Germany do not change drastically over time. This is a reasonable assumption to make, since the duration of stay in Germany was relatively short (5 years at most for most immigrants) and the purpose was not assimilation in another culture, but accumulation of savings and departure for most of the Greek emigrants. The comparative welfare levels are of interest here, not the absolute ones.

TABLE II.13 HYPOTHETICAL FOOD BASKET GREEK WORKER U.S. $

| Commodities | Grams per day | | Cost in Germany | | Cost in Greece |
|---|---|---|---|---|---|
| Cereals | 331 | ( .30) | 0.10 | ( .17) | 0.06 |
| Sugar | 56 | ( .33) | 0.0185 | ( .44) | 0.02 |
| Fats and Oils | 51 | - | - | - | - |
| (only Butter) | 51 | (2.09) | 0.10 | (1.94) | .10 |
| (only Olive Oil) | 51 | (1.68) | 0.086 | (1.12) | .06 |
| (only Margarine) | 51 | (0.81) | 0.041 | (1.59) | .08 |
| Meat | 111 | (2.64) | 0.29 | (1.21) | 0.13 |
| Milk | (450) | ( .16) | 0.072 | ( .30) | .14 |
| Cheese (Hard) Month | (450) | (1.76) | 0.792 | (1.61) | .72 |
| Cheese (Soft) Month | (450) | (2.00) | 0.90 | (1.19) | .53 |
| Potatoes | 161 | ( .13) | 0.02 | ( .10) | 0.016 |
| Coffee | (100) | (4.69) | .469 | (3.64) | .36 |
| Fresh Vegetables | (100) | ( .35) | .035 | ( .25) | .025 |
| Fresh Fruits | (150) | ( .30) | .030 | ( .20) | 0.03 |
| Total: | | | 2.954 | | 2.244 |

Price Ratio: Greece/Germany = .76

Sources: (a) Handbook of Statistics, Federal Republic of Germany 1970, p. 174.
(b) Deutschland Archiv, Vergleich des deutschen Lebenstandards, May 1970, reprinted in M. Schnitzer, "East and West Germany: A Comparative Economic Analysis", New York, 1972.
(c) NSSG, Statistical Yearbook of Greece, 1972.
(d) UN, Statistical Yearbook, 1972.

Notes: Bracketed figures estimated by the author. Prices are those for 1970 in Greece and 1969 for Germany. Greek prices are monthly average retail prices of selected commodities in the Athen - Piraeus area, 1970, used in the consumer index compilation. Cost estimated by multiplying daily consumption times price.

TABLE II.14 HYPOTHETICAL FOOD BASKET GERMAN WORKER U.S. $

| Commodities | Grams per day | | Cost in Germany | | Cost in Greece |
|---|---|---|---|---|---|
| Cereals | 192 | ( .30) | 0.06 | ( .17) | 0.03 |
| Sugar | 95 | ( .33) | 0.03 | ( .44) | .04 |
| Fats and Oils | 74 | - | - | - | - |
| (only Butter) | 74 | (2.09) | 0.15 | (1.94) | .14 |
| (only Olive Oil | 74 | (1.68) | .12 | (1.12) | .08 |
| (only Margarine) | 74 | (0.81) | 0.06 | (1.59) | .12 |
| Meat | 209 | (2.64) | .55 | (1.21) | .25 |
| Milk | 562 | ( .16) | .09 | ( .30) | .17 |
| Cheese (Hard) Month | 600 | (1.76) | 1.06 | (1.61) | .97 |
| Cheese (Soft) Month | 600 | (2.00) | 1.20 | (1.19) | .71 |
| Potatoes | 303 | (0.13) | .04 | (0.10) | .03 |
| Coffee and Tea (Month) | 167 | (4.69) | .78 | (3.64) | .61 |
| Fresh Vegetables | 60 | ( .35) | .021 | ( .25) | .015 |
| Fresh Fruits | 120 | ( .30) | .04 | ( .20) | .024 |
| Total | | | 4.201 | | 3.189 |

Price Ratio: .759

Sources: (a) Handbook of Statistics, Federal Republic of Germany 1970, p. 174.
(b) Deutschland Archiv, Vergleich des deutschen Lebenstandards, May 1970, reprinted in M. Schnitzer, "East and West Germany: A Comparative Economic Analysis", New York, 1972.
(c) NSSG, Statistical Yearbook of Greece, 1972.
(d) UN, Statistical Yearbook, 1972.

Notes: Bracketed figures estimated by the author. Prices are those for 1970 in Greece and 1969 for Germany. Greek prices are monthly average retail prices of selected commodities in the Athens-Piraeus area, 1970, used in the consumer index compilation. Cost estimated by multiplying daily consumption times price.

Some observations are in order here:

The lack of statistical data made it necessary to compile an arbitrary 'shopping basket' on an individual basis. This 'shopping basket' is mainly based on the net food supplies per capita estimated by the U.N. for the year 1967 for Greece and 1966/68 for Germany. The 'basket' was further supplemented by figures from the German Family Budget survey of 1968 and the Greek Household Surveys of 1967/68, 1968/69 and 1969/70. The prices quoted for Greece are monthly average retail prices of selected commodities in the Athens-Piraeus area in 1970. So they would be expected to be biased upwards, as the Athens-Piraeus area is probably the most expensive in Greece. In some instances it was necessary to use arbitrary figures which seems to be a reasonable approximation of either the prevailing prices or the consumption pattern in Greece at the time. The results obtained are disappointing to a certain extent: it would seem plausible to expect larger price differences and hence smaller 'welfare' differences between Greece and Germany. Likely reasons for this result include:

a) The arbitrariness of the data chosen, coupled with an upward bias in the Greek prices made differences to look smaller than suspected.

b) The lack of detailed 'consumer basket' content for Greece and the omission of basic items (e.g. cod).

c) Some prices (meat) seem spuriously low in Greece.

d) The observations do not extend over a period of time, comparison because of lack of data is only for one year.

The difference in price levels suggested by the consumer's expenditure is found to be only 25 percent between the two countries. It would be expected to be higher.

# Table II.14

GEOGRAPHIC DISTRIBUTION OF INDUSTRIAL ESTABLISHMENTS BY INDUSTRY

| Industry | Athens | | | | Salonika | | | | Other industrial centres : (Patras, Herakleion, Larissa, Ioannina, Kavall, Volos) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1958 | | 1969 | | 1958 | | 1969 | | 1958 | | 1969 | |
| | % IC | % NT | % IC | % NT | % IC | % NT | % IC | % NT | % IC | % NT | % IC | % NT |
| Total manufacturing | 64.07 | 23.54 | 67.63 | 32.86 | 15.86 | 5.83 | 17.92 | 8.71 | 20.07 | 7.37 | 14.45 | 7.02 |
| I - Consumer goods .... | 65.76 | 23.15 | 66.50 | 30.31 | 17.02 | 5.98 | 18.62 | 8.48 | 17.22 | 6.06 | 14.88 | 6.78 |
| - Manufacture of food, beverages, tobacco | 54.36 | 11.50 | 54.29 | 13.03 | 18.47 | 3.91 | 18.39 | 4.41 | 27.17 | 5.75 | 27.32 | 6.55 |
| - Textile industry ... | 74.20 | 40.92 | 69.34 | 44.22 | 17.47 | 9.64 | 21.85 | 13.94 | 8.33 | 4.59 | 8.81 | 5.63 |
| - Manufacture of footwear, wearing apparel, leather | 66.39 | 26.30 | 67.32 | 34.87 | 17.13 | 6.79 | 20.24 | 10.48 | 16.48 | 6.52 | 12.44 | 6.44 |
| - Manufacture of wood and furniture .... | 65.61 | 31.89 | 66.22 | 51.29 | 16.01 | 7.78 | 17.81 | 13.79 | 18.38 | 8.94 | 15.97 | 12.36 |
| - Manufacture of rubber and of miscellaneous products .... | 67.19 | 15.69 | 68.13 | 19.85 | 17.30 | 4.04 | 17.11 | 4.98 | 15.51 | 3.62 | 14.76 | 4.31 |
| - Metal products (except machinery) | 75.00 | 51.19 | 77.02 | 58.26 | 14.94 | 10.20 | 14.40 | 10.89 | 10.06 | 6.87 | 8.58 | 6.50 |
| II - Intermediate goods .. | 79.71 | 14.89 | 79.95 | 63.15 | 10.73 | 2.00 | 12.16 | 9.61 | 9.56 | 1.79 | 7.89 | 6.23 |
| - Manufacture of paper and paper products | 81.87 | 63.52 | 82.43 | 67.81 | 9.73 | 7.55 | 10.16 | 8.36 | 8.40 | 6.52 | 7.41 | 6.10 |
| - Manufacture of chemicals (oils, petroleum and coal products) ..... | 74.48 | 4.89 | 73.05 | 51.91 | 13.14 | 0.86 | 17.75 | 12.61 | 12.38 | 0.82 | 9.20 | 6.54 |
| III - Capital goods ..... | 67.35 | 33.36 | 68.87 | 39.76 | 15.52 | 7.69 | 16.65 | 9.61 | 17.13 | 8.49 | 14.48 | 8.36 |
| - Manufacture of non-metallic mineral products ..... | 73.01 | 24.98 | 70.47 | 32.67 | 11.79 | 4.03 | 13.66 | 6.33 | 15.20 | 5.20 | 15.87 | 7.36 |
| - Basic metals ..... | 95.83 | 82.14 | 94.44 | 65.38 | 4.17 | 3.57 | 5.56 | 3.85 | 0 | 0 | 0 | 0 |
| - Manufacture of electrical machinery, appliances and supplies ..... | 67.89 | 48.44 | 70.38 | 48.71 | 17.06 | 12.18 | 17.86 | 12.36 | 15.05 | 10.71 | 11.76 | 8.14 |
| - Manufacture of transport equipment ... | 61.48 | 28.22 | 66.28 | 36.74 | 15.75 | 7.23 | 17.09 | 9.47 | 22.77 | 11.38 | 16.63 | 9.22 |

Key : % IC = percentage of total for industrial centres (8 towns).
% NT = percentage of national total

Note : For 1958, the industrial centre of Ioannina is not included except for "Total manufacturing industries".

Sources : Industrial censuses, 1958, 1963, 1969.

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