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GREECE IN THE EUROPEAN ECONOMIC COMMUNITY:

AN ECONOMIC EVALUATION OF A POLITICAL DECISION

George Basil Tsoublekas

A Thesis

in

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of

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ABSTRACT

GREECE IN THE EUROPEAN ECONOMIC COMMUNITY:
AN ECONOMIC EVALUATION OF A POLITICAL DECISION

George Basil Tsoublekas

Concordia University

This thesis is concerned with the impact of the European Economic Community factor on the Greek economy due to Greece's joining the EEC as its tenth full member. The primary objective is, within the framework of a general equilibrium model, to evaluate the changes occurring to the economic aggregates following the shock felt by the Greek economic system from its incorporation in the EEC environment. The EEC environment is defined as one where the following conditions prevail: abolition of subsidies and adoption of the Common External Tariff (CET) vis-a-vis the rest of the world; free movement of capital and labour; and adoption of the value-added tax scheme.

The changes are measured in terms of deviations from base-year levels. As base-year we consider the following: a slightly modified version of 1970, where some normalization has been performed but where the 1970 values have been essentially kept intact; and an artificially constructed base-year in which the 1970 structure has been kept but not that year's actual values.

In each experiment, a shock in the form of changes in key policy variables is introduced to the equilibrating system of the base-year. Then the system is left to simulate and generate the equilibrium prices that clear all markets.

On the basis of the tests performed the following general characteristics of the Greek economy are confirmed: the structure of the Greek economy, with its heavy government intervention, has in the past overvalued labour with a corresponding underpricing of capital; the drachma is overvalued; the existing indirect tax system proves to be penalizing to industrial employment; the country is overly dependent on foreign capital inflow. These special elements have created many rigidities which hamper growth.

The introduction of the free market structure, as defined by the association conditions, results in the correction of market imperfections. Full membership proves to be, in general, beneficial to Greece in terms of increased output and employment. However, evidence shows that the benefits accrued to Greece from the EEC membership are especially due to the former's obligation to liberate its market rather than from the EEC membership per se. Given the high political cost involved in streamlining the market from within, the blind submission to the market rules imposed by the EEC may prove to be Greece's most important gain from her full membership.

TABLE OF CONTENTS

LIST OF TEXT TABLES

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It is customary for any study to be preceded with tributes to those who have directly or indirectly helped in its realization. I want to do likewise. Before that, however, I would like to mention the respects I feel that I owe to my parents and especially to my teachers George Papaefthimiou and Theophanis Benos, who gave me the chance to go abroad for graduate studies.

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CHAPTER I

INTRODUCTION

The histories of nations, big or small, rich or poor, developed or underdeveloped, are marked by turning points, major events which have notably affected their evolution. The size, level of development and extent of wealth accumulation of countries can often be attributed to historically identifiable political decisions of their own, as well as actions taken by their neighbours on historical chance.

Insofar as a nation is able to make its own decisions in these matters, they should be based on thorough studies of the alternatives where an attempt has been made to analyze and estimate their implications before their implementation. Furthermore, such studies should also reflect experience gained from observing the results accruing to neighbouring countries where similar actions have already been taken.

Greece represents a challenging case for studying the implications of her historic decision to join the European Economic Community (EEC) as its tenth full member. The decision to join the EEC was effectively taken at the beginning of the 1960s. At that time, an agreement was signed for her association with the EEC with the provision that Greece would have 22 years to adjust her economy fully before finally taking

up full-member status. In fact, well before the expiry of the preparatory stage, Greece applied for full membership, which was granted.

It is fair to say that when the final decision was taken, Greece was still far from ready to compete with the advanced Western European countries. Moreover, no major economic study at the government or university level had been made for the evaluation of possible costs and benefit that might be anticipated from full membership. It is not that people were unaware of the economic ramifications of the decision; it is rather that the economic dimension was a secondary concern. Many commentators have indicated that political rather than economic motives dictated her decision to join the EEC.

Such an economic study done after the fact can be used to test the predictability of the economic evaluation techniques used here. It can also be assumed that these results could have influenced the terms of the membership, had they been known in advance. In the next chapter we describe the political nature of the EEC and survey the political reasons for, and consequences of, the Greek membership. In Chapter III we survey the Greek economy, its strengths and weaknesses. Chapter IV is a review of the literature on economic integration, trade liberalization and the use of general equiliblium models. In Chapter V we present the model that we use to evaluate the economic consequences of the membership. Chapter VI contains the simulation results. Finally, in Chapter VII we draw some conclusions on policy implications.

CHAPTER II

A PORTRAIT OF THE EUROPEAN ECONOMIC COMMUNITY

Historical Background and Organizational Structures

On 25 March 1957 the Governments of France, West Germany, Italy, the Netherlands, Belgium and Luxembourg signed the Rome Treaty, thus creating the European Economic Community (EEC), which was put into effect on 1 January 1958. In spite of the innocuous name given to this association, its political nature is revealed from the fact that it has political organs, such as the European Parliament and especially the Council of Ministers, whose decisions are binding on matters which were formerly national prerogatives. This implies that, in the minds of the initiators of the European Movement, economic integration was simply perceived as the vehicle for a political unification (Swann, 1972).

The idea for a united Europe is an old one. It took, however, two world wars to generate serious thought about unity, to ensure a lasting peace in the continent (Swann, 1972). Furthermore, the type of unification sought immediately after World War II could not be the same as the one we would have, had the unification been pursued before it. This is because, in the aftermath of World War II, most of the European countries found themselves with different political systems than they

had before and, in almost all cases, with shaky economies. In addition, the emergence of the Cold War, which now shaped the new international relations, made impossible any type of unity between East and West. To complicate matters further, there was no consensus among the Western European countries on the kind and the mechanisms of the association they wanted to form, a fact that finally led to the creation of two economic groups in Western Europe: the European Economic Community (EEC) mentioned above and the European Free Trade Association (EFTA).

The devastation of Europe after the war led to the setting up of the Economic Commission for Europe (ECE) in 1947, as a regional organization of the United Nations (UN), to be concerned with initiating and participating in concerted measures aimed at securing the economic reconstruction of Europe. The Marshall Plan was supposed to be elaborated within the ECE framework. A conference convened to discuss the management of the Marshall Plan aid led to the formation of a Committee of European Economic Co-operation (CEEC) and the latter led, in turn, to the creation of the Organization for European Economic Co-operation (OEEC) in 1948 and the Council of Europe in 1949.

The character of OEEC, actually an aid agency, and the Council of Europe conformed to the UK and Scandinavian views with respect to the authority given to each of these two institutions rather than to the French views. France, being in favour of supra-nationalism (a situation in which international administrative institutions exercise power over

the economies of the nation states), along with other federalists went ahead in forming in 1951 the European Coal and Steel Community (ECSC), whose the High Authority was endowed with great powers over the economies of the Six (the six countries described above). The creation of ECSC was the first step towards integration and its main purpose, in so far the French intentions were concerned, was the equal access to the products of iron, steel and coal industries, the basic materials of a war effort. It also suited the German interests, because entrance of Germany into such a community would give her a much needed international respectability.

The success of ECSC led the Europeans to proceed even further and propose for the formation of a European Defence Community (EDC), formed in 1952. In addition, the Foreign Ministers of the Six asked the ECSC Assembly to draft a treaty for a European Political Community (EPC) which, however, was not pursued after the French National Assembly rejected the EDC treaty. But in 1955, at the call of the Benelux countries, a meeting of the Foreign Ministers of the Six took place (in which the United Kingdom, which had already signed an Agreement of Association with ECSC in 1954, participated too) where it was decided to continue and extend economic integration paving the way for the achievement of the goal of a longer-term political unification.

Intensive negotiations started in 1956 and led to the establishment of two more communities, the EEC and the European Atomic Energy

Community (EAEC, Euratom), for which the treaties were signed by the Six in Rome on 25 March 1957 and were approved by the six national parliaments during the year. In 1957, it was also proposed to streamline the executive organs of the three communities; the Commissions of the EEC and Euratom and the High Authority of ECSC were to be merged into one, the Brussels Commission of the European Communities. A Treaty was signed on 8 April 1965 and was put into effect on 1 July 1967.

The UK withdrew before the negotiations for the establishment of the EEC started, disagreeing with especially the common agricultural policy envisioned by the EEC Treaty. That, it was thought, would limit the advantages that the UK was enjoying from her Commonwealth ties. Thus, the British took steps to create the European Free Trade Association (EFTA), a free trade area which was much more suitable to their interests and far looser than the EEC scheme in terms of freedom in choosing economic policies by the individual member states.

Four main institutions form the European Community's administrative structure, through which the unification proceeds: the Commission, the Council of Ministers, the European Parliament, and the Court of Justice (Commission of the EC, 1982a). The Commission is responsible for proposing Community policies and sees to the proper functioning and development of the common market. Because of its right of initiative, it is regarded as the engine of the community. Its members — two each from the larger states and one each from the smaller states — are

appointed for four years by common agreement among governments, but act independently from the governments and the Council. Thus, the Commission is answerable to the European Parliament alone.

The Council of Ministers decides major Community policy, while securing the harmonization of member-states' economic policies, within the context of the implementation of the objectives of the Community Treaties. The implementation of the Council's decisions is left with the Commission. In the Council, the member states are represented by either their Foreign Minister or the minister responsible for the points on the agenda. Each member state takes the chair of the Council for six months in turn. The heads of state or government meet three times a year as the European Council. In performing their tasks, Council and Commission issue regulations, directives and decisions, express recommendations or give opinions. In EEC and Euratom affairs they are supported by the Economic and Social Committee made up of representatives from various spheres of activity. A Consultative Committee delivers opinions on ECSC matters.

The European Parliament is the consultative and controlling organ of the Community. Its members are elected for five years by direct universal suffrage. In the European Parliament there are no national parties; members belong to groups constituted on a European scale. The Parliament considers Commission proposals and gives its opinion before the Council takes a decision. It enjoys considerable budgetary powers.

The Community Budget is established by Council and Parliament on proposal from the Commission. Final adoption on the draft budget rests with the President of the Parliament. The House can also reject the budget, and then a new draft must be submitted. Proposed modifications are dealt with by the Council in a concertation procedure with a delegation from the Parliament. The Council must justify any refusal. The Community budget is not financed by contributions from the member states, but rather by its own resources accruing from custom duties, levies on agricultural imports, sugar levies, the ECSC levy (which is the first European tax, established on 1 January 1953) and a proportion of the member-states' proceeds fom the Value-Added Tax (VAT), up to 1% of the basis of assessment.

The Court of Auditors verifies the legality and adequacy of the Community's revenue and expenditure and satisfies itself that the budget is being efficiently managed. Its members, one each from each country, are appointed by the Council, after consultation with the Parliament, for a period of six years. The Court of Justice upholds the law in the implementation and clarification of the Community Treaties. Its judges and advocates-general are appointed for a six-year term by mutual agreement of the governments. The Court is superior to national courts in matters of Community law.

To complete the picture, we have to mention the two main channels of financing of the Community programs. These are the European Invest-

ment Bank (EIB) and the European Social Fund (ESF). The primary objective in creating the EIB was to prevent member countries from offering special concessions to attract foreign investment. It was established by the Rome Treaty with the following mandate: financing of projects in the less developed regions; making of loans to enterprises that are forced to convert or modernize by virtue of the Common Market for which the expenses cannot be met by the member states; and financing of projects of common interest to member states but which are beyond their means. The Bank, however, does not finance an entire project when it makes a loan but rather the last increment needed to get the project started which cannot be found otherwise.

Articles 123 to 128 of the Treaty lay down the broad lines within which the European Social Fund operates. Its functions provide for a method of dealing with the regional unemployment problem. The main form of its operation is that the Fund reimburses governments for 50% of any expenditure they incur in re-training or re-settling unemployed or underemployed workers, or in supporting wages of labour which has temporarily been laid off during the conversion of an enterprise to other lines of production.

Achievements of the European Economic Community

Article 9 of the Rome Treaty declares that the Community is founded upon a customs union. This term, however, does not cover the free movement of factors of production, envisaged by Articles No 48 for labour and Nos 67-73 for capital, which imply a common market. Nor does it cover the type of economic arrangements envisaged by the Treaty such as harmonization of agricultural and fiscal policies (Articles Nos 100-102), or rules for dealing with cyclical and balance of payments problems (Articles Nos 103-109), which imply an economic union.

The EEC today can be considered as a common market changing very quickly into an economic union. Here we focus on three areas: The Common Agricultural Policy and its budgetary implications, Tax Harmonization, and the European Monetary System.

The Common Agricultural Policy

The willingness to agree on a Common Agricultural Policy (CAP) was a very important indication that the original Six EEC Members were serious about unification. Agriculture occupied an important part in the six economies while enjoying special treatement under various agricultural support systems. Thus, in 1958 agriculture accounted for 8.8% of the gross domestic product of the EEC, while employing 22.7% of

the Community's labour force. By 1970, however, the share of agriculture in the total EEC GDP and labour force had declined to 6.5% and 13.5% respectively.

The Treaty of Rome established the objectives of its agricultural policy as follows: (a) to increase agricultural productivity; (b) to maintain a fair standard of living for farmers; (c) to stabilize markets; (d) to ensure regular supplies to consumers; and (e) to maintain reasonable consumer prices. These objectives are not necessarily complementary and, consequently, conflicts do arise.

The means by which the objectives were to be reached at the beginning consisted of a target-levy-intervention price system which essentially maintained prices above world market prices and produced high incomes for the EEC farmers. Later on (1969) the Monetary Compensatory Accounts (MCA) were introduced in the form of offsetting taxes and subsidies in the intra-EEC agricultural trade to smooth out variations in the transfers to farmers of different EEC countries stemming from variations in their exchange rates.

In a sense, the CAP produced the results expected from it, namely an increase in the degree of protection for the agricultural sector of the Six and particularly the French farmers. Indeed, according to Thorbecke and Pagoulatos (1975), the CAP was the sine qua non of French participation. Furthermore, as Koester (1981) points, while the inten-

tion of Article 39 of the EEC Treaty (for ensuring a fair standard of living to the farmer) was that this goal would be achieved through increasing productivity, it has in effect been interpreted as an instruction to bring the average income of farmers in line with the incomes of comparable groups.

Within a decade from the establishment of the CAP's objectives it became obvious that structural changes were required to ensure better results in particular having prices determined on the basis of more rational grounds. This type of change in the orientation of CAP was proposed in the Mansholt Plan, submitted on 18 December 1968, which suggested the following objectives for the ten-year period to 1980: (a) accelerated migration of labour out of agriculture; (b) consolidation of fragmented holdings and enlargement of farm size; (c) increased efficiency of the marketing system for farm products; and (d) improvement of agricultural management and technology.

The implementation of the Mansholt objectives was to be based on setting standards for the economic size of farm holdings depending on the commodity produced, on establishing guidelines for the consolidation of smaller farm units, and on establishing quantitative targets for the removal of up to 12 million acres of land from cultivation and the reduction of the agricultural labour force by 5 million people during the 1970s. However, the Mansholt Plan was never endorsed by the

member governments. Nevertheless, it has influenced structural policy measures proposed by the Community (Thorbecke and Pagoulatos, 1975).

Meanwhile, public expenditures for agriculture had increased substantially in the EEC. During the 1960s, it went from a total of about $2.1 billion in 1960 to about $6.3 billion in 1969 (Thorbecke and Pagoulatos, 1975). Three major categories of expenditures can be distinguished: Market support, restructuring, and social and other measures. Of these, the market support expenditures are financed by the Fond Europeen d'Orientation et de Garantie Agricole (FEOGA), which derives its revenues from the yield of import levies and custom duties as well as from the proceeds of a 1% VAT. Total expenditures on market support rose from $496 million in 1960 to $2.4 billion in 1969 at current prices. Expenditures on restructuring come from the national budgets, except for $285 million out of $2.1 billion in 1969 which came from the orientation section of FEOGA. Finally, social and other measures are financed out of the national budgets of member states.

The adoption of the CAP, which accentuates protectionism for the EEC agriculture, had both static and dynamic effects. The static effect of the CAP is observed in the trade-diversion that occurred in the form of replacing imports from low-cost extra-EEC sources with those from high-cost intra-EEC partners at the expense of the consumer. Support prices at levels higher than the world prices encouraged production which rose faster than consumption, effectively boosting the degree of

self-sufficiency of EEC in agricultural products. The result was that, during the 1960s, the EEC accumulated large surpluses, especially in dairy products, while it became a net exporter of cereals. Moreover, livestock and meat products became relatively more important for both EEC imports and exports. Thus, the CAP failed to achieve the objective of supplying consumers at reasonable prices, and incomes were effectively transferred from consumers to farmers (Koester, 1981).

Furthermore, instead of insulating the agricultural sector from the instability of the international monetary system (Katseli, 1983), the introduction of the MCAs altered the relative prices of agricultural commodities and thus affected each member state differently. Finally, income distribution among farmers became uneven, favouring the larger at the expense of the smaller farm operations, without necessarily inducing size increases to reach an optimum point (Koester, 1981).

The dynamic effect of the CAP is observed in the influence that it has exercised over the efficiency in sectoral resource allocation and, therefore, the rate of growth in the Community. The rapid rate of expansion of the EEC countries during the post-war period has been attributed, along with other factors, to the ready availability of excess labour to industry. The latter was provided by the immigration of unemployed and underemployed workers from the Mediterranean countries, as Yannopoulos (1976) and MacMillen (1982) show, as well as the exodus of surplus labour from the agricultural sector in the EEC

countries themselves. The decrease in agricultural underemployment resulted in a considerable rise in the productivity of farm labour, though not to the extent of reaching the productivity level of non-farm labour (Thorbecke and Pagoulatos, 1975). The relatively weak response of agriculture has been attributed to the CAP that slowed down the exodus of surplus farm labour (Koester, 1981) effectively resulting in reducing the potential growth of per-capita income in the Community by as much as 0.5-0.7% during the 1960s (Thorbecke and Pagoulatos, 1975).

Upon entry in the EEC, the UK had a different agricultural support system operating through deficiency payments to farmers based on guaranteed minimum prices. This system is less restrictive on imports and the burden of support to agriculture is borne by all tax-payers rather than just the consumers as the case is for the CAP (Thorbecke and Pagoulatos, 1975). On the other hand, the protection extended to agriculture in the pre-EEC Ireland and Denmark was very similar to that of CAP, but at lower than the CAP's levels. The entry of the three countries to the EEC intensified intra-EEC trade of temperate-zone products, since high prices increased the level of self-sufficiency.

The UK seems to have been seduced to a certain extent by the CAP, through high guaranteed prices which have stimulated production to the point where she became 76% self-sufficient in the home produced farm products in early 1980s, up from about 60% self-sufficiency in 1970 (Butler, 1984). However, her relatively high contributions to the

Community budget 60% of which is spent on agriculture, forced her to demand re-adjustments, which led some observers to predict the breaking up of the EEC. Others wished that that crisis had a cathartic influence upon the CAP, as ad-hoc measures applied until then aiming at limiting budget costs (such as imposing import quotas on cereal substitutes in order to make room for the EEC output) had not produced results in view of the GATT agreements and vocal foreign producers (Butler, 1984).

The agricultural issue is very closely related to that of the Community budget. There are differing views with respect to how to solve the impasse whereas, for example, the French think of it as having to be done through increased contributions, an extremely unacceptable situation for the British (Butler, 1984). Nevertheless, more resources need to be made available to the Community to avoid making agricultural payments out of the regional and social programs, and in order to relieve the financial pressure from the Community.

It is expected that the CAP will survive, in spite of its side-effects, because of its political ramifications for each member country and because the common agricultural market, in spite of its inconsistencies, has proved to be a very reliable force for the European unification (Neundorfer, 1983). Nevertheless, some redesigning of it can be expected, especially in view of the recent entry of Spain and Portugal. We can expect to see the CAP's price policy focusing on the objective of serving as a medium of production guidance while abando-

ning the objective of income distribution. Thus, the price policy will become more restrictive in order to avoid the accumulation of surpluses (Koester, 1981), while the achievement of the income objective will be attempted through some direct tranfers policy.

Tax Harmonization

A striking feature of the last 25 years has been the increasing economic inter-dependence of the Community countries. Their economic objectives in terms of growth and inflation rates are more and more often established jointly. However, economic and social policies and the means of implementing them, especially the use of taxation, are in general left to the discretion of the member states. Moreover, the Community budget is small in comparison to the sum of the national budgets (estimated to be about 2.8% of the total) and is financed through its own resources such as a share of VAT, customs duties and levies on goods imported from the rest of the world. Therefore, the budgetary role of taxation at the Community level is limited.

Tax harmonization in the Community is essential for the implementation of the free movement of people, goods and services among the member states, the alignment of their economic policies, and the adoption of common policies. However, tax harmonization, in itself a sensitive issue because it implies surrendering of national fiscal

sovereignty, is further hampered by differences in terms of concept, use and complexity in the taxation schemes that are presently in operation in different member states (Commission of the EC, Dir. Gen. of Information, 1984). Using 1981 figures (which do not include Spain and Portugal) we see that overall mandatory tax demands in terms of gross domestic product share varied from 36% for Italy to 46% for the Benelux countries. Moreover, the lower limit was reduced even further with the entrance of Greece which reports only 28% of her GDP accounting for by taxes.

The ten partners also differ in terms of the relative weight they attach to different forms of taxation for reasons of socio-economic policy. Thus, taxes on family earnings and property, including wealth taxes wherever they do exist, accounted for 15% of the global mandatory taxes in France in 1981 and 14% in Greece but 54% in Denmark. On the other hand, direct payments to social security funds represented less than 2% of the total taxes in Denmark, due to its high level of publicly funded social protection, but 43% in France and 33% in Greece, with the rest of the countries falling in between the two extremes.

Disparities also appear in the members' taxation patterns with respect to the stage at which the tax is applied. Thus, Ireland puts a heavier burden on consumption with 25% of its total taxes being collected from excise duties on selected products such as alcoholic drinks, tobacco and petrol, while all other countries follow with shares going

as low as 5% in Belgium, Netherlands and France. Greece is close to the lower end with an 8% of her total taxes being in the form of excise duties. On the other hand, production is taxed heavier in the UK, which leads with a 19% of its taxes being tied to production, followed by Greece with 18% down to Belgium with 7%.

Value-added or turnover tax is the only one of all major tax revenue categories in which we find the least variation among members in their shares of tax intake. This is significant because the VAT is scheduled to replace most of the indirect taxes. Thus, Luxembourg generated 10% of its total tax receipts in 1981 through this tax scheme, while Denmark generated 22% of hers, with the rest of the countries falling in between. In 1981, Greece was close to the upper limit with 20% of her tax intake representing turnover tax revenue, although the target date for full implementation of her VAT system was not before 1987.

It should be remembered that most of the Community's budget is being financed through the 1% of all VAT receipts that are earmarked for this purpose. Despite this progress, there is still a considerable distance that needs to be covered before a true tax harmonization can be accomplished even in the case of VAT. This is because, in order to become fully operational, the VAT system must be based on a single rate applied in a simplified fashion on similar goods coming from different countries.

The European Monetary System

The Treaty of Rome made only a limited mention of the need to co-ordinate monetary policies within the Community. Although there was an awareness that a true common market would imply free movement of capital, monetary unification did not seem to be a real problem since in 1958 the international monetary system was very sound. Thus, nothing was planned for eventual monetary unification among the member countries. During the 1960s (following the crises with the dollar and the system of international payments which until then was regulated by the Bretton Woods Agreements) the need for monetary integration became increasingly evident. So in 1969, the EEC Commission was asked by the Heads of State to draft a plan for an economic and monetary union.

The Werner Report, the first report on the subject, concluded in 1970 that the first step was to reduce fluctuations in the exchange rates among member nations, which was also the basic principle of the existing international payments agreements. On 12 April 1972 the Basel Agreement was signed, which included the following provisions: (a) to limit the maximum spread between two European currencies to $\pm 2.25\%$; (b) to limit the use of the dollar as currency of intervention when defending the position of the snake inside the tunnel (joint float); and (c) to reimburse in gold, Special Drawing Rights (SDR) or in currency those credits obtained by borrowing countries proportionally to the composition of their reserves.

Speculation on the dollar and heavy losses of reserves by some central banks showed how fragile the snake was. However, the inevitability of a monetary unification made necessary a second attempt for the creation of a new European Monetary System (EMS), which was finally established in 1979 with the Bremen Agreements. The EMS was different in three aspects intended to correct the weaknesses of the snake: (a) the creation of the European Currency Unit (ECU); (b) the elaboration of the Indicator of Divergency of Currencies; and (c) the establishment of a large credit mechanism (David, 1985).

The most spectacular result of the Bremen Agreements was the creation of the ECU. This is a cocktail currency, a basket of the ten currencies (the Greek drachma entered only in 1986), each weighted according to its issuing country's GNP, share of intra-EEC trade and foreign exchange reserves. Although it is still a bookkeeping device, it has evolved into a major financial instrument in Europe with an increasing number of transactions taking place in it. It is still without bank notes because there is no central bank that would act as a lender of last resort. However, this does not prevent it from being used in invoices of commercial transactions among the Community members because, due to its design, it provides security against fluctuations in exchange rates (David, 1985).

The ECU is defined as the summation of fixed quantities of the EEC currencies and is used as a common reference value for all European

currencies. The parities are declared in relation to the ECU. The calculation of the Indicator of Divergency for each currency helps allocate the costs of intervention. The fixed weights of each currency in the ECU facilitate the calculation of how each currency evolves with respect to the ECU to take corrective action.

During the first two years of the existence of the EMS only minor adjustments in parity were necessary. However, later on many more were made. According to Fairlamb (1984), the adjustment in parities prompted by the entrance of the drachma in the ECU would make it less attractive. He further points out that even the strong German currency could reduce the ECU's attractiveness as a commercial instrument because of its increased weight (as a result of many adjustments), as the heavy weight of the American dollar did for the SDR of the IMF.

The heart of the EMS is the intervention mechanism through which the exchange rates are kept within the allowed margins of fluctuation. Therefore, proposals aiming at modifying the intervention mechanism are deemed important. Interventions are intended as means of limiting exchange rate fluctuations. As soon as market exchange rates reach the intervention point, member central banks are obliged to intervene without limit and buy the weak currency, in exchange for the strong one, for as long as foreign exchange is offered to them at the intervention rate. This, of course, leads to changes in the volume of money in circulation in the countries affected. Furthermore, as these changes

should occur without delay, intervention financing is limited to a short period and any extension is subject to certain conditions.

The normal margin of intervention, set at ±2.25%, was supposed to be applied to all members at the beginning of 1986 However, many exemptions have been granted to members that did not belong to the currency snake before the introduction of the EMS. Furthermore, adherence to the intervention rules is not strong. It has become a common practice in the EMS to circumvent its consequences, and hence lighten the burden of adjustment Tricks for circumventing the intervention rules include: intra-marginal interventions in third currencies such as the US dollar; extending the period of adjustment and financing it through borrowing in the private capital markets, in order to avoid a drain on foreign exchange reserves and/or use of the EMS credit lines; and adjusting EMS central rates when exchange rates fluctuate vis-a-vis third currencies (Kleinheyer and Simmert, 1984).

In addition, the EMS as all other aspects of the Community, has been affected by the budgetary crisis and other growing pains. Thus, the initial expectations that the EMS would stabilize the value of money in the member states and be followed by converging economic policies, so that it become the motor of the integration, have proved to be optimistic (Kleinheyer and Simmert, 1984) The reason is that the EMS countries do follow different paths of monetary policy and, although inflation rates have been falling, inflation differentials

have not been reduced. On the other hand, exchange rates within the EMS have held remarkably stable.

In spite of its inadequacies, however, the EMS has shown to be viable. Furthermore, optimists think that failure in the economic convergence among members diverts attention from important progress made so far in the domain of economic co-ordination. Thus, co-operation that helps to avoid imposing unauthorized devaluations on other members or avoid adoption of protectionist policies, as well as the tying of parity adjustments in practice with other economic measures, are considered significant achievements (David, 1985).

Discussions on the subject of the EMS constantly revolve around two questions: one relating to the role that a future European Monetary Fund should play, and another to the compatibility of stable exchange rates with effective monetary policies geared towards stabilizing individual member states' economies. To the first question, the answer is that the ultimate aim of the EMS should be the creation of a single common currency, while the Fund itself would constitute the nucleus for a European central bank with full powers. In that case, the Fund should concentrate on stabilizing exchange rates within the EMS, thus safeguarding the value of money in individual member states. To the second question on the extent of the exchange rate stabilization the answer is more difficult. It should again be remembered that stability in exchange rates implies comparable standards among countries in order to

stabilize the value of money, which in turn implies common economic policies. All of this then requires taking more complex action than a mere fixing of the exchange rates.

The EMS represents the Community's attempt to solidify its economic and monetary unification. The EMS envisages the creation of a monetary area in Europe enjoying stability in the domestic value of money and external exchange rates. Monetary stability would underwrite economic stability, while unification would prompt common economic policy with identical priorities across the member states. In practice, this implies restrictions on the individual member-state's foreign exchange reserves policy, limited variations on exchange rates and on central bank rates, unimpeded movement of capital, and concertation of price stability policies.

Clearly the full implementation of the EMS would be the most concrete action towards a true economic union because it requires the submission of each member-state's national prerogative on important decision making to a supra-national common economic policy. It, therefore, requires the will to integrate and a lot of political courage in order to relinquish sovereignty and step through the threshold of irreversibility, the point of no return for a true European monetary union (David, 1985) subject to the constraint of stability in the value of money. In such a case, a clearly defined timetable would be needed, determining the gradual dismantling of restrictions, at clearly

defined intervals, culminating in the complete liberalization within the Community (Kleinheyer and Simmert, 1984).

Enlargement of the European Economic Community

The EEC is today much larger than it originally was. There are many members with various statuses ranging from full, to associate members, to others with limited trade agreements. All these developments were envisaged in the Rome Treaty. Thus, Articles 131-136 provide for association with overseas dependencies of the founders of the EEC, Article 237 for membership application by non-members, and Article 238 for associations with third countries in general. In addition, Article 235 empowers the EEC to do things that have not been explicitly written in any of the other articles.

The EEC started establishing special trade relations with a large part of French Africa since 1958, those relationships reflecting colonial links. Thus, the Community undertook to reduce its tariffs on goods coming from the dependencies, while the latter were required to reciprocate. They could, however, retain protection needed for their development, industrialization, or revenue generation, provided they extended to all member states the preferences they had previously granted to their mother-country. In addition, the European Development Fund (EDF), brought into existence by the Treaty, would channel US$580

million aid to the associated territories. In a certain way, the advent of the EEC ended the French monopoly in this market which, through price discrimination, was resulting in a transfer of real resources from the African consumer to the French exporter (Kreinin, 1975).

Between 1960 and 1962 most of the colonial territories became independent. Thus, it fell upon them to decide whether or not they wanted to continue as EEC Associates. Eighteen such countries opted for the association and on 20 July 1963 they signed the first Association Convention of Yaounde, covering a five-year period starting 1 June 1964. That was the beginning of the Associated African States and Madagascar (AASM). The first AASM states were Burundi, Cameroon, Central African Republic, Chad, Congo, Dahomey, Gabon, Ivory Coast, Madagascar, Mali, Mauritania, Niger, Rwanda, Senegal, Somalia, Tongo, Upper Volta and Zaire. Moreover, this Convention extended to Surinam, the Netherlands Antilles and French overseas departments and territories. With this Convention, trade relations of similar type were established between the AASM and EEC, governed by a system of mutual preferences, and the EDF aid was stepped up to US$730 million. A major innovation was the setting up of an institutional framework, including a Council of Ministers, to administer the Association.

In July 1966 an Association Agreement was signed between EEC and Nigeria, which, for political reasons, never came into force. Kenya, Uganda, and Tanzania, the countries of the East African Common Market

signed a similar agreement, the Arusha Agreement, which was in force from 1971 to January 1975 including only commercial terms and no financial aid. That period coincided with the second Yaounde Convention which was signed in July 1969 by the same AASM countries plus later on Mauritius covering the period up to January 1975. The EDF aid was stepped up again to US$905 million. But the most important achievement of the second Yaounde Convention was the initiation of discussions on the problem of erosion of custom preferences that was created by the similar concessions that the EEC was according to exports originating from other underdeveloped countries (Arusha, GATT, etc.).

The accession of the UK in 1972 brought forth the subject of co-operation between the EEC and Commonwealth countries. Two things soon became obvious: first, that the upcoming Yaounde Convention would be much enlarged; and second, that the form of the new agreement would be substantially different. Eighteen months of laborious negotiations led to the much celebrated Lome Convention signed on 28 February 1975 by the EEC of Nine and forty-six countries in Africa, the Caribbean and the Pacific, commonly known as the ACP. The ACP countries were the following: the nineteen former Yaounde countries; twenty-one Commonwealth countries including Botswana, Gambia, Ghana, Kenya, Lesotho, Malawi, Nigeria, Sierra Leone, Swaziland, Tanzania, Uganda and Zambia in Africa,Bahamas, Barbados, Guyana, Grenada, Jamaica, Trinidad and Tobago in the Caribbean and Fiji, Western Samoa and Tonga in the Pacific; and six other African countries, Ethiopia, Liberia, Sudan,

Guinea, Equatorial Guinea and Guinea-Bissau which had no previous relationships with the EEC.

The main features of the Lome agreement, which also represented innovations in the area of international trade and development, were the following: first, free access without reciprocity to the EEC for goods exported by the ACP; second, establishment of a stabilization fund to compensate the ACP in the event of reductions in the receipts they derived from exports of their principal basic products, known as the STABEX principle; third, financial aid for the ACP, including US$3 billion from the EDF and US$390 million from the EIB; fourth, industrial and technological co-operation aimed at promoting a better international division of labour on lines advantageous to the ACP; fifth, establishment of joint institutions to supervise observance of the agreement and promote discussion between the groups of countries; finally, a special clause regarding sugar originating in ACP, obliging the EEC to buy 1.4 million tons every year with a guaranteed minimum price of at least equal to the price guaranteed to European producers.

The Lome regime was one of the few attempts made in the context of a universal desire for tackling the problem of relationship between countries of unequal development. Furthermore, it was one of the very few of the attempts made in the late 1970s that produced some agreement on trade matters. However, following some authors, Lome did not deliver what the ACP countries expected, as their trade balance deteriorated

(passing from surplus to deficit under Lome) and their dependence on agricultural exports was reinforced because the adopted safeguards effectively limited their industrial exports. The ACP countries had been heard voicing their suspicions barely two years after Lome entered into force and started preparing a radically different agenda for negotiations at the second Lome II Conference (Asante, 1981).

Lome II was signed in the Togolese capital in October 1979 and governed relationships between the two groups of countries from January 1981 to March 1985, replacing Lome I which expired in March 1980. The new Convention covered 61 ACP countries and all ten members of EEC. However, according to Asante (1981), its content did not bring the much hoped for radical departure from the first convention.

In terms of funds, Lome II made available US$780 million through the EDF to support programs indicated by special programming missions. Also, another US$959 million was made available by EIB for ordinary loans at subsidized rates, as well as a US$8.4 billion for regional co-operation. The break-down of programmable resources indicates that priority had been given to least developed, land-locked and island states, whereas 36 least developed countries accounting for 44.4% of total ACP population were to get 65% of programmable aid. A sectoral break-down shows that rural development continued to occupy a prominent position with 40% of programmed funds, followed by transportation-communications with 20%, and industry-energy-mining with only 8% of it.

In terms of trade, under the new Convention, more than 98% of ACP exports had duty-free access to the Community. But in fact 80% of these products would have no duties anyway, because of zero rates under the Common External Tariff (CET), the EEC Generalized System of Preferences (GSP), and the GATT multilateral trade agreements. On the other hand, the EEC insisted on maintaining the Lome rules of origin, designed to prevent non-EEC countries from setting up plants specifically to export goods to EEC. The provisions of product origin broadly specified a minimum of 50% of value added to be generated in the exporting country or cummulatively in ACP. This effectively prevented non-EEC firms from seting up plants in ACP countries and weakened the latters' bargaining position in dealing with EEC firms (Asante, 1981). Furthermore, there were safeguard clauses whereby imports arriving through preferential treatment under the Lome might be prohibited free access to the EEC market if they threatened to disturb a sector of the European economy.

The innovative scheme of STABEX, designed in the first Lome and extended in Lome II, in spite of its limitation in product coverage, was the only international fund which compensated for revenue shortfalls of individual products and in which over 80% of its compensatory payments were non-repayable grants. Most importantly, it also compensated for revenue shortfalls based on agreements on export restrictions made in the context of international commodity agreements. This implied that certain modifications had to be expected in Lome III, in order to improve its effectiveness (Eisold and Hasse, 1984).

Lome II also introduced a scheme to promote ACP mineral production and assist in stabilizing export revenue derived from minerals. The coverage of the MINEX scheme was limited to only nine minerals of great importance to Europe's industry excluding additional minerals of considerable importance to the ACP. According to Asante (1981), the MINEX scheme was designed to benefit the Europeans first. The Lome II Agreement was only a small improvement over Lome I and it basically preserved the traditional capitalist division of labour maintaining the dependence of the less-developed countries on the developed ones.

Lome III was signed in Togo on 8 December 1984 between the EEC of Ten and 65 ACP countries, including all of the independent states of Black Africa with the exception of Angola. The number of signing parties gives an appreciation of the negotiating efforts involved for the end product. In total, the EEC intended to spend about $6 billion, thus increasing the level of aid in real terms. In addition, much thought was given on how to make the aid more effective. Thus, for example, the funds for the STABEX scheme (designed to stabilize export earnings) were increased with the stipulation that the developing countries concerned had to provide accurate information on how the funds had been spent.

The most important achievement, however, of the Lome III was the recognition by the participants of the fact that overall conditions as well as the development prospects in the developing countries had

deteriorated. This may have been due to setting wrong priorities in the past and especially the neglect of agriculture in favour of industry. Thus, agriculture became the top priority in the new Convention. The implication of this is that the emphasis was now placed on rural development ensuring supplies of food and promoting human resources with the aim of self-reliance. The EEC no longer wants to restrict its role to a mere examining of ideas for projects but it intends to enter into a detailed dialogue on fitting a particular project into the overall development policy of the country.

Meanwhile, the Community nas signed a host of trade and other types of co-operation agreements with most of the countries of the globe. The first Trade Agreement with a non-member country was signed with Iran (October 1963), while later followed agreements with Yugoslavia (March 1970), Argentina (November 1971), Uruguay (April 1973), again with Yugoslavia (June 1973), Brazil (December 1973), China (April 1978) and Romania (July 1980). Also, Free Trade Agreements had been signed with Spain (June 1970), the non-applicant EFTA countries which at that time included Iceland, Austria, Portugal, Sweden and Switzerland (July 1972), as well as with Norway after the membership rejection (May 1973), and Finland (October 1973).

Furthermore, within the context of EEC's Mediterranean Policy and Euro-Arab Dialogue, Co-operation Agreements were signed with Israel (May 1975), the Maghreb countries including Algeria, Morocco and

Tunisia (April 1976), the Mashreq countries including Egypt (also alone since December 1972), Jordan and Syria (January 1977), and Yugoslavia (April 1980), thus leaving only Albania and Libya as the only countries from the region which have not sought links with the EEC.

Besides the Mediterranean basin countries, Co-operation Agreements on Commercial Policy were signed with India (December 1973), Mexico (July 1975), Sri-Lanka (July 1975), Pakistan (June 1976), Bangladesh (October 1976) and the Association of South-East Asian Nations (ASEAN) which includes Indonesia, Thailand, the Philippines and Brunei (March 1980). Finally, Framework Agreements on Economic and Trade Co-operation were signed with Canada (July 1976), which is also the first such agreement with an industrial country, and Brazil (September 1980).

In addition to bilateral or multilateral agreements, working relations have been established between the EEC and a number of regional integration schemes in Latin America including the Latin America Free Trade Association (LAFTA), the Andean Group, the Central American Common Market (CACM), and the Institute for Latin American Integration. Multilateral Trade Negotiations have also been concluded after the EEC presented to GATT its offer of trade concessions to the developing countries for tropical products.

The first enlargement of EEC took place with the entry of the United Kingdom, Ireland and Denmark. All three first applied for

membership in mid-1961 and negotiations started a few months later. Almost a year later, Norway also applied for membership and was included in the package of the applicant countries. Of all four, the most debated was the membership application of UK. That was because of the suspicions of the Six (especially in France) against the UK, the issue of the Commonwealth obligations of the UK, and the latter's worsening economic situation. The insistence of the UK to make modifications also added to the delays.

In 1963, negotiations with the UK broke off and negotiations with the other applicant countries stopped too. Finally, new membership applications were submitted to the Six in 1967 and five years later the Acts of Accession were signed in Brussels, to be put into effect on 1 January 1973. In 1972, the Danes and Irish decided in favour of the membership and the British House of Commons ratified the Act, while the Norwegians rejected the Community membership in a referendum. In 1975, the British confirmed their EEC membership by a plebiscite.

The only defection from the EEC has been that of Greenland which had joined the EEC as part of Denmark despite a 70% vote against it in a pre-entry referendum. However, with her gaining a degree of autonomy in 1979, pressure mounted in Greenland to leave the EEC. A second referendum held in 1982 resulted in a small majority in favour of getting out and Greenland, through negotiations carried out on her behalf by Denmark, quit the EEC on 1 February 1985. It was said that

Greenland was not satisfied with the fishing quotas set by the Community in her waters neither was she pleased with the fact that she was not gaining much from the agricultural budget due to her small agricultural sector. The Community did not give in to pressures by certain member governments asking for penalties, even though the quitting sets some kind of precedent. Thus, links will be kept with the EEC and Greenland will be receiving $20 million annually for fishing rights.

A Chronicle of the Relations of Greece with the EEC

The Association Years, 1961-1975

The first two countries to take advantage of the provisions envisaged by Article 238 and join the EEC as Associate Members were Greece and Turkey. The terms of association of Greece were better than those for Turkey, but the military coup in 1967 and the subsequent seven-year dictatorship in Greece entailed a freeze on the Greek Association Agreement (Kreinin, 1975).

To the students of Greek affairs, there is no doubt that political considerations were uppermost in prompting both Greece and Turkey to forge association links with the EEC in 1959 (Tsakaloyannis, 1980). In the case of Greece, close links with the EEC, which was at the time led by Gaullist France, appeared attractive considering Greece's bitterness

and alienation from Great Britain over Cyprus. In the case of Turkey, on the other hand, her application fell within the traditions of her foreign policy that require that Greece be watched very closely so as she would not use the political and economic weight of her new relationship with Europe against Turkey (Tsakaloyannis, 1980).

According to some, association with the EEC was a good means of arresting Greece's growing trade dependence on the Soviet Union before it led to a Soviet political penetration. The dramatic increase of the share of Eastern Europe to total Greek exports from 4.5% in 1955 to 22% in 1959 along with the revival of the Left in the political scene was a signal that could not be taken lightly by the Greeks, who had just ten years earlier come out of a Left-Right civil strife which lasted five years at a tremendous social and economic cost. This explains why the decision of Greece to apply for Associate Member's status has been interpreted as representing a decision on her part to remain in the western camp (Calogeropoulos-Stratis, 1967 and Kalamotousakis, 1976).

The Agreement of Association of Greece with the EEC was signed in Athens on 9 July 1961 and put into effect on 1 November 1962. The aim of the association, as it comes out of the text of the agreement, was

> "... to promote the continuous and balanced strengthening of trade and economic relations between the Parties, while taking full account of the need to ensure an accelerated development of the Greek economy and to improve the level of employment and the living conditions of the Greek people" (Article 2).

The means to accomplish this aim would be the "establishment of a customs union" between Greece and the EEC, the undertaking of a "gradual harmonization of policies" in certain fields, and the making available of "financial assistance to Greece through the EIB".

A Council of Association, created at that time, had as its main function "to ensure the implementation of the Agreement and progressive development of the Association" (Article 3), and it consisted "of members of the Governments of the member-states and members of the Council and the EEC Commission on the one hand, and of members of the Greek Government on the other" (Article 65). Also, as envisaged by Article 71 of the Agreement, one more organ was created in 1963, which was called the Joint Parliamentary Committee and consisted of fourteen members of each of the two Parliaments, in order "to promote the necessary co-operation and contacts between the European Parliament on the one hand, and the Greek Parliament on the other".

Freeing trade of manufactured goods with the EEC meant for Greece the following obligations: a gradual elimination of tariffs on those goods coming from EEC classified as non-competing (including cars, motors and engines accounting for about 70% of all imports originating in EEC countries) within twelve years finishing on 1 November 1974 (Article 14); a gradual elimination of tariffs on those goods coming from the EEC considered as import-competing (as fabrics, carpets etc.) within twenty-two years finishing on 1 November 1984 (Article 15

and Annex I); a gradual abolition of all export taxes and charges within four years (Article 19); a gradual abolition of all quantitative restrictions on imports coming to Greece within twenty-two years (Article 25); finally, a gradual abolition of all quantitative restrictions on Greek exports within twelve years (Article 28). Furthermore, Greece was to abolish any fiscal measure which could form a substitute for custom duties within six years (Article 17). On the other hand, according to Article 18, if any new industry were created in Greece to produce goods which were not produced at the date of the enactment of the Agreement, Greece would be permitted to apply a tariff according to the provisions of Article 15 concerning import-competing goods.

With respect to her trade with the rest of the world, Greece undertook two obligations: to gradually adopt the Common External Tariff (CET) vis-a-vis third countries within twenty-two years (Article 20); and asking for prior authorization from the Council of Association for offering preferential status to third countries (with which Greece had already concluded bilateral trade agreements) which might be granted if the functioning of these agreements were substantially affected by the application of the Association Agreement. However, in no case could the status offered to third countries be more favourable than that given to the Community country-members (Article 21).

At the time of the Agreement, EEC had not established a common agricultural policy. Thus, no special provisions were included for the

free trade of agricultural products. In fact the EEC countries were free to establish either quotas or minimum prices below which Greek agricultural exports were prohibited. Annex III of the Agreement listed those agricultural products of Greece which included, among others, important Greek exportables such as olive-oil, tobacco, fruits and vegetables on which a fluctuating levy was applied.

Other articles of the Agreement were referring to the free movement of persons and services and harmonization of economic policies which would promote competition within the context of the need of the Greek economy for rapid development. Article 69 specified that "this Agreement shall not apply to products within the province of European Coal and Steel Community". Finally, Article 72 provided that

> "... as soon as the operation of this Agreement has advanced far enough to justify envisaging full acceptance by Greece of the obligations arising out of the Treaty establishing the European Economic Community, the Contracting Parties shall examine the possibility of the Accession of Greece to the Community".

Annexed to the basic text of the agreement were twenty Protocols, the most important of which were concerned with: public contracts (No 1); goods originating in or coming from third countries non-parties of the Association (No 5); the use by Greece of the American aid (No 9); the movement of certain agricultural products such as wines, dried grapes and tobacco (Nos 12-18); financial assistance to Greece by EIB (No 19); and the trade between Greece and overseas countries and territories associated with the Community (No 20).

It is evident that the Association Agreement's main principles and provisions were modelled closely on those of the Treaty of Rome. Thus, with the exception of agriculture, they covered not only a full customs union but also several other elements of a common market type such as rules of competition including those applied to state aid, free movement of persons and services, and co-ordination of economic policies. However, particularly as a result of the 1967-1974 freezing period, many of the provisions of the Agreement which was intended for full implementation by 1984 had hardly begun to be applied at all before Greece applied for full membership. On the other hand, in several areas it was not mandatory that the agreement be applied in exactly the same way as similar provisions of the Rome Treaty.

Following the military coup in 1967, the functioning of such organs as the Joint Parliamentary Committee became impossible. The European Parliament declared itself sympathetic to the Greek people, condemned the methods used by the dictators to keep their power and warned them that the Association Agreement could not be implemented before the restoration of democracy in Greece and, if those circumstances persisted, the Agreement should either be revised or suspended. In fact, only the Articles concerning tariff reductions were kept in force during the 1967-1974 years while those referring to the creation of the conditions for the future membership of Greece, as well as negotiations concerning more financial assistance, were suspended.

The reaction of the EEC was completely ignored by the military government of Greece. However, with its stance, the EEC showed that its basis of establishment was not just the material but also the social and humanistic welfare of all participants. This was also used as a basis for the proponents of the full membership to argue that stability, democracy and peace would be safeguarded in Greece through her participation in the club of Europe's democratic societies (Business International, 1977 and Commission of the EC, Dir. Gen. for Information, 1980). However, one should be reminded that building the democracy in a country takes more than just the support of another country in order to guarantee its respect and long term existence.

After the fall of the dictatorship in 1974, the Agreement was re-activated and intensive efforts were made to make up for the time lost during the past seven years. Thus, Greece first succeeded in obtaining a balance of $56 million from EIB due to her from the initial financial protocol with EEC of $125 million but which had been frozen during the 1967-1974 period. In addition, a Second Financial Protocol of $336 million in aid and loans to Greece was negotiated and signed in 1977. Also, because of the enlargement of the Community with UK, Ireland and Denmark, two additional documents were signed in 1975 to ensure that the new members would have the same rights and obligations vis-a-vis Greece as the founding EEC members. Meanwhile, on 12 June 1975 the Greek Government officially applied for full membership

in the Community and official talks between the EEC and Greece on the latter's admission as the 10th Member of the EEC begun in July 1976.

Preparation for Full Membership

At the time of the application for full membership, Greece was encountering two difficulties which arose out of the 1967-1974 interval: first, she had not implemented certain articles of the Agreement nor had she benefitted from financial assistance which she would have under normal circumstances; second, she had not participated in the formulation of European policies especially those concerning agriculture. In addition, the dictatorship had given a new larger dimension to the Greek-Turkish dispute.

At the same time the EEC had enhanced its image with the Greeks because of its first enlargement and the united stance it had kept in the condemnation of the Turkish invasion of Cyprus. On the other hand, the United States had lost its credibility with both Greece and Turkey, with the former because they did not prevent the invasion and with the latter because of the arms embargo they imposed. Consequently, Greece withdrew from NATO, the latter being perceived as unable to protect her from Turkey, and turned to the EEC to restore her shattered security.

The Nine EEC partners had to find a formula to accomodate Greece's demand for full membership without upsetting the political balance they had kept so far. Thus, while they welcomed Greece's application for full membership, they discouraged her from considering the EEC as a substitute for NATO. Furthermore, they indicated that they favoured that Greece, Turkey and Cyprus settle their differences and find a lasting solution to their problems before full membership could be granted. The Commission of the EC (1976) in its Opinion on Greek Application for Membership, concluded that

> "... specific steps had to be taken to the effect that the examination of the Greek application for membership will not affect relations between Community and Turkey, and that the right guaranteed by the Association Agreement with Turkey would not be affected by it".

Greece reacted to the Commission's answer. Thus, it was agreed by the Nine to hold parallel talks with Greece and Turkey. However, the Nine failed to develop a concensus on a package for Turkey (Commission of the EC, Spokesman' Group, 1978), which annoyed that country very much, while the negotiations with Greece that opened in 1976 advanced relatively fast. Today, it is mostly Turkey's inability to meet the Community's basic conditions, the acceptance of the acquis communautaire (implying acceptance of all conditions and agreements reached to date), that delays Turkey's EEC membership rather than the Greek veto as is occasionally suggested (Tsakaloyannis, 1980).

The Acts relating to Greece's accession to the European Communities were signed in Athens on 28 May 1979. After ratification by the Parliaments of Greece and the Nine member states, these Acts were to come into force on 1 January 1981. The basis of the negotiations that led to the accession, it was agreed, would be the acceptance by Greece of the acquis communautaire. This meant that Greece would accept all treaties and secondary legislation adopted under the treaties until the day of the accession, subject only to possible transitional measures to solve any problems of adjustment which may arise on either side. However, problems of adjustment would not be solved by changes in the Community's rules. In this respect, the Association Agreement between EEC and Turkey is not affected as it represents an integral part of the acquis communautaire.

Under the Treaty there would be a five-year period for the progressive elimination of remaining customs duties on Community imports into Greece, and for the progressive alignment of the Greek tariff to the CET (Europe, Documents No 1054, May 29, 1979). Greek tariffs would be reduced in six stages starting with a reduction of 10% on 1 January 1981, followed by a further 10% reduction in 1982 and four further annual reductions of 20%, so that all tariffs would be eliminated by 1 January 1986. Alignment to the CET would follow the same timetable. Quantitative restrictions would be abolished immediately on accession, except for 14 special industrial products including certain fertilizers, engineering products and vehicle components for

which Greece had requested extra protection during the transitional period. These quotas would be progressively increased during the five-year period and abolished by 31 December 1985. Also, measures of equivalent effect to quantitative restrictions would be abolished from accession, with the exception of the Greek system of cash payments and import deposits which would be phased out over three years.

A general and reciprocal safeguard clause has been included in the Treaty along the lines of Article 135 of the Accession Treaties of the UK, Denmark and Ireland. In addition, a special emergency measure has been agreed for the cases of serious economic difficulties. With respect to her external relations, Greece would be allowed to maintain quantitative restrictions during the transitional period towards GATT and state-trading countries for a small number of products, but would apply the Community's Generalised Preference Scheme from accession subject to a five-year transition for certain products. Subject to transitional measures, Greece would also apply the Community's preferential agreements with Third countries and the Multi-Fibre Arrangement regarding textiles.

The full application of the Common Agricultural Policy (CAP) would not come into force until the end of the five-year period, with a further two-year extension for certain products such as tomatoes and peaches (Commission of the EC, Background Report, 1979). For Greek products such as drum wheat, processed fruit and vegetables, as well as

olive oil, where prices are significantly lower than Community prices, full price support and income subsidies would be gradually phased over the five-year period. Producers of cotton, dried figs and raisins would benefit from new systems of deficiency payments. Meanwhile, to avoid abrupt changes in Greek producer costs or in prices, Greece would gradually phase out existing national state subsidies chiefly on fertilizers and live-stock rearing. Greece would also eliminate all restrictions on Community agricultural products.

Although full freedom of movement of Greek workers in the Community would not be achieved until the end of the seven-year transitional period, priority would be given to Greek workers, as nationals of a member state of the Community, where it proves necessary to recruit workers from outside the Community. Greek workers already employed in other Community countries would progressively receive the same treatment as other Community workers. Furthermore, firms and professional people from the Nine and from Greece would enjoy freedom of establishment from the beginning.

From the date of accession Greece has contributed in full to the Community's Own Resource System. However, in order not to make Greece a net contributor to the Community budget since she would not be receiving full financial help from the CAP during the transitional period, a special financial mechanism had been agreed to cover the five-year period by which the Community would refund to Greece a proportion of

the GNP/VAT element starting with 70% in 1981 and falling to 10% in 1985. It had been agreed that Greece could delay implementing the Sixth Directive relating to the common system of VAT for three years.

The drachma would be included in the European Currency Unit (ECU) basket of currencies by the end of the five-year period. Greece was also to be allowed to maintain restrictions on certain capital movements until 1 January 1986. However, Greece contibuted immediately to the capital of the European Investment Bank (EIB) 112.5 million EUA amounting to about 5.8% of its total (Europe, No 2655, April 6,1979).

From the date of accession, 1 January 1981, and independently of any transitional measures and temporary derogations that have been negotiated, Greece has participated fully in all institutions and other bodies that make up the EEC frame. Thus, the Commission, the European Court of Justice, the Board of Governors and the Board of Directors of the EIB were all sufficiently enlarged to make room for the representatives of Greece that she was alloted on the basis of her relative size. Furthermore, Greece was allocated 24 seats in the European Parliament and 12 memberships on the Economic and Social Committee.

In view of the Greek membership, the Euratom Scientific and Technical Committee, the Court of Auditors and the ECSC Consultative Committee were enlarged by the Greek delegates. In terms of voting procedures, Greece's vote was to be weighted by a factor of five,

bringing the total number of votes to 63. Finally, the minimum number of votes required for a qualified majority would rise to 45 when taken on a proposal by the Commission, and to 45 votes and six member states in other cases.

The PASOK Period

Since its inception, the Panhellenic Socialistic Movement (PASOK in Greek) had been set against full membership in the European Community. It had warned of the danger this posed to Greece, as being "...synonymous to subjugation to the profit interests of the Western European capital and a hindrance to economic development in accordance with the country's interests" (Neundorfer, 1983). In November 1981 PASOK was elected with an overwelming majority on a platform that included taking Greece out of the EEC, assuming that it would receive the appropriate mandate from a referendum it had promised to call on this issue once in power.

Here it should be mentioned that Greeks have never been asked to vote on the EEC issue as the Irish and Danes did in 1972 and the British in 1975, or as the Norwegians did in 1972 where they voted against the full membership. Although the EEC issue had been talked about for almost twenty years before the full-membership application, its consequences in terms of rights, obligations and sensible expecta-

tions had, by certain accounts, neither been fully presented, analysed and/or debated, nor been understood (Palmer, 1978a). This could be taken as an implicit recognition by the population of the political inevitability of full-membership. In this view, expediency rather than people's acceptance was the crucial factor. This has led to complacency. Furthermore, the inability of the economic agents to fully comprehend the issue has resulted in wasting idly the time which was primarily designed for the membership preparation (Yataganas, 1982).

There are legal grounds for not relying on a referendum to ratify the Treaties. That is in 1975, after the fall of the military regime in 1974 and shortly before submitting the official candidature to the EEC, Greeks drew up a new Constitution. In the constitution, there are provisions specially drafted to facilitate the integration of Greece into the EEC (Yataganas, 1982). Thus, in Section 28 sub-section 2 we find that

> "... for the purpose of serving an important national interest and promoting co-operation with other states, it is possible to confer by way of treaty or agreement, powers defined by the Constitution on bodies of international organizations. The Act ratifying the treaty or agreement shall be passed by a majority of three-fifths of the total number of deputies".

Similarly in sub-section 3 of the same section we find that

> "... Greece shall be free to accept restrictions pursuant to an Act ... on the exercise of national sovereignty provided that this is imposed by an important national interest ... and is carried out on the basis of the principle of equality and subject to the condition of reciprocity".

The Act of Accession was brought to the Parliament and was passed with 191 in favour out of 300 deputies.

The Papandreou government has been criticized by its supporters and taunted by its opponents for not keeping it up to its promise to take Greece out of EEC. The government's version, on the other hand, was that

> "... in view of the cost involved in getting out, it is realistic for us to examine with our partners to what extent it is possible to find arrangements for Greece within the framework of the Accession" (Europe, No 3384, June 1,1984).

Within this context, in March 1982, the Greek government sent a Memorandum to the President of the Council of Ministers asking for a modification of the terms of accession and for "special arrangements" by the Community to meet Greece's need for development (Commission of the EC, 1983).

In its Memorandum, the Greek government stressed that the Greek economy differs markedly from those of other Community member-states both in its development and structures but that the Treaty of Accession ignored these differences. As a consequence, Community rules, particularly those regarding competition and availability of funds, are "exacerbating some of the nation's problems or making their resolution more difficult". Therefore, the Community should recognize the necessity for "special arrangements" for Greece, which would introduce "differentiation into the management of Community policies", as well as

new financial mechanisms designed to take account of the special nature of the Greek economy (Commission of the EC, Background Report, 1982).

As has evolved into a tradition for all Greek governments, the PASOK government prepared a five-year development program to start in January 1983 aimed at modernizing the Greek industry and providing more work on the land. It was, however, felt that the plan could only succeed if it was allowed exemptions from certain Community rules, notably concerning competition policy, industrial subsidization, protection of new industries, exemption from production limits, and the granting of export aid to small and medium undertakings (Commission of the EC, Background Report, 1982). At the same time, the Greek government wanted the Community to allocate special funds to Greece expecting that industrial-commercial and regional development projects be Community financed by up to 80%. Such aid should not exclude developed areas such as those of Athens and Salonica both of which suffer from poor environmental conditions. Furthermore, agriculture should be helped by means of revisions to common agricultural policy rules.

The Commission, in its initial communication in June 1982, agreed in general with the description of the economic situation of Greece given in the Memorandum but it was cool in the idea of modifications to the provisions regarding Greek accession. It recognized that the EEC can contribute to the development and solution of Greece's specific problems but by means of application of its policies and not by

derogations to the Treaties. For example, investment aids for Greek exporting firms would be compatible with Community rules but export subsidies would not.

In the meanwhile certain measures had been taken by the Community after the presentation of the Memorandum aiming at the acceleration of agricultural development, while the Commission considered that its proposal on the Integrated Mediterranean Programmes (IMP), according to which 2,542 million ECU would be invested in Greece between 1985 and 1991 covering agriculture, forestry, fisheries, vocational training, tranport infrastructure, energy, and pollution control, represented a direct and satisfactory responce to many of the structural questions raised in the Memorandum (Commission of the EC, Background Report, 1983). In addition, the Community proposed greater use of the Social Fund by Greece and assistance in the Greek government's plan to modernize its public administration.

The one really significant derogation proposed by the Commission concerned taxation (Commission of the EC, 1983). Thus, the Commission would refrain from instituting proceedings against Greek infringements of Article 95 of the EEC Treaty (which prohibits member states from imposing higher taxes on imports than on similar national products), provided Greece drew up a timetable for phasing out these infringements and introducing VAT. The Commission thus established a kind of a special transitional period for the application of Article 95 and

placed this problem in the overall context of Greek tax reform. Furthermore, to promote efforts to enhance the competitiveness of the Greek industry, the Commission would also take a flexible approach when scrutinizing state aids.

With its answer, the Commission showed that it would be prepared to offer massive aid to Greece, but it made clear that Greece should also be willing to play her part by the rules. Furthermore, it should be noted that the Commission reacted quickly and with concrete proposals which means that they might have been preparing for a harder play on the part of Greece. This is one more element lending support to the contentions that the negotiations for the accession, especially after 1977, were political rather than technical (Commission of the EC, Dir. Gen. for Information, 1980) and apparently dictated by partisan policies of the then ruling party (Hornsby, 1978). Therefore, this strategic choice had repercussions on the conditions of accession which, both as regards substance and wording, fell distinctly short of what Greece could have reasonably hoped for in conducting tougher and more careful negotiations in the first place (Yataganas, 1982).

Greeks appeared to be optimistic although many parts of the Commission's reply "took the form of general guidelines rather than specific proposals" (Commission of the EC, 1983 and Europe, No 3724, Nov. 5, 1983). On the other hand, they considered as essential the maintenance of the unanimity rule in the Community decisions and the

special treatment which had to be granted the Greek agriculture within the CAP (Europe, No 3384, June 5, 1982). But, in the meanwhile, some soft-pedalling on the issue of holding a referendum started taking place (Yataganas, 1982) while the attitude of taking Greece out of the EEC had been replaced by the line that "we stay in the EEC because it is costly to get out".

The PASOK government, although co-operating with the EEC, has never affirmed wholeheartedly its commitment to the Community and its principles. This is especially true in the political area. The message that PASOK tried to advance to the Community was that the government in charge now was different than the one that signed the Treaty. On the other hand, the message that PASOK advanced to Greeks was that it defended Greece's interests vis-a-vis the Goliaths of Western Europe better than the government that signed the Treaty. All this has being carried out through an inflammatory political rhetoric. And while, in spite of delays on the part of Greece, agreed rules would finally have to be implemented, what is regrettable is that rhetoric has replaced action. Moreover, many times action needed to conform with the EEC requirements was confused with the party line. Thus, the alertness to the consequences of changes occuring in the EEC was muted (Yataganas, 1982). But most importantly, this attitude does not facilitate the learning of living with the EEC rules which could, to the extent that this is envisaged by the Treaties, have been used effectively in the protection of national interests.

Consequences of the EEC Southward Enlargement

Several years have elapsed since the official date of accession of Greece into the Community, which means that the transition period has passed. Meanwhile, negotiations which started in October 1978 for the entry of Portugal and in February 1979 for that of Spain went on for seven years which was longer than had been anticipated at the time of their membership application. It is clear that the international economic malaise of the early 1980s, the experience of Greece, and certain internal contradictions of the EEC, which with the accession of Greece were brought into a sharper focus, contributed to this delay. Here we shall try to outline these contradictions which seem to have created an impasse and make inevitable the need for some tough choices by all parties concerned.

The Inevitability of Taking a Political Stance

The Community reacted very favourably and with haste to the membership applications by Greece, Portugal and Spain, moved especially by the fact that they were submitted immediately after the restoration of democracy in all three of them. In effect, the EEC membership was conceived as a way to strengthen the democratic structures in the three countries. Moreover, the early application of Greece was, as we saw, politically motivated partly in reaction to the United States policy

which was considered to be responsible for the imposition of the dictatorship and the Turkish invasion to Cyprus. The result was that the southward enlargement brought the Community into a closer contact with the political realities of high tension areas (De La Serre, 1981). Therefore, this enlargement should be expected to have viewed as having global economic repercussions with political connotations, both inside and outside the EEC. However, the Community was not prepared to take a political stance.

In spite of the vision of its founders and the inseparability of economic and political issues, the Rome Treaty does not lay down any rules on political co-operation which is still far from being defined. Thus, the Community has neither defined its goals clearly nor fully explored the implications of its numerous associations which, as an emerging power, it should have done so. Of course it is true that a system of co-operation in foreign policy has been introduced since 1969 and enhanced since 1974, when the United Nations General Assembly accorded the EEC observer's status, and a common stance is adopted in negotiations with the GATT and OECD. Furthermore, the EEC is represented at the annual economic summits of the western world. However, in its relations with the outside world the EEC puts the accent on economic rather than political issues. Obviously, the EEC is preoccupied with its economic survival, which it tries to cement through an array of bi-lateral or multi-lateral economic agreements. In the process, however, the Community ignores that this is tied and/or

leads to a political stance, while it assumes that it is possible to have economic agreements without necessarily taking sides wherever conflicts exist.

An example of this inertia was the Euro-Arab Dialogue adopted in 1973. This reflected a grand design which, nevertheless, accomplished little because of the overriding concern of the Europeans of protecting their oil supplies (De La Serre, 1981). The Arabs at that moment were pursuing a political objective, namely to obtain the support of Europe in the Middle-East conflict, hoping that an offer of wide-scale co-operation would meet the Community's desire to play an independent international role. Unfortunately, this role was limited by the constraints placed upon it by the Euro-American inter-dependence. Thus, apart from some decisions to finance jointly various studies in the realm of economic co-operation, the dialogue fai' d because, in the words of C. Cheysson the French Foreign Minister at the time, "having entered into the dialogue, a political exercise in itself, for political reasons, the Europeans still manage to refuse to talk politics" (De La Serre, 1981).

Impact on the EEC of Nine

There are a number of similarities among the countries comprising Southern Europe, just as there are many similarities among the Northern

European countries; moreover, the two groups are very much distinct (Ashoff, 1980). The general common characteristic of Greece, Spain and Portugal (which, incidentally, object to being considered as a group by the EEC) is that they are still developing countries as compared to the highly developed North. This fact is reflected in their GNP per capita being less than half of the average for the EEC of Nine and the high proportion of their agricultural population (Neundorfer 1983).

The different structures and development levels of the three countries, as it has been argued by the critics of the accession (Neundorfer, 1983), would bear a considerable strain upon the EEC rules already in effect and to a lesser degree upon the budget. The reason is that these rules have been especially made by North-Europeans for North-Europeans, not necessarily providing for the different realities of the newcomers. For example, all three countries are more accustomed to some form of state intervention than the EEC of Nine. Furthermore, it is feared that the one-sided specialization of the three countries may lead to the acceptance of the argument for sectoral subsidies at the national level, which would hamper the free movement of goods and, therefore, contravene the Rome Treaty's basic principles.

According to Neundorfer, 1983, the EEC has often misinterpreted Article 237 of the Treaty of Rome. This article states that every European State "may apply" to become a member of the Community but it is often taken as giving a right to membership to all European appli-

cants. Thus, the EEC has "substituted quantity for quality and enlargement for intensification" in its handling of the membership applications. But the low development level of the Southern European countries weakens the political clout of the Western European industrialized countries, while the new members' independent foreign policies (Greece's for example), stemming partly from their economic differences, dilute further the chances for political co-operation. Thus, concerns have been voiced as to where enlargement should stop (Neundorfer, 1983). Specifically, it has been suggested that, after Spain and Portugal, Malta and Cyprus should be the last entrants. These latter are already associated with the EEC and their impact, whatever that may be, will only be marginal.

The country that the pessimists of the enlargement want to prevent from entering the EEC is Turkey,

> "... which should not be included in the EEC as it does not belong to the European cultural family, she is politically unstable, and her entrance would add unwanted oriental diversity, non-conducive to the homogeneity fought for by the Community. However, other ways and means should be found to keep Turkey in the Western Alliance and to further strengthen the privileged relations she already enjoys in the economic sphere" (Neundorfer, 1983).

It should be added here that this constitutes a radical departure from the position adopted by the Commission of the EC (1976) in its Opinion on Greek Application for Membership where it was concerned with the problems that the Greek move could pose to the anticipated Turkish membership application.

Further to the issue on the difference of the development levels, the entry of Greece, Spain and Portugal has added to the bureaucracy of the system, as three more languages have been added to the six official languages, while none is more privileged than the rest. Thus, the designation of one or two as working languages has been suggested (Neundorfer, 1983). Moreover, it has been pointed out that the functioning of the EEC institutions has to be re-thought if the Community is not to be plagued by indecision and slow action. For example, the qualified majority voting system in the Council would need to be extended to matters that are presently subject to unanimity rule (Commission, 1982b). In addition, it has been suggested that the European Council itself should be modified to consist of the Ministers of Finance and/or Agriculture rather than just the diplomats of Foreign Affairs as the case presently is. As the argument goes, emphasis on economic integration and the pursuit of establishing international economic links requires knowledge in the conduct of economic rather than foreign policy (Neundorfer, 1983).

Increasing divergence, as a result of the southward enlargement makes the need for attributing more powers to the European Court of Justice and paying more respect to its decisions. There can not be a Community without respecting and implementing Community Law. In addition, in order that it be able to set a common economic policy and realize monetary union, more powers should be given to the Parliament even at the expense of the Council as well as give more preponderance

to political aspects since a Parliament is primarily political in nature (Neundorfer, 1983).

The budget and agricultural policies will probably have to be modified to accomodate the enlargement. The recent entry of Spain and Portugal is estimated to increase the agricultural sector of the EEC of Ten disproportionately, by about 50% the population engaged in agriculture, by about 33% the utilized agricultural area, and by about 20% the agricultural production. Therefore, the size of the budget in its present form will have to be increased by an estimated 15-20%, while net transfers to the two new members have been estimated at 4-6% of the budget of the enlarged community (Neundorfer, 1983). The Commission, however, does not consider this as an intolerable burden given the political significance it has attached to the Community of Twelve. Nevertheless, it has been admitted that the 1% VAT ceiling will be used up and, therefore, additional resources have to be found (Commission of the EC, 1982b). Furthermore, with the addition of the Three to Italy's Mezzogiorno, the question of the development of underdeveloped Mediterranean areas takes new, larger financial dimensions, and the burden of agriculture in the EEC budget becomes more profound as more countries of heterogenous agricultural structure become members (Koester, 1981).

Finally, it is probable that the southward enlargement of the EEC will cause serious difficulties for certain industries of the existing Community, which are already suffering from tremendous structural

adjustment problems. Spain's entry, in particular, which has a considerable capacity in the shipbuilding, steel, car, footwear and textile industries will aggravate the situation. The textiles industry, for example, which is of special importance to both the Community and the acceding countries, and is particularly vulnerable to third countries' competition, will need special care. The twice-extended Multi-Fibre Arrangement (MFA), which has been concluded to protect the industry's flank during its structural adjustment period, may prove inadequate to save the jobs involved without falling into the trap of allowing sectoral subsidies at the national level. Furthermore, the EEC will have to provide additional financial help to Southern Mediterranean countries to compensate for the loss they will incur in their textiles exports to the EEC because of the latter's increasing self-sufficiency (Ashoff and Hummen, 1983).

Impact on the Three

It is probable that the impact of the association on agriculture for the three countries, Greece, Spain and Portugal, will be beneficial as higher EEC prices will raise incomes and additional resources from the Agricultural Fund will improve the structure of agriculture. However, it may not be as beneficial as the three countries would like it to be. This is because the EEC agricultural policy is primarily designed by North-Europeans to help corn, meat and dairy producers, and

does not leave much room for wine, olives, citrus, other fruits and tobacco, for which up until recently only 15% of agricultural expenditure has been spent (Holtus, 1981). However, these products represent the backbone of the Southern European agricultural production. In addition to this, the eating up of all of the EEC budget revenue by agriculture will most probably lead to policy revisions with respect to spending and there will be even less money available to give this sector. This means that the new members may not come in time to benefit from the old agrarian system. And this is despite the fact that the accession of the three countries will strengthen the France-Italy alliance in their demand for an increase in the income guarantees for the producers of fruits, vegetables, olive oil and wine.

Improvements in the production of agriculture in the three countries should be accompanied by the creation of many new industrial jobs. But, this is not a very probable outcome in view of the fact that all three join the EEC after a long association period with gradual tariff reductions within which they have already reaped most of the benefits of free access within the EEC market (Neundorfer, 1983). On the contrary, the loss of industrial jobs is a distinct possibility, as the experience of Ireland has shown, after the three countries open their home markets to the EEC and other associated countries (Ashoff, 1980). The opening of the three countries' markets to each other may prove to be the most harmful of all due to their similar structures and product menus (Holtus, 1981).

Admittedly the three countries, and especially Spain and Greece, have made substantial progress towards their industrial transformation. However, their industrial sectors are still plagued by structural weaknesses suffered by all of them to various degrees (Commission of the EC, Dir. Gen. for Information, 1982a and 1983). The three countries are at their early stage of industrialization with more traditional, low-productivity industries consisting predominantly of small and partly artisan plant. Alongside there is a series of large factories, partly under foreign ownership, using the latest techniques and producing chiefly for exports (Neundorfer, 1983).

Industrialization in the Three has been carried out behind tariff walls, pursuing the development of the two groups of sectors: traditional soft sectors such as textiles, clothing and shoes, and highly capital intensive ones such as automobile assembly plants, steel, chemicals and aluminium. These are the Heckscher-Ohlin goods the development of which, after the Ricardo goods, forms a typical second stage in the industrialization process of the less developed countries. During this second stage the LDC's use their comparative advantage of resource endowment, meaning inexpensive labour and abundant raw materials (Ashoff, 1980). Most of the investment for projects of the second stage of industrialization in developing countries comes from outside investors lured by the prospects of exploiting low production costs and re-exporting or the prospects of circumventing tariff walls and penetrating the local market. Thus, despite the development of

highly capital intensive sectors, one cannot speak of technological advancement because of low development in mechanical engineering which causes, or is due to, a low degree of vertical integration, marked dependence on imports, and almost zero spending on research and development (Ashoff, 1980).

In view of the full membership, it is highly probable that large European enterprises will lose the incentive to invest in the three countries after the opening of their markets and the equalization of labour costs (Johnson, 1968). Thus, the end result may be that the present industrial structure and division of labour in the three countries will not change and they will face the consequences of one-sided specialization within the EEC just as the EEC rules are requiring abolition of subsidies. In cases like this, it is highly probable, as the experience of Greece has recently shown, that protective measures could be expected to be invoked by the developing countries much to the dismay of the EEC heartland. It was for this reason, and because Greece could not be ready within the 5-year transition period which ended with 1986, that suggestions had been made that Spain and Portugal be given longer transition periods (Neundorfer, 1983).

Despite all this, the impression is that Greece, Spain, and Portugal wished to enter the Community whatever the price. And, since economic benefits were not very obvious, according to Holtus (1981),

the insistence of the three countries for their fascination with the Community should be attributed to a political desire: the fear of being left out of a prestigious club of Western European industrial countries, in which political co-operation is increasingly enhanced and where the small countries' voice can be heard, seems to have been the basic motivation for membership.

Impact on the Southern Mediterranean Countries

The most feared consequence of the southward enlargement of the EEC is its impact on the Southern Mediterranean countries (Libya apart) all of which have agreements with the EEC and with which their products so far enjoy a privileged status. The root of this concern is that the industrial structure of these countries is very similar to that of Greece, Spain and Portugal while their agricultural products are identical. The EEC has allowed the Mediterranean countries free market access for industrial products on the basis of the Generalized System of Preferences (GSP) that applies to all developing countries. Trade liberalization measures under the GSP have applied since 1971 but more intensely since the second half of the 1970s. However, two important exceptions to the rule for free access in the EEC market were in effect concerning two key product categories of these countries which were subject to exemption or quotas: those of the agrofood and textiles industries.

The increased self-sufficiency of the Community in fresh fruits, wine, olive oil and tomatoes on the agricultural side, and textiles, clothing and footwear on the industrial side will erode the GSP advantages and harm especially those littoral countries that do not have oil reserves. It has been established by Taylor (1980), Pomfret (1981), Musto (1983) and Ashoff and Hummen (1983) that, apart from Cyprus which is seeking a customs union with the Community, Turkey, Morocco, Tunisia, Algeria and Israel will be the hardest hit countries.

The consequences of the adverse effect of the EEC enlargement on the remainder of the Mediterranean countries may be serious for the Community if measures are not taken. The reason is that the EEC is particularly vulnerable to economic retaliations involving oil, which might be used by the South Mediterranean countries which are associated with the Arab League (Taylor, 1980). The presently low-oil-price environment does not make this a probable scenario, but there can be no guarantees for the future. Therefore, the EEC will have to resolve the economic impasse at which the South Mediterranean countries will find themselves. Perhaps the idea of supporting a Trialogue aiming to establish co-operation between the countries of the EEC, the Arab League and the African countries as was proposed by the former French President Giscard d'Estaing has more far reaching potential, all the more so if one accepts the inter-relationships between the Euro-Mediterranean dimension, the North-South Dialogue and a broad definition of what constitutes the Mediterranean (De La Serre, 1981).

CHAPTER III

AN APPRAISAL OF THE GREEK ECONOMY

General Overview

Greece's political climate has been unstable for the last fifty years. Two dictatorships, the four-year German occupation during World War II, the subsequent civil strife in the late 1940s, and the dispute with Turkey over Cyprus since 1955 and, more recently, over the Aegean Sea oil reserves, have been the causes for destruction of natural wealth or dissipation of public money to such a degree that the economy has often moved backwards rather than forward (Harris, 1949). Economically, the worst toll was taken by the embodiment of political uncertainty as a permanent element in the minds of planners, savers and investors. This has led to low expectations and emphasis on short-term payoff attitudes, both of which are especially harmful in the case of investment and industrial expansion.

It would be a difficult task to define the level of development of the Greek economy. Greece is neither a developed nor an underdeveloped country and, while lying somewhere in between, she does not follow a path of balanced development that could be easily categorized. Some sectors of the economy are highly developed and modernized while some

others are underdeveloped and backward. This dualism, combined with many economic and regional disparities (and a tendency for them to increase even further), is the most characteristic feature of Greek economic development. In order to fully appreciate the importance of the EEC issue for Greece, we will sketch an account of the country's post-war political and economic environment, supplementing what has already been outlined in the previous chapter.

Population Growth and Migration

The population of Greece in 1981 was 9,740,000, distributed as urban, semi-urban and rural in the proportions of 58%, 12% and 30% respectively. The corresponding figures in 1971 were 53%, 12% and 35%, and in 1951 were 38%, 15%, and 47%, revealing a continuous shift from both semi-urban and rural population towards urban population. The urbanization trend has mostly increased the population of the two major centres, Greater Athens and Greater Salonica, with an annual average rate of growth of about 2.8% during the 1951-1981 period. Indeed, these two centres accounted in 1981 for more than 38% of the country's population, up from 22% in 1951.

The natural population growth rate is remarkably low, ranging from 0.3% annually in the 1940s to 1.1% in the 1970s, averaging about 0.8% during the 1951-1981 period. Different factors have affected population

growth at different periods. Thus, the War, the German occupation and the subsequent civil strife took their toll in the 1940s reducing the annual population growth to 0.3%. The reconstruction period of the 1950s, characterized by a rapid economic growth, witnessed a relatively faster population growth at 0.9% annually. However, the population growth was again eroded to 0.4% annually during the 1960s as a strong wave of emigration swept the country during which 880,000 persons, or one-tenth of the population permanently emigrated, the United States, Canada, Australia and West Germany being the favoured countries. Finally, in the 1970s, the fall of the military dictatorship in 1974 and the worsening economic conditions in the host countries reversed the emigrant wave, and for the first time we observed relatively more returning than emigrating Greeks, which boosted the annual population growth of the 1970s to 1.1%.

The population of Greece is aging, as evidenced by her relative age pyramid. Thus, the proportion of children of 0-14 years of age has dropped to 22.4% in 1981 from 28.8% in 1951, while the proportion of senior citizens, of over 65 years of age, has risen from 6.7% in 1951 to 13.2% in 1981. To this, emigration has played a crucial role. Emigrants are usually the youngest, most dynamic and adventuresome part of the population of their home country. Therefore, their departure tends to skew the age distribution in their home country in favour of the old, less productive age groups (OECD, Economic Surveys, Greece, 1972). Utilizing data for 1970, we see that 12.1% of the emigrants were

children under 15 years of age, 87.1% belonged to the 15-64 age group, and only 0.8% to the 65+ age group. The corresponding figures for immigrants in 1970, however, were 18.2%, 76.2% and 5.6%.

Drastic alteration of the age pyramid of the population in favour of its oldest part is an economic stress because it does not give time to the society to adapt. In such a case, it is possible that the labour exporting country may face labour shortages which have to be filled by immigrants from countries of an even lower level of development. This was certainly the case for Greece, where in the early 1970s African and South-Asian workers (mainly from Pakistan) were imported. The occupations of those workers are of very low social and educational level as are, at the first stage of emigration, the occupations of the Greek emigrants abroad.

According to Yannopoulos (1976), the availability of imported labour force was a critical factor in the growth of the EEC economies. He concluded that the growth experienced by West Germany, France and the Benelux countries was influenced by the organized immigration of labour of Mediterranean origin to those countries. However, it has also been shown that the picture is not rosy for host countries because of social problems which arise to them in the form of increasing needs for social overhead capital in order to accomodate guest workers. This is because the attempt to solve labour shortages by increasing the supply of immigrant labour usually adds more to the aggregate demand than it

does to the aggregate supply of goods and services. On the other hand, the benefits accruing to the labour-exporting countries from emigration have been gradually called into question (OECD, 1978a).

International labour mobility, in general, is being attributed to push (supply) and pull (demand) forces. Furthermore, quantitative studies on the causes of migration have tended to distinguish between the wage-rate-differentials hypothesis and the unemployment-rate hypothesis, arguing that the former is suitable for analysis of long-term type, while the latter of primarily short-term type of migration. In addition, the transmission of information as well as the mere existence of friends and relatives in the host country can, in general, influence migration by providing first-hand information, food, shelter and psychological support to newly arrivers.

In the case of Greece, Botsas (1970) has shown that the wage-differentials and the friends-and-relatives factors have explained better than the unemployment factor the Greek emigration flow to West Germany during the late 1950s and early 1960s. His results, although not conclusive, point to the possibility that unemployment was not the real or not the only cause of emigration, quite apart from the fact that there was never any reliable measure of unemployment in Greece as the unemployment offices do not register all unemployed persons.

According to OECD (1978a), Greek emigrant workers in Europe in 1974 represented about 8% of total Greek labour force. Furthermore, according to census figures, unemployment in Greece was only 3.1% in 1971, down from 5.9% in 1961, while the labour force was also lower by 394,000 persons, or 10.8% below its 1961 figure. Thus, it appears that emigration offered a solution not only to the existing Greek unemployed persons in 1961 but even more so to those who were underemployed in agricultureand were subsequently made unemployed because of productivity increases. However, as MacMillen (1982) mentions in his survey, voluntary unemployment may be an integral part of a migrant's searching strategy while emigration possibilities allow developing countries to neglect serious consideration of active employment promotion policies.

Apart from relieving unemployment, overseas remittances and help in improving labour skills (through the return of emigrants) are usually cited as the benefits accruing to labour-exporting countries. With respect to the Greek experience, we examine the remittances effect below. Here we deal with the skill-improvement factor. In 1970, 92,700 permanently emigrated from Greece of whom only 17.0% were craftsmen while 30.8% were farmers and 46.2% without occupation (33.3% if we adjust for children and retired persons). On the other hand, 22,700 Greek emigrants returned of whom 32.3% were craftsmen and 53.8% without occupation (30.0% if we adjust for children and retired persons).

However, migrants are not usually recruited for jobs where they could acquire skills. And if they are, it is doubtful that highly specialized workers could, upon return, be occupied productively in the same line of business they used to be in their host country. This is because the lower sophistication level of production techniques at home rarely does offer them any placement possibility at a job of comparable level (MacMillen, 1982). Furthermore, and more specifically in the Greek case, emigrant workers do not usually re-enter the labour force upon return preferring self-employment instead through opening a small establishment with monies saved abroad and, in most cases, within the service or trade sector.

Infrastructure and Regional Development

The main reason for the high emigration rates that Greece has experienced is the existence of marked regional economic disparities. GDP per capita in the Greater Athens area in 1372 was about 25% higher than that in the next most prosperous region, Salonica, and more than twice that of the island of Crete (World Bank, 1975). Most importantly, there is a tendency for regional differences to increase, as evidenced by the unequal rates of economic growth posted by the different regions. OECD (1981) estimates that in the 1970s gross regional product was growing by 5% for Athens and 7% for Salonica, but by only 2-3% for Thrace and by 3-4% for western continental Greece.

The combination of regional disparities and inefficient agricultural policies has resulted in a continuous exodus of the population from rural areas to the large centres of Athens and Salonica and, to a lesser extent, those of Western Europe. The worsening of the economic conditions in the latter, however, and the restrictions on immigration from other receiving countries have halted international emigration but not the congestion of Athens and Salonica, where the population concentration far exceeds any other found in the OECD countries.

The economic growth achieved by Greece during the 1951-1981 period took place mainly in Athens and Salonica where most of the large industrial concerns, primarily foreign, have been established. This led to the concentration of all other social and cultural activities as well as large incomes and jobs opportunities in these two cities far beyond their population share. Thus, according to OECD (1981), only Athens and Salonica can be termed developed areas and these are approaching their limits of growth. In addition, the urban areas of Patras, Volos, Larissa, Kavala, Rhodes, Kozani, Ptolemais and Corfu (together accounting for about 6% of the population) are considered as developing areas, while the rest are under-developed, most lacking resources and requiring massive investment to avoid dereliction.

Admittedly, substantial progress has been made in the provision of basic regional infrastructure facilities. This has been achieved through investments in transportation, telecommunications, electricity,

water supply, sewerage systems, social security services, education and health care. However, ad-hoc decisions in the choice of regions and a piece-meal approach in the investment projects can work disadvantageously when economic disparities persist, as the accessibility of transportation and communications make the differences more profound in the eyes of the disadvantaged.

Regional development policy had for a long time consisted of agricultural price and income support programs which benefit relatively more the under-developed regions because of the latters' greater reliance on agriculture. In addition, an elaborate system of tax and tariff concessions and credit and grant incentives favouring industrial investment outside the Greater Athens area had been established. However, as evidenced by the statistics, the regional policy of Greek governments has failed. The various laws and incentives have proved to be ineffective, whenever not circumvented, in convincing firms to establish outside the Greater Athens area. The failure of the government's regional policy is due more to the latter's confusion of priorities, adherence to conflicting goals and lack of comprehensive planning rather than to the stubbornness of industry to locate in Athens. It is evident to everyone that Athens is the centre of all markets and activities.

We have identified three important reasons for the failure of regional policy which bear directly on the government's responsibility.

First, the government has implicitly promoted the over-expansion of Athens by the parallel concentration of power and administration in the hands of the central government located there. Suffice it to say that even the responsibility for carrying out regional development lies with the central government which, unlike regional authorities, is not very sensitive to such local and regional issues and needs as land use, planning, housing, social and welfare services, and environmental pollution control. Delegating administrative autonomy and control to local authorities would be more appropriate. Without strengthening the industrial, technical and professional skills of the regional population, a vicious circle develops.

The second reason for the failure of the government's regional policy is found with the large credits which were offered by the National Tourist Organization for infrastructure and hotel facilities until 1975 and which have resulted in an over-concentration of development in selected areas. The third reason is that, more often than not, budgeting of expenditure in Greece is done on an annual basis and no firm commitments can be made beyond the budgetary year. In particular, there are no forecasts based on other than guesses from existing data and trends, as there are no specific costed programs (OECD, 1981).

The acuteness of the problem of regional disparities has recently been recognized by the Greek authorities and measures are being taken to correct it. Thus, a more decentralized system of government is

slowly being implemented providing for more autonomy and decision making power to the regional and local authorities. Also, since 1976, through legislation, tourism has been excluded from the most generous forms of development incentives and provision of credits has been left mainly to the banking system on the basis of commercial criteria. In addition, incentives have been established for employers moving out of Athens, covering part of the cost of relocation and rent, while tax and financial incentives are given to aid co-operative activity in all areas outside Greater Athens and Greater Salonica (OECD, 1981).

With special legislation enacted in 1965 and further strengthened in 1977, industrial parks (whose the organization and management was assigned to the Hellenic Industrial Development Bank) were created to influence the location of industrial concerns in selected areas within 28 urban centres. The industrial park of Salonica is one of the largest in Europe. The development of these areas is financed by the Bank and the State in the proportions of 60% and 40% respectively. Most importantly, in addition to the incentives provided by legislation to the incentive area concerned, enterprises locating in these estates obtain the advantages of advanced factory building, services and infrastructure, and a number of legal and administrative services (OECD, 1981).

The incentives are acknowledged to have started bearing some fruit on the particular form and spatial development of tourism and industry. However, some weaknesses have also been identified that need to be

tackled for the future. For example, the very detailed differentiation among parts of the country makes the system of incentives largely discretionary rather than automatic and its working inefficient and bureaucratic while it leaves it vulnerable to regional jealousies and political patronage. Furthermore, the system lacks an adequate degree of transparency (implying that it is too complex) making it difficult to budget accurately and offer a clear appreciation of various possibilities and types of available incentives to potential investors. Finally, the system needs further modification to be brought into line with the EEC principles, that is, to increase the importance of direct investment grants and reduce that of financial incentives (such as interest subsidies) that affect current costs and distort the operation of market forces (OECD, 1981).

The Regional Fund of the EEC is expected to provide additional resources for regional development. But, in assessing the prospects for the future, OECD (1981) has pointed at the following issues that have to be tackled: First, the growth of Athens and Salonica should not necessarily eliminate their claims on resources needed to improve living conditions there; Second, the wide range of infrastructure development needed throughout the country makes necessary the ordering of priorities among competing claims; Third, there is clearly scope for a significant improvement in agriculture livestock, farming and forestry by increasing yields, expanding on the use of crops of higher value added, improving distribution and marketing, reducing fragmenta-

tion and extending irrigation; Fourth, the incentives for the growth of manufacturing have to be studied so as not to promote inefficient industries or exhausted industrial sectors, in which case regional policy should be part of an integrated industrial policy; Fifth, the infrastructural and communications deficiencies need urgent attention.

Transportation is not well developed in Greece. The highway system is inadequate and the railways need upgrading to meet the European standards. The World Bank (1975) reports that the railway system needs not only technical but also institutional modernization. Most of the trade with the rest of Europe is presently carried by sea, which implies unnecessarily high cost and risk for certain goods. Finally, the development of technical and vocational skills could be a decisive factor in the creation of viable industry to withstand competition from abroad. It is worthy to note that many of these problems were pointed out in the Memorandum of the Greek government to the EEC in 1962.

Industrialization and GDP Growth

Post-war Greece has grown very fast. The real annual growth rate of GDP reached just over 6% on the average during the 1950-1980 period. This compares extremely favourably with the rest of the OECD and EEC countries. Fast growth was due to the manufacturing, electricity-gas-water, and transportation-communications sectors, while

agriculture and construction were the slowest growing sectors. Furthermore, within manufacturing, the basic processing and advanced industries grew faster than the traditional ones. In all, the tertiary sector has grown to about half of the GNP.

All these statistics point to a rapid industrialization that took place in the last 30 years during which the major task was the transformation of an agricultural economy to an industrial one. However, it can hardly be said that the transformation reached its desired level or that it was done at a low cost. Agriculture's contribution to GDP in real terms fell from 27.8% in 1950 to 14.4% of it in 1980, while the manufacturing sector's output contribution went from 11.7% of real GDP in 1950 to 21.4% of it in 1980. Nevertheless, the drop in agriculture's share is due to its neglect rather than anything else and, with agricultural productivity remaining low, this has led to a sizeable increase of the imported foodstuffs.

Greece has an area of 132M sq.km. with 15,021 km. of coastline. Of the whole area, which is mostly mountainous, only about 39M sq.km., or 29.5% can be considered arable land; of that 35M sq.km. are cultivated. Four main constraints hinder agricultural growth and productivity. First, the country is dry and rocky, and rainfall is irregular. Moreover, agriculture is viewed as having only a residual claim on limited financial resources. Thus, since investment in irrigation projects has been inadequate, only 9M sq.km. are under irrigation.

Second, farm holdings are small and fragmented (6 parcels per holding on average). This entails a waste of land, since many paths and small roads are needed, and a waste of effort because the parcels are often located at a distance from one another. Third, the type of soil is not favourable. This, combined with the fragmentation factor makes mechanization unprofitable. Finally, the structure and crop pattern of output is not favourable. The bulk of agricultural production is still traditional crops such as wheat, tobacco, olives, currants, sultanas for which demand has been stagnant, while new high priced high yielding crops and, especially, livestock breeding have not been adequately encouraged. Inconsistent official price and subsidy policies can be blamed for it. A more appropriate government policy could result in improved self-sufficiency, lesser dependence on imports and a better performance of agricultural exports (World Bank, 1975).

The country has important natural resources. Specifically, there are deposits of lignite, bauxite, asbestos and the recently proven offshore petroleum reserves. Other important minerals include magnesite, barite, pyrite and chromite as well as marble, gypsum, limestone, petrolite and bentonite. Lignite's strategic importance has recently revived due to its use in electricity generation. Until the mid-1960s most of the ores produced were exported in raw form but later large investments were undertaken by foreign investors, with the encouragement and support of the government, for processing of aluminium, steel and dead burnt magnesite.

Industrialization in practice means development of the manufacturing sector. In this respect, Greece has followed the path traditionally followed by most countries in their course of development. Textiles, chemicals and non-metallic mineral products have received the bulk of investment and have become the most important branches of manufacturing in terms of their share of value added (Papantoniou, 1979). Other important manufacturing branches include food processing and metal manufacture industries. Lately, the shares of textiles, food processing and metal manufacture industries have stagnated while the basic metals industry has grown rapidly following large-scale investment which has increased the value added of mineral product exports.

Taking into account that capital intensive techniques have been adopted in Greece (Kintis, 1975) in spite of her relative abundance of labour, it can be said that Greece has not used her factor endowments very efficiently. According to the same author, this course of action has been encouraged by the establishment of minimum wage legislation, adoption of commercial policies promoting cheap capital imports and the availability of labour-saving techniques in those high labour-cost countries from which Greece imports. Working with data at the two-digit disaggregation level covering the period 1958-1973 Kintis estimates elasticities of substitution to be well below unity. Considering the striking similarity between the estimates of Kintis and those of Clague (1969), we can conclude that this overvaluation of domestic labour represents the rule of life for developing countries.

Resources which have been freed from agriculture have not been chanelled to the most productive uses. As farmers have emigrated, land and monies have been used to boost the construction industry, especially housing. Housing indeed has been the pole of attraction of private investment in the last thirty years for several reasons. First, purchase of land, condominiums and houses appears to be the most secure type of investment in light of the political uncertainty and the under-development of the apital markets. The lack of any governmental body regulating rental rates makes this type of investment generally profitable. Second, the reconstruction of the country after the end of the German occupation and the civil strife was an urgent necessity. Third, the government has encouraged this type of investment since it does not directly require many imports while it does generate employment and stimulates economic expansion by using private savings that could not be drawn on for more productive uses. Finally, a good part of the construction activity is done for and financed by Greeks living abroad wishing to prepare their return.

Construction has been the most important component of total gross fixed capital formation, with about two-thirds of it during the 1950-1980 period, dropping only slightly in 1982. Investment in machinery, on the other hand, has never exceeded 25% of the total gross fixed capital investment during the same period, the rest being transport equipment. Furthermore, the present credit and banking system would be inadequate to finance the industrial investment needed.

The government has taken an active role in investment. Public investment represents, on the average, 25% of total investment expenditure in the country (31% in 1982). Despite at times the poor choice and execution of projects, Government investment has been beneficial for the country (Tsoublekas, 1973). On the other hand, though important as a percentage of the total investment expenditure occurring in the country, government investment is small as compared to gross national expenditure (less than 5% of it). Therefore, its impact on the economy is more relevant from the long-term than the short-term perspective.

The sectors directly benefitting from the government investment program, which are also government controlled, include electricity--gas-water (with about 98% of the total investment in the sector), transportation-communications excluding ships (with about half of the total investment in there), and agriculture (with about 36% of the total investment there). The investment program of the government, however, has many shortcomings, being characterized by weak project preparation and lack of integration with general economic priorities.

Obviously, that public funds have been directed primarily towards infrastructure type of investment with the main object of developing tourism to generate badly needed foreign exchange for imports. Tourism, however, is very sensitive to political instability which Greece does not lack. Moreover, earning foreign exchange may not necessarily provide the best alternative for the allocation of public funds, as a

large part of foreign exchange generated by tourism is spent on importing luxurious consumption goods and foodstuffs, the tastes for luxuries in part the result of increased contact with tourists, the food imports the result of the economic abandonment of agriculture.

Employment and Incomes

Greeks, in general, prefer self-employment to a wage-earning occupation. Even returning emigrant workers appear to have no important effect on labour supply, skilled or otherwise, since most of them do not enter the wage-earning sector upon return. In the 1971 census Greece had only 42.3% of her economically active population being classified as salaried employees and wage-earners, up from 33.5% in 1961, implying an annual growth of 1.2% during the 1960s. At the same time, 34.5% of her economically active population were self-employed, while another 18.4% was accounted for by unpaid family members (31.9% and 28.6% respectively in 1961), the rest being employers and non-classified persons. Furthermore, according to the 1978 Industrial and Handicraft Census (National Statistical Service of Greece), 109,291 out of 128,988 manufacturing establishments, or 84.7% of the total, were employing less than five persons, while only 751, or 0.6%, were employing more than 100 persons. These statistics point to the poor prospects for labour productivity because of potentially high under--employment and an inability to exploit economies of scale.

Employment declined for first time in 1982 after an uninterrupted 15-year growth because of a fall in agricultural employment. Non-agricultural employment, on the other hand, has continued rising, albeit at a slower rate, despite falling productivity. According to the 1981 census, agriculture accounted for 29.9% of the economically active population, down from 53.9% and 40.5% in 1961 and 1971 respectively. The largest part of agriculture's loss of share was captured by the service sector which augmented its importance in the labour force from 23.6% in 1961 to 38.0% in 1981. This is due especially to increases in the numbers of public employees, not necessarily prompted from increases in the demand for services as the case would normally be for an increasingly industrialized country.

The inconsistent pattern of rising employment at the time of falling productivity in the secondary sector can be attributed to two factors. First, residential construction proved to be a resource-attracting pole due to booming land and dwelling speculation which was also encouraged by the government. And second, liberal government policies regulating employment by imposing severe restrictions on lay-offs and over-time work have to a certain extent contributed to increasing employment in the manufacturing industries (OECD, Economic Surveys, Greece, 1983). Unfortunately, such an unbalanced growth of employment is not sustainable in the long-run. Thus, the economic crisis of the early 1980s exposed the system's vulnerability and made the government to admit an official unemployment rate at the unheard of

level of 7.2% in urban areas in 1982, up from an official average of about 2% for most of the 1970s.

The late 1970s and early 1980s also witnessed very high salary increases, reflecting official objectives of raising substantially or at least maintaining through indexation the real earnings of low income groups and of promoting a more equitable income distribution. Indeed, according to Karageorgas (1973), Greece has an extremely unequal income distribution and, what is more important, the Greek tax structure increases the inequality. Of course, there were also political purposes served with such popular measures. However, indexation cannot be easily justified in a low productivity country where other lower-wage, newly-industrialized countries have now easier access.

The combination of generous wage increases to labour and weak productivity resulted in rising unit labour costs harming especially the tradeables-producing sectors, manufacturing and exports, which are exposed to international competition rather than the sheltered sectors which can pass on these costs to prices (OECD, Economic Surveys, Greece, 1983). Thus, within manufacturing, import competing and, especially, exporting sectors suffered the largest drop in profits because Greece has lost the comparative advantage she possessed in traditional manufacturing sectors such as food, beverages, textiles, clothing and cement, which employ mostly unskilled and semi-skilled workers. Certainly, other equally important chronic factors such as

inadequate investment, poor education, and management shortcomings have also been responsible for this loss in competitiveness.

Prices and Consumption

Maintenance of relative price stability has been at the forefront of Greek economic policy. This policy has had fruitful results in terms of increasing private bank deposits which made possible the financing of large credit extensions to the private sector. The average annual growth rate of consumer prices for over a decade up to 1972 was 2.9% while the same figure for the implicit GNP deflator was 3.3% (compared to 4.4% and 4.9% respective averages for the Community). Thus, within a climate of sustained economic expansion and relative price stability throughout the 1960s and early 1970s, the accumulated financial assets of the public (both money and quasi-money) increased substantially.

The remarkable price stability of the 1960s was achieved through a complicated system of price controls and heavy fines aimed at keeping prices, especially those of food, low. However, artificially low consumer prices stimulated consumption while ceilings imposed on producer prices caused domestic supply to lag behind demand eventually decreasing food self-sufficiency. Thus, regulation also harmed profits while not necessarily guaranteeing long-term product availability because price regulation in Greece is usually done in a vacuum. For

example, imports of foodstuffs, especially beef, experienced a marked rise since 1973 because of inadequate or ill-planned agricultural investment projects. Furthermore, food price regulation was not accompanied by other production incentives, which fact resulted in a drop in food production and a continuous exodus from rural areas. Thus the cost of price stability during the 1960s was borne by agriculture.

After 1973, with emerging production constraints, inflationary pressures were developed which was reinforced by a multitude of other exogenous factors such as termination of price controls in 1973, increases in import prices because of the oil price shock, increases in agricultural support prices, the Cyprus crisis and high government expenditure (World Bank, 1975). This resulted in 15% jump in consumer prices in 1973 followed by a 23.6% increase in 1974 to develop into a 17.5% yearly average for the 1972 1982 period (as compared to 10.3% average for the EEC of Ten, including Greece). What is worrisome is that prices continue to grow very rapidly. Moreover, a price and wage spiral has developed in spite of weak economic activity and reduced inflation in other countries. Of course, the second oil price shock of the late 1970s, the depreciation of the currency and especially the accession to the EEC with the subsequent alignment of farm support prices to EEC levels are the underlying factors.

Lately, combatting inflation has been acknowledged as the prime target of the government despite its different ideological preference.

To this effect, certain measures have been taken to reduce inflationary pressures through controlling effective demand. Thus, there are restrictions on the right to strike, which are expected to reduce the demand for pay hikes. Also, the indexation of wages has been modified to less than full compensation for price increases. Finally, reductions in tax deductions and closing of loopholes in the policies of price regulation have been introduced and are expected to bear fruit. However, according to OECD, Economic Surveys, Greece, (1983), the goal should be the reduction of consumption in favour of investment and exports, and the measures taken so far seem inadequate.

Exchange, Foreign Trade and Balance of Payments

The beginning of the 1950s found Greece in an intolerable situation. In the aftermath of the German occupation and civil war, her productive capacity was almost nil with most of her infrastructure nearly destroyed. Initially, there was heavy dependence on foreign aid for survival. In addition, however, an overvalued drachma (15,000 per US dollar) discouraged exports and the inflow of foreign remittances and capital. In April 1953 a new par value was fixed at 30,000 old drachmae to a dollar, while at the same time a new drachma equal to 1,000 old, was created. In the adjustment, prices increased substantially during 1953 and 1954, but by 1955 the consequences of the devaluation started working to the benefit of the economy.

A major characteristic of the balance of payments has been the steadily deteriorating trade deficit, which increased six-fold between 1956 and 1971, almost tripled between 1971 and 1976, and about doubled during the 1976-1982 period on a settlement basis. A relatively high import elasticity and a liberal trade policy which accompanied the economic growth of the 1960s, the oil price shocks of the 1970s, as well as inadequate import-substitution policies resulted in an annual growth rate of imports of about 14% in value and 12% in volume. During the same period, commodity exports increased by only about 12% in value and 10% in volume annually. The net effect was a 15% annual increase in the trade deficit.

Export earnings have never been able to cover more than about 40% of the import bill. Thus, foreign credits and especially invisible earnings covering about 40% of the import bill have been instrumental in balancing the external trade deficit (Palmer, 1978b). Around 1970, private sources accounted for three quarters of net capital inflow, the rest being official capital inflows. In 1981 these proportions were still 50-50% while a year later they were the reverse of those in 1970.

It is obvious that Greece has experienced sizeable inflows of foreign capital either in the form of aid, especially in the late 1940s and the beginning of 1950s, or in the form of venture capital and real estate investment afterwards. As Adelman and Chenery (1966) point out, foreign funds initially helped to alleviate the savings constraint that

the country faced in the aftermath of World War II, while they later were (and still are) almost exclusively used to finance Greece's import bill. This parallels a similar conclusion reached by Weisskopf (1972) that foreign capital has not crowded out private savings in Greece.

As in other developing countries, the attraction of foreign capital has come through offerings of special concessions designed to facilitate the objective of import substitution. The special Legislative Decree 2687/53, drawn up with the intention of accomodating foreign capital coming in the country to finance productive investment, guarantees protection of property rights and repatriation of capital and profits. At the same time, foreign capital enjoys a favorable tax treatment and foreign concerns are allowed to employ foreign personnel and use of deposit facilities in foreign exchange.

Most of the time, foreign capital associated with large multinational enterprises is engaged in exporting activities which offer much greater potential than concentrating on small local markets. Indeed, Kreinin (1975) and OECD (1978a) report that large investments have taken place in Greece in major exporting sectors (exporting especially to the EEC) such as textiles, chemicals and metallurgical industries. This implies that those same projects might not be undertaken had it not been for the combination of the special treatment of Greek exports by the EEC and the low production costs in Greece, both conditions of which will cease to exist in the future.

In general, the marked growth of Greek exports since 1960 reflects their privileged status within the EEC (as coming from an associate member), the gradual depreciation of the dollar-tied drachma vis-a-vis other European currencies, increased productivity and the introduction of new export-oriented industries, particularly base metals and petrochemicals. Whereas manufacturing products accounted for only 10.5% of commodity exports in 1961 (compared with 71.6% for agriculture), they have gradually increased to about 56.3% in 1981 (compared with 25.4% for agriculture) reflecting the broadening of the industrial base of Greece and a greater concentration on exports.

The commodity composition of imports has also undergone substantial changes, especially during the 1971-1981 period, with payments for oil accounting for 22% of the import bill in 1981, up from 7% in the 1960s, and ships and boats dropping from 19% in 1976 to 7% in 1981. On the other hand, the proportions of foodstuffs, automobiles and machinery have almost stayed constant, at about 10%, 6%, and 4% respectively, during the 1961-1981 period.

Up to 1980 exports had an increasing share of GDP, covering an increasing proportion of imports, by taking advantage of low labour costs. However, rising labour costs and weak productivity growth have since rendered the Greek products uncompetitive, resulting in market share losses in the 1980s. Furthermore, joining the EEC has broadened the penetration of the Greek market by the manufactures of the more

efficient EEC producers as well as the low-cost producers of the Third World countries due to the application of the CET. Thus simple exchange policy can no longer cure problems created by increasing nominal wages which have been indexed to inflation when the effects of devaluations are passed on to prices through the wage-price spiral.

Despite the association with the EEC, the geographic pattern of Greek trade has not changed significantly. The share of imports from the EEC has remained relatively fixed, at about 50% of total Greek imports since 1960, while the share of exports to the same group of countries initially increased from 39% in 1961 to about 53% in 1971 but fell thereafter to about 43% in 1981. This points to the fact that if export growth to the EEC is considered high the same could also be said for exports to the rest of the world (Papantoniou, 1979). Furthermore, there has been no substantial change in the external trade share of the sterling area while the importance of the US market has slightly increased for Greek exports and slightly declined as an origin for imports. The share of trade with the Eastern European Block has decreased in both exports and imports since 1960, while trade with the Arab World has increased dramatically, especially during the 1970s.

The basket of Greece's exports per country varies according to her relative comparative advantage with each one of them. Furthermore, the operations of multinational firms have also added their influence to the formation of trade patterns. According to Papantoniou (1979), the

export increases outside the EEC area consisted mostly of base metals, which were the consequence of foreign investment. The EEC contribution, on the other hand, was particularly pronounced in the case of traditional manufacturing goods for which price competitiveness mattered most.

There are three major sources of invisible earnings: emigrants' remittances, transportation and tourism. Their respective shares in total invisible earnings in 1981 were 25%, 34% and 36%. Excepting the Greeks who have emigrated permanently, there are still about 300,000 Greek guest workers abroad, 250,000 in West Germany. Emigrants' remittances have increased steadily since the late 1950s. However the economic slowdown of Western Europe, especially of Germany's, since the late 1960s, and the falling emigration rate, show that further increases in remittances should not be expected (OECD, Economic Surveys, Greece, 1983). Furthermore, remittances vary with political upheavals. Therefore, the reliance on the amount of remittances cannot go on increasing. The highest point ever reached by remittances was in 1971 when they represented about 48% of all invisible receipts and covered about 24% of the total import bill. By 1981, however, remittances represented only about 25% of the invisibles, while covering only about 10% of the total import bill.

The attractive feature of remittances is that they are not attached to any future foreign exchange liability. Moreover, they have been mainly directed towards rural areas, where, along with tourism

earnings, they have helped in raising the standard of living. On the other hand, according to estimates of the OECD Economic Surveys, Greece (1978), remittances have helped to raise demand in Greece by about one-third, thus becoming an important cause of price increases. In particular, a high proportion of these funds were used for property purchases and new housing construction which contributed to a substantial increase in real estate prices and led, in turn, to pressures for higher wages and salaries. Furthermore, the high rate of return in real estate and the associated speculation have diverted capital and enterpreneurial initiative away from productive ends. This lopsided economic activity "masked the need to deal fully with the structural problems of industry and give rise to a wider-based industrial sector, better product diversity and a faster pace of endogenous growth" (OECD Economic Surveys, Greece, 1978).

Sea Transport deserves a separate mention since, as it is often noted, Greek nationals own the world's largest (by tonnage) merchant fleet (about 15% of the world total, compared to 24% for all nine EEC countries together). Of this, about 61% is registered under the Greek flag, while the rest, mostly tankers totalling about 18 million tons, sails under flags of convenience, primarily Liberia and Panama (Business International, 1977). Typically, Greek ship-owners operate their vessels as tramps, i.e. they seek cargo wherever offered, and they have stayed outside the established conferences (World Bank, 1975).

The tax revenues imposed on the ships by Greece are assessed on tonnage rather than on freight earnings. This has proved to be a major fiscal incentive for ships registered under the Greek flag. The invisible earnings coming out of the sea transport industry are mainly in terms of remittances and social insurance contributions of the Greek seamen working on the ships under the Greek flag, since the law specifies that 3/4 of the people working on such ships should be Greeks. Therefore, based on the volume of Greek-flag ships, the amount of invisible earnings coming out of shipping is impressive. One could, however, say that the shipping invisible earnings are very similar in nature to those coming from emigration. Therefore, as in the case of emigrants' remittances, invisible earnings from the shipping industry too have to be evaluated using similar criteria in terms of social impact and future growth prospects.

Maritime shipping is the area in which Greece dominates the EEC. According to 1980 data of Lloyds Register of Shipping, as reported in Bredimas and Tzoannos (1981), Greece has increased the capacity of the EEC fleet by 60% to 25.2% of the world capacity, while hers accounts for 37% of EEC's capacity. Furthermore, the Greek addition complemented the EEC fleet with its heavier emphasis in the transportation of dry bulk commodities, as compared to a high proportion of tankers and ships transporting finished industrial goods by the fleets of the rest of the EEC countries.

According to Bredimas and Tzoannos (1981), 90% of the external and 25% of the internal trade of the Community is seaborne. Therefore, the importance of the sector is apparent. Nevertheless, no common shipping policy has been established yet. Furthermore, in many instances the Community has not favoured this industry when, for example, in trying to meet the competition of the subsidized fleets of the less developed countries, conflicts arose between the Community's shipping and development policies. Most importantly, however, there is a fundamental difference in the approach to a common policy between the next largest maritime members of the EEC, the UK and France. France is in favour of the continental approach, calling for the need of the establishment of a set of general precepts to underline such policy, while the UK is in favour of a piece-meal approach and against any regulation that might hurt the competitiveness of their maritime sector. This latter approach is also favoured by the Greeks. However, in the long term some common rules regulating the activities on the vessels, seamen and shipping companies will have to be laid down.

Greek tourism has long been a major source of foreign exchange. Gross receipts from tourism increased by an average of 20% annually over the 1960-1973 period and 23% annually thereafter. At the same time, the number of tourist arrivals increased at an annual average of 17% during the 1960-1973 period and by about 19% during the 1974-1979 years, but slower thereafter. The remarkable growth of the sector is due to many external factors such as Greece's natural and historic

endowments, her relative proximity to high income-growth countries of Western Europe, and the popularity of package holiday tours. In addition, internal factors also played a crucial role in the development of this sector. Among them one can list the massive advertisement undertaken by the National Tourism Organization of Greece and the impressive investment spending linked to tourism, directly in hotels or indirectly in infrastructure, that has taken place in Greece in the last thirty years. The vulnerability of this sector, however, is very high, as its earnings depend upon the economic prosperity of Western Europe and the US, as well as the political stability of Greece. The dramatic drop in the number of tourist arrivals in hiatus years such as 1967 and 1974, or in recession years such as 1980 point to this fact.

Money, Banking and Capital Markets

At the centre of the Greek financial system is the Bank of Greece and around it there is a complex of private and governmental financial institutions which include commercial banks, investment banks, government-owned specialized credit institutions and the Athens Stock Exchange. Non-banking institutions do not play an important role in financing investment, mainly because of the under-development of the capital market. Thus, the banking system is the most important institutionalized means of mobilizing and allocating private and public financial resources.

Until 1982, the highest authority in monetary matters rested with the Currency Committee, chaired by the Minister of Co-ordination and including the Ministers of Finance, Industry, Commerce, and Agriculture, as well as the Governor of the Bank of Greece. The Currency Committee shaped the conduct of the country's monetary and credit policies and had the overall supervision of, and responsibility for the exercise of these policies, while it assigned the day-to-day execution of monetary and credit policies to the Bank of Greece. Since June 1982, the functions of the Currency Committee have been distributed between the government and the Bank of Greece. Now the government, through its Council of Government and Economic Policy, continues to broadly shape the country's monetary and credit policies but the Bank of Greece has the responsibility for their development and implementation, implying more power for the Bank now than before (Demopoulos, 1983).

The main body of the country's credit system consists of commercial banks. Furthermore, two such banks, the National Bank of Greece and the Commercial Bank of Greece, along with the latter's affiliate, the Ionian and Popular Bank, acount for about 80% of the total country's commercial banking activity. These banks are state-controlled. The main function of the commecial banks is to extend short-term credit to industry, domestic services, import and export trades, the tobacco trades, and shipbuilding. Medium and long-term credit is extended to industry and other enterprises for investment in plant and equipment, as well as to public enterprises. In addition, commercial banks

participate in the equity capital of private enterprises. Finally, the banks are required to invest a large part of their total private deposits in interest-bearing Treasury Bills (Demopoulos, 1983).

Besides the commercial banks, there are three investment banks one of which state-owned, founded for the purpose of encouraging the development of the capital market in Greece. Their function is to extend medium and long-term credit to private enterprises, participate in their equity capital, underwrite new issues of shares and bonds, and provide technical and managerial assistance to their clients.

The spectrum of credit institutions operating in Greece is completed by other, mainly state-owned institutions specializing in the extension of credit to certain sectors such as the Agricultural Bank of Greece, which accepts deposits but is mainly financed by the Bank of Greece catering to the needs of farmers; the Postal Savings Bank, accepting savings deposits and catering mostly to the credit needs of local authorities and public servants; the National Mortgage Bank of Greece, the Mortgage Bank and the Consignations and Loans Fund which accept deposits but are also financed by the Bank of Greece and extend credit to housing, tourism and non-profit institutions.

The most important insurance companies are controlled by commercial banks. They invest most of their assets in real property with only minor purchases of securities. On the other hand, they hold a

substantial proportion of their total assets in bank deposits. Similarly, pension funds are required by law to invest all of their funds in the form of deposits with the Bank of Greece and only a small part of their assets consists of government securities, shares and units of the Greek investment funds or other shares quoted in the Athens Stock Exchange. This peculiar pattern of investment is dictated by the under-developed status of capital markets in Greece and is aggravated by archaic laws.

The government has traditionally relied more on monetary policy than on fiscal measures as means of regulating the economy, although without using open market operations (World Bank, 1975). Thus, monetary policy has played a dual role, maintaining internal and external monetary stability on one hand and influencing resource allocation on the other. This latter task has been carried out through compulsory differential reserve requirements on the banks' liabilities and assets, administration of interest rates on bank credit and deposits, and application of selective credit ceilings (Korliras, 1979).

At present, banks are required to invest 37% of their total deposits in Treasury Bills and 2.5% in government bonds and long-term obligations of public enterprises, as secondary reserves. Furthermore, banks are required to invest 15% of their total drachma deposits in long-term loans for productive investments (government's definition) or in bonds or preferential stock issued by industrial concerns. How-

ever, banks' investment in private sector securities is low, ranging between 3.5% and 5% of the commercial banking system's total assets in the 1970s. This heavy government intervention causes resource misallocation and the government is guaranteed an automatic financing fc deficits. Most importantly, the government ends up absorbing a subs. tial part of domestic savings not through the capital market but from the bank deposits at significantly negative real interest rates (Korliras, 1979). At the same time, round-tripping is unintentionally encouraged (meaning re-depositing of subsidized loaned funds at higher rates domestically or, illegally, abroad).

Total bank credit to the economy, 85% of which is given to the private sector, has been increasing at an annual rate of about 20% for the last 30 years. However, the emphasis of banking support is being changing, reflecting the importance that government policies attached to different sectors at various points in time. Thus, during the period from the early 1950s to 1970, agriculture lost about half of its share of bank credit, which fell to about 16%. Agriculture's disastrous results may have their root in the lack of credit, which may explain the recent change in policy which is reflected in an upward turn of agriculture's share in bank credit, especially during the early 1980s. Bank credit to trade has also decreased continuously in relative terms from about 20% in early 1950s to about one-third of that currently.

The biggest winner, in terms of bank credit allocation, has been housing. This sector's share increased from about 3% in 1955 to 14% in 1972, staying at around 10% thereafter. Other winners include energy, transportation-communications and tourism-hotels, which increased their share from about 1-2% in the early 1950s to about 5% each in the early 1980s. Manufacturing has been the single most important sector in terms of bank credit share, ranging from about 35% in 1953 to about 40% in 1983. Within manufacturing, textiles, clothing and foodstuffs have been consistently accounting for about one-third of the total, while more advanced industries such as chemicals, oil-refining, cement, and base metals, especially aluminium, for about 20% of it.

Consumer credit, in an organized way, did not exist in Greece until 1972. At that time the National Bank of Greece put into circulation credit cards, which may be used solely for purchases of Greek-made products. However, its impact is still relatively small.

From this description of the system, it becomes obvious that there are two reasons for the low development of capital markets in Greece. First, the country lacks financial institutions in sufficient variety to provide a flexible mechanism for raising capital. In particular, it lacks specialized agencies for the promotion of companies and the issuing, underwriting and distribution of securities. The result is that the market for corporate bonds, government bonds and mortgage borrowings is not well developed and virtually all capital flow is

tapped through the banking system where it is accumulated into different forms of deposits. Second, the institutional setting of the Greek banking system, the operation of which does not always follow commercial principles, makes borrowing too easy and too cheap. This fact, coupled with the reluctance of relinquishing the control of family-owned concerns to the public, helps in explaining why the issue of public shares is limited.

Thus we conclude that the problem of under-development of capital markets lies mainly with the supply of attractive private shares rather than wi h their demand (Demopoulos, 1983). Indeed, the Athens Stock Exchange is heavily dominated by issues of financial institutions (93% of the total new issues in 1982), in spite of generous tax incentives offered to companies quoted on it. As of 1982, only 110 companies out of a total of 2,500 with the legal form of societe anonyme (S.A.) were listed on the Athens Stock Exchange. Furthermore, only 24 of the 100 largest Greek companies were among those quoted most of whose shares, as explained above, are still held by families or family-controlled corporations. Under these circumstances, it can be expected that the foreign companies will become the beneficiaries of Greek capital when, in line with the EEC integration rules, they are permitted to market securities in Greece.

In assessing the low development level of the Greek capital market, one cannot help but attribute a large share of the responsi-

bility upon the government. This is partly because the generous tax incentives offered for the development of capital markets are countered by a host of political dis-incentives. This is so without taking into account that tax incentives become ineffective in the presence of highly sophisticated tax-evasion practices. On the dis-incentives side, one can identify the following adverse factors: the government's avoidance of public debt management by relying on borrowing in the form of compulsory investment at low interest rates; its encouragement of oligopolistic concentration of the banking system; its unjustifiable institutionalization of nominal interest rates below inflation rate levels; and its frequent changes of tax policy, which discourages long-term planning.

Public Sector

The economic system of Greece is a variant of the market system with considerable government intervention. The government power is exercised primarily by the central government leaving little room for local initiative, the result being a heavy bureaucracy. The state is engaged in many economic activities. Communications, radio and television broadcasting, most transportation, electricity, gas, water, most education (including all of the higher education). Production of alcohol, sugar and matches are all state monopolies. In addition, there

exist many other activities in which the state plays a very important role such as banking, mining, steel, oil refineries and tourism.

A plethora of laws and regulations have been established in the last thirty-five years pertaining to imports, exports, foreign capital inflow, foreign exchange outflow, the shipping industry, direction of savings, housing loans and regional development. The declared objective of all these is to direct the economy to a path of rapid development. Most of these laws and regulations deal with tax exemptions, subsidies, and bank or government credits to the relevant sectors. These offerings are usually given within the context of five-year development plans, which are constructed by the Ministry of Co-ordination or that of National Economy. The question of whether or not the authorities have succeeded is not easy to answer definitely. What is certain, however, is that incentive policies have many times become ineffective in an atmosphere of political instability and interference.

The taxation system of Greece is not at all equivalent with that of the other EEC countries. Indirect taxes in 1982 accounted for about 49% of the total tax revenue (down from 59% in 1960). Twenty-five percent of it comes from import duties, 42% from tax on business turnover and about 25% from other indirect taxes, primarily stamp tax on transactions. Of the direct tax revenue, on the other hand, two-thirds consists of social insurance contributions. Such a high percentage of indirect taxation is unusual in developed countries. Further-

more, it is well understood that this type of taxation system capitalizes on inflation and bears most heavily on those with low incomes. Following Karageorgas (1973), one concludes that the taxation system of Greece is regressive for low and middle-income groups. What is more important is that the budget cannot be used for redistribution of income on account of the government's heavier reliance on monetary rather than fiscal policy and the relatively light direct tax burden.

In the case of social security contributions, as has already been pointed out, Greece has one of the highest tax rates in the EEC. According to OECD, Economic Surveys, Greece, 1983, both employees' and employers' contributions account for 10% of the GDP, which is higher than for all the OECD countries by almost one and one-half percentage points, despite the fact that the share of dependent employment in total employment is considerably higher and per capita income larger elsewhere. All this points to the fact that more growth for social security revenue is uncertain and the only way to increase it, according to the same source, is to curb evasion.

From the point of view of influencing the allocation of productive factors, the present taxation system is not neutral. The various indirect taxes, and especially the turnover tax, promote vertical integration as production is taxed more heavily than consumption. Furthermore, payroll taxes discriminate against employment. It is expected that the introduction of the VAT, which puts the emphasis on taxing

consumption, will give some relief to small firms (Giannaris, 1981). It is also expected that the VAT will remove the discrimination accentuated by the present system against manufacturing (Georgakopoulos, 1977).

In recent years the central government has been in continuous deficit. During the period up to the early 1970s Greece recorded fast growth. At the same time the public sector's deficit was of manageable proportions (about 1.5% of GDP), according to OECD, Economic Surveys, Greece, 1983. This implies that the public sector's fixed investment program, which has been essential for the country, was self-financed. The situation, however, changed dramatically since 1973 and especially since 1981 reflecting an upsurge in expenditure. Increased expenditure combined with weak growth resulted in soaring deficits and heavy borrowing requirements. According to the OECD (Economic Surveys, Greece, 1982), total public sector expenditure excluding only operating expenditure of public enterprises reached 48.5% of GDP and gross borrowing requirements reached more than 19% of GDP in 1981.

The rapid increase of government expenditure during the 1970s is, to a large exten , due to strong increases in public employment during the same period. Furthermore, outlays on welfare and social security have also been expanding. This does not necessarily mean that the increases in social program outlays have brought total welfare spending in line with other OECD countries (OECD, Economic Surveys, Greece, 1982). Nevertheless, the slow increase of the tax base makes spending

practices questionable. This is especially so because of the discretion exercised by the government in the taxation of the different sectors and in its differential spending policies which allow some groups to increase their standard of living substantially without a corresponding increase in work effort (OECD, Economic Surveys, Greece, 1983).

Increased government spending promotes consumption rather than investment. Yet the government investment program has been recently cut to accomodate current expenditure outlays. Moreover, because of important leakages such as imports, savings and capital flight abroad, the multiplier effects of the stimulatory fiscal policy are small (OECD, Economic Surveys, Greece, 1983). All this points to the fact that certain rigidities have been built into the system and substantial structural changes would be required to bring the government deficit under control. In OECD, Economic Surveys, Greece, (1983) certain drastic measures have been proposed, which would be politically unpopular and therefore difficult to implement. These would include taxing of farmers (who are not being taxed presently), cutting of the operating budget of public enterprises by improving their management and reducing manning, and raising prices of utilities and other public services (which are usually subsidised), in order to reallocate resources to investment and restrain consumption.

In 1983, the first PASOK government unveilled its Five-Year Plan for Economic and Social Development 1983-1987. The objective of the

Plan was, within the framework of a mixed economy, to provide for the following: a greater role of the public sector for the socialisation of certain activities to be achieved through participation mainly of local authorities, workers' representatives and public interests in decision making; the promotion of the co-operative movement; strengthening the role of the state in industry and restructuring of public expenditure towards investment. The Plan, while recognizing the importance of profits in the productive process, yet emphasized that the private sector should observe the rules of the game. It reiterated that the authorities will combat oligopolistic practices and speculative profits (OECD, Economic Surveys, Greece, 1983).

After the PASOK government succeeded in securing a second term, it bowed to pressures by foreign lenders and made a turn towards applying strict measures for the ultimate diversion of resources from consumption to investment. However, in view of the heavy government intervention and the lack of any learning process with regards to the workings of the free market system required by the EEC link, these measures were inadequate to cure the chronic problems of the economy. Most importantly, the present system tends to politicize all issues. Therefore, badly needed prudent market measures are difficult to distinguish from politically motivated announcements or avoid being debated on ideological grounds.

Heavy government intervention has been a characteristic of the Greek economy for at least its last fifty years. Thus, it cannot be said that the orientation of the economy has changed by the outcome of one election alone. Oddly enough, the most important government intervention schemes were introduced under right-wing military dictatorships. The socialistic changes introduced by the Papandreou's governments have many times been confused with those that are made simply because of the EEC membership. Often reaction builds against EEC mandated changes because they are thought to be socialistic in motivation; property taxes is an example.

One can conclude that the Papandreou period represented an evolution rather than revolution. This suggests that most of the changes introduced by PASOK will be continued by the next government. However, inasmuch the EEC issue is concerned, we can say that the tardiness in making a decision has cost Greece much in terms of poor preparation. Moreover, the adoption of inflammatory and usually demagogically doctrinal language in the debates concerning economic issues is what more often than not creates unnecessary antagonism.

CHAPTER IV

SIMILAR STUDIES

In Support of Trade Liberalization

Organically, the literature on the economics of common markets represents a sub-section of the literature on the economics of international trade. However, it is a relatively new area of research and, there is still a lot of experimentation done with respect to the paths of analysis used. A common theme of studies in international economics is the advocacy of trade liberalization and can be traced back to the early nineteenth century. Free trade is presented as being the source of increased welfare for all those trading at international prices, due to specialization and enjoyment of economies of scale stemming from the increased size of markets.

Today, as evidenced from the vast literature on the motives behind protection, all countries engage in industry protection of some sort or another for a variety of reasons. Corden (1975) surveys the various arguments favouring protection which have been presented in related research studies and classifies them into those originating from the desire for industrialization because of its supposed gains (the infant industry argument), the producer's triumph over the consumer, the need

for protection of the scarce factor, and the desire to protect sectoral incomes. The need for protection and all of its supporting arguments have been or can be challenged, as evidence can always be found for or against specific protectionistic measures. However, given the existence of worldwide protection today and the variety of its faces, it becomes difficult from a policy point of view to recommend its abolition in any one country before securing at least some sort of international reciprocity.

International trade theorists focus on commercial policy because of its creation of resource pulls for protected industries. These resource pulls are caused because of increased returns accruing to factors of production due to protection. Expanding along the same lines, we can also say that international commercial policy carries some responsibility for the location of production (Balassa 1976a) and the international division of factors. Hence, protection affects production, incomes and consumption in a way that is not market--optimum. It is this implied social cost that researchers have been trying to estimate.

In the beginning, empirical researchers tried to answer specific questions related to changes in the tariff structure of a country by utilising partial equilibrium analysis. This was an inexpensive way to get results at a relatively disaggregated level, since a general equilibrium analysis would require a very large databank and computer

facilities if the work was to be carried out at a high level of sectoral disaggregation. Of the partial equilibrium tests, the most widely used are the Effective Protective Rate (EPR) test and the Domestic Resource Cost (DRC) test. The EPR test was developed when it became obvious that, since intermediate products-inputs are tradeable commodities bearing tariffs, the nominal tariff applied on a finished imported good is far from being representative of the effective protection enjoyed by its locally produced counterpart. This means that tariffs on inputs have a direct effect on the total protection accorded to the economic activity that uses them, in addition to the effect of tariffs on the finished product.

There exists a vast literature on the theory and application of effective protective rates. The EPR principle was first introduced by Barber (1955) and popularized by Corden (1966). Essentially, it looks at the value added obtained by an industry due to tariff protection, in comparison with the value added that would be realized had the economic unit operated at world prices. There is no perfect agreement as to what the value added figure at world prices should include, especially insofar the treatment of non-traded inputs is concerned. Thus, Corden (1966) treats them as primary factors, while Corden (1971) lumps the non-traded input and primary-factor content of non-traded inputs together with the value added, but groups the traded-input content of non-traded inputs together with the direct traded inputs. Balassa and Schydlowsky (1968), on the other hand, treat the non-traded inputs as

traded inputs bearing zero tariff while Balassa (1971) allows for tariffs on the traded inputs contained in the non-traded inputs.

In addition to the controversy surrounding the definition of the EPR principle, there is also a question of its applicability. Krueger (1972) has argued that the EPR analysis is better suited for developed countries because of the relatively greater responsiveness to price changes observed there. Moreover, it is more likely that in developed countries tariffs are the only major market imperfection, while in developing countries governments and development banks also have a great influence over the allocation of resources. However, in at least one study (IIQE 1975) it has been shown that the EPR formula can be refined to capture special characteristics of a particular economy such as size, artificial exchange rates, import quotas, bilateral trade agreements, domestic taxes and other.

In the EPR analysis the emphasis is not on the incidence but on the extent of protection. In other words, the incidence can be shown by just referring to nominal tariff rates. Guisinger and Schydlowsky (1971) have compared rankings of nominal rates with rankings of effective rates for many countries and found them to be similar, especially in the presence of high degree of aggregation. In general, it has been found that effective rates for protected industries far exceed nominal rates. This implies that resource pulls caused by protection are stronger than what nominal rates would indicate. Never-

theless, it should be remembered that the final pulling effect on resources will depend on the magnitude of their supply elasticities. Thus, in practice it is possible to have a low resource response in spite of a high effective rate and vice-versa.

Two studies on effective protection for Greece have been done by Christou (1969) and Karayannis-Bacon (1976). Their respective years of reference are 1958 and 1960. Both of them refer to only the manufacturing industries and are highly aggregated for this type of analysis. However, two major conclusions emerge from both studies whose significance is not diminished by timing or aggregation. First, the pattern of protection intended for different industries by the nominal tariff rates was repeated to a greater degree in the findings of the EPR test. In an ordering fashion, this pattern implied a policy favouring consumer goods over intermediate goods and the latter over capital goods. Second, effective protection analysis based on the extent of tariffs alone could not explain the actual morphology of the Greek manufacturing sector. That was especially true in the case of import--substituting industries. Thus, other elements of market imperfection such as import quotas, indirect taxes on imports and local production, exchange rate over-valuations, and the state of availability of domestic inputs offer better explanatory reasons for the observed shape of development of the Greek industry.

The Domestic Resource Cost (DRC) test is essentially a measure that provides an ex-post efficiency ranking of all economic sectors of a country on the basis of the foreign exchange earned or saved by each economic activity. As stated in (Krueger 1972), the DRC analysis offers us a way of measuring the costs of trade restrictions by looking at the opportunity cost of foreign exchange, in terms of costs of domestic resources used to either earn it through exports or save it through import substitution. According to Bruno (1972), various studies applying this method as means of project evaluation have appeared in Hebrew by various Israeli authors since the mid 1950s. The popularization of this concept, however, came in the 1960s especially with Bruno (1967) and Krueger (1966).

Krueger (1972) has shown that, under conditions of optimal resource allocation, both EPR and DRC tests should give identical results. However, such conditions rarely hold in developing countries in which case Krueger favours the DRC test. For this, she has been criticized in Balassa and Schydlowsky (1972), where it is argued that the equality of DRC and EPR measures under optimality conditions does not necessarily imply an endorsement for the adoption of DRC in a non-optimal situation. On the contrary, they argue that EPR, adjusted for shadow rather than market prices of primary factors, should be preferred. In fact the two tests address different questions and both are needed; the EPR measure can be used to predict the resource pulls

resulting from a given set of trade barriers and the DRC measure can be used to evaluate the economic costs of trade restrictions.

In practice, protection involves more than just tariffs. It has been found by Whalley (1982) that the gains from the trade liberalization as proposed in various GATT negotiations and which aim at freeing North-South trade are fairly small (less than 0.1% of GNP). His conclusion is that non-tariff barriers are far more important than tariffs. This is especially true of non-tariff barriers imposed by the developed countries against imports originating in the developing ones.

On the Use of General Equilibrium Models

Gene Overview

The limitation of EPR method in producing anything more than a good qualitative index of the resource pulls has encouraged the use of general equilibrium models for this purpose. There has been considerable work done in this area since the mid 1970s in which the complete effect of tariff-induced distortions on factor prices and the impact of tariff reductions upon non-traded goods has been analysed.

The strength of the general equilibrium analysis lies on both the rigorous methodology and the practical usefulness (Borges, 1986). The

rigorous methodology builds upon a solid microeconomic foundation and internal consistency. The usefulness lies with its capability for a fair amount of disaggregation and the ability to give multi-faceted answers to policy questions while requiring only numerical rather than analytical solution. There are of course certain weaknesses but these relate to the particular general equilibrium models presented and can be expected to be overcome in future research. The most important of these weaknesses is the lack of empirical validation and, therefore, lack of forecasting. Furthermore, the models presented so far are not capable of handling intertemporal problems or the equilibrium adjustment process and so they are limited to answering long-term questions (Waelbroeck, 1986).

The State of the Art

The bulk of the general equilibrium analysis is still carried on in the areas of trade and taxes. However, a substantial amount of research is being done towards improving model structures to overcome existing weaknesses and thus extend the area of application of these models. There have been recent attempts made to incorporate financial assets and portfolio choice, to capture adjustment costs, and to improve the dynamic aspects. But most importantly, effort has been devoted to modelling market structures other than perfect competition, implying situations where prices are not necessarily determined by

market forces, economic agents do not behave as price-takers, and substantial economies of scale may exist that shape the behaviour of producers. In such cases, monopolistic competition becomes the dominant structure in the market characterised by the existence of international intra-industry trade among countries of similar factor endowments and development levels.

Harris (1984) and Cox and Harris (1985) have pioneered the incorporation of industrial organization features in the general equilibrium structure in their work with Canadian data. According to Eastman and Stykolt (1967), Canadian manufacturing industries are inefficient because, among other reasons, they operate at less than the minimum efficiency scale. Moreover, this problem is perpetuated by the lack of a strong foreign competition on account of Canadian tariffs on the one hand, and by the high tariffs faced by the Canadian exports in the United States on the other. By incorporating economies of scale in the production process of manufacturing products and assuming monopolistic competition and product differentiation, Harris and Cox show that trade liberalization benefits could be substantially higher than the ones hitherto revealed in models with perfect competition and constant-returns-to-scale structures.

McDonough (1986), using an expanded version of the Harris-Cox model, finds that in an open economy the imposition of sales and wage taxes tends to increase production efficiency. This is so because, in

the presence of fixed import competing prices, relative demand effects are small. Thus any increases in costs to firms result in reduced general equilibrium markups and increased production runs. This efficiency gain is invariant to alternative specifications of labour supply, the minimum efficiency size and capital-labour ratios assumed for manufacturing. Significantly, this means that there should not be an a priori judgement on the welfare loss, usually associated to the taxation incident alone, as the net result depends crucially on the openness of the economy and subsequently the adoption of a mixed pricing rule.

However, as Wigle (1986) shows, the Harris-Cox results are by no means conclusive. With a structure similar to the one used by Harris, Wigle arrives at much small gains from the trade liberalization. The difference in the trade benefits is attributed by Wigle primarily to the fact that Harris tries to analyse the results of a multilateral trade liberalization within the context of changing bilateral trade relations instead of using a global trade liberalization model. In Wigle's view, Harris' approach tends to exaggerate the results because relative price effects in a multiple-bilateral liberalization are much stronger, while losses attributable to inefficient trade diversion are difficult to capture.

Four Representative Models

The pioneer in the building of general equilibrium models has been Leif Johansen (1964) with his multi-sector non-linear model for Norway. From the multi-sector planning models which followed (see Blitzer et al. 1975) has evolved a family of general equilibrium models which were initially extensions of the Leontief system. The extensions included sub-models for the consumer expenditure and international trade, and adoption of general equilibrium assumptions involving questions of taxation and international trade (for a good survey see Shoven and Whalley, 1984). It is not the theoretical elegance but rather the provision of crucial information for government decisions that is their major concern. Therefore, those models rely heavily on ad hoc specifications, an approach that brings them closer to examining practical policy issues.

We have chosen four representative models of this group which we used as prototypes for our research. These are the following: Taylor and Black (1974) for Chile, Boadway and Treddenick (1978) for Canada, De Melo (1978) for Colombia, and Anastasopoulos and Sims (1981 and 1983) for Quebec. In all four, the authors criticize the inadequacy of the EPR method in showing global effects from changes of commercial policies on resource pulls. In fact, this is their basic reason for turning to general equilibrium models and this is why in the end they compare their general equilibrium effective protective rates with those

obtained through partial equilibrium analysis. A variant of De Melo's model has been used in **Dervis, De Melo and Robinson (1981)** to show the inadequacy of exchange rate devaluations in the presence of structural deficiencies, and in **De Melo and Robinson (1981)** to examine the effect of commercial policies in the case of imperfect substitution between domestic and imported goods.

The common elements of all four models include the following: an input-output table for inter-industry flows of intermediate goods; a production function specified as a Cobb-Douglas or CES for value-added and fixed coefficients for value added and intermediate goods; the role of government is reduced to that of imposing indirect taxes and tariffs; investment is treated as exogenous; there is no explicit introduction of money; finally, there is no variation in the total amounts of primary factor endowments.

The four models are unanimous in their critique of EPR. In all four it is asserted that EPR estimates give nothing more than a good qualitative index of resource pulls in an economy, which is not necessarily better than what nominal tariffs indicate. Furthermore, the EPR method performs worse when it comes to adjustments in factor prices and volumes of non-traded goods, particularly under assumptions departing from the conventional ones which are generally made in the EPR analysis with respect to exchange rates and production functions.

The same four models present variations in certain technical aspects. The Taylor and Black (Ta-Bl), and Anastasopoulos and Sims (A-S) models attempt to give only short-run results as they treat capital fixed for each sector. On the other hand, the De Melo (D-M), and Boadway and Treddenick (Bo-Tr) models attempt to give long-run results because they allow for re-allocation of total given quantities of capital and labour to various industries. In terms of production function, the Bo-Tr and A-S models are of constant returns, while the D-M and Ta-Bl of decreasing returns (the latter in only labour). Consequently, we also observe a significant variety in the method of determination of factor payments. Thus, excepting the Ta-Bl model in which the wage rate is common to all sectors, the remaining three maintain fixed inter-industry wage differentials. The rate of return to capital is determined residually in the Ta-Bl and A-S models, it plays the role of the numeraire in the Bo-Tr model, and it is constrained to exhibit fixed inter-industry differentials in the D-M model.

Consumption is an important part of final demand and it usually attracts special attention during the formulation of a model. However, the explicit formulation of consumption behaviour depends upon whether the model provides for explicit formulation of other inter-related aspects such as factor payments, direct taxes, investment (through savings) and substitutability among imported and locally produced goods. Of the four models, only the ones by D-M and A-S have an explicit formulation of consumption, the former using a Stone-Geary

linear expenditure system and the latter a CES consumption function by commodity. Of the other two, the Bo-Tr model incorporates consumption in a total final demand function which also includes investment and government consumption and which represents a constant proportion of disposable income. The Ta-Bl model treats consumption as a residual after subtracting from total factor payments the difference of government spending less government revenue from indirect taxation (in a situation of a balanced government budget, this difference equals to direct taxes).

In the Ta-Bl and D-M models imported goods are treated as perfect substitutes for their domestically produced counterparts. On the other hand, the A-S and Bo-Tr models treat the two types of goods as imperfect substitutes for each other. However, in the latter models it is reported that some experimentation was done with both approaches and it was concluded that the qualitative results were not affected. In addition, a sensitivity analysis on the elasticity of import substitution was done in the Bo-Tr model. On the export side, with the exception of the D-M model, all models assume large but less-than-infinite export-price elasticities. In the D-M model, however, exports are not formulated separately but residually within the flow-balance equations, in each of which an argument is included representing the quantity of the traded good which can take positive values (exports) or negative values (imports). On the other hand, imports are considered to be of a completely elastic supply in all models but the one by Bo-Tr.

The basic difference among the four models reviewed here is in the manner in which a new equilibrium is sought following the external shock of a change in the commercial policy of a country. The Ta-Bl model uses the most original method in which the model is linearized through total differentiation This results in a set of log-linear equations where differential changes in endogenous variables are explained as linear functions of differential changes in exogenous variables. This formulation, however, limits the applicability of the model to cases involving small changes in exogenous variables such as tariffs.

A general equilibrium model operates by initiating a search for a set of equilibrium prices that would permit the simultaneous clearing of all markets in the system. To this effect, the model brings the commodity price equations to their reduced form as functions of factor prices. However, as Samuelson (1953) has shown, in a small, open, perfectly competitive economy with n final goods and s primary factors where n>s, the fixing of commodity prices internationally will result in an over-determinacy in equations and unknowns. This over-determinacy resolves itself, under competition, by having the country specializing in the production of s commodities and shutting down n-s industries.

In practice, the closing down of industries would necessitate the scrapping of a number of rows and columns of the input-output table and the reduction of the number of equations. In fact, the complete specialization of a country presents an extreme situation which is rarely

observed in reality because, even in the case of an absolute similarity among products of different countries which would imply a high degree of substitutability, transportation costs would still prevent the outcome of a complete specialization. At the theoretical level, the impasse is resolved through various tricks.

The Ta-Bl model, having specified imports as completely elastic, faces a price over-determinacy problem which is resolved by artificially expanding the number of primary factors through fixing capital stock per sector. Thus the rate of return to capital is not the same across sectors and it is price-determined and not price-determining. The shortcoming of this method is that the results can only be of a short-run nature. Furthermore, labour becomes the only variable factor in the model and, while price changes are expressed in terms of wage changes, the wage rate is adopted as the numeraire (which sets its changes equal to zero) thus simplifying the sectoral supply equations.

The Bo-Tr model has simpler equations. Thus, it does not need to resort to some method for linearization. Again the difference between the numbers of commodities and productive factors would pose price over-determinacy problems since capital is not kept fixed per sector. The way out is by assuming that import and export elasticities are not infinite. (However, a good number of experiments were run with elasticities of different magnitude and it was reported that at high elasticities approaching infinity some industries closed down. This implies

that with high elasticities the system was approaching the perfect competition state, the situation of a small open economy for which the prices are fixed). Furthermore, the return to capital is taken as the numeraire of the model which leaves only one factor price to be determined: the wage rate. The estimation of the wage rate is done iteratively and, applied to commodity price equations, gives the equilibrium prices for which all markets clear.

In the *D-M* model there are more factors than the usual two of capital and labour. Indeed, labour is differentiated into skilled and unskilled, and land is used as an additional factor in agriculture. Of course the increase of primary factors from two to four does not solve the over-determinacy problem. Thus the way out is to use production functions of decreasing returns to scale, thereby allowing for selective specialization according to comparative advantage. Furthermore, import-substituting industries face rising supply costs, while exporting industries face market development and/or transportation costs. Since the increased mobility of productive factors prevents linearization techniques, a tatonnement process in factor markets is used to get a solution. A distinct feature of this model is its numeraire which takes the form of a restriction imposed on the base-year GNP valued at current prices to remain constant.

The A-S model fixes capital per sector, thereby escaping the over-determinacy problem. Furthermore, domestic and foreign commodities

are imperfect substitutes (export elasticities are less than infinity). In certain scenarios the wage rate, the price of the only variable factor in the system, is found iteratively as in Bo-Tr while in other scenarios the nominal or real wage rate is kept fixed at its base-year level. A distinct feature of the model is its elaborate formulation of the substitution process among foreign and domestic commodities.

On the Impact of Trade Associations

Joining a free trade area or a customs union implies freeing trade within a certain area as well as, and most importantly from the point of view of trade liberalization, it implies aligning the members' external tariffs vis-a-vis the rest of the world. Research on the effects of joining a free trade area is distinguished into ex-ante and ex-post studies but nearly all have focused on trade effects alone, leaving untouched such aspects as the international factor mobility.

As Corden (1975) points out, many studies were initially limited to the examination of the effect of the associations on trade flows and, therefore, they needed supplementary theoretical and qualitative analysis to become more comprehensive and show welfare effects. The reason for this was that trade creation, once proved, was supposed to generate welfare gains otherwise unobservable in the presence of trade limitation from various protective measures. This last point is an

explicit assumption made by Kalamotousakis (1976) in his paper attempting to explain welfare gains for Greece to be realized from her privileged preferential status within the Community. However, McMillan and McCann (1981) emphasize that trade creation is not a necessary condition for welfare gain just as trade diversion is not sufficient for welfare loss.

Various approaches have been used to estimate the ex-post effect on the trade flows of a country stemming from tariff reductions after joining a free trade area. Usually a control solution is obtained showing what total trade would be had the free trade area not been established. Assuming other things equal, the difference from the present situation is then attributed to the integration effect. For the construction of the control solution and its comparison with current levels, various methods and tools have been used which consider changes in trade shares, changes in shares of apparent consumption and, especially, pre-integration income elasticities of demand for imports. Among others, Kreinin (1967) develops a method of estimating import demand elasticities at the SITC product-group level, Hitiris (1971) uses price elasticities of imports to estimate trade creation and trade diversion effects between Greece and the EEC, Leamer (1976) uses tariff elasticities to estimate changes in international flows and Balassa (1976b) uses income elasticities of demand for imports to estimate trade creation and trade diversion effects within the EEC.

The general conclusion of these studies is that the net effect of tariff reductions has been trade creation. All of these studies, however, involve trade among developed countries. On the other hand, Kreinin (1975) and Thorbecke and Pagoulatos (1975) show that the creation of the EEC has led to trade diversion at the expense of developing countries. Furthermore, Ray and Marvel (1984) have found that the developed countries (including the EEC) have been using Non-Tariff Barriers To Trade (NTB) in order to keep the protection of their industry unaffected by the tariff reductions agreed to in the Kennedy Round. This is possible because NTB are not subject to negotiation on trade liberalization. As it happens, most NTB protect consumer goods, agricultural manufactures and textiles, the very products which are of particular significance to the developing countries.

An interesting point is made in Balassa (1976b), where it is argued that the expansion of intra-EEC trade in manufacturing took the form of intra-industry rather than inter-industry specialization, which is contrary to what had commonly been assumed. Thus, rather than entailing a movement of resources from import-competing to exporting industries, tariff reductions in EEC were found to be accompanied by increased specialization within particular industries. Han and Liesner (1971) had also arrived at a conclusion similar to Balassa's in their ex-ante study on the effect on manufacturing of the British entry to the EEC, where intra-industry specialization was found to be a very distinct possibility. Moreover, the data suggested that there would be

a tendency for specialization to take place at the level of relatively specific products rather than of broader product groups. On the other hand, the British trade balance of non-manufactures was found to be deteriorating.

A different point is also made in **Han and Liesner (1971)** where it has been found that the EEC market is not homogeneous for outside imports. This is also supported by Viaene (1982) who estimated elasticities in bilateral trade flows between Spain and the EEC of Nine. He concluded that the effect of each EEC member's trade with Spain will affect the latter very differently.

Intra-industry specialization within a certain trade area may prove to be harmful to small countries such as Greece which do not possess a strong vertically integrated industry and, therefore, their options are limited. Relating the fact of industry specialization to the argument of the influence that a certain trade policy exerts on the decision for the location of production, we can say that the magnitude of changes on the production pattern of two countries dropping tariffs in the trade between them depends on their relative development levels. Moreover, one should expect these changes will be more radical the more unequal the degree of industrialization and the less homogeneous the production menus of the countries involved. This implies that, in the case of unequal degree of industrialization between the trading countries, the consequence of a tariff d › should be inter-

industry specialization, while in the case of equal degree of industrialization the consequence should be intra-industry specialization. Furthermore, changes in industrial structures should be intensified when tariff changes are accompanied by free factor movements.

Looking at more recent studies aiming at evaluating the consequences of association with the EEC for especially small countries, we find that both trade and welfare effects enjoy equal treatment. Thus, Pomfret (1978) estimates that, although Israel's trade balance of manufacturers with the EEC will worsen, substantial welfare gains in allocative efficiency should be expected to materialize from increased exports to the EEC due to the semi-industrialized character of the Israel goods that makes them well placed to penetrate the EEC market. Furthermore, the same study refers to the political gains from the association with the EEC in view of Israel's strained relations with her neighbours and the potential for retaliation by the US through excluding Israel from the US General System of Preference scheme because of Israel's granting of preference to the EEC (these last two aspects are not pursued).

Similarly, Floystad (1976) tries to estimate the potential gains to accrue to factors of production in Norway in terms of larger payments to be made available to them should they move from inefficient (import-competing) industries to efficient (exporting) industries, assuming a state of trade liberalization between Norway and the

EEC. His analysis, he argues, is better than the neoclassical one, since it takes into account the existence of severe factor market distortions due to slow mobility of factors. He estimates that there exists a considerable potential for gains from trade in terms of increased returns to capital and labour in exporting industries even if the EEC does not abolish its customs duties on Norwegian exports. However, effects on total employment are not discussed.

An important point about factor movements is made by Mundell (1957) which is more relevant now that one of the EEC's goals is the free mobility of productive factors. He suggested that commodity movements are to some extent a substitute for factor movements. Therefore, increasing restrictions on one stimulates the other while relaxation of restrictions leads to factor-price and commodity-price equalization among trading partners, which in the limit could lead to zero trade. Actually, all this theoretical abstraction is valid only when some very special restrictions regarding the production functions of the trading partners apply and the definition of impediments to trade is sufficiently broad to include transportation costs.

The theoretical implications of the baseline of Mundell's argument (i.e. the inverse relation of factor and product movements across countries) are worth discussing. For example, in the case of a well-protected, poorly-capitalized, labour-abundant country, mobile capital in the form of foreign investment producing for the local market and

replacing imports could be attracted by the prospects of tariff protection or the payment of subsidies. Similarly, a tax on foreign capital would force it out of the country but trade would have to be increased to keep the same level of consumption. Viaene (1982) found enough evidence for this theory in his attempt to estimate the dynamic effects to be anticipated to accrue to Spain from her integration within the EEC. In general, his analysis shows that the trade balance of Spain will worsen, while the foreign capital inflow will be reduced. This will entail a rise in unemployment, especially in industry, with the net result of retarding Spain's economic development.

Almost all economic studies made for Greece in the last twenty years make a point of mentioning the EEC issue in some context. In addition, there are several studies aiming at specifically estimating the EEC effect on Greece, usually in a partial-equilibrium approach. These studies are ex-post from the point of view of her association, but ex-ante from the point of view of her accession.

Hitiris (1971) raises the point of the effect of gradualism on trade liberalization. This is particularly relevant to Greece because of her long period of association with the EEC which provided for the gradual elimination of tariffs and adoption of the EEC Common External Tariff (CET) vis-a-vis the rest of the world. His conclusions are that period analysis rather than sudden once-and-for-all change in tariffs provides details of the inter-temporal pattern of the effects of the

gradual change of tariffs. Furthermore, he found evidence of an overall trade creation rather than trade diversion as well as indications that tariff elasticities of imports are higher than price elasticities.

Kalamotousakis (1976) has found that until 1972 (the last year of his sample period) the EEC Associate Member's status had been beneficial for Greece not only because of her political gains but also because of trade-creation with the Community, increased remittances from Greeks working in the EEC countries and investment capital flow. On the basis of this he supports the principle of the preferential status for an LDC within a customs union of developed countries. This, however, does not apply in the case of Greece because the preferential status accorded to her at the beginning was only the first stage for the preparation of her full-membership.

Kostakopoulos (1979), with the help of a dynamic economy-wide model of the Greek economy, estimates trade effects of the association of Greece with the EEC. He recognizes the importance of the factor mobility issue although he does not deal with it. In effect he examines only the trade and transfer effects of Greece's relationship with the EEC. He concludes that Greece has benefited during her association years 1963-1975 with the EEC by an extra 1.5% of growth of GNP. Furthermore, he finds that the full membership too will benefit Greece, especially because of transfers that the EEC membership entails which will improve the balance of payments and raise national income. How-

ever, viewing the EEC relationship (association or membership) as a policy option for Greece, he concludes that this was not the best that Greece could have chosen He estimates that the results that Greece could get by a 10% devaluation and a strong government investment program would have been superior to those from the EEC connection.

Further to general economic studies there have been a number of sectoral studies done for Greece. Papantoniou (1979) points to the importance of the manufacturing sector for the Greek economy in general. Next, he analyzes the environment under which it grew from 1958 onwards. His conclusions are that the manufacturing sector of Greece has faced no factor constraints thus leaving only demand responsible for its limited success. In this particular case, Papantoniou stresses the importance of external demand for Greek manufactures and he shows how this was satisfied primarily by new investment projects of foreign capital. He argues further that the raison d'etre for the foreign investment in Greece was to exploit opportunities for exports of heavy industrial goods produced in a low-cost country. On account of this experience, he concludes that massive foreign capital inflow would be the answer to Greece's quest for survival in the EEC but he does not think that this is likely or desirable.

A very thorough study of the Greek industry and its prospects within the EEC at a disaggregated level is done by Hummen (1977). According to this author, the outlook for the Greek industry is bleak. He

attributes this to a poor industrial planning. He argues that the establishment by Greece of the legal pre-requisites for direct investment in order to be able to participate in the allocation of resources from the regional fund is insufficient and changes in her industrial structure are needed to cushion the impact of full membership.

Finally, Christou and Sarris (1980) raise doubts about the effectiveness of the CAP for Greece, which runs contrary to popular beliefs about the benefits expected to accrue to Greece with the CAP. Catrivesis and Hitiris (1982), however, point that there is a built-in bias in this model with predictable results. Sarris and Christou (1982) reply that the structure of the Greek agriculture is inefficient and its orientation is incompatible with the CAP's intentions. Therefore, they argue, their conclusion regarding expected losses to Greek agriculture holds independently of small variations in certain contested coefficients of their model.

CHAPTER V

THE MODEL AND ITS IMPLICATIONS

General Description

The model used in this study is a neo-classical one depicting an economy consisting of n industries producing n commodities. Each commodity consists of a basket of goods which can be used as an input to other industries, consumed, invested or exported. Since local products are taken to be imperfect substitutes of their foreign counterparts, prices of local products are not simply their world prices in Greek currency. The commodities used in intermediate or final demand are weighted averages of domestically produced and imported commodities. The weights used in the determination of the import content of domestically consumed commodities take into account the elasticity of substitution of goods of different origin. This latter depends on the variation of current prices relative to their respective base-year levels. In our case, we distinguish three origins of commodities: domestic production, the EEC (six or nine countries depending on the year of reference) and the Rest of the World (ROW).

Production is organized in two levels. Intermediate inputs enter in fixed proportions according to the 1970 input-output table of

Greece. There are two primary factors, capital and labour, which are substitutable according to a Cobb-Douglas formulation. There is no substitution between primary factors and intermediate inputs.

Labour is perfectly mobile at all times, unlike capital which is fixed for each industry in the short-run and mobile in the long-run. Despite its mobility, labour is assumed to derive non-pecuniary returns from its work which are not necessarily equal across sectors. Therefore, inter-industry wage differentials observed in the base-year are assumed to persist in the long-run. Capital, on the other hand, is implicitly considered to be the scarce factor. Its accumulation and re-allocation is time-dependent. Therefore, capital owners of certain economic sectors may enjoy economic rents only in the short-run. In the long-run the rate of return to capital net of depreciation (actually the interest rate) is common across sectors.

The explicit modelling of changes in the amount of capital in the economy would require the building of a dynamic path in our model which, however, is a static one. Thus, the optimum amount of required capital is found indirectly, at its equilibrium point, by reference to a predetermined rate of return. As soon as the optimum amount of capital is established, investment is determined as a fraction of it assumed to be equal to the depreciation of the last (equilibrium) period's capital.

Capital is assumed to depreciate at a constant rate, not common to all sectors, and accumulate through investment spending on capital goods. There is an investment matrix, which links investment by sector to investment by commodity. Thus, each investment unit for a particular sector is composed of capital commodities in fixed proportions. Total investment outlay in the economy is subject to the constraint of availability of financial resources which affects prices. Financial investment is taken as being equal to local savings plus an accounting capital consumption allowance and foreign borrowings.

Because of the EEC membership conditions which impose factor mobility, total primary factor supply is not constant in the long-run. Therefore, primary factor quantity supplied can be different from its base-year level. Labour comes from two sources: local labour, whose supply is a function of the real net wage rate, and foreign labour, whose movement in and out of the country depends on how its returns fare vis-a-vis those in the EEC.

Capital has two dimensions: the physical and the financial. Physical capital is closer associated with the short-run formulation, while financial capital is associated with the long-run formulation. Thus, in the very short-run the supply of capital in physical units is fixed for each sector. In the medium-run the supply of capital is fixed for the whole economy as a total, in which case the model re-allocates it to the various sectors. In both the very short-run and the medium-

run the price of the physical capital units is estimated by means of the prices of the multi-purpose commodities and the investment matrix whose coefficients are fixed. In the case of financial capital, if the capital's rate of return is determined locally which implies absence of capital movement other than in the form of foreign borrowings, Greece faces an upward slopping supply function. In the very long-run, on the other hand, with full implementation of factor mobility, Greece faces a flat supply of capital at a given EEC capital rate of return.

The model includes an elaborate government sector, imposing direct taxes on persons and corporations, and indirect taxes on commodities. Imported commodities are taxed through import duties and excise taxes. Other functions of the government sector include expenditure on consumption and investment goods, as well as transfers to households. Transfers to households and consumption expenditure are kept fixed in real terms, while public investment is taken as a fixed proportion of total investment.

Aggregate private consumption expenditure is a function of disposable income of a simple Keynesian type. The share of each composite commodity into total consumption is determined by a linear expenditure system (LES) whose parameters are estimated separately. The implicit assumption is that the representative consumer maximizes a Stone-Geary utility function. The parametric restrictions imposed on this type of utility function rule out inferior and complementary

goods which is acceptable when dealing with broad categories of goods (Pollak, 1971). Furthermore, the LES satisfies the conditions of (a) homogeneity of zero degree in prices and incomes, (b) the budget constraints, and (c) Slutsky symmetry.

Finally, with respect to its foreign trade relations, Greece is assumed to be a small country insofar her imports are concerned. Therefore, she faces an infinitely elastic supply of foreign goods at fixed world prices. On the other hand, Greece is assumed not to be a small country with respect to her exports which are supposed to face a downward slopping demand curve. The international account of Greece is balanced with foreign capital inflow, which includes foreign borrowings as well as Greek emigrants' remittances.

The model is formulated in a such way that, even though capital and/or labour are free to move in the country, the restrictions placed on the demand for commodities prevent the system from exploding. Furthermore, on the side of external relations we have the following limitations. First, in a zero- or otherwise-fixed foreign borrowings situation, the value of investment, which in quantity terms is a fixed proportion of capital, is bound by the availability of funds thus affecting prices and incomes. Second, exports are not perfectly elastic but rather depend upon the commodity price differentials between Greece and the EEC. These price differentials, however, widen in favour of the EEC when tariffs drop. Therefore, Greek exports need some counter-

balancing effect in terms of lower domestic prices or devalued Greek currency, which places some constraint on factor payments and imports.

On the domestic side we have the following restrictions. First, the supply of labour curve is of the logarithmic type, with an upper limit. Thus, its unlimited expansion is effectively checked even under conditions of continuously increasing wage rates. This places a limit upon disposable income and, subsequently, consumer demand. Second, investment in the long-run is only of the replacement type. Finally, the elasticity of substitution of imported vis-a-vis locally produced commodities is related to the respective price ratios and has been estimated to be less than unity.

The computer algorithm used in our model builds upon the method of Boadway and Treddenick (1978). Thus, a reduced form of price equations is established, albeit more complicated than in the Bo-Tr model, based on marginal cost pricing where prices are set as functions of the wage rate, the rate of return to capital and the exchange rate, as well as independently estimated parameters. These price equations correspond to those of No. (5) in the simple Bo-Tr model. Similarly, following again the Bo-Tr model, we establish the fundamental equation of input-output economics, where total output is set as a function of government consumption plus exports multiplied by the inverse of unity less the input-output coefficients matrix. This is similar to equation (8) in the Bo-Tr model but is more complex in form.

In other words, our equations for private consumption and investment outlays are set as functions of output and ultimately of prices, the wage rate, the rate of return to capital and the exchange rate, as well as independently estimated parameters. Furthermore, the functions depicting demand for and supply of labour, investment and foreign exchange depend on prices of commodities and factors as well. Therefore they can only be solved for equilibrium prices simultaneously.

The transmission process of the model goes as follows: as soon as a change occurs in the external commercial policy of Greece, the new tariffs or taxes determine prices of importables which, together with the base-year values for the prices of factors (labour, capital and foreign exchange), determine prices of domestically produced goods. Prices of commodities, in turn, determine price of value added and output levels, both demanded and supplied at the said price. Finally, output levels determine demand for factors, as well as their supply through factor payments. The divergence of demand for and supply of factors establishes new levels of wage rate, rate of return to capital and foreign exchange rate, all of which spark a new round for the system by determining prices, and so on.

Functional Relationships

Notation of Variables and Parameters

a_{ij}	The input of the i-th commodity per unit of total output of the j-th sector.
A_j	Technology factor of the j-th sector.
α_j	The labour coefficient in the production function of the j-th sector.
b_{ij}	The input of the i-th commodity per unit of total investment in the j-th sector.
β_i	The share of the i-th commodity in the total consumption expenditure beyond subsistence.
C_i, $C^d{}_i$, $C^e{}_i$, $C^w{}_i$	Total, domestic and imported components from the EEC and the ROW of the i-th commodity destined to private consumption.
$\delta^p{}_j$, $\delta^g{}_j$	Sectoral decay rates of physical capital and the government allowed depreciation cost rates.

D^e_i, D^w_i	Imported parts of the i-th commodity from the EEC and the ROW destined to total final uses.
DTC, DTH	Total direct taxes on corporations and households.
e^p_i, e^y_i	Price and EEC income elasticities of Greek exports.
$\bar{c}_i$	The subsistence level of the i-th commodity in total consumption, in real terms.
F	Total foreign capital inflow.
FBR	Foreign borrowings.
GC_i, GC^d_i, GC^e_i, GC^w_i	Total, domestic and imported components from the EEC and the ROW of the i-th commodity destined to government consumption.
GR, GE	Total government revenue and expenditure.
g_j	The public component of total investment in the j-th sector.

γ_j	The value added of the j-th sector in terms of output units per unit of its total output.
h^d_i, h^e_i, h^w_i	Indirect tax rates on the i-th commodity domestically produced, and imported from the EEC and the ROW.
HY	Total gross household income.
I_i, I^d_i, I^e_i, I^w_i	Total, domestic and imported components from the EEC and the ROW of the i-th commodity destined to gross fixed capital formation.
I_j	Gross investment in the j-th sector.
IT	Total indirect taxes.
K^s, K^s_j	Total and sectoral capital supply in units.
K_j, K^*_j	Actual and desired quantity of capital in units per sector.
L_j, L^*_j	Actual and desired quantity of labour in units per sector.

L^s	Total labour supply.
L^d, L^e	The domestic and EEC components of the labour supply.
$\lambda = \sum \theta_j L^*_j / L^s$	Wage differentials scaling factor.
M_i, M^e_i, M^w_i	Total, EEC and ROW components of imports of the i-th commodity.
MPC	Marginal propensity to consume.
μ^e_i, μ^w_i	The import portions of the i-th commodity from the EEC and the ROW.
NIA	Net income from abroad.
NFTRG, NFTRH	Net foreign transfers to government and households.
NGTRH	Net government transfers to households.
η^d, η^e	Elasticity factors in the domestic and the EEC labour supply functions.

P_i	Weighted final consumption price of the i-th composite commodity.
$P^*_{d(t)}$, $P^*_{e(t)}$	The domestic and EEC average price of consumer goods in the indicated period.
P^c_j	Average price per unit of capital employed in the j-th sector.
$\hat{P}^e_i$, $\hat{P}^w_i$	World price in $ US cif of the i-th commodity coming from the EEC and the ROW.
P^e_i, P^w_i	Price in domestic currency of the imported counterparts of the i-th commodity coming from the EEC and the ROW, inclusive of tariffs and taxes.
P^f_j	Price of domestic output of the j-th sector at factor cost.
P^v_j	Price of value added per unit of output of the j-th sector.
PC	Total private consumption expenditure at current prices.

π	The exchange rate in drachmae per US dollar.
Q_j	Total output of the j-th sector at base-year prices.
R_j	Total payments to capital employed in the j-th sector.
r_j	The gross rate of return to capital employed in the j-th sector, including depreciation.
ρ^d, ρ^e	Domestic and EEC economy wide interest rates.
S, GS, CS, HS	Total, government, corporate and household savings.
s^c	The corporate savings rate.
sb_j	Net subsidy rate for the j-th sector.
SC_i, SC^d_i, SC^e_i, SC^w_i	Total, domestic and imported components from the EEC and the ROW of the i-th commodity destined to changes in inventories.
SUB	Total subsidies net of production taxes.

σ	The economy wide elasticity of import substitution.
t^c	The corporate income tax rate.
t^e_i, t^w_i	Tariff rates on the i-th commodity imported from the EEC and the ROW.
t^p	The personal income tax rate.
t^r	The proportion of migrant income transferred to Greece.
t^s_j	The personal tax rate for social insurance contributions.
$\theta_j = W_{j(o)}/W^d_{(o)}$	Constant inter-sectoral wage differentials.
u	The extent of financing of public investment by the government.
V^e_i, V^w_i	Imported parts of the i-th commodity from the EEC and the ROW destined to intermediate uses.
W^d	The average wage rate in Greece.

W^e	The average wage rate in the EEC.
W_j	The wage rate in the j-th sector.
X_i	Exports of the i-th commodity in output units.
xo_i	Parameter in the export function of the i-th commodity.
Y^e	Total income of the EEC of Nine in 1970 consumer basket prices.
ψ^d, ψ^e	Upper limit factors in the domestic and the EEC labour supply functions.
(o)	Subscript indicating base-year values.
^{d}, ^{e}, ^{w}	Superscripts indicating domestic, EEC and ROW values.
^{g}	Superscript indicating government.
$\bar{}$	A bar over the symbol of a variable implies constancy, usually at its base-year level, and refers to the short-run formulation.

The Short-Run Formation

Domestic Prices of Imported Goods. The domestic price of the i-th imported commodity equals to its world price CIF, augmented by the appropriate import duties and taxes, depending on its point of origin, and multiplied by the exchange rate.

$$(1)\qquad \begin{aligned} P_i^e &= \hat{P}_i^e \;\pi\; (1 + t_i^e + h_i^e) \\ P_i^w &= \hat{P}_i^w \;\pi\; (1 + t_i^w + h_i^w) \end{aligned} \qquad i = 1, \ldots, n$$

Domestic Prices of Domestically Produced Goods. Following marginal cost pricing and considering our formulation, the prices of domestically produced final goods at factor-cost are obtained through adding up the weighted sum of the prices of intermediate inputs (depending on their origin) and the price of value added, while discounting by any subsidies. The prices of intermediate inputs include indirect taxes, as well as import duties in the case of imported inputs. Effectively, due to the tax rebate scheme built into the system, the user prices paid by producers are lower than the user prices paid by consumers.

$$(2)\qquad P_j^f = \frac{\Sigma\, a_{ij}\, \mu_i^e\, P_i^e \;+\; \Sigma\, a_{ij}\, \mu_i^w\, P_i^w \;+\; \Sigma\, a_{ij}\, (1-\mu_i^e-\mu_i^w)\, P_i^f\, (1+h_i^d) \;+\; P_j^v}{1 + sb_j}$$

for $i, j = 1, \ldots, n$

Weights for the Import Content Of Domestically Produced Goods.

These are as follows (for the derivation see Appendix A):

$$\mu_i^e = \frac{1}{\Sigma \frac{\mu_i^k(o)}{\mu_i^e(o)} \left[\frac{P_i^k(o)}{P_i^e(o)}\right]^\sigma \left[\frac{P_i^e}{P_i^k}\right]^\sigma} \qquad (3)$$

$$\mu_i^w = \frac{1}{\Sigma \frac{\mu_i^k(o)}{\mu_i^w(o)} \left[\frac{P_i^k(o)}{P_i^w(o)}\right]^\sigma \left[\frac{P_i^w}{P_i^k}\right]^\sigma} \qquad \text{for } k = d, e, w \text{ and } i = 1, \ldots, n$$

Production Functions. Intermediate inputs enter in the production process in fixed proportions while the two primary factors, capital and labour, are substitutable according to a Cobb-Douglas constant-returns-to-scale production function. Furthermore, it is assumed that no input is wasted. Therefore,

$$(4) \qquad Q_j = \frac{A_j}{\gamma_j} L_j^{*\alpha_j} K_j^{(1-\alpha_j)} = \frac{Q_{ij}}{a_{ij}}$$

where Q_j γ_j stands for the value added of the j-th sector.

Demand for and Supply of Primary Factors. Labour is homogeneous and perfectly mobile in the model. Moreover, given the amount of their capital stock which in the short-run is fixed for each sector, producers adjust immediately their labour requirements.

$$(5) \qquad L_j^* = \left[\frac{A_j}{\gamma_j} \quad \frac{\alpha_j}{W_j} \quad P_j^v \right]^{\frac{1}{1-\alpha_j}} \quad \bar{K}_j^s$$

Total labour supply is fixed in the short-run. There is an average wage rate that equilibrates total demand for and total supply of labour. However, there are inter-sectoral wage rate differences that depend on non-pecuniary returns to labour. These wage differentials are constant and are obtained by the base-year data, assuming that base-year is an equilibrium year.

Furthermore, to retain the constancy of inter-industry wage differentials and at the same time ensure that the summation of all sectoral labour incomes equals the product of total labour times the average wage rate in all scenarios, as in the base-year, we had to scale intersectoral wage differential coefficients at all iterations by the factor indicated below (Boadway and Treddenick, 1975 which is the original version of Boadway and Treddenick, 1978 in mimeograph):

$$(6) \qquad W_j = \theta_j W^d \qquad \text{where} \quad \lambda = \Sigma \frac{\theta_j L^*_j}{\bar{L}^s}$$

In the short-run, capital is non-transferable among industries. Therefore, it enjoys economic rents which are defined as the difference between the value added and the wage bill.

$$(7) \qquad R_j = r_j P^c_j K_j = P^v_j Q_j \gamma_j - W_j L^*_j$$

$$\text{where } P^c_j = \Sigma b_{ij} \mu^e_i P^e_i + \Sigma b_{ij} \mu^w_i P^w_i + \Sigma b_{ij}(1 - \mu^e_i - \mu^w_i) P^f_i (1 + h^d_i)$$

Government Current Revenue and Expenditure. Revenue consists of direct and indirect tax proceeds plus net foreign transfers. Current expenditure, on the other hand, consists of government consumption of goods and services, subsidies and net transfers to households all of which are assumed to be fixed in base-year dollars.

$$(8) \qquad GR = IT + DTH + NFTRG$$

$$GE = GC + SUB + NGTRH$$

Indirect taxes consist of import duties and various consumption taxes, meaning both intermediate and final consumption.

$$IT = \Sigma a_{ij} (1 - \mu_i^e - \mu_i^w) P_i^f h_i^d Q_j + \Sigma (C_i^d + I_i^d + SC_i^d + X_i) P_i^f h_i^d + \tag{9}$$

$$+ \Sigma M_i^e \hat{P}_i^e \pi (t_i^e + h_i^e) + \Sigma M_i^w \hat{P}_i^w \pi (t_i^w + h_i^w)$$

Direct taxes are imposed on corporate and personal incomes.

$$DTC = t^c \Sigma R_j \tag{10}$$

$$DTH = \Sigma W_j L_j^* t_j^s + \left[\Sigma W_j L_j^* (1 - t_j^s) + (1 - t^c)(1 - s^c) \Sigma R_j \right] * t^p$$

Household Income. Total household income consists of labour income, paid up dividends and transfers to households originating from the government and abroad.

$$HY = \Sigma W_j L_j^* + (1 - t^c) (1 - s^c) \Sigma R_j + NGTRH + NFTRH + NIA \tag{11}$$

Consumption Functions. Aggregate consumption expenditure at current prices is a function of disposable income of a simple Keynesian type. The share of each composite commodity in quantity terms is determined by a linear expenditure system. The parametric restrictions imposed on the utility function are shown below.

$$(12) \qquad \begin{aligned} PC &= MPC\,(HY - DTH) \\ C_i &= \epsilon_i + \frac{\beta_i}{P_i}(PC - \Sigma\, P_j\, \epsilon_j) \end{aligned} \qquad \text{where } C_i - \epsilon_i > 0,\ 0 < \beta i < 1,\ \Sigma\, \beta i = 1,\ \text{and } PC = \Sigma\, P_i\, C_i$$

Within a constant elasticity of substitution framework, each composite commodity is split into domestic and imported parts, using (3) above (see Appendix A for the derivation of shares).

$$(13) \qquad \begin{aligned} C_i^k &= \mu_i^k\, C_i \\ P_i &= \sum^{3} P_i^k\ \mu_i^k \end{aligned} \qquad k = d, e, w$$

Investment Functions. Investment by commodity is determined through the investment matrix B. Thus,

$$(14) \qquad I_i = \Sigma\, b_{ij}\, I_j \qquad i, j = 1, \ldots, n$$

Total Savings. Savings come from three sources: households, corporations and the government.

$$
\begin{aligned}
S &= HS + CS + GS \\
HS &= HY - DTH - PC \\
CS &= s^c \Sigma R_j (1-t_j^c) \\
GS &= GR - GE
\end{aligned}
\tag{15}
$$

Export Functions. Greece is assumed to enjoy some monopoly power over its exports. Therefore, the demand for exports is not infinitely elastic. We have estimated an inverse relationship with respect to the ratio of domestic-over-international prices, and a positive relationship with respect to changes in the total real income of the combined nine EEC countries.

$$
X_i = x_{oi} \left[\frac{(P_i^f/\pi) \; / \; (P_{i(o)}^f/\pi_{(o)})}{(\hat{P}_i/\hat{P}_{i(o)})} \right]^{-e_i^p} \left[\frac{Y_t^e}{Y_{(o)}^e} \right]^{e_i^y} \tag{16}
$$

Import Functions. Since imported goods are treated as imperfect substitutes of the domestically produced ones, the demand for imports implicitly depends upon the relative prices of domestic versus imported goods.

Relative prices determine the import proportions (as above) for each commodity destined for intermediate or final demand, and for every category of final demand as private consumption, government consumption and investment.

$$M_i = M_i^e + M_i^w$$

$$M_i^e = V_i^e + D_i^e \qquad \text{for } i = 1, \ldots, n \tag{17}$$

$$M_i^w = V_i^w + D_i^w$$

where

$$V_i^e = \Sigma a_{ij}\, \mu_i^e\, Q_j$$

$$V_i^w = \Sigma a_{ij}\, \mu_i^w\, Q_j \qquad \text{for } i = 1, \ldots, n \tag{18}$$

and

$$D_i^e = C_i^e + GC_i^e + I_i^e + SC_i^e \qquad \text{for } i = 1, \ldots, n \tag{19}$$

$$D_i^w = C_i^w + GC_i^w + I_i^w + SC_i^w$$

where

$$C_i^k = \mu_i^k\, C_i \qquad k = d, e, w$$

$$GC_i^k = \mu_i^k\, GC_i \tag{20}$$

$$I_i^k = \mu_i^k\, I_i$$

$$SC_i^k = \mu_i^k\, SC_i$$

Trade Balance. The current account deficit is covered by foreign transfers to both households and government, as well as foreign borrowings.

$$(21) \qquad F\pi = \Sigma \frac{M_i^e \, P_i^e}{1 + t_i^e + h_i^e} + \Sigma \frac{M_i^w \, P_i^w}{1 + t_i^w + h_i^w} - \Sigma \, X_i \, P_i^f$$

where $F\pi$ = NIA + NFTRH + NFTRG + FBR

Government Budget. The model has the option of imposing a balanced-budget constraint by specifying an equality between government savings and investment. In the base-year, government savings financed two-thirds of the total government investment program.

$$(22) \qquad GS = u \Sigma b_{ij} \, g_j \, I_j$$

where $0.0 \leq u \leq 1.0$ and $0.0 \leq g_j \leq 1.0$

Investment Financing. This basically originates from the traditional savings-investment equality and is extended to cover savings in the form of capital consumption allowances and foreign borrowings.

$$(23) \qquad \Sigma \, P_j^c \, I_j = S + \Sigma \, \delta_j^g \, P_j^c \, K_j + FBR$$

Commodity Market Equilibrium. This is the Walrasian condition of equality between demand and supply for each domestically produced commodity, which is used as the criterion for accepting a given set of prices or rejecting it. For the computer program, this implies setting a small tolerance level of the percentage difference between demand and supply below which equality is declared:

(24)

$$\left| \frac{Q_i - \Sigma\, a_{ij}\,(1 - \mu_i^e - \mu_i^w)\, Q_j - (C_i + GC_i + I_i + X_i + SC_i - D_i^e - D_i^w)}{Q_i} \right| < Li$$

Factor Market Equilibrium. Total labour supply is fixed in the short run. Thus, equilibrium is determined as follows:

(25) $$\Sigma\, L_j^* = \overline{L}^s$$

Capital per sector is taken to be fixed in units at its base-year level in the short run, which implies that investment is also fixed sectorally in units at its base-year level, so as to keep the productive capacity of each sector unchanged.

(26) $$K_j = \overline{K_j^s}$$

(27) $$I_j = \overline{I}_j$$

The Long-Run Formation

In order to transform the model into a long-run one, we need to make the capital per sector variable. This implies that the capital available to the society in each scenario will be distributed according to the wage/rate-of-return ratio for each sector. Furthermore, we assume that any risk differentials among sectors are eliminated in the long-run and therefore, the net rate of return to capital (actually the interest rate) is common to all sectors, unlike the gross rate of return which includes the rate of depreciation and which differs among sectors. On the contrary, we assume that non-pecuniary differentials built in the wage rates system persist, as they have to do with the social value that people place upon the image of different sectors. Next we show the changes that are required in the model to obtain the long-run option.

Production Functions. The production function (4) becomes:

$$(4') \quad Q_j = \frac{A_j}{\gamma_j} L_j^{*\,a_j} K_j^{*\,(1-a_j)} = \frac{Q_{ij}}{a_{ij}}$$

Demand for Primary Factors. From cost minimization conditions, the optimum demand for labour from equation (5) becomes:

$$(5a') \quad L_j^* = \frac{a_j P_j^V Q_j}{W_j}$$

while the optimum demand for capital is given by:

$$(5b') \qquad K_j^* = \frac{(1-a_j)\, P_j^V\, Q_j}{\rho\, P_j^C}$$

The returns to capital are not calculated as a residual anymore, which means that, although its spirit still holds, equation (7) is now expressed as follows:

$$(7') \qquad P_j^V\, Q_j = W_j\, L_j^* + R_j \qquad \text{or} \qquad P_j^V = W_j\, l_j^* + r_j\, P_j^C\, k_j^*$$

$$\text{where } R_j = r_j\, P_j^C\, K_j^*$$

Consumption Function. In the long-run, disposable income is totally allocated to consumption. Thus,

$$(12') \qquad PC = HY - DTH$$

Total Savings. As in the case of disposable income, corporations too allocate all after-tax profits to dividends leaving no retained earnings. Thus, the only net social savings of the system is what is generated (if any) at the government level. In this case, we have:

$$(15') \qquad S = GS$$

Investment Functions. In the long-run equilibrium, when capital per sector stabilizes, investment must be of the replacement type without changing each sector's productive capacity. Thus, the investment function of equation (27) becomes:

$$(27') \qquad I_j = \delta^P_j K^*_j \qquad \text{and} \qquad \Sigma I_j = \Sigma \delta^P_j K^*_j$$

Furthermore, in order to eliminate the rents that would be created in the opposite case, the accounting capital consumption allowance rate provided by the government coincides with the physical depreciation rate of capital. Hence, the financing of investment is exclusively done by capital consumption allowances. This implies that any other type of savings (government in this case) is zero which in turn implies a balanced government budget.

Imposition of the balanced budget restriction could be optional. This way we assume financial capital outflow when government savings is positive and vice-versa.

$$(23') \qquad \Sigma P^C_j I_j = S + \Sigma \delta^P_j P^C_j K^*_j + FBR$$

$$\text{where} \quad S = - FBR$$

Inventories. In the long-run, changes in stocks are nil.

Factor Market Equilibrium. Equilibrium in the market for capital is achieved at the aggregate level, since capital is not fixed per sector anymore. Furthermore, total supply of capital depends on whether we run a fixed- or a variable-factor-endowment scenario. Thus, we have:

$$(26') \qquad \Sigma K_j^* = \overline{K^S}$$

Fixed vs Variable Primary Factor Endowments

In the case of fixed factor endowments, total supplies of units of capital and labour are determined exogenously and the system simply allocates them according to economic criteria. Thus, equilibrium in the factor markets is determined by equation (6) for labour and equation (26') for capital.

In the case of variable factor endowments, total supplies of capital and labour are determined endogenously where deviations from their base-year levels reflect intra-EEC movements. Thus, we may assume an infinitely elastic supply of capital at the going interest rate in the EEC, in which case we have:

$$(28) \qquad \rho = \rho^e \qquad \text{and} \qquad r_j = \rho + \delta_j^p$$

Alternatively, we could determine supply of capital indirectly, by determining the amount of investment funds available in the system. In this specification, the supply of investment funds determines the supply of investment and this, in turn, determines the supply of capital by reference to the fact that it is only replacement investment and, therefore, it represents a constant proportion of a given amount of capital. In such case the rate of return to capital is determined by the equations (7') and (23') and it varies in order to equate the supply of capital to its long-run demand (as this latter is being determined from the production function).

For labour we assume that the changes to its base-year level will come from two sources, the local market and the EEC. The changes in the local labour market are prompted from the variation of the real average wage rate in Greece from its base-year level, while the changes in the EEC labour component are dependent upon the difference of wage rates between Greece and the EEC. The EEC labour component does not affect the formation of the Greek wage rate but it is affected by it.

We assume that the movement of labour in and out of Greece depends on many more factors than the wage difference between Greece and the EEC. These other non-pecuniar factors are assumed to be valued for the size of a Greek salary. Thus the cutoff point for worker movement to Greece is when the EEC wage rate falls below the level of twice the Greek salary and vice versa. Finally, movements of labour in and out of

Greece are assumed to affect Net Foreign Transfers tc Households, mostly workers remittances, as it is expected that in-migration will affect Greek workers before anybody else. Thus,

(29) $$L^d + L^e = L^s$$

(30) $$L_t^d = \Psi^d \left[1 - e^{- \eta^d \frac{(W^d / P_d^*)_{(t)}}{(W^d / P_d^*)_{(o)}}} \right]$$

(31) $$L_t^e = - \Psi^e \left[1 - e^{- \eta^e \left(\frac{(W^e / P_e^*)}{2\,(W^d / P_d^*)} - 1 \right)} \right]$$

where $L_t^e \begin{matrix} < \\ = \\ > \end{matrix} 0$

(32) $$NFTRH = NFTRH_{(o)} - t^r W^e L^e \pi$$

where $0 < t^r < 1$

Prices and Price Indices

The aggregation of goods by broad commodity categories makes difficult the definition of commodity prices. Therefore, the term "price" should be put in its appropriate perspective. What we did is the following: The dollar sum of the base-year flows has been taken as representing a price-times-quantity amount where price is equal to one. In this case, that value figure becomes a quantity figure. In essense, what we call prices here are effective price indices of the ordinary prices of the goods included in each aggregate commodity. Here we consider the prices of imported commodities and the producer prices of the base-year, as well as the base-year exchange rate as being equal to unity. This implies that the user prices are greater than unity to take into account indirect taxes and tariffs. Accordingly, the equilibrium prices that the model derives after a shock are similar to those of the base-year and they should be viewed in reference to it.

Furthermore, using the base-year quantity weights, the model estimates three Laspeyers price indices: for GDP, capital goods and the CPI. These are used to <u>deflate</u> the equilibrium values of the model which are expressed in the new equilibrium prices.

The Numeraire

Following theory, the singularity of the matrix of a homogeneous system of equations does not allow it to achieve a unique solution. In the case of general equilibrium models, whose aim is to solve for market-clearing prices, the existence of homogeneity along with the global condition of equality between demand and supply (Say's Law) makes one equation redundant, implying that we cannot solve uniquely for nominal prices. In economics, this has been faced with dropping one equation and setting the price of one of the commodities equal to unity. This makes the system to determine unique prices of the rest of the commodities in terms of the price of the dropped commodity. The justification is that, if n-1 markets clear, the prevalence of Say's Law ensures that the n-th market clears as well. The n-th commodity is called the numeraire. Its choice implies that its price is intertwined within the various interrelationships of the system in such a way as, doubling or otherwise increasing it by a multiple, results in increasing all other prices by the same multiple as well.

The general form of the price formation equations for each sector of our model is as follows:

$$P_j = \Sigma\, a_{ij}\, P_i + P_j^v$$

where a_{ij} are the fixed technical production coefficients.

This says that the price of the commodity of the j-th sector, under conditions of perfect competition and cost-minimization, is partly dependent upon the cost (price) of commodities and partly on the cost (price) of the primary factors used in its production process.

Going into greater detail, the first part of the right-hand side of the equation above is split into the domestic and the imported part, determined by a series of import substitution coefficients (u), which are themselves functions of prices. Furthermore, the second part of the right-hand side of the price equation above is specified as consisting of the payments to labour and capital used per output unit.

Thus, using our standard notation, an expanded version of the formula above would give

$$P_j = \Sigma\, a_{ij}\,(1-\mu)\,P_i + \Sigma\, a_{ij}\,\mu\,P_i^e + W_j\,l_j + r_j\,\Sigma\,P_i^c\,b_{ij}\,k_j$$

where l_j is the quantity of labour per unit of output and $P^c.b_{ij}k_j$ is the value of capital per unit of output.

In matrix notation this becomes:

$$P = P\,A\,(1-\mu) + P^e\,A\,\mu + W\,l + r\,P\,(1-\mu)\,B\,k + r\,P^e\,\mu\,B\,k$$

Solving for P this gives:

$$P = [\ I - A\ (1-\mu) - r\ (1-\mu)\ B\ ]^{-1}\ (\ \pi\ \hat{P^e}\ A\ \mu + W\ l + \pi\ r\ \hat{P^e}\ \mu\ B\ k\ )$$

where $P^e = \pi\ \hat{P^e}$

From the last equation it appears that we can use any of the three primary factors (foreign exchange, labour or capital) as the numeraire, set its price equal to unity, and solve afterwards for the relative prices (in terms of the numeraire price) of the remainder of the commodities. In our case, we have chosen the foreign exchange rate as the numeraire, which was also imposed by the way we have defined prices (see above).

Implementation

Definition of the Base-Year

In the case of a comparative-statics analysis, where a static model is used to give the picture of the economy in two points in time, we first have to ensure that we start from an equilibrium point. This is because only then the differences observed among the values corresponding to the departure and final points may be attributed to the shock introduced to the system through a change in one or many control variables. In other words, given that we cannot trace the dynamic path of a static system, we need to ensure that the departure point is a true equilibrium point in order to avoid misleading conclusions that could be arrived at by comparing an equilibrium final point with a disequilibrium departure point. In this type of macroeconomic models, years replace points and the departure point becomes the base-year, our year of reference, whose values represent the system's "control solution".

The equilibrium property of a base-year is usually tested by comparing the relationships of the various macroeconomic aggregates at that given point to theoretical norms or the magnitudes of the values of the variables to those usually obtained in the applications field. In other words, the base-year values of the various macroeconomic aggregates have to be consistent with the notion of equilibrium and its

implications. For example, the base-year investment should be equal to the depreciation of total capital stock alone, since investment or dis-investment reflecting variations in stocks should be nil. At the same time, financial investment should equal savings, the government budget should be balanced, foreign borrowings should be zero and the rates of return to productive factors should be determined freely.

In our case, for reasons that we describe below, we test two different versions of the base-year and derive two sets of results.

Actual 1970 Base-Year. In this version, we took 1970 as the base-year for our analysis. This was prompted by the fact that the input-output table of Greece used here has 1970 as its base year too. In addition, 1970 was a relatively stable year, as the economic shock induced by the upsetting of the political system in 1967 had about faded, while the destabilizing effect of the 1973 oil price shock was yet to come.

Examining the 1970 data for the Greek economy reveals that in that year the country was far from a long-run equilibrium with respect to the formation of its productive capacity, whereas strong forces were at work for its rapid growth and capitalization during a relatively stable economic period. Thus, gross fixed capital formation was equivalent to 10.7% of net capital stock, while variations in stocks represent an

additional 17.3% of the gross fixed capital formation. Furthermore, total investment was financed to the tune of 11.0% through foreign borrowings, which is also equivalent to 16.8% of imports at cif prices. In reality, of course, it would be impossible for a small country such as Greece to have achieved its steady state path in its immediate past or to envision achieving it in its foreseable future. Thus, we chose to ignore this detail and concentrate on how to cure a different more serious peculiarity found in the official Greek economic statistics.

This peculiarity has to do with the income shares of productive factors and is present at all times (not only in 1970) because it is due to certain social characteristics exhibited by Greeks. What is reported in the Greek National Accounts as wages and related employer's social security contributions constitute only 27.6% of the gross value added as compared to the share of other (entrepreunerial) incomes which reaches 45.6% of the value added (imports at cif prices and indirect taxes and import duties cover another 15.6% and 11.2% respectively). However, this small proportion of value added corresponding to labour income is not compatible with the low capitalization of Greece.

In reality, more than 50.0% of what is reported as employment, or economically active population actually consists of working proprietors and non-paid family members, ranging from 33% in manufacturing to 85% in agriculture, working in mostly small family-owned concerns. It is

obvious, then, that a major part of payments to capital actually represents disguised payments to labour, which explains why official figures on gains from employment are such a small part of value added.

Using employment data from the 1971 census, which actually refer to 1970, we derive that only 1.37 million persons out of 3.23 million representing the total economically active population were classified as salaried employees and wage earners, which results in an annual average wage of about Dr. 72,000, a very high salary by Greek standards. On the other hand, the Bank of Greece discount rate in 1970 was fixed at 6.5%, while the upper limits of government set interest rates on commercial loans varied from 2% applied on loans destined for irrigation to 8% applied on loans destined for working capital.

Of all oddities detected in the data, the distortion in the income shares is the most serious. This is because it affects the structure of the system by altering the output-share coefficient of productive factors in the production function and makes them incompatible with their relative employment volumes. Thus, we modified the data to better represent the reality, using the method described below.

From data that we found in consolidated balance sheets and income statements for about 1,000 large corporations shown in the annual Report of the Federation of Greek Industrialists, we estimated profit--before-tax-over-net-capital ratios for a five-year period around 1970,

which we adopted as rates of return to capital for the base-year. The remainder from the original payments to capital figures shown in the input-output table, after we subtracted these adjusted returns, was allocated to employment earnings. These profit ratios give an average 8.8% return on net capital in the base-year. In addition, we simulated the system to re-allocate the total actual amounts of primary factors, capital and labour, maintaining the inter-industry wage and rate-of-return differentials. The maintenance of the pricing structure helped in getting from the re-allocation of factors and re-calculation of incomes and prices a picture which is very close to the values shown in the original version of the 1970 input-output system.

With respect to the capital formation there was not much that we could do in terms of modifications in order to ensure long-run equilibrium, if we wanted to basically preserve the overall picture of the economy for 1970. Thus, in this version, we establish a base-year which certainly differs substantially from a long-run equilibrium one. This slightly modified version of the 1970 value system was called the ACTUAL BASE-YEAR or ACTUAL BASE and it is against this that we compare the results of different scenarios. Moreover, we have considered the BASE's GDP sectoral distribution pattern for the calculation of the GDP Price Index, which we use to transform the values of the different scenarios to the prices of the base-year (for a more complete description of the data used and their sources see APPENDIX C).

As one might suspect, because of the presence of many distortions in the Greek economy, when the actual base-year is taken as the yardstick the changes in the values of many variables are more pronounced as they reflect more than just the shock of full membership. On the other hand, these results emphasize more dramatically the extent of the structural changes that Greece has to go through in relation to its base-year. Such results then could be generalized for any economy that has not reached its stationary point, or that is suddenly forced to operate under a free market system because of a major shift in its trading policies.

Artificial Base-Year. One way to ensure that we start from a long-run equilibrium is to create an artificial long-run equilibrium base-year. This is done by taking into account only the structure of the economy, impose long-run equilibrium conditions and estimate through simulation the magnitudes of the economic aggregates which are consistent with it. Thus we obtain the economic aggregates which can be used as a benchmark for the evaluation of the implications of simulation results from different policy scenarios. This version of the base-year is called the ARTIFICIAL BASE-YEAR or ARTIFICIAL BASE.

Here we proceeded as follows: We retained the structure of the economy as exhibited by the input-output coefficients matrix, the investment coefficients matrix and the various ratios, share coeffi-

cients and other parameters of production, consumption, imports, exports and taxation. To these we added certain long-run equilibrium conditions. Thus, investment is set equal to the depreciation of capital while the restriction of fixed inter-industry differentials of rates of return to capital is removed. Moreover, the net rate of return to capital (interest rate) is no longer determined locally but is given by the EEC, where we assume a flat supply of funds. Finally, household savings is set equal to zero while all business income, with the exception of capital consumption allowances, is distributed to private households thus eliminating retained earnings. This implies that the total economy savings is equal to capital consumption allowances plus the government budget which can take positive or negative values (implying capital outflow or inflow).

This normalization of the base-year actually implies normalization of the economy which now operates according to free market standards. The normalization not only limits the distortions in the economy but also eliminates all those accumulated in the past. Hence, the variance in the values of the economic aggregates from their base-year levels measures the impact of changes in trading policies which should be expected to be less profound than if we had not started from a long-run equilibrium.

In constructing the long-run artificial base-year we allowed for some features which have characterized the Greek economy in modern times. These refer to the traditional tendency of Greeks for out--migration and the habitual, as much as difficult to eliminate in the foreseable future, shortage of domestic savings, which results in foreign borrowings. In a steady-state situation these features would not exist. However, given the past history of the Greek economy, we considered as a relevant long-run situation something that falls short of the steady-state. Thus, it should be understood that our "long-run" is not a true steady-state situation.

General Description of the Scenarios

The results of the scenarios show us directions in resource-pulls, production and factor payments that follow the introduction of a shock that takes us out of the respective base-year equilibrium. In our case, the shock refers to the application of the new code of relations of Greece with her closest trading partners in Western Europe. The new relationship in our case is examined in the following aspects: a) the drop of the tariffs vis-a-vis the EEC and adoption of the Common External Tariff vis-a-vis the Rest of the World; b) the free movement of capital and labour; and c) the adoption of the Value-Added-Tax scheme. The various scenarios are combinations of different variants of these three aspects.

The formulation of the model does not make an explicit consideration of EEC transfers. One reason for this is that transfers are really exogenous and, therefore, they are not affected by the market forces in operation. Furthermore, they should not constitute a long-run phenomenon. Finally, transfers do not affect the rate of return to capital which is set at the European level. In the short-run version, where the rate of return to capital is determined locally, the problem of the treatment of transfers could be solved if we consider them as entering the system via the investment-savings equation.

What is not provided for testing in this model is the case of sector-specific EEC transfers. Thus we have not tested the possibility of having direct transfers to a specific sector as the case of agriculture might be. It is understood that this extension would add to the complication of the system because there would be fewer markets to clear; against this is the expectation that the results from this type of exercise might not be very interesting.

In answering to "what if" type of questions, we try to evaluate what the new economic environment would have meant for Greece in terms of income, consumption, size etc. had those changes occured in 1970 while the rest of the planet had remained still. This implies that foreign product prices and incomes, as well as preferences and technology, both domestically and abroad, would not change from their base-year levels while recources in Greece would be free to move.

As has been explained above, the solution in a particular scenario involves finding the appropriate set of prices for which commodity and factor markets clear. In terms of the simulations, this has been taken to mean that demand for and supply of the particular commodity, or factor would not differ by more than a small percentage. In our case, we have set this percentage at 0.1%. This is usually attained at around 100 iterations in all markets excepting those cases where in certain scenarios prices are kept constant.

In reviewing the markets, they are 24 in total: 21 commodity markets, the labour market, the foreign exchange market and the market for investment funds. As we have explained above, the foreign exchange is taken as the numeraire. Therefore, the foreign exchange market is always assumed being at equilibrium. A basic difference between the two versions relates to the way that the rate of return to capital is estimated. In the Actual Base Year version, the rate of return is determined locally through the interaction of internal market forces. In that case, the availability of funds is of great importance and the model solves itself for the clearing prices of the 23 markets: 21 commodity markets, the financial capital market and the labour market. In the case of the Artificial Base Year, on the other hand, short-run elements have been removed and the economy is placed in a long run equilibrium. The country is then assumed to be facing a flat supply of funds at a given EEC rate. In such a case we are left with only 22 markets, 21 commodity markets and the labour market to be cleared.

CHAPTER VI

SIMULATION RESULTS

The Global Effects

In this chapter we examine the effect of altering policy variables on various economic aggregates in comparison with their base-year (BASE) level. The conclusion one draws from the various simulations is that the EEC full-membership will be, generally speaking, beneficial to Greece. However, this general assertion is not unqualified. If internal distortions were non-existent in the base-year, the gains would be less pronounced. In addition, there are other general conclusions related to the structure of the Greek economy as that was depicted in 1970. Thus, it is apparent that the rate of return to capital was undervalued while, at the same time, the wage rate and the drachma were overvalued in Greece in 1970. In addition, it appears that the Greek economy is crucially dependent upon foreign borrowings for its investment funding. Finally, the indirect tax structure of Greece has been penalizing labour while it has promoted imports.

We shall examine these results in more detail within the context of the two base-year versions, the actual and the artificial base-years explained above.

The Actual Base-Year Version

Before we start we should recall that 1970 was not a long-run equilibrium year. Thus, in the Actual Base-Year Version we do not start from a long-run equilibrium position. As we have already explained above, we have only corrected the income shares of the production factors and re-allocated the total real quantities of capital and labour for 1970 on the basis of the original structure of the economy for the same year. The crucial observation is that the simulated average wage rate for 1970, which was obtained through the working of the system to be used as a benchmark of the base year is lower than what the official 1970 data would indicate in both nominal and real terms. The recalculated interest rate and subsequently the net return on invested capital, on the other hand, is higher than its actual 1970 level by several basis points.

We should be further reminded that the shock from changes in commercial policies that we introduce to the system is accompanied by the simultaneous introduction of long run equilibrium conditions. This fact implies two things: first, that the differences between the values of the economic magnitudes observed in various scenarios and their base-year levels be very profound, and second, that the direction of changes may not necessarily be what one would have expected had the commercial policy changes been introduced in a non-distorted long run equilibrium base-year.

Table 1 below gives a summary of the values of the economic aggregates obtained under different scenarios as compared to the actual 1970 data with the exception of the wage rate and the rate of return on capital where we present their simulated values for 1970. Each scenario is arranged in a column form with its characteristics in terms of the treatment of policy variables described at the top.

The commercial policy changes introduced to the system, including the adoption of free factor movement necessitated by the full membership, bear a substantial impact on the economy through the price adjustment mechanism. Comparing the deviations on the values of the economic aggregates from their base-year levels (Table 1, Column 1 vis-a-vis Table 1, Column 2) following the introduction of the full-membership conditions we notice immediately that prices fall dramatically causing strong repercussions on output and employment. Prices fall by as much as seventy percent as compared to the base-year. This induces a 30% increase in domestic output and a 37% increase in final demand in 1970 producer prices. The increase in final demand is, to a substantial extent, due to a strong increase in exports resulting from the relative drop in domestic prices. In turn, the increased demand for goods pushes employment up by 22%.

Continuing our comparison of the first two columns of Table 1, we see that exports, under a fully flexible full-membership regime, grow dramatically (to almost four times their base-year level) and so do

VARIABLE	UNIT	ACTUAL BASE YEAR COL 1	F M WITH FBR [illegible] COL 2	F M NO FBR FIXED C I COL 3	NO TRF W FBR FIXED C I COL 4	NO TRF W FBR FIX C L COL 5
Domestic Output	Mill. Dr	451,044	[illegible]	420,265	[illegible]	460,582
Final Demand	Mill. Dr	334,[illegible]	45[illegible]	3[illegible]4,4[illegible]	452,674	350,812
Domest Final Demand	Mill Dr	311,[illegible]	364,160	25[illegible],482	361,306	299,805
Disposable Income	Mill Dr	22[illegible]	[illegible]	174,791	217,066	197,581
Value Added	Mill Dr	254,751	25[illegible],828	205,350	261,314	230,369
Gross Wages	Mill Dr	195,720	2[illegible]4,364	148,634	204,999	177,540
Payments to Capital	Mill Dr	59,031	[illegible]5,464	56,716	56,315	52,828
Nominal Net Wage	Thous Dr	43,245	1[illegible],286	22,130	19,493	31,157
Wage in BY Prod Prices	Thous Dr	32,533	46,164	3[illegible],720	46,349	49,849
Labour Demand	ManYears	3,126,542	3,[illegible],483	3,290,954	3,828,050	3,117,854
Total Labour Supply	ManYears	3,12[illegible]	3,[illegible],445	3,290,357	3,828,041	3,116,537
Domest Labour Supply	ManYears	3,213,500	3,[illegible],749	3,458,108	3,943,328	3,213,501
Foreign Labour Supply	ManYears	92,0[illegible]	1[illegible],304	167,752	(115,287)	(96,965)
Price of Capital Goods	Index	1.296105	0.[illegible]21168	0.580922	0.519923	0.666500
Interest Rate	%	[illegible].2345	[illegible].0456	11.[illegible]933	5.2838	7.2670
Net Return on Invest Cap	%	9.1165	9.6[illegible]	20.3010	10.1627	10.9032
Capital Stock Value	Mill. Dr	[illegible]	437,584	25[illegible],994	428,625	438,980
Capital Stock Units	[illegible]	[illegible]	833,299	447,554	824,401	658,635
Demand for Invest Fnds	Mill. Dr	[illegible]	1[illegible],253	[illegible]0,017	119,112	79,326
Local Supply Inv Fnds	Mill. Dr	64,246	99,207	50,017	84,417	59,312
Foreign Transfers B R	Mill. Dr	6,[illegible]34	10,406	10,889	10,303	8,356
Foreign Borrowings	Mill. Dr	[illegible]0,467	35,051	0	34,695	20,013
For Borr Tot Sup Funds	%	14.0094	28.4373	0.0000	29.1281	25.2293
Total Exports	Mill Dr	23,449	92,801	59,006	91,368	51,007
Total Imports	Mill Dr	43,306	140,433	72,490	138,551	81,818
Current Acct Balance	Mill. Dr	19,857	47,632	(13,483)	(47,183)	(30,811)
Terms of Trade	Index	1.000000	3.348661	2.466862	3.314628	2.209273
Gov't Revenues	Mill. Dr	69,400	88,087	63,497	84,548	67,507
Gov't Expenditure	Mill. Dr	48,994	53,586	50,771	53,410	51,645
Gov't Current Budget	Mill. Dr	20,406	34,502	12,726	31,138	15,862
Price of Consum Goods	Index	[illegible].329277	0.417764	0.586700	0.420572	0.625022
Price of GDP	Index	1.333214	0.398133	0.540449	0.402221	0.603463
Capital Price Index	Index	[illegible].000000	0.421715	0.469886	0.420546	0.539106
Consumer Price Index	Index	1.000000	0.314279	0.441368	0.316391	0.470197
GDP Deflator	Index	1.000000	0.298626	0.405373	0.301693	0.452638
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]4	79	88
[illegible]	%	[illegible]	[illegible]	[illegible]	79	62

TABLE 1 (Cont'd)

Actual Base Year

VARIABLE	UNIT	ACTUAL BASE-YEAR COL <1>	F/M WITH FBR. FIX RL WAGE COL <6>	F/M NO FBR FIX RL WAGE COL <7>	F/M WITH FBR FIXED CAPITL COL <8>	F/M WITH FBR. NO IND TAX COL <9>	B/Y WITH FBR. HALF IND TAX COL <10>
Domestic Output	Mill Dr	451,044	418,253	351,087	521,764	523,878	435,513
Final Demand	Mill Dr	334,626	315,422	262,402	398,410	400,462	329,080
Domest Final Demand	Mill Dr	311,177	286,883	246,431	316,867	344,651	322,608
Disposable Income	Mill Dr	225,376	203,087	193,714	199,225	252,463	288,315
Value Added	Mill Dr	254,751	230,773	212,543	237,544	304,214	307,278
Gross Wages	Mill Dr	195,720	177,005	155,849	182,739	226,348	229,606
Payments to Capital	Mill Dr	59,031	53,768	56,694	54,805	77,866	77,672
Nominal Net Wage	Thsds Dr	43,245	60,538	128,796	19,684	27,168	907,894
Wage in BY Prod Prices	Thsds Dr	32,533	57,020	57,020	42,931	48,900	76,733
Labour Demand	ManYears	3,126,542	2,797,708	2,520,989	3,626,604	3,969,458	3,133,542
Total Labour Supply	ManYears	3,123,500	4,373,887	4,373,886	3,626,367	3,969,579	3,123,500
Domest Labour Supply	ManYears	3,213,500	4,437,577	4,437,576	3,761,137	4,071,334	3,213,496
Foreign Labour Supply	ManYears	(90,000)	(63,690)	(63,690)	(134,770)	(101,755)	(89,996)
Price of Capital Goods	Index	1.236305	1.007370	1.827548	0.532957	0.557061	9.340702
Interest Rate	%	10.0345	8.5291	13.9865	6.7346	12.3087	18.3672
Net Return on Invest Cap	%	8.1165	8.4667	7.6532	12.6362	22.0958	1.9664
Capital Stock-Value	Mill Dr	814,103	664,191	940,906	351,000	332,235	6,150,236
Capital Stock-Units	Million	658,497	659,332	514,846	658,590	596,407	658,434
Demand for Invest Fnds	Mill Dr	74,713	67,788	42,053	89,155	66,962	49,627
Local Supply Inv Fnds	Mill Dr	64,246	54,555	42,053	71,733	40,395	54,890
Foreign Transfers H-H	Mill Dr	6,738	6,687	6,076	10,793	8,978	4,788
Foreign Borrowings	Mill Dr	10,467	13,233	0	17,423	26,567	(5,262)
For Borr/Tot Sup Funds	%	14.0098	19.5207	0.0000	19.5418	39.6752	(10.6040)
Total Exports	Mill Dr	23,449	28,539	15,971	81,543	55,811	6,472
Total Imports	Mill Dr	43,306	50,643	23,153	112,202	93,908	7,840
Current Acct Balance	Mill Dr	(19,857)	(22,104)	(7,182)	(30,659)	(38,097)	(1,368)
Terms of Trade	Index	1.000000	1.264241	0.581710	3.091708	2.538144	0.097883
Gov/t Revenues	Mill Dr	69,400	63,145	53,247	78,261	42,302	51,053
Gov/t Expenditure	Mill Dr	48,994	49,991	47,154	52,820	53,026	40,630
Gov/t Current Budget	Mill Dr	20,406	13,154	6,093	25,441	(10,724)	10,422
Price of Consum Goods	Index	1.329277	1.061706	2.258785	0.458493	0.555586	11.831872
Price of GNP	Index	1.333214	1.054557	2.291886	0.431222	0.525271	13.620379
Capital Price Index	Index	1.000000	0.814823	1.478234	0.431088	0 450585	7.555338
Consumer Price Index	Index	1.000000	0.798709	1.699259	0.344919	0 417961	8.900983
GNP Deflator	Index	1.000000	0.790989	1.719068	0.323445	0.393989	10.216199
Consumption/Employed	Index	100	101	107	76	88	136
Iterations	No	203	132	33	45	69	201

imports (reaching more than three times their base-year level). This wides the current account deficit to about 2.5 times its base-year size. This trade activity, of course, reflects a lower exchange rate. Nevertheless, the nominal exchange rate is here kept fixed, as it serves as the numeraire. Therefore, the terms of trade index, in this case being the inverse of our price index since the exchange rate is always equal to unity, has fallen to less than one-third of its base-year level.

A very interesting development is observed in the market for primary factors. Increased output implies increased demand for factors and higher payments. The wage rate expressed in 1970 producer prices of consumer goods is higher than its simulated base year level by more than 40%. This increase though, substantial as it may be, does not elevate the wage rate to its 1970 level implied by the official Greek statistics, which lends support to the view that labour was overvalued in Greece at that time. Furthermore, the rate of return on invested capital is 156 basis points higher than its actual 1970 level.

The demand for capital in the unrestricted full membership case increases by 27%. Substantial as is, this increase of capital stock induces a 65% increase in the demand for investment funds. However, the domestic supply of funds suffers from low corporate savings due to the abolition of subsidies. Thus, foreign capital doubles its portion in the total supply of funds to 28% of it, up from 14% in the base year.

We get a completely different picture than the one we have just described if we force the model to reach equilibrium in the absence of foreign borrowings, in which case capital investment has to be financed locally (Table 1, Column 3). Comparing this scenario to the base-year we see that domestic output drops by 7%. The lack of funds pushes the return on assets up to more than 20%, as compared to 8% in the base--year. This prompts a substantial decrease in the capital stock by 32% and only a small increase in employment. Thus, although the wage rate increases by 16%, this is not sufficient to prevent disposable income from falling by 22% in relation to its base-year level.

The restriction on foreign borrowings has a significant effect on foreign trade. On one hand, internal prices are higher than if we had no restrictions on foreign borrowings (Table 1, Column 3 compared to Column 2), which results in lower export growth. On the other hand, the financing of imports is inhibited, which also increases the cost of local production wherever imports are used as inputs. The net result is that the current account balance is improving vis-a-vis the base-year but at a high social cost.

An unexpected result comes from a scenario in which we drop tariffs not only vis-a-vis the EEC but also the Rest of the World (Table 1, Column 4). The results are almost identical to those obtained from the scenario depicting unrestricted full membership with the EEC. In other words, output, employment, capital stock and exports all

rise substantially. This can be explained by the fact that EEC already accounts for more than half of the foreign trade of Greece. In addition, the CET tariff rates of EEC vis-a-vis third countries are extremely low and in most of the cases equal to zero. Therefore, for Greece, opening up its market to EEC is equivalent to opening it up to the World. And, dropping of the extra tariff on imports coming from non-EEC countries benefits rather than harms local output, since production reacts favourably to even cheaper foreign inputs.

As it can be seen from the scenarios examined so far, dropping the tariffs results in general in expanded output and employment. However, the beneficial effect of dropping the tariffs is cancelled out if at the same time we try to keep employment and capital stock fixed at their base year levels, while the economy does not really benefit from the changes in its commercial policy (Table 1, Column 5). Nevertheless, keeping the productive resources in check, as if there were closed borders, does increase their real payments substantially. Indeed, the real wage increases by 53% and the real rate of return to capital by 34% as compared to their base year levels.

We subsequently tried to test whether the real wage in existence in 1970 (as implied by the official statistics of Greece) is compatible with full-membership conditions. As mentioned above, the official wage rate for 1970 is distinct from, and much higher than the base year figure used here which has been generated internally by the system.

Fixing real wage at its official base-year level has disastrous results for the economy (Table 1, Columns 6 & 7). However, their exact magnitude depends on whether or not foreign borrowings can be obtained. Thus, output falls in relation to its base-year level by 7% if we do and by 22% if we do not allow foreign borrowings. Employment falls by 11% and 19% respectively, while the system reduces out-migration by about 29% but creates unemployment at a level of 36% and 42% respectively. High wage rates and low employment result in high prices and low demand. This, in turn, overvalues the currency and harms exports.

So far, Greece has not been very co-operative in its adoption of the EEC rules. Specifically, she is constantly aiming at special concessions. A concessionary situation could be called a restricted full-membership case. Of all the restricted full-membership scenarios we run, the best results were obtained when we kept the capital stock at its base-year level and let labour adjust (Table 1, Column 8). This resulted in a remarkably high output and employment growth of 16% for both. However, the real return to capital was higher than otherwise because we actually prevented capital from increasing any further. Subsequently, the real wage rate and employment do not increase as much as, thus out-migration is higher than in the unrestricted case.

The final question that we tried to answer relates to the role of the indirect taxation system of Greece. In the extreme case where along with full-membership we also abolish indirect taxes, we get a picture

which is very close to the one corresponding to full-membership with indirect taxes, but not as good (only 16% growth in domestic output) (Table 1, Column 9). However, the most important finding is that abolition of idirect taxes brings employment to its highest level, 27% as compared to the base-year. Furthermore, real wage attains its maximum among levels reached in all unrestricted membership scenarios (Columns 2, 3, 4, 9). As a result, out-migration too hits its lowest mark among the same scenarios. This, then confirms similar findings by other authors suggesting that the present indirect taxation system in Greece penalizes industrial employment (Georgakopoulos, 1977).

If Greece had cut its indirect tax rates by half in the base-year, it would have damaged the economy in terms of domestic output (Table 1, Column 10). The tax cut would have resulted in a real wage which would be more than twice as high as its base year level and a rate of return to capital lower by about 76% relative to its base year level. Removing the bias of indirect taxes against industrial employment would have added to the practice of overvaluing the wage rate at the expense of the rate of return to capital in existence in Greece in 1970.

The loss of government revenue from lower taxes limits the growth of investment funds. The scenario of full-membership without indirect taxes (Table 1, Column 9) is the only scenario of those examined here where the government current budget is in deficit, necessitating the highest amount of foreign borrowings. Equilibrium in the financial

markets is reached at a very high net return on invested capital. As a result, the capital stock drops by 10% from its base-year level.

The Artificial Base-Year Version

In the case of an artificially built base-year we start from a position of a long-run equilibrium to which we introduce various commercial policy changes. It is, therefore, possible that changes on the various economic magnitudes will be modest and can be purely attributed to commercial policies. However, the qualitative results should not differ much between the actual and artificial base-year versions. In our case, this is confirmed.

We have considered an 8.5% interest rate on savings which represents reasonably well the interest environment of 1970. With this we have created a simulated base-year (Table 2, Column 1). The most important differences in the values of the simulated base-year vis-a-vis those of the actual base-year are in the following categories (Table 1, Column 1 vis-a-vis Table 2, Column 1): foreign borrowings in the artificial base-year are minimal, satisfying only 4% of the demand for investment funds; furthermore, employment is somewhat lower, while capital is higher in the artificial than in the actual base-year with a similar pattern for the income shares of the two factors. Finally, the system generated wage is again lower than the official 1970 figure.

TABLE 2

Artificial Base-Year

VARIABLE	UNIT	ARTIFICIAL BASE-YEAR COL <1>	F/M RHO=8.5% FLEX C-L COL <2>	F/M RHO=12% FLEX C-I COL <3>	N/TF RHO=8.5 FLEX C-L COL <4>	B/Y RHO=8.5% HLF IND TAX COL <5>	F/M FLEX RHO FIX RL WAGE COL <6>
Domestic Output	Mill Dr	402,003	410,315	411,435	413,411	465,102	407,721
Final Demand	Mill Dr	286,853	292,344	291,579	294,209	329,849	289,195
Domestic Final Demand	Mill Dr	262,964	267,997	275,447	269,740	308,684	276,759
Disposable Income	Mill Dr	210,384	216,371	237,124	218,875	255,942	250,694
Value Added	Mill Dr	214,481	220,180	231,641	222,224	264,484	236,083
Gross Wages	Mill Dr	150,721	154,835	159,236	156,261	186,703	156,155
Payments to Capital	Mill Dr	63,760	65,346	72,404	65,963	77,781	79,928
Nominal Net Wage	Thsds Dr	60,572	59,889	95,803	59,705	73,721	119,853
Wage in BY Prod Prices	Thsds Dr	48,035	48,941	50,804	49,308	54,737	48,035
Labour Demand	ManYears	2,880,992	2,925,069	3,013,991	2,942,769	3,194,498	3,212,628
Total Labour Supply	ManYears	2,878,181	2,922,248	3,011,100	2,939,952	3,191,315	2,878,544
Domest Labour Supply	ManYears	2,958,660	2,999,009	3,080,511	3,015,234	3,246,394	2,958,993
Foreign Labour Supply	ManYears	(80,479)	(76,761)	(69,411)	(75,281)	(55,080)	(80,449)
Price of Capital Goods	Index	1.003745	0.974429	1.382982	0.967054	1.066080	1.709914
Interest Rate	%	8.5000	8.5000	12.0000	8.5000	8.5000	17.8052
Net Return on Invest Cap	%	8.4683	8.7231	8.6769	8.7896	7.9731	10.4129
Capital Stock-Value	Mill Dr	697,667	698,638	954,114	700,941	927,041	1,034,163
Capital Stock-Units	Million	695,064	716,972	689,896	724,821	869,579	604,804
Demand for Invest Fnds	Mill Dr	16,511	16,928	14,154	17,087	20,161	11,022
Local Supply Inv Fnds	Mill Dr	15,835	14,214	12,800	13,488	11,472	11,022
Foreign Transfers H-H	Mill Dr	8,955	8,876	8,161	8,829	8,439	7,871
Foreign Borrowings	Mill Dr	676	2,714	1,354	3,599	8,689	0
For Borr/Tot Sup Funds	%	4.0938	16.0333	9.5681	21.0627	43.0966	0.0000
Total Exports	Mill Dr	23,889	24,347	16,132	24,469	21,166	12,437
Total Imports	Mill Dr	37,645	40,031	29,579	40,970	42,443	24,039
Current Acct Balance	Mill Dr	(13,757)	(15,683)	(13,447)	(16,501)	(21,277)	(11,602)
Terms of Trade	Index	1.000000	1.023301	0.638500	1.029634	0.917800	0.469166
Gov/t Revenues	Mill Dr	54,144	52,083	51,297	51,152	47,097	50,253
Gov/t Expenditure	Mill Dr	54,820	54,797	52,651	54,751	55,785	50,224
Gov/t Current Budget	Mill Dr	(676)	(2,714)	(1,354)	(3,599)	(8,689)	29
Price of Consum Goods	Index	1.261001	1.223688	1.885735	1.210847	1.346812	2.495116
Price of GNP	Index	1.254524	1.225958	1.964798	1.218417	1.366881	2.673947
Capital Price Index	Index	1.000000	0.970793	1.377822	0.963446	1.062103	1.703535
Consumer Price Index	Index	1.000000	0.970410	1.495427	0.960227	1.068050	1.978678
GNP Deflator	Index	1.000000	0.977230	1.566170	0.971219	1.089561	2.131443
Consumption/Employed	Index	100	101	108	102	110	107
Iterations	No	90	89	151	89	135	226

Looking at the results of our simulations using the artificial base-year, we again conclude that full-membership will have a positive impact upon output, employment and incomes. However, since we start from a long-run equilibrium position which precludes the existence of market imperfections other than tariffs, the full-membership impact can lead to no dramatic changes and, especially, no reverse market influences upon factor payments. In a sense, normalcy in the pre-EEC period precludes significant adjustments in the post-EEC regime.

Full-membership with an assumed fixed EEC interest rate equal to its base-year level of 8.5% results in a modest drop in prices (Table 2, Column 2). This, in turn, prompts an equally modest 2% increase in domestic output as well as a 1.5% growth in employment and an almost 2% increase in the real wage rate. However, the domestic market does not generate enough funds for investment financing, which results in a need for foreign borrowings four times its base-year level.

Following the logic of the model, foreign borrowings are inversely related to both the rate of return to capital as well as the government budget. Furthermore, an increase in the rate of interest increases substantially the disposable income which, in turn, feeds into the consumption with beneficial results on output, employment and wages. Thus, an assumed fixed EEC interest rate at 12%, for instance, would make the full-membership look more attractive in comparison to the artifial base-year (Table 2, Column 3). More specifically, output would

be 2.3% higher while employment would be 4.6% higher than their base-year levels. In addition, the system generates more funds internally so that the increase in borrowed funds to be less than what would be at the lower interest rate of 8.5%.

Again, in this version too we tested for a complete removal of tariffs on imports and we confirmed the qualitative findings of the similar test run with the Actual Base-Year version. In Table 2, Column 4 we report the results obtained from a simulation of the system while assuming zero tariffs vis-a-vis the World with an 8.5% interest rate. These results must be contrasted with those of Table 2, Column 2 which were obtained from the simulation of the system assuming again an 8.5% interest rate but with the CET tariffs applicable on imports originating in other than the EEC countries. In comparing the two scenarios we find that output, employment and the real wage grow more in the zero-tariff case than in the EEC CET-tariff full-membership case. Also, the zero-tariff environment results in less out-migration, more capital and a higher real rate of return on capital than the EEC membership environment. On the other hand, foreign borrowings grow by more than five times their artificial base-year level because of the strain on savings from the reduced government revenues.

The most dramatic quantitative results in this version, however, were obtained when we simulated the system with a reduction in indirect taxes (Table 2, Column 5). In this case we assumed a base-year environ-

ment in terms of tariff walls, while we adopted a uniform cut in all indirect tax rates by 50%. The result was an almost 16% increase in the base-year output, an almost 11% increase in employment and a 25% increase in capital stock. On the other hand, as it would be expected, the drop in government revenue results in an inadequacy of domestic funds. Thus, foreign borrowings increase substantially, covering 43% of the financial needs, up from 4% in the base-year.

In all scenarios analysed so far (Table 2, Columns 2 to 5) we can distinguish a common pattern with respect to employment. In all of them we see that employment, as well as the real wage rate, increase vis-a-vis their artificial base-year levels. In other words the introduction of changes in the commercial policy in a long-run equilibrium situation results in increased output which pushes demand for employment upwards, thereby bidding the real wage rate up and reducing out-migration.

The explanation for this behaviour lies with the fact that in the Artificial Base-Year version we have normalized the economy. Therefore, there are no distortions in the labour market that need to be corrected along with the imposition of the terms of full-membership. In such a case, fixing the real wage rate at its base-year level implies restricting it at a level lower than the one it would reach under full membership conditions. Then, as the relevant scenario shows (Table 2, Column 6), a gap develops in the labour market where demand exceeds supply by almost 12%.

The Value-Added Tax System

The questions with respect to the influence exercised by the present indirect tax system on the economy are crucial in view of the implementation of the Value-Added Tax system in Greece. There are two elements that one needs to be concerned with when one considering replacement of one indirect tax structure by another. The first relates to the neutrality of the tax structures upon production and the other relates to their contribution to the government revenues and subsequently to total social savings. A third element of concern is added when one particularly ponders the introduction of a VAT system within an economic community of countries. This relates to the method and the degree of uniformity in the application of the tax on the goods traded among those countries. These three elements are discussed below.

There are two methods for taxing tradeables: the method of **Taxation at the Origin**, where exports are taxed by the exporting country; and the method of **Taxation at the Destination**, where the exports of a country are exempted from the local tax but they are taxed as imports in the buying country. Taxing of imports is the most commonly applied method. The consequence of taxing imports rather than exports is that the imported commodity does not benefit from rebates on taxes paid at previous stages of production. By the same token, neither the exporters (who are not taxed locally) benefit from rebates since there is no tax being paid at their level from which to subtract

previously paid taxes. Of course, in this case, rebates could be arranged with an appropriate government tax/transfer policy in order to create an incentive for exports.

In the scenarios presented here we experiment with different VAT rates which, however, are taken as common across the board for all the Greek as well as the EEC products. This means that if Greek exports are not taxed in Greece they are taxed as imports in the EEC, thereby not enjoying a significant tax advantage over competing goods of the EEC. Similarly, on the imports side, the world prices of imported goods are not taken as constant but dependent upon whether or not they are taxed in the EEC before they enter Greece. Furthermore, it has been shown above that the level of both the interest rate and the indirect tax rates are crucial for the provision of investment funds and the performance of the economy. Thus, we have experimented with different pairs of these two crucial policy variables.

The analysis of the VAT effects on the Greek economy is seen through a comparison of the values obtained from the scenarios under various VAT rates to the values of the Artificial Base-Year described above, which have already appeared on Table 2, Column 1. The results of the VAT simulations appear on Tables 3 and 4. Both tables present the same scenarios with the exception of the tax treatement of tradeables. Thus, Table 3 shows the results we obtained following the method of

TABLE 3

Value-Added Tax System - Method of Taxation at the Destination

VARIABLE	UNIT	BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
Domestic Output	Mill Dr	402,003	419,980	389,514	611,060	392,990	592,634	510,374	641,217
Final Demand	Mill Dr	286,853	307,550	288,014	429,846	290,547	417,930	364,396	450,715
Domestic Final Demand	Mill Dr	262,964	282,341	263,364	402,539	266,294	390,900	338,700	422,610
Disposable Income	Mill Dr	210,384	221,941	202,941	388,096	212,596	389,826	310,777	469,104
Value Added	Mill Dr	214,481	234,377	213,368	374,084	219,018	363,551	303,824	402,555
Gross Wages	Mill Dr	150,721	167,831	152,795	268,666	156,005	259,553	216,272	286,189
Payments to Capital	Mill Dr	63,760	66,546	60,573	105,419	63,013	103,998	87,551	116,367
Nominal Net Wage	Thsds Dr	60,572	45,767	40,202	204,141	52,220	261,792	146,469	529,792
Wage in BY Prod Prices	Thsds Dr	48,035	50,576	47,629	72,303	48,443	71,857	61,815	80,660
Labour Demand	ManYears	2,880,992	3,003,413	2,866,031	3,916,322	2,930,750	3,901,365	3,523,428	4,196,437
Total Labour Supply	ManYears	2,878,181	3,018,409	2,880,168	3,894,509	2,917,862	3,882,155	3,505,904	4,175,612
Domest Labour Supply	ManYears	2,958,660	3,073,623	2,943,343	3,891,289	2,974,793	3,876,943	3,522,259	4,152,912
Foreign Labour Supply	ManYears	(80,479)	(55,214)	(63,174)	3,221	(56,930)	5,212	(16,355)	22,700
Price of Capital Goods	Index	1.003745	0.722579	0.671992	2.055810	0.799179	2.543464	1.632884	4.606045
Interest Rate	%	8.5000	6.9999	6.9998	8.4998	8.4998	9.9998	9.9998	11.4997
Net Return on Invest Cap	%	8.4683	9.6873	10.4165	4.1345	10.6357	3.9316	6.1240	2.4966
Capital Stock-Value	Mill Dr	697,667	586,587	491,133	2,963,618	582,090	3,418,294	1,743,984	6,774,544
Capital Stock-Units	Million	695,064	811,796	730,861	1,441,582	728,360	1,343,952	1,068,039	1,470,794
Demand for Invest Fnds	Mill Dr	16,511	20,076	18,318	27,732	16,648	24,224	20,405	24,306
Local Supply Inv Fnds	Mill Dr	15,835	3,601	2,362	30,934	7,107	33,964	24,698	43,033
Foreign Transfers H-H	Mill Dr	8,955	9,038	9,372	6,942	8,865	6,769	7,377	6,155
Foreign Borrowings	Mill Dr	676	16,476	15,956	(3,203)	9,541	(9,741)	(4,292)	(16,727)
For Borr/Tot Sup Funds	%	4.0938	82.0654	87.1062	(11.5493)	57.3091	(40.2119)	(21.0360)	(77.0439)
Total Exports	Mill Dr	23,889	25,209	24,649	27,307	24,253	27,030	25,696	28,105
Total Imports	Mill Dr	37,645	54,699	53,935	35,694	45,856	29,071	33,872	20,738
Current Acct Balance	Mill Dr	(13,757)	(29,490)	(29,286)	(8,387)	(21,603)	(2,041)	(8,176)	7,367
Terms of Trade	Index	1.000000	1.413311	1.535004	0.388742	1.179940	0.293940	0.484931	0.148810
Gov/t Revenues	Mill Dr	54,144	39,636	39,865	55,725	44,705	60,484	56,012	66,906
Gov/t Expenditure	Mill Dr	54,820	56,118	55,827	52,515	54,099	50,740	51,715	48,178
Gov/t Current Budget	Mill Dr	(676)	(16,482)	(15,961)	3,210	(9,395)	9,745	4,296	18,727
Price of Consum Goods	Index	1.261001	0.904908	0.844067	2.823413	1.077963	3.643265	2.369466	6.568209
Price of GNP	Index	1.254524	0.887629	0.817259	3.227068	1.063187	4.267861	2.586960	8.430195
Capital Price Index	Index	1.000000	0.719883	0.669485	2.048139	0.796197	2.533975	1.626792	4.588860
Consumer Price Index	Index	1.000000	0.717611	0.669363	2.239025	0.854847	2.889185	1.879036	5.208726
GNP Deflator	Index	1.000000	0.707542	0.651449	2.572345	0.847482	3.401976	2.062105	6.719836
Consumption/Employed	Index	100	101	97	136	99	137	121	153
Iterations	No	90	47	65	251	3	232	158	247

TABLE 4

Value-Added Tax System - Method of Taxation at the Origin

VARIABLE	UNIT	BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
Domestic Output	Mill Dr	402,003	421,627	390,885	614,011	409,896	594,262	512,095	641,859
Final Demand	Mill Dr	286,853	311,620	292,579	434,279	304,688	422,353	369,472	454,686
Domestic Final Demand	Mill Dr	262,964	284,196	265,223	405,142	277,109	392,924	340,933	424,090
Disposable Income	Mill Dr	210,384	224,615	205,665	393,119	226,051	394,458	315,119	473,679
Value Added	Mill Dr	214,481	236,641	215,677	377,167	231,921	365,998	306,532	404,372
Gross Wages	Mill Dr	150,721	169,459	154,444	270,922	165,414	261,314	218,222	287,477
Payments to Capital	Mill Dr	63,760	67,182	61,233	106,245	66,507	104,684	88,309	116,895
Nominal Net Wage	Thsds Dr	60,572	46,536	40,892	209,277	59,534	266,510	149,639	534,416
Wage in BY Prod Prices	Thsds Dr	48,035	50,979	48,055	72,915	50,489	72,420	62,379	81,186
Labour Demand	ManYears	2,880,992	3,022,462	2,886,692	3,938,729	3,030,323	3,921,362	3,546,227	4,212,875
Total Labour Supply	ManYears	2,878,181	3,037,314	2,901,040	3,915,773	3,015,225	3,901,938	3,528,570	4,192,113
Domest Labour Supply	ManYears	2,958,660	3,091,032	2,962,500	3,911,233	3,064,401	3,895,504	3,543,390	4,168,469
Foreign Labour Supply	ManYears	(80,479)	(53,718)	(61,460)	4,540	(49,176)	6,435	(14,821)	23,644
Price of Capital Goods	Index	1.003745	0.729935	0.678795	2.095462	0.867645	2.579699	1.659066	4.639803
Interest Rate	%	8.5000	6.9999	6.9998	8.4998	8.4998	9.9997	9.9999	11.5001
Net Return on Invest Cap	%	8.4683	9.5897	10.3121	4.0563	9.7965	3.8763	6.0274	2.4786
Capital Stock-Value	Mill Dr	697,667	600,195	503,242	3,054,502	683,422	3,497,127	1,792,714	6,860,478
Capital Stock-Units	Million	695,064	822,258	741,376	1,457,675	787,675	1,355,634	1,080,556	1,478,614
Demand for Invest Fnds	Mill Dr	16,511	20,267	18,514	27,956	17,570	24,386	20,585	24,420
Local Supply Inv Fnds	Mill Dr	15,835	1,566	(189)	29,630	7,141	31,958	22,250	40,864
Foreign Transfers H-H	Mill Dr	8,955	8,964	9,281	6,896	8,555	6,724	7,319	6,117
Foreign Borrowings	Mill Dr	676	18,701	18,703	(1,675)	10,429	(7,572)	(1,665)	(16,444)
For Borr/Tot Sup Funds	%	4.0938	92.2717	101.0204	(5.9907)	59.3594	(31.0496)	(8.0894)	(67.3413)
Total Exports	Mill Dr	23,889	27,424	27,356	29,137	27,580	29,429	28,539	30,596
Total Imports	Mill Dr	37,645	55,013	54,335	35,723	45,329	29,240	34,107	20,943
Current Acct Balance	Mill Dr	(13,757)	(27,589)	(26,979)	(6,586)	(17,749)	189	(5,568)	9,653
Terms of Trade	Index	1.000000	1.394595	1.514461	0.380187	1.061244	0.289202	0.475816	0.147605
Gov/t Revenues	Mill Dr	54,144	37,307	36,996	54,082	43,307	58,198	53,253	64,523
Gov/t Expenditure	Mill Dr	54,820	56,014	55,705	52,400	53,732	50,622	51,584	48,078
Gov/t Current Budget	Mill Dr	(676)	(18,707)	(18,709)	1,682	(10,425)	7,576	1,669	16,445
Price of Consum Goods	Index	1.261001	0.912842	0.850926	2.870140	1.179148	3.680081	2.398857	6.582574
Price of GNP	Index	1.254524	0.899541	0.828345	3.299682	1.182100	4.337783	2.636517	8.499030
Capital Price Index	Index	1.000000	0.727212	0.676262	2.087643	0.864407	2.570074	1.652876	4.622492
Consumer Price Index	Index	1.000000	0.723903	0.674802	2.276080	0.935089	2.918381	1.902343	5.220118
GNP Deflator	Index	1.000000	0.717038	0.660286	2.630226	0.942270	3.457712	2.101607	6.774705
Consumption/Employed	Index	100	102	98	137	102	138	122	154
Iterations	No	90	43	63	251	47	233	163	246

Taxation at the Destination, while Table 4 reports the results of the same scenarios following the method of Taxation at the Origin.

It is easy to see that the results of Tables 3 and 4 are very similar, with a small advantage in the method of Taxation at the Origin. In other words, it is preferable for Greece to tax her own exports with the VAT rather than having the EEC to tax them as imports. An intuitive explanation that could be offered is that prices of Greek products tend to fall which gives Greece a comparative advantage over the EEC. Moreover, the taxation of Greek exports by the VAT does not significantly alter this fact. Taxation of imports in Greece, on the other hand, adds to the cost of inputs, given the low price elasticity of substitution of imports. Thus, we actually observe higher export levels when the VAT is applied at the origin (taxing of exports) rather than when the VAT is applied at the destination (taxing of imports).

It should be stressed that we have not experimented with VAT rates differing between Greece and the EEC, nor have we experimented with different rates for different products. While it would be considered as being closer to today's practice, rate differentiation would further complicate the system without necessarily enhancing its understanding. Moreover, the predictability of the results based on rate differentiation among products or among producing nations would become trivial.

Borges (1986) reports that Ballard and Shoven have used elsewhere a general equilibrium model to study the implications of the VAT system for the US. They point that, in general, VAT is a less distorting taxation scheme but they also agree that any realistic VAT scheme would probably have to adopt different rates for different products. However, using a rate structure similar to what is common today in the European countries (however not all European countries use a differentiated rate structure, whereas Germany and Luxembourg for example use single rates) they find that all efficiency gains are lost and that the distortions caused by the use of different rates for different products actually outweigh the gains inherent to the VAT system.

As it can be easily noticed from Tables 3 and 4, we have actually performed a sensitivity analysis by using different combinations of VAT rates ranging from 6% to 12% and interest rates ranging from 7% to 11.5%. These limits were chosen arbitrarily but they adequately point to a clear underlying pattern with respect to the influence that these two rates excert upon the Greek economy. To further establish this pattern we run a multiple regression of the different output rates of change from the base-year obtained in each scenario against their corresponding pairs of interest rates and VAT rates, which gave a good fit and signified the following: assuming taxation at the origin, one percentage point increase in the VAT rate results on the average in a decrease of the output from its base-year level by about 3.1 percentage points. On the contrary, every percentage point increase in the

interest rate (and consequently in the rate of return to capital) results on the average in an increased output by about 4.9 percentage points from its base-year level (the corresponding figures in the method of taxing at the destination are 3.4 and 5.0 percentage points respectively). Therefore, the higher intertest rate combined with the lower VAT rate the higher the positive impact on output, employment, out-migration and trade balance. These results are in principle similar to those we obtained above where it was shown that higher interest rates and lower indirect tax rates benefit the Greek economy via their positive impact upon employment, disposable income and consumption.

The interplay of interest rates and indirect tax (VAT) rates can be best understood when we compare certain pairs of columns in either of Tables 3 and 4. Thus, comparing Column 2 to Column 3 or Column 6 to Column 7 we get an idea of the VAT effect while keeping interest rate constant. On the other hand, comparing Column 2 to Column 6 or Column 3 to Column 7 gives us an idea as to what the result would be in the economy from changing interest rates within a given VAT regime. The most significant point to be made from this exercise, other than the points we have already stressed above, is that it is not the higher VAT rates that would guarantee the government higher revenue but the higher interest rates. These latter will contribute to an expanded economy and subsequently to higher tax revenues. On the contrary, high VAT rates work against the total tax revenues because they penalize the economy which contracts and diminishes the government's intake.

With a three-year postponment of what had been agreed under the terms of accession, Greece introduced the Value-Added Tax (VAT) on January 1, 1987. The introduction of the VAT system has created some repercussions due mainly to fear from lack of knowledge of the effects to be anticipated and the unpreparedness in terms of appropriate structures and equipment. The VAT is applied through three different rates as follows: 6% on basic goods and industrial raw materials, covering about 46% of total sales; 18% on non-essential goods, mostly manufactures and services covering about 48%; and 36% on luxury goods covering about 6% of sales. Therefore, on a weighted average basis, the VAT rate applied in Greece now is 13.5%. Moreover, the present VAT does not replace all existing indirect taxes, while the real interest rates are presently negative or zero.

The Sectoral Effects

The formulation of the model does not allow closing down of industries as other models do (see the Bo-Tr model for example). Thus, there is always a positive output in every sector. Furthermore, changes in sectoral output follow, in general, the pattern of change depicted in the movements of total domestic output of Greece but with some variation in their relative intensities. These intensity differences result in different shares for the economic sectors in the gross domestic output. We can thus define a sector as a winner/loser in sofar

as it has gained/lost ground in relative terms in the gross domestic output in comparison to its base-year position. The performance of the sectors varies in different scenarios. However, some sectors exhibit a steady performance one way or another. In this sense we can speak of definite or strong as opposed to weak winners or losers.

The Actual Base-Year Version

The following Table 5 gives the sectoral output distribution for those scenarios depicted in Table 1. Furthermore, Table 6 shows for the same scenarios the resulting sectoral output changes from the base-year levels, which have been reproduced in the first column. Tables 5 and 6 should be looked at in conjunction in order to obtain a complete picture of the sectoral effects of different scenari s.

Looking at Tables 5 and 6 we conclude that, with a few exceptions most of the sectors can be clearly classified as definite winners or definite losers as they exhibit a definite performance irrespective of the type of scenario. In the middle fall agriculture, wood, furniture, machinery, construction, transportation as well as dwellings which exhibit an inconsistent pattern depending on the scenario.

Definite losers include food & beverages, communications, and other services, while definite winners include mining, electricity-

TABLE 5

SECTORAL ALLOCATION OF DOMESTIC OUTPUT (%)

Actual Base-Year Version

SECTOR	BASE-YEAR COL <1>	F/M W FBR FLEX C-L COL <2>	F/M NO FBR FLEX C-L COL <3>	NO/TRF W FB FLEX C-L COL <4>	NO/TRF W FB FIX C-L COL <5>	F/M W FBR FIX RL WAG COL <6>	F/M NO FBR FIX RL WAG COL <7>	F/M W FBR FIX CAPITAL COL <8>	F/M W FBR NO IND TAX COL <9>	B/Y W FBR HALF IND TX COL <10>
1 AGR	13.33	12.02	13.49	12.08	12.86	13.10	13.94	12.66	13.46	13.82
2 MNQ	0.98	1.66	1.44	1.65	1.36	1.08	0.82	1.60	1.33	0.58
3 FBT	12.03	8.51	10.48	8.55	10.09	10.66	11.16	9.23	8.88	10.42
4 TXT	3.99	5.21	5.21	5.21	4.65	4.05	3.67	5.32	4.88	3.19
5 CLF	3.67	4.82	4.77	4.80	4.18	3.76	3.76	4.90	4.08	3.14
6 WDF	1.34	1.53	1.22	1.51	1.33	1.31	1.11	1.41	1.25	1.02
7 PPR	1.24	1.92	1.84	1.88	1.73	1.53	1.33	1.92	1.76	0.84
8 LTH	0.51	0.69	0.71	0.68	0.60	0.50	0.44	0.71	0.58	0.31
9 PLS	0.61	0.77	0.70	0.76	0.69	0.62	0.53	0.75	0.68	0.48
10 CHM	3.68	5.92	5.48	5.87	5.01	4.08	3.32	5.85	3.54	2.06
11 MIN	1.56	3.87	2.32	3.78	2.26	1.75	1.43	3.34	2.09	1.19
12 MTL	3.47	4.94	4.23	4.87	4.40	3.75	2.83	4.68	3.96	1.57
13 MCH	2.20	2.93	2.13	2.87	2.34	1.93	1.38	2.63	1.95	1.23
14 TRQ	1.45	1.93	1.57	1.90	1.72	1.56	1.29	1.80	1.64	1.22
15 OTM	0.22	0.42	0.29	0.41	0.27	0.18	0.14	0.38	0.28	0.22
16 EGW	1.54	1.61	2.28	1.64	1.80	1.81	2.09	1.82	2.23	1.67
17 CNS	10.98	11.60	8.19	11.43	11.04	11.45	9.73	10.14	8.67	9.63
18 TRS	6.03	5.91	6.33	5.96	6.15	6.21	6.39	6.09	6.67	6.98
19 CMN	1.32	0.70	0.79	0.72	0.80	0.87	0.94	0.74	1.01	1.31
20 DWE	5.08	2.75	5.96	2.86	4.09	4.99	7.91	3.50	5.86	8.16
21 OTS	25.08	20.29	20.55	20.55	22.58	24.80	25.77	20.54	25.19	30.96
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE 6

DOMESTIC OUTPUT SECTORAL CHANGES FROM BASE-YEAR LEVELS (%)

Actual Base-Year Version

SECTOR		BASE-YEAR COL <1>	F/M W FBR FLEX C-L COL <2>	F/M NO FBR FLEX C-L COL <3>	NO/TRF W FB FLEX C-L COL <4>	NO/TRF W FB FIX C-L COL <5>	F/M W FBR FIX RL WAG COL <6>	F/M NO FBR FIX RL WAG COL <7>	F/M W FBR FIX CAPITAL COL <8>	F/M W FBR NO IND TAX COL <9>	B/Y W FBR HALF IND TX COL <10>
1	AGR	60,130	17.55	(5.74)	17.45	(1.51)	(8.89)	(18.62)	9.88	17.28	0.07
2	MNQ	4,404	121.89	37.71	118.62	42.44	2.68	(34.41)	89.81	58.42	(42.68)
3	FBT	54,269	(7.81)	(18.83)	(7.85)	(14.38)	(17.85)	(27.78)	(11.26)	(14.28)	(16.34)
4	TXT	17,986	70.14	21.76	69.44	19.05	(5.93)	(28.36)	54.23	42.18	(22.79)
5	CLF	16,565	70.93	21.14	69.52	16.14	(5.03)	(20.23)	54.20	29.04	(17.45)
6	WDF	6,052	48.24	(15.53)	45.79	5.36	(9.35)	(35.77)	21.31	8.27	(26.89)
7	PPR	5,600	101.57	37.98	96.63	41.98	14.52	(16.66)	78.48	64.74	(34.31)
8	LTH	2,282	77.50	30.44	74.28	21.54	(8.06)	(32.48)	62.36	33.45	(40.33)
9	PLS	2,746	65.47	6.94	62.16	16.23	(5.45)	(31.74)	42.55	28.81	(23.34)
10	CHM	16,617	109.45	38.71	106.44	38.93	2.65	(29.86)	83.63	11.45	(46.07)
11	MIN	7,033	223.26	38.58	214.11	48.26	4.03	(28.43)	147.97	56.01	(26.13)
12	MTL	15,649	85.55	13.54	82.09	29.42	0.33	(36.53)	55.99	32.73	(56.41)
13	MCH	9,903	73.91	(9.57)	69.59	8.87	(18.51)	(50.94)	38.53	3.14	(45.79)
14	TRQ	6,524	73.52	1.39	70.65	21.49	0.26	(30.46)	43.57	32.01	(18.79)
15	OTM	991	148.42	22.69	144.39	24.09	(24.87)	(49.14)	99.17	47.37	(3.54)
16	EGW	6,939	36.76	38.18	38.38	19.43	8.85	5.62	36.99	68.38	4.88
17	CNS	49,547	37.64	(30.52)	34.82	2.65	(3.34)	(31.09)	6.81	(8.36)	(15.36)
18	TRS	27,206	27.66	(2.16)	28.00	4.16	(4.49)	(17.48)	16.86	28.37	11.70
19	CMN	4,588	(9.84)	(27.49)	(8.37)	(19.96)	(20.24)	(27.85)	(16.25)	15.89	24.37
20	DWE	22,909	(29.48)	9.42	(26.93)	(17.83)	(8.93)	21.29	(20.18)	34.07	55.18
21	OTS	113,104	5.46	(23.63)	6.21	(8.05)	(8.29)	(20.02)	(5.25)	16.67	19.21
	TOTAL	451,044	30.33	(6.82)	29.61	2.11	(7.27)	(22.16)	15.68	16.15	(3.44)

gaz-water and all of manufacturing with the exception of the losing sectors of food & beverages and machinery. In the base-year the definite losers accounted for about 38% of GDP and the definite winners for about 23% leaving 39% of the GDP being accounted for by the sectors with ambiguous results depending on the scenario.

In the case of unrestricted full-membership (Tables 5 and 6, Column 2) food and beverages, communications, and dwellings, together representing 18% of the base-year's gross domestic output, will contract to form only 12% of the new GDP. Agriculture, transportation, and other services, together representing a total of about 44% of the base-year output will expand though at a slower pace than the average rate of the economy and thus ending up with their combined share in the new GDP falling to 38%. On the other hand, mining and all of the manufacturing sectors, excepting food and beverages, will expand absolutely and relatively. In this case the highest expansion rates are recorded in mining, paper, chemicals, non-metallic mineral manufacturers and other manufactured items.

As we have already seen, the lack of investment funds in the absence of foreign borrowings has a devastating result upon the whole economy. However. this result is not uniformly distributed upon all sectors (Tables 5 and 6, Column 3). In reality, those sectors found in the middle ground in the case of unrestricted full-membership join the

group of the losing sectors (whose output actually shrinks in relation to their base-year levels) when foreign borrowings are scarce.

The option of zero tariff vis-a-vis the rest of the world, as has already been mentioned, results in an economic outlook very similar to the one stemming from the unrestricted full-membership case. This is also reflected in the sectoral output allocation (Tables 5 and 6, Column 4). The devastating result on the economy from fixing the real wage at its high official base-year level is shown to be reflected in the output of almost all sectors (Tables 5 and 6, Columns 6 and 7). The sectors that still record a positive output growth rate are all found in the group of definite winners mentioned above and includes those with an advantageous capital-labour price ratio.

Finally, during the experiment of reducing indirect taxation, the winning sectors include, with the exception of the definite losers, almost all sectors, especially mining, textiles, clothing, leather, paper, plastics, minerals, metals, transport equipment, electricity-gaz-water, transportation and dwellings (Table 5 and 6, Column 9).

The Artificial Base-Year Version

Tables 7 and 8 have been constructed in a way similar to that for Tables 5 and 6 and refer to the sectoral output changes from the

TABLE 7

SECTORAL ALLOCATION OF DOMESTIC OUTPUT (%)

Artificial Base-Year Version

SECTOR		BASE-YEAR COL <1>	F/M RHO=8.5% FLEX C-L COL <2>	F/M RHO=12% FLEX C-L COL <3>	N/TF RHO=8.5 FLEX C-L COL <4>	B/Y RHO=8.5% HLF IND TAX COL <5>	F/M FLEX RH FIX RL WAGE COL <6>
1	AGR	20.49	20.53	20.77	20.53	21.22	20.50
2	MNQ	0.66	0.66	0.54	0.66	0.61	0.48
3	FBT	15.66	15.58	15.17	15.51	14.55	14.75
4	TXT	5.18	5.20	5.25	5.21	5.50	5.29
5	CLF	5.75	5.79	6.11	5.82	6.38	6.25
6	WDF	1.08	1.07	1.06	1.08	1.16	1.02
7	PPR	1.48	1.45	1.35	1.44	1.46	1.30
8	LTH	0.73	0.73	0.73	0.73	0.78	0.72
9	PLS	0.53	0.52	0.49	0.52	0.52	0.47
10	CHM	4.09	4.04	3.59	4.03	3.38	3.42
11	MIN	0.75	0.75	0.64	0.75	0.73	0.56
12	MTL	2.62	2.61	2.06	2.60	2.42	1.79
13	MCH	1.26	1.26	1.17	1.26	1.28	1.11
14	TRQ	0.99	0.98	0.87	0.98	0.94	0.79
15	OTM	0.15	0.15	0.15	0.15	0.15	0.15
16	EGW	2.12	2.11	2.26	2.11	2.07	2.52
17	CNS	3.58	3.60	3.21	3.60	3.72	2.69
18	TRS	6.31	6.31	6.40	6.32	6.12	6.62
19	CMN	0.73	0.74	0.80	0.75	0.79	0.85
20	DWE	6.15	6.17	7.50	6.18	6.41	9.21
21	OTS	19.69	19.75	19.90	19.76	19.82	19.50
TOTAL		100.00	100.00	100.00	100.00	100.00	100.00

TABLE 8

DOMESTIC OUTPUT SECTORAL CHANGES FROM BASE-YEAR LEVELS (%)

Artificial Base-Year Version

SECTOR		BASE-YEAR COL <1>	F/M RHO=8.5% FLEX C-L COL <2>	F/M RHO=12% FLEX C-L COL <3>	N/TF RHO=8.5 FLEX C-L COL <4>	B/Y RHO=8.5% HLF IND TAX COL <5>	F/M FLEX RH FIX RL WAGE COL <6>
1	AGR	82,362	2.29	3.75	3.05	19.82	1.47
2	MNQ	2,661	1.93	(16.51)	2.65	6.57	(27.15)
3	FBT	62,969	1.53	(0.86)	1.83	7.47	(4.48)
4	TXT	20,813	2.44	3.76	3.58	22.87	3.70
5	CLF	23,124	2.81	8.70	4.12	28.27	10.28
6	WDF	4,324	1.92	0.41	3.12	24.44	(4.08)
7	PPR	5,954	(0.23)	(6.83)	(0.26)	14.07	(11.19)
8	LTH	2,952	1.94	1.63	2.44	22.41	(0.07)
9	PLS	2,122	1.02	(5.04)	1.49	14.43	(8.97)
10	CHM	16,452	0.80	(10.33)	1.35	(4.58)	(15.34)
11	MIN	3,006	2.38	(12.28)	3.26	13.00	(24.12)
12	MTL	10,543	1.39	(19.47)	2.09	6.82	(30.59)
13	MCH	5,056	2.06	(4.77)	3.00	17.58	(10.50)
14	TRQ	3,961	1.40	(10.07)	2.01	10.53	(18.59)
15	OTM	600	1.79	(0.28)	2.55	15.18	(1.37)
16	EGW	8,512	1.88	9.27	2.65	13.27	20.87
17	CNS	14,407	2.40	(8.39)	3.36	20.05	(23.76)
18	TRS	25,375	2.09	3.79	2.91	12.17	6.35
19	CMN	2,945	3.27	11.44	4.61	25.31	17.06
20	DWE	24,708	2.41	24.82	3.47	20.70	52.03
21	OTS	79,157	2.35	3.44	3.19	16.45	0.46
TOTAL		402,003	2.07	2.35	2.84	15.70	1.42

artificially constructed base-year explained above occurring during the different scenarios. The way the Artificial Base-Year has been constructed ensures that the variations in the domestic output pattern from the different scenarios be due exclusively to changes in the external trade policies and not to corrections of internal market distortions. This then results in a different sectoral outlook than the one we ended up with when using the Actual Base-Year.

Again, there is no negative output. Winners and losers are defined as such only in terms of gains or losses in relative shares resulting from different growth rates. The winners in a fully flexible full-membership context are growing faster than the average economy. These include agriculture, textiles, clothing, minerals, construction and all service industries. On the other hand, among the losers are found mining and almost all of manufacturing, with the exception of clothing, textiles and minerals (Tables 7 and 8, Column 3).

The pattern presented above is based on an interest rate of 8.5%. With an interest rate of 12%, on the other hand, construction and minerals drop from the winning list leaving there only agriculture, textiles, clothing, services, and electricity-gaz-water which changes camp. Furthermore, the growth rates become more pronounced and the winners increase substantially their output vis-a-vis their base year levels, while the losing sectors actually contract.

Dropping the tariffs vis-a-vis the Rest of the World, as we have seen, helps the system to achieve higher growth rates. But the sectoral distribution of output remains strikingly similar to that of the full membership (Tables 7 and 8, Column 4 compared to Column 2). Similar results in terms of sectoral shares are also observed in the remaining two scenarios testing the result of a cut in indirect taxes (Tables 7 and 8, Column 5) or that of fixing the the real wage rate at its base-year level (Tables 7 and 8, Column 6). However, here again the relative strength of the sectoral growth rates from one scenario to another depends on total output performance. It is interesting to note that the sectors benefitting from a cut in indirect taxes are the same in both cases of either the Actual or the Artificial Base-Year. These sectors are agriculture, textiles clothing, leather, wood, machinery, construction, communications, dwellings and services.

The Value-Added Tax System

Tables 9 and 10 show the sectoral effect of different combinations of interest rates and VAT rates for the scenarios described in Table 3 when tradeables are taxed at their destination point. Similarly, Tables 11 and 12 show the sectoral effect of those same scenarios as they have been described in Table 4 when the VAT on tradeables is applied at their point of origin. Both pairs of tables give similar results implying not large differences between the two methods of taxation.

TABLE 9

SECTORAL ALLOCATION OF DOMESTIC OUTPUT (%)

Value-added Tax System - Tax on Imports

SECTOR		BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
1	AGR	20.49	22.35	22.42	22.51	22.72	22.65	22.83	22.60
2	MNQ	0.66	0.69	0.72	0.51	0.69	0.50	0.55	0.45
3	FBT	15.66	13.83	13.92	13.12	13.78	13.04	13.24	12.83
4	TXT	5.18	5.22	5.09	5.41	5.05	5.29	5.27	5.14
5	CLF	5.75	5.79	5.53	6.86	5.52	6.79	6.35	7.07
6	WDF	1.08	1.14	1.12	1.21	1.08	1.17	1.13	1.17
7	PPR	1.48	1.53	1.56	1.30	1.48	1.27	1.31	1.23
8	LTH	0.73	0.75	0.73	0.75	0.70	0.74	0.72	0.74
9	PLS	0.53	0.55	0.56	0.49	0.53	0.48	0.48	0.48
10	CHM	4.09	3.02	3.12	2.45	2.89	2.42	2.46	2.44
11	MIN	0.75	0.81	0.82	0.74	0.78	0.70	0.72	0.65
12	MTL	2.62	2.88	3.01	2.03	2.78	1.93	2.15	1.72
13	MCH	1.26	1.28	1.28	1.27	1.19	1.23	1.18	1.26
14	TRQ	0.99	1.07	1.11	0.82	1.02	0.79	0.84	0.75
15	OTM	0.15	0.15	0.15	0.15	0.14	0.15	0.14	0.17
16	EGW	2.12	2.08	2.13	1.94	2.20	2.02	2.08	2.06
17	CNS	3.58	3.69	3.57	3.91	3.30	3.59	3.40	3.46
18	TRS	6.31	6.26	6.33	6.23	6.44	6.38	6.41	6.52
19	CMN	0.73	0.76	0.74	0.87	0.76	0.89	0.85	0.92
20	DWE	6.15	5.86	5.77	6.72	6.35	7.08	7.00	7.48
21	OTS	19.69	20.29	20.31	20.70	20.57	20.89	20.88	20.97
TOTAL		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE 10

DOMESTIC OUTPUT SECTORAL CHANGES FROM BASE-YEAR LEVELS (%)

Value-Added Tax System - Tax on Imports

SECTOR		BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
1	AGR	82,362	13.98	6.05	67.01	8.40	63.01	41.48	75.15
2	MNQ	2,661	9.16	5.82	18.19	1.98	10.99	6.27	8.32
3	FBT	62,969	(7.79)	(13.89)	27.35	(13.98)	22.69	7.29	30.68
4	TXT	20,813	5.27	(4.79)	58.76	(4.59)	50.68	29.19	58.23
5	CLF	23,124	5.21	(6.87)	81.40	(6.12)	74.13	40.05	96.10
6	WDF	4,324	11.00	0.58	70.69	(1.71)	60.75	33.86	73.42
7	PPR	5,954	8.09	2.32	33.33	(2.44)	26.20	12.30	31.96
8	LTH	2,952	6.03	(3.62)	56.17	(6.19)	47.93	24.45	60.22
9	PLS	2,122	9.05	3.10	40.78	(1.55)	34.13	16.55	44.22
10	CHM	16,452	(22.90)	(26.03)	(8.95)	(30.96)	(12.88)	(23.59)	(4.87)
11	MIN	3,066	13.60	6.20	50.09	2.04	38.27	22.28	39.63
12	MTL	10,543	14.57	11.18	17.40	3.47	8.38	3.87	4.83
13	MCH	5,056	6.24	(1.67)	53.42	(7.21)	44.52	18.94	60.21
14	TRQ	3,961	13.43	9.05	26.38	1.47	18.28	8.18	20.61
15	OTM	600	2.48	(3.98)	53.90	(6.14)	51.11	22.36	77.57
16	EGW	8,512	2.86	(2.37)	39.56	1.53	40.37	24.75	55.12
17	CNS	14,407	7.54	(3.43)	65.68	(9.97)	47.70	20.49	53.99
18	TRS	25,375	3.61	(2.85)	49.99	(0.23)	49.03	29.02	64.68
19	CMN	2,945	8.29	(2.16)	80.95	2.06	78.09	47.35	100.82
20	DWE	24,708	(0.39)	(9.01)	66.21	1.02	69.82	44.59	94.02
21	OTS	79,157	7.66	(0.05)	59.82	2.13	56.39	34.61	69.90
TOTAL		402,003	4.47	(3.11)	52.00	(2.24)	47.42	26.96	59.51

TABLE 11

SECTORAL ALLOCATION OF DOMESTIC OUTPUT (%)

Value-Added Tax System - Tax on Exports

SECTOR		BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
1	AGR	20.49	22.42	22.51	22.53	22.85	22.69	22.89	22.53
2	MNQ	0.66	0.68	0.70	0.51	0.65	0.49	0.54	0.44
3	FBT	15.66	13.77	13.85	13.08	13.60	12.98	13.16	12.77
4	TXT	5.18	5.23	5.10	5.41	5.12	5.29	5.27	5.14
5	CLF	5.75	5.84	5.68	6.89	5.71	6.83	6.39	7.10
6	WDF	1.08	1.15	1.13	1.21	1.10	1.18	1.14	1.17
7	PPR	1.48	1.53	1.57	1.30	1.46	1.27	1.31	1.23
8	LTH	0.73	0.74	0.73	0.75	0.71	0.74	0.72	0.74
9	PLS	0.53	0.55	0.56	0.49	0.53	0.48	0.49	0.48
10	CHM	4.09	3.02	3.12	2.46	2.82	2.43	2.48	2.45
11	MIN	0.75	0.81	0.82	0.74	0.78	0.70	0.72	0.65
12	MTL	2.62	2.82	2.94	2.00	2.62	1.90	2.10	1.70
13	MCH	1.26	1.29	1.28	1.28	1.20	1.25	1.19	1.27
14	TRQ	0.99	1.07	1.11	0.82	0.99	0.79	0.84	0.75
15	OTM	0.15	0.15	0.15	0.15	0.14	0.15	0.15	0.17
16	EGW	2.12	2.09	2.14	1.95	2.18	2.02	2.09	2.07
17	CNS	3.58	3.70	3.59	3.92	3.37	3.60	3.42	3.47
18	TRS	6.31	6.23	6.29	6.21	6.37	6.36	6.38	6.49
19	CMN	0.73	0.77	0.75	0.88	0.78	0.89	0.86	0.93
20	DWE	6.15	5.90	5.82	6.74	6.45	7.11	7.04	7.50
21	OTS	19.69	20.26	20.27	20.68	20.57	20.86	20.84	20.94
TOTAL		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE 12

DOMESTIC OUTPUT SECTORAL CHANGES FROM BASE-YEAR LEVELS (%)

Value-Added Tax System - Tax on Exports

SECTOR		BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
1	AGR	82,362	14.75	6.82	67.99	13.73	63.71	42.30	75.59
2	MNQ	2,661	7.17	3.27	17.02	0.44	9.32	4.06	6.66
3	FBT	62,969	(7.82)	(14.04)	27.50	(11.47)	22.46	7.04	30.20
4	TXT	20,813	5.88	(4.26)	59.52	0.75	51.12	29.72	58.43
5	CLF	23,124	6.45	(5.60)	83.09	1.15	75.45	41.51	97.08
6	WDF	4,324	12.13	1.75	72.10	4.70	61.87	35.12	74.24
7	PPR	5,954	8.64	2.89	34.12	0.40	26.89	13.04	38.53
8	LTH	2,952	6.40	(3.36)	57.00	(1.67)	48.45	24.94	60.52
9	PLS	2,122	9.50	3.49	41.74	1.54	34.91	17.31	44.83
10	CHM	16,452	(22.63)	(25.81)	(8.20)	(29.75)	(12.18)	(22.95)	(4.28)
11	MIN	3,006	13.72	6.23	50.56	5.96	38.35	22.31	39.51
12	MTL	10,543	12.81	8.88	16.55	1.83	7.17	2.18	3.67
13	MCH	5,056	7.21	(0.79)	55.38	(2.46)	46.35	20.72	61.82
14	TRQ	3,961	13.64	9.24	26.92	2.97	18.73	8.60	20.98
15	OTM	600	2.98	(3.66)	55.76	(2.75)	52.82	23.73	79.11
16	EGW	8,512	3.52	(1.65)	40.48	4.88	41.19	25.63	55.82
17	CNS	14,407	8.42	(2.60)	67.04	(4.03)	48.58	21.41	54.53
18	TRS	25,375	3.47	(3.16)	50.31	2.84	48.90	28.79	64.26
19	CMN	2,945	9.53	(0.89)	82.56	9.23	79.37	48.76	101.76
20	DWE	24,708	0.67	(7.90)	67.55	6.99	70.91	45.81	94.83
21	OTS	79,157	7.92	0.12	60.41	6.51	56.58	34.80	69.83
TOTAL		402,003	4.88	(2.76)	52.74	1.96	47.83	27.39	59.67

In scenarios depicting full-membership with a VAT system the net result will depend, as we have mentioned above, on the levels of both the interest rate and the VAT rate. However, looking at the Tables 9, 10, 11 and 12 we conclude that certain Greek sectors can be classified as definite winners because they grow faster than the total economy under any scenario; they are agriculture, wood, communications, dwellings and other services. To these we can also add textiles, clothing and leather which follow the growth pattern of the economy but with more pronounced rates. Interestingly, these definite winners include the same industries that have been identified above as being the ones that benefitted the most in the experiments that we run on the effect of a reduction in the existing indirect tax rates.

It is crucial to note that of all sectors, chemicals is always the one that suffers the most under any scenario. This sector, however, groups together many heavily-taxed items such as oil and its derivatives. Similar comments also apply in the case of food and beverages. These findings are consistent with the economic theory of protection.

The Trade Effects

With the exception of some very special scenarios, the trade balance of Greece worsens. Among those very special scenarios are included the ones of fixing the wage rate or restricting the inflow of

foreign borrowings. However, as we have seen above, both of these special conditions would be detrimental to the Greek economy. Therefore, the improvement in the trade balance associated with those scenarios comes from the reduction of imports due to the falling disposable income. Thus, the inevitability of the worsening balance of payments becomes a crucial issue for Greece given the present size of her international debt and the poor prospects for further growth in her invisible earnings.

The Actual Base-Year Version

The substantial increase in the domestic output of Greece under conditions of full-membership derives mostly from large increases in exports. Despite this, however, the trade deficit would continue to widen. Besides the service sectors where Greece is considered to have some comparative advantage, such traditional sectors as agriculture, clothing, leather, non-metallic minerals, other manufacturing industries and to a certain extent food and beverages are definite winners (Table 13). It is, therefore, significant to note that the traditional sectors of Greece are also the ones to benefit fron the opening of trade with the EEC.

The sectors hurt by the full membership are paper, plastics, chemicals, metals, machinery and transport equipment, which are also

TABLE 13

EXTERNAL TRADE BALANCE UNDER DIFFERENT POLICY SCENARIOS (DR. MILLION)

Actual Base-Year Version

SECTOR	BASE-YEAR COL <1>	F/M W FBR FLEX C-L COL <2>	F/M NO FBR FLEX C-L COL <3>	NO/TRF W FB FLEX C-L COL <4>	NO/TRF W FB FIX C-L COL <5>	F/M W FBR FIX RL WAGE COL <6>	F/M NO FBR FIX RL WAG COL <7>	F/M W FBR FIX CAPITA COL <8>	F/M W FBR NO IND TAX COL <9>	B/Y W FBR HALF IND TX COL <10>
1 AGR	(1,282)	7,658	3,702	7,367	1,916	(703)	(1,026)	6,444	2,347	(556)
2 MNQ	(1,520)	(6,985)	(3,325)	(6,844)	(3,438)	(1,867)	(729)	(5,519)	(4,935)	(175)
3 FBT	2,681	(382)	1,292	(714)	1,157	2,493	3,243	202	(1,169)	2,654
4 TXT	(946)	(2,549)	(1,021)	(2,618)	(1,061)	(772)	(558)	(1,957)	(2,147)	(363)
5 CLF	52	9,494	3,936	9,365	2,476	281	(56)	7,558	3,425	(33)
6 WDF	(946)	(2,278)	(1,147)	(2,240)	(1,443)	(957)	(430)	(1,779)	(1,637)	(147)
7 PPR	(1,092)	(3,730)	(2,287)	(3,724)	(2,257)	(1,344)	(637)	(3,209)	(2,941)	(184)
8 LTH	(73)	(33)	85	(35)	88	99	79	16	11	11
9 PLS	(473)	(1,547)	(879)	(1,546)	(920)	(545)	(231)	(1,296)	(1,260)	(56)
10 CHM	(3,953)	(13,292)	(7,446)	(13,246)	(7,401)	(3,958)	(1,374)	(11,145)	(9,966)	(138)
11 MIN	(573)	10,047	3,009	9,612	1,546	(429)	(377)	7,354	2,302	(229)
12 MTL	(2,084)	(12,847)	(4,990)	(12,575)	(6,217)	(2,960)	(398)	(9,466)	(7,326)	322
13 MCH	(8,879)	(36,621)	(12,869)	(35,448)	(19,322)	(12,193)	(4,686)	(25,560)	(18,175)	(1,220)
14 TRQ	(3,511)	(11,137)	(4,226)	(10,830)	(6,037)	(3,862)	(1,545)	(7,968)	(6,389)	(639)
15 OTM	(839)	(748)	(431)	(748)	(777)	(706)	(364)	(552)	(980)	(236)
16 EGW	(12)	(25)	(20)	(25)	(18)	(13)	(8)	(23)	(23)	(3)
17 CNS	331	1,115	822	1,104	736	419	192	1,030	834	31
18 TRS	1,344	5,656	4,315	5,569	3,659	1,912	787	5,304	3,492	(56)
19 CMN	(44)	(15)	15	(20)	(17)	(31)	(25)	0	(76)	(26)
20 DWE	0	0	0	0	0	0	0	0	0	0
21 OTS	1,961	10,582	7,982	10,405	6,521	3,034	962	9,909	6,513	(327)
TOTAL	(19,857)	(47,637)	(13,485)	(47,193)	(30,811)	(22,102)	(7,182)	(30,659)	(38,102)	(1,368)

the ones in which most of the effort for industrialization has been put. It is worthy to note, also, that this division into winning and losing sectors in the international field reverses itself when a restriction such as fixed wage rate is imposed.

The Artificial Base-Year Version

In the Artificial Base-Year version too the trade balance worsens but not to the extent indicated in the case of the Actual Base-Year (Table 14). The most important thing to note is that, if the interest rate remains at its base-year level, 8.5%, there are no marked qualitative differences between the base-year and the full-membership scenario (Table 14, Column 2). However, when the interest rate is set to 12%, relative improvements are recorded in the trade balance of the modern capital intensive sectors such as paper, plastics, chemicals, metals, machinery and transport equipment, as compared to their artificial base-year figures, with an overall beneficial impact (Table 14, Column 3).

The Value-Added Tax System

Tables 15 and 16 present the effect of different pairs of interest rates and VAT rates on the Greek trade balance for the two methods of

TABLE 14

EXTERNAL TRADE BALANCE UNDER DIFFERENT POLICY SCENARIOS (DR. MILLION)

Artificial Base-Year Version

SECTOR		BASE-YEAR COL <1>	F/M RHO=8.5% FLEX C-L COL <2>	F/M RHO=12% FLEX C-L COL <3>	N/TF RHO=8.5 FLEX C-L COL <4>	B/Y RHO=8.5 HLF IND TAX COL <5>	F/M FLEX RH FIX RL WAGE COL <6>
1	AGR	(1,819)	(1,941)	(1,936)	(1,990)	(2,407)	(1,744)
2	MNQ	(1,577)	(1,668)	(1,035)	(1,696)	(1,905)	(749)
3	FBT	361	15	(182)	(258)	(944)	(269)
4	TXT	(1,797)	(2,076)	(1,752)	(2,171)	(2,646)	(1,554)
5	CLF	93	60	20	50	13	3
6	WDF	(662)	(718)	(535)	(730)	(784)	(433)
7	PPR	(1,132)	(1,218)	(891)	(1,250)	(1,285)	(727)
8	LTH	(51)	(84)	(48)	(94)	(133)	(31)
9	PLS	(426)	(465)	(356)	(479)	(519)	(297)
10	CHM	(4,130)	(4,500)	(3,350)	(4,627)	(5,147)	(2,764)
11	MIN	(125)	(143)	(212)	(149)	(241)	(200)
12	MTL	(843)	(968)	(732)	(1,007)	(1,346)	(576)
13	MCH	(4,650)	(4,970)	(3,643)	(5,077)	(5,706)	(2,837)
14	TRQ	(1,344)	(1,416)	(978)	(1,440)	(1,542)	(738)
15	OTM	(448)	(486)	(388)	(500)	(549)	(332)
16	EGW	(20)	(21)	(17)	(21)	(23)	(15)
17	CNS	352	360	223	362	320	164
18	TRS	1,703	1,736	981	1,742	1,381	666
19	CMN	(29)	(32)	(38)	(33)	(56)	(37)
20	DWE	0	0	0	0	0	0
21	OTS	2,788	2,851	1,422	2,865	2,240	870
TOTAL		(13,756)	(15,685)	(13,449)	(16,503)	(21,278)	(11,603)

TABLE 15

EXTERNAL TRADE BALANCE UNDER DIFFERENT POLICY SCENARIOS (DR. MILLION)

Value-Added Tax System - Tax on Imports

SECTOR	BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
1 AGR	(1,819)	(2,006)	(2,008)	(184)	(1,465)	248	(315)	961
2 MNQ	(1,577)	(3,122)	(3,157)	(1,224)	(2,419)	(796)	(1,226)	(239)
3 FBT	361	(2,564)	(2,699)	2,085	(1,506)	3,102	1,515	5,127
4 TXT	(1,797)	(3,402)	(3,158)	(2,331)	(2,667)	(1,709)	(2,107)	(881)
5 CLF	93	(45)	(22)	(43)	(10)	(7)	(17)	34
6 WDF	(662)	(991)	(954)	(631)	(799)	(493)	(591)	(324)
7 PPR	(1,132)	(1,701)	(1,685)	(990)	(1,405)	(783)	(963)	(511)
8 LTH	(51)	(213)	(187)	(142)	(151)	(89)	(120)	(18)
9 PLS	(426)	(684)	(667)	(477)	(567)	(384)	(437)	(269)
10 CHM	(4,130)	(7,259)	(7,138)	(5,070)	(6,065)	(4,098)	(4,643)	(2,811)
11 MIN	(125)	(262)	(261)	(144)	(177)	(73)	(99)	5
12 MTL	(843)	(2,588)	(2,703)	(301)	(1,837)	185	(348)	855
13 MCH	(4,650)	(7,384)	(7,096)	(5,674)	(6,008)	(4,544)	(4,975)	(3,310)
14 TRQ	(1,344)	(2,129)	(2,112)	(1,254)	(1,719)	(971)	(1,167)	(641)
15 OTM	(448)	(705)	(686)	(565)	(584)	(472)	(492)	(379)
16 EGW	(20)	(26)	(26)	(20)	(23)	(16)	(19)	(12)
17 CNS	352	322	318	309	303	296	294	290
18 TRS	1,703	2,312	2,271	2,833	2,372	2,970	2,744	3,296
19 CMN	(29)	(66)	(59)	(55)	(49)	(37)	(43)	(17)
20 DWE	0	0	0	0	0	0	0	0
21 OTS	2,788	3,025	2,734	5,490	3,173	5,630	4,833	6,211
TOTAL	(13,756)	(29,490)	(29,286)	(8,387)	(21,603)	(2,041)	(8,176)	7,367

TABLE 16

EXTERNAL TRADE BALANCE UNDER DIFFERENT POLICY SCENARIOS (DR. MILLION)

Value-Added Tax System - Tax on Exports

SECTOR		BASE-YEAR COL <1>	INTR=7% VAT=8% COL <2>	INTR=7% VAT=10% COL <3>	INTR=8.5% VAT=6% COL <4>	INTR=8.5% VAT=12% COL <5>	INTR=10% VAT=8% COL <6>	INTR=10% VAT=10% COL <7>	INTR=11.5% VAT=8% COL <8>
1	AGR	(1,819)	(1,828)	(1,798)	(12)	(1,108)	456	(69)	1,164
2	MNQ	(1,577)	(3,054)	(3,076)	(1,169)	(2,210)	(738)	(1,151)	(188)
3	FBT	361	(2,040)	(2,080)	2,658	(427)	3,832	2,328	5,911
4	TXT	(1,797)	(3,302)	(3,035)	(2,227)	(2,535)	(1,589)	(1,962)	(770)
5	CLF	93	(29)	(1)	(30)	8	9	3	50
6	WDF	(662)	(992)	(956)	(625)	(788)	(489)	(587)	(322)
7	PPR	(1,132)	(1,698)	(1,682)	(980)	(1,362)	(777)	(956)	(508)
8	LTH	(51)	(193)	(163)	(128)	(129)	(72)	(99)	(2)
9	PLS	(426)	(684)	(668)	(475)	(557)	(383)	(436)	(267)
10	CHM	(4,130)	(7,289)	(7,167)	(5,069)	(5,976)	(4,093)	(4,655)	(2,772)
11	MIN	(125)	(242)	(225)	(129)	(145)	(54)	(75)	25
12	MTL	(843)	(2,323)	(2,375)	(131)	(1,336)	386	(84)	1,039
13	MCH	(4,650)	(7,469)	(7,190)	(5,714)	(6,110)	(4,602)	(5,052)	(3,364)
14	TRQ	(1,344)	(2,122)	(2,104)	(1,245)	(1,667)	(966)	(1,161)	(640)
15	OTM	(448)	(715)	(695)	(572)	(590)	(481)	(503)	(386)
16	EGW	(20)	(27)	(25)	(20)	(23)	(17)	(19)	(12)
17	CNS	352	348	351	327	339	321	324	313
18	TRS	1,703	2,562	2,577	3,049	2,766	3,260	3,087	3,602
19	CMN	(29)	(66)	(57)	(53)	(47)	(35)	(40)	(14)
20	DWE	0	0	0	0	0	0	0	0
21	OTS	2,788	3,572	3,389	5,959	4,149	6,221	5,539	6,795
	TOTAL	(13,756)	(27,590)	(26,979)	(6,586)	(17,748)	189	(5,568)	9,554

taxation of tradeables. From these results, it can be immediately seen that there are no significant qualitative differences attributable to the taxing method. However, there are significant differences among scenarios with different interest and VAT rate combinations. These results can be summarized in the following: the lower the VAT rate and the higher the interest rate the better the current account balance. This can be best dramatized when we compare two extreme cases. For this matter we compare Column 5, with an interest-VAT combination of 8.5% and 12% respectively, to Column 8 with an interest-VAT combination of 11.5% and 8% respectively. In the first case Greece has a deteriorated current account balance, as compared to the base-year, while in the second case Greece would become a net exporter even in such problematic industries as metals and food & beverages.

The Welfare Effects

Following theory, welfare effects are measured in terms of consumer surplus created by price changes which entail a change in utility via their impact on real disposable income. The difference in the utility level from a status-quo situation due to a price change is measured in terms of the implied change in real income using either the new or the old prices as a yardstick. When we use the status quo prices as base we measure what is called the Equivalent Variation which gives us the income change in current prices which the consumers would be

prepared to pay to attain (and therefore is equivalent to) the change in the utility level. When we use the current prices as base we measure what is called the Compensating Variation which gives us the income change in status-quo prices which should be paid to consumers to maintain (and therefore compensates for the change in) the original utility level. Both measures bear the same sign. However, the estimates will differ depending on the value of the currency. Most of the times the Equivalent Variation method is preferable, especially when used to evaluate many alternatives, due to the fact that it does not necessitate changing the base prices.

In our case, trade liberalization entails price changes which in turn cause real income changes. Thus, it would be appropriate to try to measure the welfare effects implied by such a dramatic change in Greece's foreign trade relations. We thus estimate equivalent variations following the Hicksian methodology. According to it, a change in consumer surplus is measured by the difference between an equilibrium point which is found at the new utility level (which can be reached thanks to the change in real income) but evaluated with the old price structure on one hand, and the equilibrium point in the old utility level on the other. The results appear on Table 17 (for the calculating procedure refer to Appendix B).

Here we have only measured the welfare effect for certain representative scenarios selected out of those examined above which compare

TABLE 17

CONSUMER SURPLUS ESTIMATES FOR SELECTED SCENARIOS

(Using the Artificial Base-Year Structure)

(In Million Dr)

Scenario	Equivalent Income Change at B-Y Prices Needed to Bring the Consumers to the Utility Level Implied by Each Scenario		
	Total E-I Change	Change in Employment	E-I Change Adj for Empl Chnge
Table (2)-Column (2): F-M with Intr=8.5%	123,934.5	44,077	118,069.4
Table (2)-Column (3): F-M with Intr=12.0%	144,879.5	132,999	126,780.0
Table (4)-Column (3): F-M Intr=8.5% & VAT=10%	109,940.5	5,700	109,200.0
Table (4)-Column (4): F-M Intr=8.5% & VAT=6%	297,932.5	1,057,737	146,680.8
Table (4)-Column (5): F-M Intr=8.5% & VAT=12%	132,462.5	149,331	112,861.8

to the Artificial Base-Year. This is in order to avoid biasing the measures with the impact of the correction of market imperfections. In addition, the welfare gains or losses figures have been adjusted to remove the effect of changes in total employment which can be attributed to the free movement of productive factors in and out of Greece.

Obviously, as can be judged by the results presented on Table 17, the full EEC membership as such implies positive changes for Greece in terms of consumer surplus. Moreover, these changes are qualitatively analogous to the results presented above for those same scenarios.

In addition, we have constructed an index of consumption at base-year values per employed person, which could be used as a crude indicator of changes in the welfare status of Greeks reflected in all hypothetical scenarios considered sofar. This appears at the bottom of each scenario/column in Tables 1 to 4.

From Table 1, where the base-year used is the Actual Base-Year, we conclude that full-membership does not entail an increased welfare at the level of the individual. This had to be expected since, as we have seen, freeing the market system concurrently with the full-membership results in supressing the wage rate below its "official level". Thus, it is only when real wage is kept fixed at its official base-year level that we indeed observe some improvement in the relative welfare position of the individual, though at a very high social cost due to

unemployment. In the case of the Artificial Base-Year, on the other hand (Table 2), where the economy has been first normalized, full--membership entails an improvement both at the individual's and the society's level.

Finally, in the case of the VAT system, where here again we start from the Artificial Base-Year, the tendency is for improved welfare at the individual's level. However, the exact welfare change is conditional, as everything else in the VAT system, on the relative values of the interest rate and the VAT rate. Therefore, here again, the highest welfare gains are being realized when the interest rate is relatively high and the VAT rate low.

CHAPTER VII

CONCLUSIONS

From the results of the different scenarios it is clear that full membership in the EEC has advantages for Greece. These advantages, however, come mostly from the fact that the EEC imposes certain rules with regards to the operation of the Greek economy. The EEC rules are summarized in the following: substantial lowering of Greece's tariff walls, establishment of flexible factor markets, adoption of neutral indirect taxes and reliance on the market mechanism for the determination of prices.

These rules actually represent a streamlining of the system's operation and a correction of its internal distortions. Thus they bear most of the responsibility for the positive results of the EEC membership. However, the fact that these rules are not unique to the EEC and could be freely adopted by any country implies that, had those rules been implemented by Greece outside the EEC context, she might have accomplished equally beneficial results without the submission to the supra-national guidelines of the EEC framework.

Our system confirms what has already been documented about the inefficiencies and structural rigidities built in the Greek economy, which have in turn created many imbalances. One important such rigidity

has to do with the peculiar factor pricing system, in force in Greece in the last fifty years. The essential features of the pricing system of Greece are the following: within a relatively closed market, protected from outside competition, a liberal labour policy, institutionalized through special legislation, has resulted in simultaneously overpricing labour and maintaining an artificially high level of employment.

On the other hand, special tariff concessions and tax legislation has been enacted aimed at keeping the price of imported physical capital low. Furthermore, strong foreign capital inflow, especially in the form of invisible earnings has been instrumental in boosting consumption, stemming the cost of financial capital, and financing imports without having to resort to currency devaluations. This, then, has helped in the co-existence of traditional low-productivity sectors and ultra-modern ones which, through a high degree of capitalization, circumvent liberal labour laws.

When the market is left free to operate and search for its equilibrium, it tends to correct the imbalances and reverse certain trends. The most important correction is brought about in the price of labour, which falls in real terms as compared to its official base-year level, with beneficial results upon employment and output. On the other hand the rate of return to capital rises to more normal levels.

In all the scenarios that we run, the level of the rate of return to capital becomes the key to any results. All the results obtained from variations on other policy variables are always subject to the qualification of the rate of return to capital. This then is an important element to take into account when policy alternatives are considered in the field of wages and incomes.

Related to the level of the rate of return to capital is that foreign investment capital is essential to Greece. The reasons have to be searched in the lack of any form of organized capital market in Greece. An antiquated monetary system has resulted in a less than optimum accumulation and channelling of scarce domestic savings. This is then another important finding for investment policy.

The striking result of all scenarios is that total domestic output increases with the inflow of foreign funds and decreases (in relation to its base-year level) with fund inflow restrictions. Furthermore, it is important to notice that employment also moves in the same direction as foreign funds, while out-migration of labour is less intense the higher the amount of foreign funds available. From this we conclude that any policy alternative which affects directly or indirectly the availability of funds is of crucial importance for the growth of the economy. By the same token, any policy alternative that is geared towards protecting labour at the expense of capital becomes ineffective and rather harmful given the prevalence of the free market system.

The sectoral effects of the full memebership are somewhat surprising. There are several sectors that seem not to be able to avoid major disturbances within a full-membership environment while some others are winning almost under any special circumstances. This similarity in the sectoral patterns observed in different scenarios is certainly due to some extent to those elements that are kept fixed at the inter-industry differential level, that is the wage rate and the depreciation rates which, along with the common interest rate, form the sectoral rates of return to capital. Thus the sectoral effects should rather be viewed in a general sense and less associated with a particular scenario. Thus, it is interesting to note that the winning sectors include least protected sectors such as agriculture, as well as traditional manufacturing sectors in which Greece has developed some comparative advantage such as clothing and footware.

An equally important finding of our model is that the indirect taxation system of Greece is not neutral. Indeed, it affects certain sectors negatively and is overall biased against industrial employment (similar arguments have also been voiced in Georgakopoulos, 1977). The value-added tax system appears more neutral assuming that a common rate is applicable across the board. The method of taxation of tradeables is not crucial as long as there is uniformity in the rate across countries. In general, however, the higher the VAT rate the less beneficial the full membership appears to be.

The assertion that the EEC membership has advantages for Greece is dependent upon the restrictions attached to full membership. Given that Greece is already a full member of the EEC, the fact that the highest performance of the economy is observed under conditions of an unrestricted membership case points that this is the course that should be followed. At least, if restrictions need to be attached in the form of special concessions to Greece, the latter should not opt for fixing or somehow guaranteeing the level of the wage rate.

Our assessment about the advantages that full membership presents for Greece might be different if Greece were not a full member but was just contemplating becoming one. Considering that similar results come from the scenario of full unrestricted membership and the one of full openness vis-a-vis the World, it could be said that Greece should opt for the second. The reasoning behind this argument is that Greece could enjoy an equally high development level while still retaining her autonomy in forming her own trade and monetary policy and always having the possibility of switching back from open trade to restricted trade without penalty.

Similar conclusions about being preferable to be outside the EEC but applying appropriate policies have been arrived at by Kostakopoulos (1979). As it has been mentioned, this author suggests as an alternative to full-membership a combination of a strong increase in government investment expenditure with a devaluation of the drachma.

The evaluation presented here does not take into account political gains or losses which, nevertheless, apart from their constant reference, have neither really been nor are they easy to be estimated. On the other hand, our analysis suggests some radical changes in the economic structure of Greece. However, it may politically be very costly (and thus impossible) to change the structure of the economy from within. In this case, the obligation for the blind application of the already established (and therefore imposed) rules of the EEC may represent the largest political (and subsequently economic) benefit that Greece will derive from her full membership.

ADDENDUM

A considerable amount of time has elapsed since certain parts of this study were first written. Here we summarize some significant developments that have meanwhile occured in order to update the thesis.

Developments in the European Economic Community

The Single European Act

On 1 July 1987 came into force the Single European Act ratified by the Parliaments of all Member States of the European Economic Community. The Single Act confirms the target date of 31 December 1992 for the completion of the Internal Market defined as "an area without internal frontiers in which the free movement of goods, people, services and capital is ensured in accordance with the provisions of the Treaties". Obviously, its realization will constitute a major step in the fulfillment of the aims of the European Community which are defined as achievement of an Economic Union (also implying Monetary Union) and later on of a Political Union.

Of course, a really open market is incompatible with the preservation of full sovereignty or distinctiveness of its members. To this end, the EC Commission, in a White Paper published in 1985, outlined

about 300 pieces of legislation aiming at reducing physical, technical and fiscal barriers between the Member States. Since more than a year ago, the Members of the European Council have declared that the process towards the European integration has already passed the point of irreversibility. Of those 300 pieces of legislation needed for the completion of the Internal Market proposals for about 90% of them had been submitted to the Council of Ministers at the end of 1988 and the Council had adopted 47% of them. Significantly, one-third of them had been approved by a weighted form of majority.

The areas in which there has been the most progress are: the harmonization of standards, public procurement policies, and financial services and the liberalization of capital movements. The greatest difficulty is found with the area of Value Added Tax harmonization. Significantly, though, the private sector has embraced the "1992" project and preparations are underway to face its challenge. To this end many corporate mergers and acquisitions have already taken place and many more are expected.

Among others, the achievement of the Internal Market is perceived as the most efficient method for creating jobs and ensuring maximum wellbeing for all Community citizens. Estimates show that the completion of the Internal Market would add around 5% to the Community's GDP while it could create up to 5 million jobs over the medium-term. Furthermore, opposite to what is usually the case in times of increased

economic growth, the standardization of products will help dampening consumer prices by an average of 6%.

Harmonization of Social Policies

Wrangle over EEC budget and farm policies settled in February 1988. Thus, the social dimension of the Community is now becoming the new battlefield for the style of management of the EEC. The question that the partners are trying to answer is how to find the balance between social and economic matters. A European Social Charter is considered to be vital by all those who believe that the abrasive competition promised by 1992 must be offset by a social safety net for employees. The Charter would not be binding but would certainly create a political obligation. It would establish a maximum working week, a "fair wage" and would stipulate the rights of workers to vocational training or to join a union. Oponents to the Charter believe that it would bring back the same obstacles that the free Community market tries to abolish.

Related to the need for a social charter is the need for the establishment of the European Company Statute. Its establishment would greatly facilitate things especially in what relates to tax rules and rules on worker participation in management. Furthermore, it would simplify the incorporation procedures for entities operating in more

than one of the Twelve partners obliging them to incorporate only in Europe and be subject to a unique set of rules. However, this too is perceived as introducing a social bias while governments do not particularly like the idea that branch plant operations would have to be taxed at their parent's country.

Regional Policy

Southern Europeans accepted the Single European Act only after being promised that regional aid would be stepped up. This is done through the increased use of Structural Funds, a common term for three funds: the European Regional Development Fund, the European Social Fund, and the guidance section of the European Agricultural Guidance and Guarantee Fund. These funds have a dual purpose which is to help in the realization of the single market and the convergence of disparate economies. It has been estimated that, by 1992 three years' worth of Structural Funds will be worth in real terms more than the whole of the Marshall Aid Programme in the 1940s. For Greece in particular the respective amount is estimated to be as high as 4-5% of her GDP. On the other hand, incompetence and waste have resulted for Portugal, Greece and Italy in having left unspent some of the money given them.

Speaking about convergence, this is meant in two ways: Nominal Convergence, meaning the process towards price stability and the

restoration of equilibrium in the fields of public finance and external balance; and Real Convergence, meaning the process of bringing living standards closer together. Understandably, real convergence is more difficult to achieve as well as to produce concensus due to the disagreement with regards to the social policies within the Community.

Political Co-operation

Some co-operation of this sort in terms of taking a common stance with regards to major conflicts including those of the Middle East, Cyprus, China, South Africa and Central America has started taking shape but it is still far too weak. However, common stance is being taken with regards to (a) aiding heavily indebted Latin America countries or countries such as Poland and Hungary wishing to open up their economies; (b) furthering trade liberalization by stressing the importance of adherence to the conclusions of the GATT Uruguay Round and advancing the negotiations with the ACP countries; (c) promoting political and economic cooperation with Eastern Europe and the USSR in improving the climate or relations betwenn East and West.

Prospects for Enlargement

The EEC has expressely stated that "internal development takes a priority over enlargement". Nevertheless, Turkey pushes to have negotiations for full membership starting in 1992. A European Commission response to Turkey's EC membership application is due by the end of 1989. Apparently, the Commission doubts Turkey's poor human rights record as well as is conscious of the economic and social impact Turkey's entry would entail to the Community which is due to its extremely low economic level and its oriental character as compared to the rest of the Community. However, it is expected that the EEC will delay giving a definitive answer. Most probably it will offer an alternative form of association in order to avoid negotiations on full Turkish membership.

European Monetary System

It is generally accepted that the completion of the European Monetary System is an absolute must in order to assure monetary stability in exchange rates, in view of the full liberalization of capital movements and the integration of financial markets. However, still only seven out of the 12 partners fully participate in the EMS while, besides Greece and the two late comers, two of the exceptions are among the largest EEC countries: the United Kingdom which abstains

entirely and Italy which participates but with a wider band of exchange rate fluctuations (±6% instead of ±2.25%). This has prompted the transformation of the EMS into a D-Mark area due to the solidity of this currency aided by the size and vigor of the German economy.

Within a decade from its inception the EMS has contributed in the stabilization of the exchange rates without loss in flexibility to adjust to shifts in economic fudamentals. During these ten years the D-Mark has appreciated by more than 30% to the French Franc. There has also been success in the co-ordination of economic policy with special emphasis paid towards fighting inflation which diminished inflationary differentials and facilitated keeping the exchange rate parities within the prescribed limits.

However, it is admitted that the EMS has endured thanks especially to the willingness exhibited by its participants in putting the goal of monetary stability ahead of everything else. This has necessitated full adherence not so much to the written agreements as to some unwritten rules and practices applied by the participating monetary authorities. These rules include having Bundesbank playing the role of the anchor, accepting the D-Mark as the leading currency, accepting asymmetrical burden of adjustment and submitting to periodic adjustments of central rates in small steps when necessary and silent central bank co-operation on interest rates and exchange rate interventions.

On the other hand, not everything went well for the partipating countries. Slower growth has been observed so far within the EEC in the following sectors: in fiscal policy co-ordination; in eliminating public sector deficits and/or in the method of funding them; in the elimination of balance of payment disequilibria; in the convergence of economic growth growth rates; in the reduction of unemployment rates as compared to other non-EEC industrialized countries such as Japan and the United States; and in avoiding the need for asymmetrical economic policy adjustments. Finally, a major shortcoming of the EMS was that it produced high trade surpluses for West Germany.

The ECU has not played yet the intended for it role of the "central element" of the EMS. Today at the hub of the ECU is the D-Mark. The large European Banks control the amount of private ECUs in circulation by creating ECUs when they bundle together the currencies in the ECU basket and stopping accounting for those currencies separately and starting accounting for bundles as ECUs. They also destroy ECUs by reversing the process and making money in the arbitrage. By the fall of 1989 there is going to be a recomposition of the ECU which is currently based on a weigthed summation of the Ten currencies.

In June 1989, the Delors Committee consisting of the European central bankers and monetary experts presented a specially drafted report outlining a phased transition to monetary union. This report has been accepted in principle. The transitional process provides for three

stages. The first stage would start on July 1, 1990 with free movement of capital and full implementation of the EMS (1995 for Greece and Portugal). This would require the full participation of all partners in the Exchange Rate Mechanism and a tighter co-ordination of their economic policies. The second stage would require an amendment to the original Treaty to create a European system of central banks, analogous to the American Federal Reserve System, which would impose itself upon national monetary policies. The movements of currencies within the EMS would be narrowed and the Council of Ministers would establish by majority vote guidelines for the macroeconomic policies of individual members. At the third stage exchange rates would be established permanently, central monetary and budgetary control would be binding and a single currency would emerge.

The Greek Economy

Greece along with Portugal find themselves at the lower end of the Community group. The weakest areas of the Greek economy seem to be its high inflation rate, which is about four times the EEC average, and its large government deficit. Several changes have been legislated with regards to the liberation of the market whose impact is still far too small. Real interest rates are now positive but are still far from reflecting actual market conditions. The austerity program of the 1985-1987 period had a beneficial influence in terms of curbing wage

demands. However, political considerations resulted in terminating the program before its completion. In addition pre-election handouts reduced the hopes for restraining public expenditures. The political crisis along with the high inflation rate result in the depreciation of the drachma without necessarily helping exports greatly. On the other hand import growth continues unabated while tourism receipts growth is below expectations. The biggest problem of the Greek economy is that it continues being uncompetitive due especially to its high labour per unit cost. In view of the 1992 deadline several mergers and acquisitions have been noted in the Greek market.

APPENDIX A

DERIVATION OF SHARES OF IMPORT CONTENT OF COMMODITIES

We assume that the choice of source for each commodity used in itermediate or final consumption can be described with the help of some function of constant elasticity of substitution among its three potential sources namely Greece, EEC and the Rest of the World. Therefore, we can represent it with a utility function of the following type

$$U(X_i) = \left[\sum_{k=1}^{3} d_{ik}^{\frac{1}{\sigma}} \; X_{ik}^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}}$$

which is to be maximized subject to a budget constraint (actually the total expenditure on the said commodity) given by

$$Y_i = \sum_{k=1}^{3} P_{ik} X_{ik}$$

where k takes the values d(Domestic), e(EEC) and w(ROW) and i = 1,..21. For simplicity we drop the i subscript which refers to each of the 21 commodities of our system and procede with the derivation of the shares (μ) for the i-th commodity.

We assume that we can add together all quantities of the i-th commodity irrespective of their origin (k), although they are actually imperfect substitutes for each other. Thus we set

$$\sum_{k=1}^{3} X_k = \overline{X} \quad \text{and} \quad X_k = \mu_k \overline{X} \quad \text{where} \sum_{k=1}^{3} \mu_k = 1$$

and replace in the original function which now becomes

$$U(X) = \left[\sum_{k=1}^{3} d_k^{\frac{1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma}} \overline{X}^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}} = \left[\sum_{K=1}^{3} d_k^{\frac{1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}} \overline{X}.$$

We set the Langrangean function as

$$\mathcal{L} = U(X) + \lambda \left[Y - \overline{X} \Sigma P_k \mu_k \right]$$

and derive the first order conditions

$$\frac{\partial \mathcal{L}}{\partial \mu_K} = \frac{\sigma}{\sigma-1} \left[\sum_{k=1}^{3} d_k^{\frac{1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1} - 1} \overline{X}^{\frac{\sigma-1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma} - 1} d_k^{\frac{1}{\sigma}} - \lambda \overline{X} P_k$$

$$\frac{\partial \mathcal{L}}{\partial \lambda} = Y - \overline{X} \Sigma P_k \mu_k$$

Setting the partial derivatives equal to zero we get

$$\mu_k = \lambda^{-\sigma} P_k^{-\sigma} d_k \left[\sum_{k=1}^{3} d_k^{\frac{1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}}$$

and adding over all μ_k

$$\sum_{k=1}^{3} \mu_k = \lambda^{-\sigma} \left[\sum_{k=1}^{3} d_k^{\frac{1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}} \sum_{k=1}^{3} P_k^{-\sigma} d_k .$$

Dividing μ_k by $\sum_{k=1}^{3} \mu_k$ and applying $\sum_{k=1}^{3} \mu_k = 1$ we get

$$\mu_k = \frac{P_k^{-\sigma} d_k}{\sum P_k^{-\sigma} d_k} \quad \text{or for } k = e \text{ for example } \mu_k = \frac{1}{\sum_{k=1}^{3} \left(\frac{P_e}{P_k}\right)^{\sigma} \left(\frac{d_k}{d_e}\right)}$$

which represents the share of each one of the k origins in the total quantity of the i-th commodity.

From the first order conditions we get

$$d_k^{\frac{1}{\sigma}} = \lambda P_k \mu_k^{\frac{1}{\sigma}} \left[\sum_{k=1}^{3} d_k^{\frac{1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma}} \right]^{-\frac{1}{\sigma-1}}$$

and for k = e

$$d_e^{\frac{1}{\sigma}} = \lambda P_e \mu_e^{\frac{1}{\sigma}} \left[\sum_{k=1}^{3} d_k^{\frac{1}{\sigma}} \mu_k^{\frac{\sigma-1}{\sigma}} \right]^{-\frac{1}{\sigma-1}} \quad \text{thus} \quad \frac{d_k}{d_e} = \left(\frac{P_k}{P_e}\right)^{\sigma} \frac{\mu_k}{\mu_e}$$

If this holds, it should hold for the base-year as well. Therefore,

$$\frac{d_k}{d_e} = \left(\frac{P_k^o}{P_e^o}\right)^{\sigma} \frac{\mu_k^o}{\mu_e^o}$$

which if replaced in the formula for μ_e gives

$$\mu_e = \left[\sum_{k=1}^{3} \frac{\mu_k^o}{\mu_e^o} \left(\frac{P_k^o}{P_e^o}\right)^{\sigma} \left(\frac{P_e}{P_k}\right)^{\sigma} \right]^{-1}$$

or more analytically

$$\mu_e = \frac{1}{\frac{\mu_d^o}{\mu_e^o}\left(\frac{P_d^o}{P_e^o}\right)^{\sigma}\left(\frac{P_e}{P_d}\right)^{\sigma} + \frac{\mu_e^o}{\mu_e^o}\left(\frac{P_e^o}{P_e^o}\right)^{\sigma}\left(\frac{P_e}{P_e}\right)^{\sigma} \quad \frac{\mu_w^o}{\mu_e^o}\left(\frac{P_w^o}{P_e^o}\right)^{\sigma}\left(\frac{P_e}{P_w}\right)^{\sigma}}$$

Returning to the budget constraint

$$Y_i = \sum_{k=1}^{3} P_{ik} X_{ik} \qquad \text{or} \qquad Y_i = \sum_{k=1}^{3} P_{ik} \mu_{ik} \bar{X}_i$$

or $Y_i = \bar{X}_i \Sigma P_{ik} \mu_{ik}$ and $Y_i = \bar{X}_i P_i^*$ where $P_i = \Sigma P_{ik} \mu_{ik}$

and $$P^* = \frac{\sum \bar{X}_i P_i}{\Sigma \bar{X}_i}$$

This latter is a ratio transforming the value of consumption at user prices to value of consumption at base-year producer prices.

The sequence of steps for the calculation of $\bar{X}_i$ and X_{ik} is as follows:

1. Given data from base-year on P_{ik}^o, μ_{ik}^o
   we calculate μ_{ik} for any set of new prices P_{ik};
2. With P_{ik} and μ_{ik} we calculate P_i which are used in the price and demand equations;
3. With P_i we calculate demand in real terms $\bar{X}_i$;
4. With μ_{ik} we distinguish demand for each commodity by origin X_{ik};
5. With P_i and $\bar{X}_i$ we calculate the Average Consumer Goods Price P^*.

APPENDIX B

ESTIMATION OF CONSUMER SURPLUS

As shown in the various scenarios, there exists a general tendency for prices to fall following the prevalence of the full-membership conditions. This is due mostly to the drop in tariffs. Accordingly, the resulting increase in real income pushes the system to a new equilibrium at a higher indifference curve of the social welfare function. The new equilibrium point corresponds to a bundle of commodities X^1 at prices P^1 which are both different from their base-year counterparts expressed by X^0 and P^0. Our task then consists of finding a point on the new (higher) indifference curve which would be associated with a bundle of commodities X^2 at prices P^0 which would leave the consumers as satisfied as the bundle of commodities X^1 at prices P^1. Then the consumer surplus in terms of Equivalent Variation would be given by the expression $\sum P^0 * (X^2 - X^0)$.

We start from the base-year from where we get disposable income Y^0 and X^0 commodity quantities consumed at prices P^0. From each scenario we get Y^1, X^1 and P^1. Furthermore, we know that consumer demand per commodity is given by the following equation (12)

$$X_i = \mathcal{E}_i + \frac{\beta_i}{P_i} * (Y - \sum P_i * \mathcal{E}_i)$$

while the underlining utility function is given by

$$U = \sum \beta_i * \ln (X_i - \varepsilon_i)$$

where $\sum \beta_i = 1$, $X_i - \varepsilon_i > 0$ and $Y = \sum P_i * X_i$.

With X_i obtained from the equilibrium point of each scenario we can establish a utility level as

$U^1 = \sum \beta_i * \ln (X^1 - \varepsilon_i)$ corresponding to $Y^1 = \sum P^1 * X^1$.

Then we establish an equivalent utility level $U^1 = U^2$

where $U^2 = \sum \beta_i * \ln [\frac{\beta_i}{P^0} * (Y^2 - \sum P^0 * \varepsilon_i)]$

Solving for Y^2 we get the income necessary to support the new higher utility level at the old prices. This then is the only thing missing in order to calculate the corresponding bundle of commodities X^2 using

$$X^2 = \varepsilon_i + \frac{\beta_i}{P^0} * (Y^2 - \sum P^0 * \varepsilon_i)$$

and consumer surplus as already mentioned above with the expression $\sum P^0 * (X^2 - X^0)$.

APPENDIX C

DESCRIPTION OF DATA AND SOURCES

The basic tool of our analysis, the input-output table of Greece, is a condensed version of the table presented by Mylonas (1980), which refers to 1970 and which was the most recent available at the time we started this study. The original table is square containing 128 commodities and sectors, and it is expressed at market prices. The aggregate magnitudes of the components of final demand and total supply are identical to the respective amounts reported in the National Accounts of Greece for 1970, published by the Ministry of Co-ordination of Greece (1976).

The parts of the input-output table referring to the inter-industry flows and final demand are divided into their domestic and imported components. Thus, we were able to calculate directly the import proportions of the flows for the base-year. Furthermore, using foreign trade data by commodity origin and assuming that the proportion of the usage of a specific commodity is common across users, we were able to estimate our base-year import proportions per commodity per user (μ).

The tariff rates used here are nominal rather than effective. In other words, they were not calculated as the quotient of collected duties divided by the respective taxable import value but rather are

the nominal commodity tariff rates as they were found in **Ministry of Finance** (1970). The commodity tariff rates, however, were weighted (see below), to obtain nominal tariff rates for composite commodities, cutting across components and their origin.

In order to estimate the import tariff rate per composite commodity of our sectoral breakdown we had to weight the tariff rates of all items included in each of them. We did that by considering the most important items of Greek imports in 1970 (those of import value of at least one million drachmae or $35,000 at CIF prices) as they were found in the **Office National de la Statistique** (1970). On the basis of this criterion, we ended with about 1,500 items of the eight-digit Greek Tariff Classification. Those imports were first grouped into 15 tradeables producing sectors and then, using the individual goods import values, we estimated the average tariff rate per composite commodity. It is worthy to note here that those 1,500 items accounted for about 98% of all Greek imports in 1970.

We faced a peculiarity with respect to the share of the EEC into total import volumes because of the increasing number of countries comprising it, with the passage of time. Thus, in order to test the effect of the enlargement of EEC, we have actually distinguished our imports as coming from three groups of countries: the EEC of Six (the six original countries), the EEC of Three (the three newest members UK, Ireland and Denmark) and the Rest of the World. This way we can add the

EEC of Three to either the EEC of Six or the Rest of the World (ROW) depending on the year of reference of a particular scenario. Therefore, the calculated average nominal tariff arates for EEC and ROW are conditional upon the size of the EEC.

With the weighting procedure described above we have calculated the tariff rates per composite commodity for four different trade regimes:

The 1970 Trade Regime: Two tariff vectors, one for imports from the EEC of Six and one for ROW (including the EEC of Three);

The Enlarged EEC Trade Regime: Two tariff vectors, one for imports from the EEC of Nine (as if the 3 youngest members had already joined the EEC in 1970) and one for ROW;

The Full Membership Trade Regime: One tariff vector applying on imports from other than the 9 EEC countries, which actually shows the tariffs of the Common External Tariff (CET) of the EEC towards imports from non-member countries; and

The Greek Tariff Trade Regime: One tariff vector showing what the Greek tariff rates were in 1962, which were in effect taken as the basis to apply the gradual adjustments for the conformity with the EEC tariff levels.

In our calculation of the tariff rates for the first two regimes, we took into account the accumulated adjustments on Greek tariffs up to and including 1970, namely those relating to the elimination of tariffs on imports originating in EEC as well as the alignment of Greek tariff rates to those of CET for imports coming from ROW.

Data on indirect taxes were taken from Devletoglou (1976). As in the case of tariff rates, we considered nominal tax rates as they are described in the same source which were slightly scaled down across the board to arrive at the totals reported in the National Accounts. The indirect taxes taken into account are the most important ones, which, according to the Treasury Board (1972), covered about 95% of total indirect tax revenue effected in 1970.

With the exception of a few specific taxes, most are of general application and thus the need for averaging was avoided. For the specific taxes, such as the ones on tobacco and gasoline, we applied them according to the weight of the taxable items in the respective composite commodity. These tax and tariff rates were used to transform the input-output table to one expressed at producer prices.

Mylonas (1980) presents an investment matrix of size 36x36. The basic source for this matrix is the 1970 Annual Industrial Survey by the National Statistical Service of Greece (1975). This investment matrix was also reduced to 21x21. Furthermore, it was slightly adjusted

to reflect fully the 1970 industrial survey figures, and to correct for certain inconsistencies detected in Mylonas' table. This matrix was also transformed to one at producer prices and it was used for the transformation of investment by commodity to investment by industry, as well as the estimation of prices of capital goods.

For the determination of consumption expenditure per commodity we use a Stone-Geary formulation. The latter necessitates the estimation of a Linear Expenditure System (LES). An attempt for the estimation of a LES for Greece has been made by Gamaletsos (1975) but it is done in very aggregate terms. Using per capita data from the Ministry of Co-ordination (1976) and a common non-linear package we estimated a LES, incorporating all necessary restrictions, for 12 aggregate categories of private consumption expenditure for which we could obtain data. Then the estimated parameters were split, whenever required, to make up for the 21 sectors of our model, and adjusted slightly in certain sectors to fit the base-year subsistence levels. It is worth noting here that our share coefficients (b's) were very close to those estimated by Gamaletsos (1975).

Export price and income elasticities were estimated independently from regressions that we run using data on Greek exports of tradeables, taken from various issues of the United Nations Yearbook of International Trade Statistics. In addition, the data on wholesale price indexes, exchange rates and national incomes for the nine EEC countries

was taken from various issues of Eurostat, and was weighted to arrive to total figures for the EEC of Nine. For the non-tradeables producing sectors unitary export elasticities were assumed.

An attempt was made to estimate independently the elasticity of substitution σ of imported vis-a-vis domestically produced goods. For this we assumed that the relationship of Total Output Supply to Total Final Demand for the 1959-1973 period was the same as in the base year, 1.5:1. Using this ratio we estimated Total Output Supply for the entire series of years on the basis of Total Final Demand. Furthermore, we assumed that the elasticity of substitution of imports to local production is not affected by the particular origin of the imported commodities but by the fact that they are imported. In other words, we assumed a common elasticity of substitution for all goods and irrespective of their origin. In such a case, then, we simplify our formula for μ and constraint it to be a unique one common across sectors and origin of imports. Thus, having created a series of total supply, described above, we can create a series of μ's by comparing it to total Greek imports for the same series of years.

This estimated σ is 0.3985. The formula that we used in the regression for its estimation is the one appearing in the text,

$$\mu = \frac{1}{\frac{1-\mu_{(o)}}{\mu_{(o)}} \left[\frac{P^g_{(o)}}{P^m_{(o)}}\right]^{\sigma} \left[\frac{P^m}{P^g}\right]^{\sigma} + 1}$$

which, after some manipulations, becomes

$$\frac{\mu / (1-\mu)}{\mu_{(o)} / \left[1-\mu_{(o)}\right]} = \left[\frac{P^m_{(o)} / P^m}{P^g_{(o)} / P^g}\right]^{\sigma}$$

where

μ = Imports divided by Total Output Supply derived as described above.

$\mu_{(o)}$ = The base year statistic as it comes out of the input-output table.

P^m = The average import price index of Greece.

P^g = The GDP price deflator of Greece.

Finally, for the labour supply functions, we experimented with various parameters that would give us the actual 1970 labour figures taking into consideration the relationship found in Business Europe (August 3,1984) of 3:1 between the European and Greek wage rates.

The labour supply functions are logarithmic, implying an increase at a decreasing rate with upper limits arbitrarily set at 6,500,000 for the domestic and 400,000 for the foreign case respectively. In the Actual Base-Year version, the elasticities have been set at 0.655 for the domestic labour supply function and 0.55 for the EEC labour supply function. In the Artificial Base-Year version, the corresponding figures have been set at 0.607 and 0.4 respectively. Finally, in the case of foreign labour supply, the cutoff point for movement in or out of Greece has been set at 2:1 between the Greek and the EEC wage rates.

The foreign labour supply elasticities have been taken in such a way as to reflect the emigration climate of 1970. In a sense this may represent an under-estimation for the full-membership environment due to the fact that "open borders" was not the official policy of those times. It is, however, interesting to note that this did not prevent emigration in the late 1960s and early 1970s to reach peak levels as explained in the text. Thus we considered using those figures as proxies for full membership.

APPENDIX D

DATA USED IN TESTS

CORRESPONDENCE OF INPUT-OUTPUT TABLES

Sectors of the Input-Output Table Used Here (21x21)			Sectors of Orig I-O (128x128)
No	Code	Description	
1	AGR	Agriculture, Fishing, Forestry	001-011
2	MNQ	Mining and Quarrying	012-017
3	FBT	Food, Beverages, Tobacco	018-035
4	TXT	Textiles and Knitting	036-043
5	CLF	Clothing and Footware	044-047
6	WDF	Wood, Cork, Furniture and Fixtures	048-051
7	PPR	Pulp and Paper, Printing and Publishing	052-055
8	LTH	Leather and Fur	056-058
9	PLS	Rubber and Plastics	059-060
10	CHM	Chemicals, Oil and Coal Refining	061-069
11	MIN	Non-Metallic Minerals	070-074
12	MTL	Primary Metals and Metallic Products	075-081
13	MCH	Machinery and Electrical Equipment	082-092
14	TRQ	Transport Equipment	093-101
15	OTM	Other Manufacturing	102-107
16	EGW	Electricity, Gaz, Water	108-110
17	CNS	Construction	111-112
18	TRS	Transportation Services	113-117
19	CMN	Communications	118
20	DWE	Dwellings	122
21	OTS	All Other Public and Private Services	119-121, 123-128

TOTAL INTER-INDUSTRY FLOW

(million of curren

		AGR	MNQ	FBT	TXT	CLF	WOF	PPR	LTH	PLS	CHM	INDUSTRIE MIN	
COMMODITY		1	2	3	4	5	6	7	8	9	10	11	
1	AGR	8,626.5		23,131.1	2,404.3	6.5	572.8	37.2	6.3	8.0	78.0	25.5	
2	MNQ	41.2	34.2	62.1	2.7	0.5	2.6	12.8	0.9	1.0	2,837.3	917.6	
3	FBT	1,677.4		9,245.3	13.0	1.3	0.9	5.3	503.5	0.2	303.3	3.8	
4	TXT	153.1		428.9	6,053.4	10,635.7	63.6	6.6	23.6	133.0	46.7	0.1	
5	CLF	152.8	20.7	58.8	1.8	195.1	0.8		1.8	1.5	6.7	0.2	
6	WOF	27.7	19.1	16.4	2.8	7.6	1,636.1		0.1	6.3	3.1	14.6	
7	PPR	15.4	23.0	744.9	125.1	72.5	48.2	2,432.6	13.4	44.9	354.5	218.3	
8	LTH				11.6	1,128.8	0.5	1.1	711.0	7.3			
9	PLS	173.6	10.3	177.0	34.7	153.8	67.1	36.2	29.1	162.2	71.5	4.8	
10	CHM	3,686.0	474.4	556.1	944.2	43.5	107.6	246.1	150.7	656.3	2,275.3	663.5	
11	MIN	0.4		174.5	*	0.3	11.5	1.0	*	1.4	87.6	506.4	
12	MTL	86.7		306.3	9.0	28.8	221.1	32.3	10.2	20.5	536.0	47.4	6
13	MCH	345.9	307.5	185.6	157.0	25.8	41.0	83.4	12.0	37.7	89.3	176.6	
14	TRQ	179.4		34.1	6.5	4.2	5.8	3.0	0.8	2.1	8.8	14.4	
15	OTM	3.9		12.9	1.6	5.6	0.1	9.3		1.0	2.8	3.2	
16	ECW	220.4	186.6	328.6	226.9	78.4	63.6	107.7	13.8	56.2	284.3	302.2	
17	CNS	173.9	27.4	58.8	14.2	8.3	8.0	5.0	1.9	2.5	39.3	16.4	
18	TRS	1,457.4	97.4	1,096.9	356.5	236.0	148.1	101.9	79.6	121.4	308.4	337.4	
19	CMN	29.3	12.1	59.8	29.4	7.8	8.5	21.6	2.3	10.9	28.5	23.7	
20	OMC												
21	OTS	1,488.3	127.5	2 [illegible]0.5	1,566.2	611.6	391.9	532.3	228.8	306.5	1,115.4	450.8	1,
FLOWS BY INDUSTRY		18,539.4	1,340.2	39,338.7	11,960.7	13,232.1	3,399.8	3,735.5	1,790.0	1,585.2	8,276.8	3,726.8	10,

* Less than 50,000 drachmae.

Totals may not add up due to rounding.

INDUSTRY FLOWS MATRIX FOR 1970

on of current dractmae)

INDUSTRIES											
MIN	MIL	MCH	TRQ	OTM	EGW	CNS	TRS	CMN	OWE	OTS	FLOWS BY COMMODITY
11	12	13	14	15	16	17	18	19	20	21	
25.5	12.7	9.7	10.7	52.8		297.1	25.2			453.5	35,757.8
917.6	976.1	3.4	1.4	0.2	558.3	2,197.3				10.0	7,659.6
3.8	38.0	1.0	0.5	•			14.0			102.8	11,910.2
0.1	13.2	6.9	6.7	16.6		15.8	47.6			49.0	17,700.3
0.2	16.8	1.5	•	•			2.6			203.7	664.8
14.6	32.1	181.2	55.9	0.3	•	2,345.2	1.8	1.4		489.3	4,849.0
218.3	102.4	98.0	14.9	39.2	16.9	38.9	110.6	39.1		1,694.8	6,347.6
	•	0.3	•								1,860.7
4.8	35.5	115.4	38.1	16.4	•	747.3	796.5			177.7	2,827.1
663.5	404.7	278.1	130.0	53.4	422.2	1,006.9	3,521.7	7.7		3,196.0	18,824.4
506.4	74.8	46.7	9.7	9.8		7,740.2		0.2		38.1	8,706.7
47.4	6,479.7	2,615.6	979.7	147.1	4.9	6,385.9	39.5	3.9		587.6	18,342.3
176.6	165.5	2,119.0	237.5	5.1	72.5	3,365.8	26.5	62.2		630.9	8,146.7
14.4	8.0	26.2	1,677.1	1.4	9.9		2,708.8	10.6		368.5	5,069.7
3.2	2.9	1.7	0.4	40.3	•	133.7	9.7			196.9	426.0
302.2	537.9	73.2	40.2	11.9	91.9	150.7	266.2	33.2		1,800.7	4,874.6
16.4	15.8	8.4	40.1	1.1	62.7		19.0	14.0	804.0	422.5	1,743.4
337.4	375.5	257.7	99.4	26.3	58.0	1,108.5	553.4	79.7		1,196.8	8,156.4
23.7	33.6	25.3	10.8	1.6	13.0	172.2	75.3	23.3		1,132.8	1,721.8
											0.0
450.8	1,021.1	981.7	302.9	42.8	484.7	2,127.1	2,067.5	60.6	21.0	5,172.0	22,261.2
3,726.8	10,846.2	6,851.0	3,655.9	474.4	1,794.9	27,832.4	10,385.9	335.7	825.0	17,923.6	187,850.9

DOMESTIC INTER-INDUSTRY FLOWS MATRIX FOR 1970

(million of current drachmae)

INDUSTRIES

		AGR	MNQ	FBT	TXT	CLF	WDF	PPR	LTH	PLS	CHM	MIN	MTL	MCH
		1	2	3	4	5	6	7	8	9	10	11	12	13
1	AGR	7,881.4		22,094.2	2,286.4	4.3	352.5	37.2	6.3	3.5	78.0	25.5	12.7	9.7
2	MNQ	41.2		51.4	1.7	0.3	1.5	7.3	0.6	0.6	322.0	778.5	395.8	1.6
3	FBT	1,391.4		8,677.4	12.0	1.3	0.9	5.3	248.3	0.2	300.0	3.8	38.0	1.0
4	TXT	112.4		226.4	4,925.4	8,532.6	57.8	6.0	23.6	108.3	42.8	0.1	13.2	4.9
5	CLF	152.8	20.7	58.8	1.8	193.9	0.8		1.8	1.5	6.7	0.2	16.8	1.5
6	WDF	27.7	19.1	16.3	2.8	7.1	791.4			1.3	2.6	13.7	23.3	110.3
7	PPR	15.4	23.0	655.9	125.1	72.5	21.3	1,208.7	13.4	44.8	350.1	217.8	92.6	91.7
8	LTH				11.6	1,072.9	0.5	0.9	468.5	7.3				0.3
9	PLS	173.6	10.3	175.8	31.5	120.2	67.0	12.7	26.2	76.3	64.8	4.8	23.6	77.8
10	CHM	3,430.6	621.2	432.6	415.3	43.4	68.9	153.2	55.8	71.2	1,335.3	624.5	218.5	106.0
11	MIN	0.4		149.5	*		11.5	1.0	0.1	3.3	72.2	447.0	58.9	31.9
12	MTL	52.1		301.2	9.0	22.7	200.2	20.1	8.0	12.3	157.4	30.5	3,818.2	1,736.0
13	MCH	334.1	166.6	124.0	27.9	5.2	12.1	10.9	3.9	15.3	44.7	54.5	68.5	1,183.8
14	TRQ	179.4		34.1	6.5	4.2	5.8	3.0	0.8	2.1	8.8	14.4	8.0	23.7
15	OTM	3.9		12.9	1.6	5.5	0.1	9.3		1.0	2.8	3.2	2.9	1.7
16	EGW	220.4	186.6	328.6	226.9	78.4	63.6	107.7	13.8	56.2	284.3	302.2	537.9	73.2
17	CNS	173.9	27.4	58.8	14.2	8.3	8.0	5.0	1.9	2.5	39.3	16.4	15.8	8.4
18	TRS	1,457.4	97.4	1,096.9	356.5	236.0	148.1	161.5	79.6	121.4	308.4	337.4	375.5	257.7
19	CMN	29.3	12.1	59.8	29.4	7.8	8.5	21.6	2.3	10.9	28.5	23.7	33.6	25.3
20	OWE													
21	OTS	1,488.3	127.5	2,660.5	1,566.2	611.6	391.9	532.3	228.8	306.5	1,115.4	450.8	1,521.1	981.7
FLOWS BY INDUSTRY		17,165.8	1,111.9	37,215.2	10,071.6	11,027.7	2,213.7	2,304.2	1,183.8	846.6	4,564.1	3,349.1	7,275.2	4,728.0

* Less than 50,000 drachmae.

Totals may not add up due to rounding.

DOMESTIC INTER-INDUSTRY FLOWS MATRIX FOR 1970

(million of current drachmas)

INDUSTRIES

PLS	CHM	MIN	MTL	MCH	TRD	OTM	ECW	CNS	TRS	CMN	DWE	OTS	TOTAL INTER INDUSTRY FLOWS
9	10	11	12	13	14	15	16	17	18	19	20	21	
3.5	78.0	25.5	12.7	9.7	10.7	52.3		109.0	25.2			453.5	33,442.3
0.6	322.0	778.5	395.8	1.6	1.0	0.2	552.9	2,015.4				10.0	4,181.8
0.2	300.0	3.8	38.0	1.0	0.5	•			14.0			102.8	10,797.0
108.3	42.8	0.1	13.2	4.9	3.0	10.7		15.8	47.6			49.0	14,179.6
1.5	6.7	0.2	16.8	1.5	•	•			2.6			203.7	663.5
1.3	2.6	13.7	23.3	110.3	30.8	3.8	•	2,046.6	1.8	1.4		476.8	3,576.8
44.8	350.1	217.8	92.6	91.7	14.9	39.2	16.9	14.8	209.9	18.2		1,615.8	4,862.1
7.3				0.3	•								1 462.2
76.3	64.8	4.8	23.6	77.8	26.2	9.3	•	747.3	495.7			177.7	2,320.7
71.2	1,335.3	624.5	218.5	106.0	108.3	19.7	422.2	782.2	2,409.7	7.7		2,592.7	13,719.0
3.3	72.2	447.0	58.9	31.9	8.4	2.3		6,984.3		0.2		33.1	7,804.1
12.3	157.4	30.5	3,818.2	1,736.0	781.0	126.3	4.9	4,686.3	33.7	1.8		587.6	12,588.9
15.3	44.7	54.5	68.5	1,183.8	112.1	4.6	68.9	2,717.6	15.2	53.6		563.2	5,587.9
2.1	8.8	14.4	8.0	23.7	419.5	1.4	9.9		2,637.8	10.6		305.5	3,675.3
1.0	2.8	3.2	2.9	1.7	0.3	20.9	•	43.7	9.7			196.9	316.7
56.2	284.3	302.2	537.9	73.2	40.2	11.9	91.9	150.7	266.2	33.2		1,800.7	5,874.6
2.5	39.3	16.4	15.8	8.4	40.1	1.1	62.7		19.0	14.0	804.0	422.5	1,743.4
121.4	308.4	337.4	375.5	257.7	99.4	26.3	58.0	1,108.5	523.4	79.7		1,196.8	8,126.4
10.9	28.5	23.7	33.6	25.3	10.8	1.6	13.0	172.2	75.3	23.3		1,132.8	1,721.8
306.5	1,115.4	450.8	1,521.1	981.7	302.9	42.8	484.7	2,127.1	2,067.5	60.6	21.0	4,484.0	21,573.2
846.6	4,564.1	3,349.1	7,275.2	4,728.0	2,010.2	374.5	1,785.9	23,721.3	8,854.4	304.0	825.0	16,405.0	157,317.2

MATRIX OF VALUE ADDED

(million of current d

INDUSTRIES

	AGR	MNQ	FBT	TXT	CLF	WOF	PPR	LTH	PLS	CHM	MIN
	1	2	3	4	5	6	7	8	9	10	11
TOTAL INTER INDUSTRY FLOWS	18,539.6	1,360.2	39,538.7	11,960.7	13,232.1	3,399.8	5,735.5	1,790.0	3,585.1	8,276.8	3,328
WAGES AND SALARIES	5,858.6	2,026.6	3,180.1	2,215.4	1,401.5	965.3	910.7	258.2	656.:	1,088.6	1,225
EMPLOYER'S SOCIAL SECURITY CONTRIBUTIONS	531.8	353.1	469.6	376 0	191.1	110.7	127.1	27.7	67.4	178.1	201
OTHER INCOMES	41,761.6	1,160.7	6,911.4	4,344.3	3,164.5	2,174.1	1,774.6	465.9	814..	2,809.4	2,309
INDIRECT TAXES LESS SUBSIDIES	-696.0	214.0	7,569.4	888.1	116 5	223 7	286.7	68.9	115.9	6,475.4	376
IMPORTS CIF	2,817.6	3,256.0	5,614 5	7,850 6	160.1	1,143.1	1,563.7	566 9	681 '	7,005.7	865
DUTIES AND TAXES ON IMPORTS	564.7	72.2	1,047 6	1,069.1	78.5	433.9	407 9	91.5	229 0	1,949.6	241
TOTAL SUPPLY AT MARKET PRICES	66,852.6	8,622.8	64,131.5	23,704.1	18,326.3	8,240 6	8,756 3	3,209.0	5,949.	27,783.6	8,944

Totals may not add up due to rounding.

ESTIMATED INVESTMENT MATRIX

(million of current dra

INDUSTRIES

	COMMODITY	AGR	MNQ	FBT	TXT	CLF	WOF	PPR	LTH	PLS	CHM	MIN	MTL
		1	2	3	4	5	6	7	8	9	10	11	12
1	AGR												
2	MNQ												
3	FBT												
4	TXT												
5	CLF												
6	WOF	20.0	19.7	111.7	31.6	18.8	6.7	15.4	2.3	10.5	26.5	10.8	30.8
7	PPR												
8	LTH												
9	PLS												
10	CHM												
11	MIN	10.0											
12	MTL	343.6	109.0	37.0	30.5	2.4	6.7	6.9	1.0	6.1	7.9	12.7	54.4
13	MCH	1,800.6	715.0	1,235.2	1,030.5	88.5	206.6	216.0	27.7	223.1	264.8	405.8	1,896.5
14	TRQ	620.8	178.4	108.6	32.2	13.7	55.7	11.4	7.9	13.1	29.3	73.2	75.5
15	OTM												
16	EGW												
17	CNS	4,340.0	400.0	385.0	272.6	35.7	96.8	89.9	12.7	57.2	145.8	200.0	294.3
18	TRS	112.8	14.2	83.5	23.7	2.0	4.4	10.2	1.1	9.8	27.5	17.9	68.4
19	CMN												
20	OMC												
21	OTS	275.2	34.7	160.5	26.8	4.9	10.6	24.9	2.6	23.8	33.2	43.6	145.6
	TOTAL BY INDUSTRY	7,523.0	1,471.0	2,121.5	1,449.9	162.0	387.5	374.7	55.3	343.6	515.0	764.0	2,565.5
	PRIVATE	4,055.0	1,067.0	2,115.6	1,445.9	161.5	386.4	373.7	55.1	342.6	513.6	761.9	2,558.3
	PUBLIC	5,468.0	404.0	5.9	4.0	0.5	1.1	1.0	0.2	1.0	1.4	2.1	7.2

MATRIX OF VALUE ADDED FOR 1970

(million of current drachmae)

INDUSTRIES

AGR 9	CHM 10	MIN 11	MIL 12	MCH 13	IRO 14	OTM 15	EQW 16	CNS 17	TRS 18	CHN 19	OWE 20	OTS 21	TOTAL
1,585.1	8,276.8	3,726.8	10,846.2	6,851.0	3,655.9	476.4	1,796.0	27,832.4	10,385.9	335.7	825.0	17,923.6	107,850.0
456.2	1,088.6	1,225 0	1,645.7	1,493.5	2,107.6	180.8	1,520.3	11,848.0	8,201.7	2,164.6	0.0	42,649.3	89,197.6
67.4	178.1	201 8	271.3	237.3	359.5	27.8	242.4	1,727.0	1,048.0	276.8	0.0	2,426.8	9,250 8
814..	2,809.4	2,309 8	4,507.9	1,860.1	860.0	343.7	3,308 9	9,441.7	6,407.7	1,531.2	21,099.0	46,567.3	167,628 0
115.9	6,475.4	376 6	770 0	980.1	237.4	72.9	299.3	2,723.2	2,371.6	326.8	324 2	3,997.4	29,642.0
681 '	7,005.7	865 5	6,943 2	11,736.3	4,426 9	1,017.6	14.0	8.0	916.9	107.0	0 0	3,769 9	55,479.8
229 (	1,949.6	243.9	1,953 4	2,012.3	904.0	351.9	0.0	0 0	0 0	0.0	0 0	1 8	10,429 4
9,949.	27,783.6	8,944 7	26,037.9	25,070.7	12,551.8	2,449.3	7,259.8	53,580.2	29,331.7	4,742.0	22,248.2	119,336 1	544,477.7

ESTIMATED INVESTMENT MATRIX FOR 1970

(million of current drachmae)

INDUSTRIES

COM 10	MIN 11	MIL 12	MCH 13	IRO 14	OTM 15	EQW 16	CNS 17	TRS 18	CHN 19	OWE 20	OTS 21	TOTAL BY COMMODITY
						2.7		10.7	1.7		43.7	58.8
6.5	10.8	30.8	29.7	10.5	1.7	26.0		199.0	9.0	340.0	170.7	1,087.4
			1.8	2.0								3.8
						2.0		16.0	1.0	27.0	14.0	60.0
						4.2		25.0	2.0	45.0	22.0	108.2
7.9	12.7	54.4	8.9	7.4	1.0	203.0	1.4	95.5	25.4	161.0	96.4	1,218.2
4.8	405.8	1,896.5	273.4	234.0	32.5	1,438.0	49.9	49.0	764.0		578.0	11,509.1
9.3	73.2	75.5	21.6	26.8	1.1	495.8	994.6	1,035.2	263.4		199.3	4,257.6
											619.2	619.2
5.8	200.0	294.3	169.7	102.1	9.8	2,636.8		11,067.9	972.0	19,075.4	8,616.2	48,979.9
7.5	17.9	68.4	21.8	121.9	0.3							519.5
3.2	43.6	145.6	16.8	209.6	0.6	282.5	220.1	120.7	19.5	91.6	491.5	2,241.3
5.0	764.0	2,565.5	543.7	714.3	47.0	5,091.0	1,266.0	12,6..3.0	2,058.0	19,740.0	10,65'.0	70,663.0
3.6	761.9	2,558.3	542.2	712.3	46.9	97.0	1,266.0	6,530.0	-	19,443.0	8,263.0	50,737.0
1.4	2.1	7.2	1.5	2.0	0.1	4,994.0	-	6,089.0	2,058.0	297.0	2,588.0	19,926)

TOTAL FINAL DEMAND MATRIX FOR 1970

(million of current drachmae)

		TOTAL INTER INDUSTRY FLOWS	PRIVATE CONSUMPTION	GOVERNMENT CONSUMPTION	GROSS FIXED CAPITAL FORMATION	CHANGES IN STOCKS	EXPORTS	TOTAL FINAL DEMAND	TOTAL SUPPLY
1	AGR	35,757.8	28,590.1	37.2		400.4	2,067.2	31,094.8	66,852.6
2	MNQ	7,659.6		*		-427.7	1,190.9	763.2	8,422.8
3	FBT	11,910.2	36,986.3	144.1		7,395.3	7,695.3	52,221.1	64,131.3
4	TXT	17,700.3	3,810.7	0.6	58.8	191.9	1,941.7	6,003.8	23,704.1
5	CLF	664.8	16,480.0	256.1		517.1	406.4	17,659.6	18,324.3
6	WDF	4,849.0	1,724.0	25.9	1,087.4	537.2	27.1	3,401.6	8,250.6
7	PPR	6,347.6	2,303.3	344.5		-828.1	89.0	1,908.7	8,256.3
8	LTH	1,860.7	587.1	0.3	3.8	380.4	376.8	1,348.3	3,209.0
9	PLS	[illegible].1	984.8	4.1	60.0	-37.8	111.1	1,122.1	3,949.2
10	CHM	18,824.4	6,203.1	572.5		656.0	1,527.6	8,959.2	27,783.6
11	MIN	8,706.7	219.6	5.5	108.2	-437.9	364.6	260.0	8,966.7
12	MTL	18,342.3	1,003.5	1,756.2	1,218.2	141.9	3,575.9	7,695.7	26,037.9
13	MCH	8,146.7	2,818.2	259.9	11,509.1	2,155.6	181.3	16,924.1	25,070.7
14	TRQ	5,069.7	1,073.9	1,442.3	4,257.6	559.7	148.2	7,481.7	12,551.4
15	OTM	426.0	820.5	190.3	619.2	339.1	66.1	2,043.1	2,469.1
16	EGW	4,874.6	1,922.5	462.7				2,385.3	7,259.8
17	CNS	1,743.4	289.0	1,768.9	48,979.9	350.0	450.0	51,836.9	53,580.2
18	TRS	8,156.4	16,516.6	1,279.4	519.5		2,659.8	21,175.3	29,331.7
19	CMN	1,721.8	2,780.9	172.2			67.0	3,020.1	4,742.0
20	DWE	0.0	22,248.2					22,248.2	22,248.2
21	OTS	22,261.2	59,015.0	28,69[illegible].6	2,241.3	355.0	6,841.9	97,074.9	119,336.1
TOTAL BY COMPONENT		187,850.0	206,385.4	37,343.5	70,663.0	12,247.9	29,987.9	356,627.7	544,477.7

Totals may not add up due to rounding.

DOMESTIC FINAL DEMAND MATRIX FOR 1970

(million of current drachmae)

		TOTAL INTER INDUSTRY FLOWS	PRIVATE CONSUMPTION	GOVERNMENT CONSUMPTION	GROSS FIXED CAPITAL FORMATION	CHANGES IN STOCKS	EXPORTS	TOTAL FINAL DEMAND	TOTAL SUPPLY
1	AGR	33,442.3	27,608.0	29.7		348.2	2,067.2	30,053.0	63,495.3
2	MNQ	4,181.8				-274.9	1,187.6	912.7	5,094.6
3	FBT	10,797.0	31,449.0	132.6		7,395.3	7,695.3	46,672.2	57,469.2
4	TXT	14,179.6	3,570.1		14,1	79.0	1,941.6	5,604.8	19,784.4
5	CLF	663.5	16,245.4	253.3		517.1	406.4	17,422.2	18,085.7
6	WDF	3,576.8	1,620.9	6.7	1,074.2	367.9	27.1	3,096.8	6,673.6
7	PPR	4,862.1	1,917.9	342.8		-927.1	89.0	1,422.6	6,284.7
8	LTH	1,562.2	557.0			114.8	376.8	1,048.6	2,610.7
9	PLS	2,320.7	628.4		17.2	-38.5	111.1	718.2	3,038.9
10	CHM	13,719.0	3,781.8	420.5		-620.6	1,527.6	5,109.4	18,828.4
11	MIN	7,804.1	44.6	4.7	60.8	-437.9	362.9	35.2	7,839.3
12	MTL	12,588.9	834.9	273.3	386.3	381.7	3,575.9	5,452.2	18,041.1
13	MCH	5,587.9	1,526.5	123.6	1,988.9	1,916.3	179.0	5,734.2	11,322.1
14	TRQ	3,675.6	521.2	1,423.8	1,598.1	-104.7	106.5	3,544.9	7,220.4
15	OTM	316.3	361.9	109.6	101.5	144.2	66.1	783.3	1,099.6
16	EGW	4,874.6	1,968.5	462.7				2,371.3	7,245.8
17	CNS	1,743.4	286.2	1,762.8	48,979.9	350.0	450.0	51,828.9	53,572.2
18	TRS	8,126.4	15,645.0	1,264.1	519.5		2,859.8	20,288.5	28,414.8
19	CMN	1,721.8	2,680.9	165.2			67.0	2,913.1	4,635.0
20	DWE		22,248.2					22,248.2	22,248.2
21	OTS	21,573.2	58,047.4	26,763.6	2,241.3	355.0	6,583.9	93,991.3	115,564.4
FLOWS BY INDUSTRY		157,317.2	191,483.9	33,539.0	56,982.0	9,565.7	29,680.8	391,251.3	478,568.5

Totals may not add up due to rounding.

DUTIES ON GREEK IMPORTS AT VARIOUS POINTS IN TIME

(%)

	Greek Tariffs 1962	1970 Status EEC6	1970 Status ROW	1973 Status EEC9	1973 Status ROW	C.E.T. Full Membership ROW
AGR	8.40	3.56	7.72	2.83	8.15	2.80
MNQ	6.67	4.26	3.24	4.10	3.26	0.07
FBT	22.89	21.58	21.52	21.23	21.40	13.38
TXT	20.12	21.56	13.22	18.91	13.51	6.67
CLF	41.78	38.56	31.59	36.76	31.30	13.85
WDF	16.30	25.12	15.34	25.13	15.30	0.94
PPR	23.58	22.85	19.72	19.83	20.51	7.12
LTH	12.64	10.40	10.01	10.59	9.59	0.27
PLS	16.51	11.61	14.40	11.58	13.87	7.31
CHM	17.96	13.17	13.80	12.80	13.34	10.15
MIN	20.31	17.19	12.49	16.54	12.23	5.82
MTL	12.70	12.18	9.38	12.26	8.51	4.60
MCH	9.83	5.68	8.42	5.49	8.62	7.61
TRQ	9.31	5.08	4.38	4.56	4.20	1.48
OTM	20.69	10.61	15.31	10.86	14.92	8.77

INDIRECT TAXES ON IMPORTS

(%)

	Turnover Tax	Special Import Tax	Special Consumption Tax	Special Tax of 1958	Luxury Tax	Statistic Tax	Special No 20 Tax
AGR	0.0	0.0	-	0.500	-	0.225	0.075
MNQ	0.0	0.0	-	-	-	0.225	0.225
FBT	5.235	0.655	0.254	-	0.253	0.225	0.075
TXT	8.000	2.000	-	-	1.619	0.225	0.225
CLF	8.000	2.000	-	-	1.975	0.225	0.225
WDF	8.000	2.000	-	-	0.178	0.225	0.225
PPR	8.000	2.000	-	-	-	0.225	0.225
LTH	8.000	2.000	-	-	0.090	0.225	0.225
PLS	8.000	2.000	-	2.200	-	0.225	0.225
CHM	7.720	1.930	4.019	0.650	0.096	0.225	0.225
MIN	8.000	2.000	-	0.800	-	0.225	0.225
MTL	7.872	0.985	-	-	-	0.225	0.225
MCH	7.600	1.900	-	0.350	-	0.225	0.225
TRQ	5.755	1.440	1.315	-	0.425	0.225	0.225
OTM	8.000	2.000	-	0.350	1.321	0.225	0.225
EGW	-	-	-	-	-	-	-
CNS	-	-	-	-	-	-	-
TRS	-	-	-	-	-	-	-
CMN	-	-	-	-	-	-	-
DWE	-	-	-	-	-	-	-
OTS	-	-	-	-	-	-	-

INDIRECT TAXES ON DOMESTIC PRODUCTION

(%)

	Turnover Tax	Payroll Tax	Special Consumption Tax	Special Tax of 1958
AGR	0.0	0.0	-	-
MNQ	0.0	0.0	-	-
FBT	4.712	4.50	13.20	-
TXT	8.000	6.00	-	-
CLF	8.000	4.50	-	-
WDF	8.000	6.00	-	-
PPR	4.332	3.25	-	-
LTH	8.000	6.00	-	-
PLS	8.000	6.00	-	2.00
CHM	7.244	6.00	50.00	0.65
MIN	8.000	6.00	-	0.56
MTL	7.462	1.00	-	-
MCH	7.738	6.00	-	5.00
TRQ	2.590	2.16	-	-
OTM	8.000	6.00	-	0.50
EGW	6.920	0.0	-	-
CNS	0.0	0.0	-	-
TRS	7.000	0.0	0.65	-
CMN	8.000	0.0	-	-
DWE	0.0	0.0	-	-
OTS	2.000	0.0	-	-

COEFFICIENTS OF COBB-DOUGLAS PRODUCTION FUNCTIONS

Sector		A	γ	Labour Share (α)	
				Original	Adjusted
1	AGR	0.4647	0.7276	0.1078	0.8354
2	MNQ	0.1978	0.7033	0.7718	0.6755
3	FBT	0.3417	0.2170	0.3904	0.7925
4	TXT	0.3202	0.3738	0.4284	0.7749
5	CLF	1.0935	0.2785	0.3768	0.9422
6	WDF	0.6110	0.4865	0.3238	0.8780
7	PPR	0.2788	0.3741	0.5152	0.8696
8	LTH	0.3997	0.3067	0.4175	0.7925
9	PLS	0.3013	0.4829	0.4421	0.7541
10	CHM	0.3864	0.3432	0.3550	0.7603
11	MIN	0.2761	0.5120	0.4360	0.7813
12	MTL	0.4134	0.3778	0.3407	0.8736
13	MCH	0.2900	0.3612	0.5487	0.7032
14	TRQ	0.1366	0.4718	0.8497	0.8551
15	OTM	0.1732	0.5349	0.4282	0.3855
16	EGW	0.1326	0.7497	0.3892	0.3421
17	CNS	0.3835	0.4346	0.6648	0.9799
18	TRS	0.1101	0.5856	0.6577	0.5908
19	CMN	0.2540	0.9111	0.6843	0.6146
20	DWE	0.0819	0.9597	0.0000	0.0000
21	OTS	0.3034	0.8084	0.5183	0.9080

ESTIMATED COEFFICIENTS OF

THE CONSUMPTION FUNCTIONS

Sector		ℓ_i	ε_i
1	AGR	0.07309	22,595
2	MNQ	0.00000	0
3	FBT	0.09456	25,416
4	TXT	0.03369	1,099
5	CLF	0.02354	13,748
6	WDF	0.00441	1,292
7	PPR	0.00496	1,819
8	LTH	0.00103	475
9	PLS	0.00410	598
10	CHM	0.01586	3,546
11	MIN	0.00218	44
12	MTL	0.00358	677
13	MCH	0.00673	2,030
14	TRQ	0.00893	352
15	OTM	0.00574	343
16	EGW	0.00491	1,454
17	CNS	0.00097	211
18	TRS	0.11220	7,287
19	CMN	0.02085	1,081
20	DWE	0.07051	18,534
21	OTS	0.50816	18,793
Totals		1.00000	119,394

ESTIMATED ELASTICITIES OF EXPORTS

No	Code	Price Elasticity	Income Elasticity
1	AGR	-1.92762	0.57313
2	MNQ	-1.13448	1.96979
3	FBT	-0.21276	1.31924
4	TXT	-1.07273	2.98300
5	CLF	-3.68546	6.14843
6	WDF	-3.43384	9.00196
7	PPR	-1.03266	2.62744
8	LTH	-0.58864	4.10923
9	PLS	-0.01249	8.16695
10	CHM	-0.01249	8.16695
11	MIN	-3.75799	4.28535
12	MTL	-0.38844	5.89647
13	MCH	-2.17141	5.27546
14	TRQ	-0.78318	4.77339
15	OTM	-3.10699	2.29663
16	EGW	-1.0	1.0
17	CNS	-1.0	1.0
18	TRS	-1.0	1.0
19	CMN	-1.0	1.0
20	DWE	-1.0	1.0
21	OTS	-1.0	1.0

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