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A BUSINESS MANAGEMENT APPROACH TO THE
INDUSTRIAL STRATEGY OF GREECE

by

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A thesis submitted for the degree of Doctor of Philosophy

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C O N T E N T S

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SUMMARY

World trade nowadays is dominated by developed countries. Less developed countries find it difficult to increase their standard of living because of concentration of technology in those highly industrialised countries, thus, constraints are imposed to their development.

Technological concentration varies between products and industries and therefore, the ordinary macroeconomic approach to development used in many countries is not sufficient. An industrial strategy followed in any country should pay attention to these differences on the industry level, because these differences determine the success of a country.

This means that a business management approach to industrial strategy should be followed for a country and its industries. Such an approach will identify the competitiveness of the country and its industries and will result in a more efficient policy formulation.

This dissertation describes this approach and illustrates its use by taking the example of Greece and her electrical domestic appliances and footwear industries. Details of the findings are in Chapter 10.

PART I

INTRODUCTORY CONCEPTS

1. INTRODUCTION

The impressive growth of world trade which began after the Second World War was based on two trends, firstly, international specialisation of production with the benefits of efficiency and diffusion of technology, secondly, non-discrimination between foreign customers and suppliers. Those two trends are now under attack because of the unforeseen effects. Increasing interdependence reduces the ability of a country to develop in isolation of the rest of the world. Increased specialisation, resulting from the attempt to avoid competition, imposes a heavy import burden or phasing out of uncompetitive but strategic industries like steel.

Since developed countries dominate international trade it seems unlikely that they will be willing to reduce their market share, that is, to increase imports and reduce exports. This, obviously, imposes more pressure on less developed countries. High and rising unemployment, persistent payment balances, widely differing inflation rates between countries, result in economic nationalism which motivates an adjustment mechanism to hold down the combined share of developed countries. Import controls are not the answer because apart from the risk of retaliation, the advantages would be shortlived, since protection of the country's inefficiencies is no solution. Besides, it might be impossible for the country to raise barriers because of international agreements, like EEC. The answer must be

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in the longrun to improve the industrial performance. This is important for all countries, especially for less developed countries, since they are highly dependent on imports of goods, technology, know how. Provided industrialisation is considered to be the path for development, a new set of measures and approaches should be followed to reverse the existing situation.

Many countries have produced economic plans, though this does not mean that in any significant sense they employ economic planning. Hardly any non-socialist under developed countries have yet used a continuous system of economic planning, in which the planners are the major directors and co-ordinators of all government economic policies. The attitude of governments towards development has often been a macroeconomic approach taking into account different macroeconomic figures, basing on them derivation of different policies. These broad emphases are no longer sufficient, because they ignore the characteristics of every particular industry, as well as the world trend in each one of them.

In this study an attempt is made to examine some of the main factors influencing governments' industrial strategy. The purpose is to recognise the different environment in each industry, the world trend and show how they can be identified and taken into account in deciding any country's industrial

strategy. This business management approach to industrial strategy is an addition to the economics approach in successfully managing a country's economy. This approach is applied in the case of Greece, on how planning of industrial strategy can be constructed, what approach should be followed and application of the approach is attempted on the silicon chips, digital watches, electrical appliances and footwear industries.

2. PREVIOUS LITERATURE

Undoubtedly, all countries in the world aim for economic developments and there are different ways in which this can be achieved. The already developed countries have reached there present position through different and sometimes opposite ways, for instance, the capitalist and socialist roads to development, with the U.S.S.R. being the only country to have fully developed successfully under a socialist system, while Western European countries, U.S.A. and Japan succeeded by different agents, such as private capitalists, investment banks (C. Ayres (6), J. Galbraith (56), R. Hartwell (65), E. Mandel (96), J. Saville (136), R. Sutcliffe (143)).

However, all developed countries have climbed to their position through a similar path called industrialisation, although its means and ways are different. In this chapter we will refer to some of the existing literature on why, how and what factors are influencing countries to choose industrialisation as their path for development.

2.1. Industrialisation

There is a huge literature on how any country could be considered as industrialised or how the degree of industrialisation could be calculated or whether there is a pattern of industrial growth. One indicator which might be considered as showing the degree of development in any country

is the income per capita. However, this indicator shows nothing of how industrialised the country is. It has been observed that a highly industrialised country has a high income per capita with the exceptions of countries with important extractive industries (e.g. oil producing countries).

Kuznets (85) found that the share of agriculture in national product declines as national income rises. The share of the industrial sector increases consistently with increasing levels of income and in the higher income countries averages more than 50 per cent. For the services sector there is no clear pattern of change between countries according to their different levels of per head GDP. The industrial sector's share of the labour force increases, agriculture's share declines, while there is a substantial rise in the service sector's share. R. Sutcliffe (148) tried to answer the question of how a country is regarded as industrialised. He puts three gateways through which if a country passes it is considered industrialised:

(a) a minimum percentage, 25 per cent of GDP should arise in the industrial sector.

(b) 60 per cent of the output in the industrial sector should come from the manufacturing sector.

(c) 10 per cent of the total population should be employed in the industrial sector.

The 1965 data showed that countries passing the three gateways have a higher national income per head than countries passing only the two gateways, while countries passing the two

gateways have an average higher income per head than countries passing only one. Therefore, he concludes, there is a relationship between national income per capita and the degree of industrialisation.

W. Hoffman (71) argues that the structure of the manufacturing sector of the economy has always followed a uniform pattern. This pattern is in three stages :-

- (a) domination of consumer goods industries. (b) capital goods industries become increasingly important and have an output half as great as the consumer goods industries.
- (c) balance of consumer goods industries and capital goods industries with the tendency for the capital goods industries to expand more rapidly than the consumer goods industries.

In fact most of the attempts to establish patterns of industrial growth are just of this kind and the most important of these studies are those by Chenery and Taylor and the U.N. Department of Economic and Social Affairs. Chenery and Taylor (28) divided their sample into three groups of countries, large, small industry oriented and small primary-oriented. For the first two groups the proportion of industry in national product rises rapidly as income rises. In the last group a common pattern is an accelerating increase in the output of several industries as a share of national output, as higher levels of income are reached. The UN study is in many ways similar to Chenery's 1960 study (27) but rather more detailed. It confirms

the results of the analysis by both Chenery and Hoffman, about the change in composition of output between producer goods and consumer goods and a good deal of importance was attached to resource endowments in explaining deviations from the normal pattern. It concludes that the difference in deviations from the normal pattern of industrialisation depends on income levels, while a considerable degree of government intervention in some of the mixed countries also appears to lead to a higher rate of industrialisation. By far the most important suggestion on the difference in the possible growth patterns between countries now developing and those which developed in the past was made by F. Steuer and C. Voivodas (142) who said "Along with resources and technical changes, the state of the world market can bear strongly on a country's pattern of industrialisation. Even at a moment in time countries do not always face the same world market because some are very big, because of tariffs, quotas, transportation cost. Overtime one would guess the state of the world market becomes very important".

Although there are some limitations of cross-section data (P. Temin (150), B. Balassa (8), R. Sutcliffe (148)), the conclusions which emerge from the activities of the pattern finders are that no major country has yet become rich without having become industrialised, although the face of industrialisation

in relation to increases in income per capita has varied between different countries. In the long run greater wealth and better living standards under any political system are closely connected with industrialisation. "There seem to be only two conditions, both of them improbable, whereby a country could reach high levels of income per head without industrialisation. One is where the income elasticities of demand, domestic or international, for non industrial goods produced are high. Secondly, given that these elasticities are low (A. Maizels (95)) it is conceivable that one or a number of countries could become rich while remaining agricultural, if the structure of world output were arranged in such a way as to concentrate world food production increasingly in those countries and at such a rate as to compensate for the low income elasticities". (R. Sutcliffe (148)).

The arguments commonly employed for agriculture priority (R. Sutcliffe (148)) can be summarised as follows :-

- (a) agriculture composes a larger proportion of national product in developing countries, therefore, expansion of agriculture will expand national product.
- (b) agriculture productivity must be expanded in order to release labour for industrial development.
- (c) industrialisation raises the consumption of marketed agricultural products.
- (d) since agriculture composes a larger proportion of national product than industry in developing countries, then it should be expected to contribute an equivalently large share of savings for capital formation.

- (e) investment in agriculture is more productive in developing countries than investment in industry.
- (f) investment in agriculture is the most effective method of increasing employment.
- (g) agricultural development improves the distribution of income more than industrial development.
- (h) expanded agricultural incomes will create a demand for industrial output.
- (i) agriculture has linkages with other sectors at intermediate stages in the production process.

On the other hand there are propositions of why industry should have priority over agriculture (R. Sutcliffe (148).)

- (a) industrial growth creates demand for agricultural output.
- (b) industrial investment is more inter-complimentary than agricultural investment.
- (c) industrial growth relieves balance of payments problems.
- (d) industrial investment expands savings.
- (e) industrial growth relieves fluctuations and encourages stability of incomes, tax receipts and so on.
- (f) industrialisation increases economic flexibility.
- (g) industrial growth expands employment.

One clear conclusion is that any of the above mentioned arguments for or against industrialisation is not likely to be valid by itself, for all underdeveloped countries. There are arguments which reject some elements in both cases; for example, the argument that agriculture has linkages with other sectors at

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intermediate stages is not the basis for distinguishing agriculture from industry as such, because industry supplies agriculture and vice versa, while, the argument that industry is more intercomplimentary than agriculture is generally true but there are industries which might be less (e.g. mining).

The arguments which reject some elements in both cases led to a compromise, which is "progress in agriculture should not be considered as a preliminary to industrialisation but as indispensable corollary"(P. Dumont (58)). This is balanced growth whose strength depends on two propositions. Firstly, that the expansion of agriculture incomes provides greatly needed demand for manufacturing output, secondly, the expansion of incomes in industrial sector is an effective stimulant to the expansion of agricultural production. Consequently, balanced growth depends on the circumstances found in every country which will point out what policy should be followed (H. Myint (103), W. Lewis (90)). In the real world, a balance should be kept between imports, exports, manufacturing products, agricultural goods and not just between any of them. Most countries would like to have a balanced growth, which does not necessarily exclude the possibility of concentrating only on either the industrial or agricultural sector. For example, large-scale urban unemployment in some countries might constitute a political inevitability to concentrate upon.

2.2. Policy, Planning.

The attempts to find a consistent pattern on industrialisation as well as the arguments for or against industrial growth imply that countries will not become rich unless at some stage they industrialise.

The justified idea of balance growth allows any degree of imbalance or balance because in any real economy all arguments in favour of or against industrial growth must be assessed. All societies are forced with the desire to industrialise for higher productivity and standard of living. Since a number of factors, resource, and factor endowments as well as differences in political systems may create different patterns of change in the economic structure, it is dangerous to attach too much importance to arguments which relate to the experience of one particular group of countries. And the prospects of the future industrialisation of less competitive countries does not mean that they will either undergo a process or reach a state identical to that of the present industrialised countries because of the fact that there are already competitive countries which have progressed and are present playing a vital role in the international economic environment.

There are arguments for sectorial priorities which ideally should not rely upon divisions as broad as agriculture and industry. It is usually misleading to talk of industry other than particular types of industry. The division between industry and agriculture, like the common one between "heavy" and "light"

industry, is very crude and therefore, economic arguments about industrialisation require more useful and generally finer distinctions. Government policy with respect to different economic sectors involve an element of choice, for instance, allocation between industries of a limited volume of investment. Whether it is agricultural or industrial sectors which can most easily achieve import substitution must be a matter for investigation in particular cases. The argument that it is dangerous in economic planning to ignore any sector of the developing economy, is justified but lacking very much immediate relevance to the decisions which must be taken by policy makers. Planning is a very integrated process. Priorities have to be set which need not imply government expenditure. For example, land reform rather than investment might be the most significant action for increase in agricultural production. In policy making and economic planning a government must decide not only on priorities but on exactly what it means by giving priority to a particular sector and on the consequences of this for other economic activities. And it is important to examine policies to ensure that they do not unintentionally divert resources into non-priority areas.

Therefore, the need arises of how these policies should be formulated. Since industrialisation is considered by many countries to be the path leading to wealth, the question arises of how any country could be able to derive the best policies to develop its industries. The problem is more acute for the industrial sector, manufacturing and mining, especially, for manufacturing since in

the absence of mining it is the only sector which will achieve industrial growth. The problems arise due to the less developed state of the sector and the fact that nowadays already competitive countries dominate the world markets and do not allow developing countries to expand and increase their share in the world trade. The existing literature for development is mainly from the economics point of view, yet it recognises that policies depend on different environments. This study, therefore, attempts to answer the question of how these environments could be identified so that the appropriate policies will be derived, that is, it takes a business management view of country development planning.

3. METHOD OF APPROACH

In this study an attempt is made to show how any country aiming at industrialisation could derive the best policies for its industries, after taking into consideration the specific characteristics of the local economy and those of particular industries, as well as the pressure that developed countries impose on it. The conceptual framework which will be used is that of likening the running of a country to the management of a large highly diversified firm whose industries constitute the different divisions of the firm and then use the business management approach to survey the country's environment and strengths and weaknesses. Therefore, at first those concepts will be enlarged and then description of the particular studies made will follow.

3.1. The Concept of Managing a Country.

A better view of how a country functions with respect to industrialisation can be taken by considering a country as a specific type of agent in a world business environment. There are many similarities between a country and a highly diversified firm. To start with, a country could be considered as a "holding company" which has many divisions, that is, industries. Any company is managed by elected people which form the company's management team. In the case of a country "holding company" the "management team" is the government.

The objectives of every firm's management is the welfare mainly of its shareholders, who in the case of a country "holding company" are the residents of the country. The welfare is judged through economic self-sufficiency, economic development and expansion. The welfare of the shareholders is measured by income per capita, income distribution and the balance of payments which indicates the external profit-loss account of every country. It is plausible to argue that any government behaves like professional managers who try to stay in office as long as possible. This depends on how much the shareholders are satisfied with them.

In general there are two basic ways of managing such a company, the difference being in the degree of intervention. In the first one "the management team" makes decisions about the country and forces actions on even low levels of decision making (e.g. what products to produce) and it also decides how wealth will be distributed between employees, shareholders, investment. In the second one, "the management team" delegates authority to different agents to pursue growth and tries to facilitate their growth by using different tools, such as, subsidies or different types of incentives, without forcing actions, while, it lets its employees and shareholders settle the distribution of wealth among them by themselves. The advantages and disadvantages attached to those two approaches fall in the dispute between centralisation and decentralisation and depend very much on political ideology.

The decentralised form of management is the most complicated one. Every "division", namely, industry, depends its expansion on "agents", firms, operating within the "division". These "agents" try to develop the "division" through the incentives given for their own benefits (e.g. profits, prestige, power etc). The number of "agents" in each division is not decided by the "management team", because autonomy leaves "agents" by themselves to decide who is the most competent to stay in. The factors influencing the presence of an "agent" in a "division" are many such as, future growth of the market, entrepreneurial skills, financial strengths, the degree of risk involved, degree of technology, important characteristics for success (e.g. economies of scale) etc. The lower the number of "agents" in a "division", the greater market share they have and the more powerful they become.

What "management" tries to do is to facilitate the development of the "agents" and consequently of the "division", by establishing such a legal framework and such an internal environment in the country, so that the "agents" are induced to take risks and perform their best. Power is exercised and resources are allocated to meet the objectives, through the strategies that have been selected such as, improvement in the balance of payments or reduced dependence on overseas suppliers, by giving autonomy to the "agents". In other words, the "management team" looking and taking into account general macroeconomic figures, such as, investment, profits, exports, GNP per capita etc., gets a clear view

of how the country is running and intervenes using its tools when necessary, leaving the task to the "agents" to develop the country.

It might be argued that every country "holding company" would like to have fewer "agents" in every "division" because in this way it would be easier to co-ordinate them to become more competitive abroad. However, the way the management team manages leaving freedom of movements and exercise of business, leaves a lot of room for behaviour contrary to the general good by those few "agents". Since governments as professional managers want to stay in office as long as possible, they have to have their shareholders satisfied, which means high income per capita as well as a fair distribution of income. And since "agents" are the means of dividing wealth among the shareholders, the fewer the number of "agents", the more unequal income distribution is, which cannot be allowed by the managers because the one-man-one-vote system will turn against them. The use of the weapon of heavier taxation is not effective because the taxation system is in force for all firms equally and not only would it be unfair to hit low profit firms with high taxes, but high taxes operate as a negative incentive for "agents" to develop and expand. Thus, more "agents" in a "division" improve the distribution of income since profits are divided among a higher number of people. For this reason, "management" exercises power through its legal framework by establishing special bodies to supervise the agents (e.g. Monopolies Commission in the U.S.) to eliminate any restrictive

business practices by those "agents" who attempt to acquire monopoly power or form agreements to eliminate competition or declare lower profits for paying lower taxes.

In the centralized form of management there are different kinds of problems because autonomous "agents", one of the important elements in the decentralized form, is missing. There are not many "agents" in every "division" and no competition exists between them, while the number of agents depends on geographical location. Output is homogeneous and sometimes unbranded. The huge problems that this form of management faces come from the way planning is made and how decisions are formed. Therefore, the "management team" should be well organised to co-ordinate all functions, collect the necessary information, take the appropriate decisions, collect profits and distribute them to its shareholders. This method of management resembles more the orthodox type of a firm, where all major decisions are taken from the top and then passed over to the lower ranks.

The two above described methods are not completely opposite because the element of centralization is common in both cases. While in the second method everything is controlled from the centre, in the first method, while the "agents" are decentralized from government, they are themselves managed more or less in a centralized way.

The discussion so far shows that managing a country in either of those ways, has many similarities to managing a highly diversified

firm. The way this highly diversified firm could be run is either through autonomous divisions or through a centralized management. The problems facing management executives are the same as the problems facing a government. How could divisions be expanded, how could sales (exports) in each one of them be increased, how could they be run with the least cost, how could they increase profits (income per capita), how could investment be financed, what divisions to support, how could they become competitive, how could more market share be captured, what products to produce, how to allocate employees in the most efficient way, how to increase productivity, what technology to use, how to train employees, how to achieve economies of scale, how to allocate resources, how to achieve vertical integration, how to increase value added in any unit of output, where to locate plants, how to develop R&D and so on.

Sometimes, of course, the government will find itself confronted by objectives which are incompatible with one another. For example, there may be an awareness that monopoly power is desirable and yet this conflicts with the desire to avoid restrictive business practices; or, as in the case of the U.K. in the late 1970's, the need to improve productivity, reduce costs and eliminate overmanning conflicts with the desire to reduce unemployment. These conflicting objectives are more likely to appear in an acute form in the decentralized pattern and can be considered one of its disadvantages.

The assumption made in this thesis is that the government

does not intend to manage the country in a totalitarian way, with everything centrally planned but has chosen the basic decentralized model, while still accepting that some degree of planning is essential. Establishing that a country managed under decentralization is very similar to managing a large conglomerate firm managed autonomously, we can continue with the approach which any country could follow to achieve higher degrees of industrialization and collect more wealth. One point which must not be forgotten is that a large number of the problems faced by governments are not expected to be solved by them. The firms are supposed to answer the questions, while the government has to make sure that they are answered. Therefore, the question comes to what should any government do to create the right environment in the country for its industries, to help its firms to expand and acquire more wealth, trying always to keep the shareholders happy in order to be elected next time. Since the questions and problems are the same for both firms and government, there is a need for the government to think and act the way firms do in order to help its firms to develop. Therefore, the proposition that there are many similarities between managing a country and a large diversified firm still holds.

3.2. The Concept of Business Management Approach to a Country.

Every country has its natural resources, labour force, institutions for research and development, capital, entrepreneurial

skills which form the country's background assets. The amount of each factor is inevitably limited whichever country we examine, so development and expansion is constrained by internal availabilities. Besides, there will be external constraints in industries where other countries have either better resources or developed them earlier.

Thus a way has to be found which will show what the country's position in the world is as well as the situation in the domestic market. This seems similar to the way a firm looks at its expansion, that is, its situation in the industry as well as the situation within the firm. In general, any country's management policy should fall in the concept of business policy applied by individual firms. Any country, at any point in time should know where its advantages and disadvantages lie. The main aim should be how to use its advantages efficiently to make up for the disadvantages it has, while at the same time it should try to minimise its disadvantages. In simple words, it is essential for a government to know a country's strengths on which it can build and weaknesses which it will want to eliminate or minimize.

The fact that every industry has a different environment with different problems and conditions, implies that any examination of the strengths and weaknesses should be done on the country and industry levels. If the government does not know the strengths and weaknesses of its industries, it will decide its policies and measures on a more aggregate level. This will be misleading because aggregate figures do not show particular circumstances, do not

identify problems and help the government misuse its tools (see chapters 8 and 9 for the example of Greece). The firms will not find the environment attractive, profits will be low, risk will be high and the outcome might be the country losing the industry to foreign competition. Therefore, the government with its task to control the country, and the firms with the task to expand and develop the industry should "talk the same language" and both know what is happening in every industry. The government will have the responsibility to construct the internal environment in the country to help its firms to expand, establish a dialogue with the firms to receive information about possible constraints to growth, adapt its policies to what is good for the industry and make sure that the economy is run smoothly, while the firms looking always for profits will try to develop the industry and become more wealthy.

The fact that the government should receive information from the firms, construct the environment in the country, adapt the policies to what is best for the industry, protect its firms, help them to expand, whereas, the firms should transmit information to the government, ask for help and assistance, makes it necessary that strong co-operation should exist between those two parties. Once failure of co-operation strikes, uncertainty increases, as well as risk, everything gets disorganised and the pace of growth and development slows down. The degree of co-operation between government and firms depends very much on political factors and can vary from complete government takeover to complete freedom, with both extremes having disadvantages (see chapter 7).

The government has to make two appraisals for each one of its industries. An internal one and an external one. The internal appraisal will show what the situation is in the domestic market and will identify the problems as well as the strengths and weaknesses. The external appraisal will make available to the country information of what is happening in the world market, what is the strength of the competition, what are the market-product opportunities, how other countries are reacting. The comparison between the internal and external environment in every industry will show both firms and government what the possible opportunities are, what the threats are and how they can be faced, what the strengths and weaknesses are, what alternative strategies could be followed, how the task is divided between government and firms, what their policies should be, with the firms always being left autonomous to decide what to do within the overall national framework of government policy.

Different countries with different degrees of development have different problems as well as strengths and weaknesses. A developing country's management faces more problems than a developed country's one. It might have few natural resources or excess capacity of labour force or lack of financial resources or of entrepreneurial skills. Therefore, the situation might be a country "holding company" with a low number of "divisions", inefficient "agents" and a "profit-loss" account in the red. What the country needs is expansion of its "divisions" and diversification aiming for economic self-sufficiency, import substitution and expansion of exports in order to reduce the loss.

What policies should be appropriate for such a country to develop depends on the examination of her internal and external environment. It is more urgent for a less developed country to do so because she has to exploit every opportunity available in all her "divisions" if she plans to increase the pace of her development and can only do that if she follows the business management approach to industrial strategy.

The business management approach follows the comparative advantage theory developed in economics (C. Kindleberger (79), R. Caves and R. Jones (22)). According to this theory nations export those products which they can produce most efficiently and import those in which they are least efficient as compared with other nations (Ricardian model). Because of the unequal resource distribution, countries export commodities whose production requires relatively intensive use of productive factors found locally in relative abundance (Heckscher-Ohlin theorem). Demand differentials in different countries also influence the flow of raw materials required in industrial products. Thus, the business management approach will help governments realise where their comparative advantages lie and how to use them more efficiently to increase income per capita.

3.3. The Detailed Studies Made for this Dissertation.

In view of the concepts described above I first looked at the general problems facing any country, that is, the form the strengths and weaknesses of a country and the industries within it take and how these strengths and weaknesses vary between

developed and developing countries. Next I looked at the opportunities and threats on the general world environment and how they are changing over time. The look at the environment lead to answer the question as to which of the many factors were important in deciding a country's industrial strategy. I therefore, looked at technological trends and differences, the behaviour of multinational firms, the power of the raw material suppliers, the emergency of country groupings, such as, EEC and so on. It was clear that technological trends were important, therefore, I carried a detailed analysis of four selected industries representing high technology (silicon chips and digital watches), medium technology (electrical appliance industry) and low technology (footwear industry). I then looked at how this need for analysis could be met in organisation and procedural terms.

Finally, I selected a country (Greece) to look at in greater detail, to expand that my general approach was practicable and could meet the needs of an individual country and its industries. In particular for Greece, I decided to analyse in some depth how such an approach would relate to the silicon chips, digital watches, domestic electrical products and footwear industries.

PART II

THE BUSINESS MANAGEMENT APPROACH TO INDUSTRIAL
STRATEGY - GENERAL.

4. EXTERNAL ENVIRONMENT

4.1. Opportunities and Threats in the World in General

Given any industry, we find that different firms have different degrees of efficiency. The same can be said of countries, which implies that less developed countries are threatened by the more competitive ones. Therefore, there is a need for all countries to understand the world environment and the trends in that environment concerning both whole countries and particular industries.

In the world wide financial environment there is greater monetary instability. Elements, such as, monetary developments, changes in interest rates, economic cycles, stability of various currencies, balance of payments deficits or surpluses are more difficult to predict, especially, after the 1973 oil crisis and, thus, making forecasting of different countries' financial developments more difficult.

Some highly competitive countries, such as, Japan and Korea, have emerged and this has forced less competitive countries to raise barriers to protect their economies. Many countries realized that international specialisation of production had the unforeseen effect of import burden which in a crisis period cannot be afforded. Countries have recently become more aware of others' competitiveness. High and rising unemployment, persistent imbalances of payments, widely differing inflation rates between countries, result in economic nationalism which motivates an adjustment mechanism to hold down

the aggressiveness of highly competitive countries. Tariffs, quotas, retaliation threats, have been used to persuade some countries to lower their exports and increase imports. The phenomenon of formerly less developed countries emerging among the highly competitive ones, has made countries aware of the need for a more efficient approach to development with the view of growth and protection.

A trend that has started developing in the last decade is the regulation of raw material supply and hence, the increase in bargaining power of the suppliers. Many countries being endowed with different kinds of natural resources, have made price and market agreements, which is an evolution from the price stabilisation agreements after World War I. These countries realising the power they have, have started using it for their own benefit. Some impose quotas on exporting raw materials, so that they will become more competitive exporting the product and not only the raw materials; for example in the footwear industry, Brazil imposed quotas on exports of leather. Others have developed cartels and raised prices and sometimes the power they have is used to influence political decisions; for example in the oil industry, OPEC was formed and imposed sanctions on Holland.

Another trend is the developing pattern of countries grouping together, such as, EEC, ASEAN (Association of Southeast Asian Nations, with Singapore, Indonesia, Malaysia, Philippines and Thailand as members). These groups aim to preserve their

neutrality and freedom of action against the existing and emerging great powers (e.g. U.S.A., U.S.S.R. and perhaps China), they wish to have a stronger say in matters that are of interest to them and co-operate in promoting their economic, social and cultural development.

The trends, characteristics and different situations that exist in those groups or regions are also important for any member country or any country having international transactions with the group. The special trends that develop indicate possible influences or changes that might occur in any member country; for example, the mass media and the developed communications among E.E.C. members has resulted in many similarities in their consumption patterns.

A developing trend has been the desire by people to have a bigger influence on what affects their working lives. This trend was brought by education, mass media and has taken different forms depending on the cultural and social development of the country. For example, in Japan the phenomenon of strikes appeared, while in E.E.C. it took the form of industrial democracy (workers representation on the board).

Meanwhile, there is a growing trend of governments to get involved in business. Government involvement in business has increased and has taken different forms. For instance, the weapon of nationalisation of firms or industries, regulation of business, international trade negotiations, varying investment incentives.

Moreover, there is a growing tendency of different political systems to converge towards the centre. In the decentralised W. Europe there is a trend towards a greater degree of centralisation, while in communist countries (e.g. China) there is a trend of allowing entrepreneurial skills to develop. Political elements are among the most important factors in any country's attitude to the external environment and are dictated by the social trends and cultural developments within the country.

However, there are also other opportunities arising from the world wide growth of population, increase of consumption, GNP per capita, demand for education and health which are important inputs in formulating strategies.

Apart from those trends, which refer mostly to the countries' level, there are other trends occurring which are related to industries and also have a very important influence on the strategies of countries. Such trends are related to the particular situations in industries world wide and effect political as well as economic decisions; for example, the increased power that multinational firms enjoy in the electrical appliances industry, affects the strategy any country will follow for developing this industry. Such trends will be discussed in the remaining section of this chapter.

4.2. Technology.

An element which is very important for efficiency in every country is technology, whose degree determines the scale of development and affects all industries.

Undoubtedly, all countries would like to acquire all kinds of technology available, however, some countries enjoy more privileges than others (B. Gold (62), V. Strassman (146)). Those firms which have it, usually based in developed countries, try to exploit it for their benefit, while those usually in developing countries who need the technology demand it, paying different prices (e.g. royalties). The price paid for technology depends on how much the particular technology is needed and in what industries it is applied. There is obviously a whole spectrum from low to high technology, but for the purpose of this study I have decided to classify industries into advanced, medium and low technology, the difference between the different levels of technology being in the investment/price needed to obtain the technology. As technology progresses, industries which belong in any of those levels of technology might move from one level to another. This change of level can be on products (e.g. mechanical watches advanced to digital watches) or on production methods (e.g. automated car assembly).

Any country examining its position in the external environment should know what kind of technology its industries have, compared with other countries. The trends in technology

found in every industry, determine the entry conditions for any country which wants to operate in these industries. If the world trend shows that advanced technology is necessary for international expansion in one industry, countries lacking such technology will not be able to compete internationally (e.g. microwave ovens). As the structure of the technology market becomes more oligopolistic, the more difficult it is for other countries to join in. The world trends are closely associated with the specific kinds of technology, namely, advanced, medium and low technology.

In this section four hypotheses will be tested namely,

- i) in advanced technology industries a limited number of firms retain the technology and keep the lead. These firms domicile in the few developed countries where all the necessary environmental factors for developing these industries and keeping the lead can be found.
- ii) in medium technology industries, there is a greater number of countries and firms operating which makes competition more severe. This competition and the attempts of firms not only to minimise it but to raise barriers to new entries, tend to increase the concentration ratio.
- iii) In low technology industries developing countries dominate mainly because of availability and reduction of exports of their raw materials and/or low labour cost. Developed countries try to remain in these industries by substituting the scarce raw materials with new inventions, raising the technology of production or even raising protection barriers.

iv) in addition, the life cycle of technology in those categories of industries is also important. There are forces which try not only to push technology to lower standards in order to increase the number of participants, but also to advance it and eliminate competition.

4.2.1 Advanced technology industries.

4.2.1.1. General

Industries such as silicon chips, digital watches, aeroplanes, Hi-Fi equipment, computers, automated refineries, electro-optical instruments are examples of advanced technology industries. Advanced technology industry can be defined as any capital intensive industry whose output needs a lot of previous research expenditure. The output did not exist before and it is a very sophisticated product bringing with it the element of change. Very few countries possess the technology to produce this output, while the market for its promotion is world wide fast growing and more or less a "green-field"; for example, the invention of transistors in 1963 or the development of driverless tractors in 1977.

Output from advanced technology industries can be classified in two types, namely, product (e.g. digital watches, see Appendix B) and production process (e.g. robots in car assembly). Products have a bigger market for promotion, since they are intended for final consumers with a higher volume of output, while production methods are intended for a small number of users which are widely spread. Products and production methods can be manufactured either in the home market or abroad depending on the objectives of the firm, the

benefits of both the firm and host country (see section 4.3.2), the technology needed for completing the output, the skills available in the host country etc. The biggest advantages of some of the output is its application in a wide range of uses. Since they bring the element of change, forming the front of technology, they can be applied in any kind of industry from advanced to low technology (e.g. silicon chips, see Appendix A) which provides the opportunity to different firms to innovate (products or production methods) by buying the newest technology available.

The achievements in advanced technology industries are the outcome of efforts undertaken by individual firms, sometimes with the co-operation of public institutions or with the assistance of the government, especially on defence technology. For example, the invention of silicon chips in the U.S. was the outcome of research assisted by the Ministry of Defense and of co-operation between Fairchild Camera Corp and Stanford University (see Appendix A).

Leadership in advanced technology industries is the outcome of a combination of many factors. Technological advances and innovation need as a background an environment which will product these advances and secure the progress. These environmental factors are a good educational system for the supply of scientists, skilled labour, a stable political environment, R&D institutions, availability of financial resources, a well constructed internal environment to induce firms to undertake R&D by themselves etc. In addition, the past history of the country in the industry is also important.

Government policies taken in the past to establish the conditions necessary for survival at present (e.g. establishment of large and financially strong firms which are able to take more risks), the continuous presence of the country in the industry will secure that vital stages in the evolution of the particular technology and on which further development is based are not missed, establishment of complimentary industries gives support and favours expansion etc. Thus, a firm can only succeed in advanced technology industries if the country's environment has been properly developed to provide the necessary elements of success.

The countries which have all these characteristics are the developed countries and this is why the battle occurs among these countries which operate in this kind of industries. These countries fight for leadership for political and/or economic reasons; for instance, silicon chips was the outcome of an American effort to beat the Russians to the moon. These countries have the potentials to succeed, know how fast these industries grow and how easily leadership can be lost and this is why they support their firms through financial assistance (e.g. the U.S. Department of Defense gave financial assistance to firms to develop the silicon chip) or through other measures (e.g. the British Government came up within 24 hours with a guarantee that would allow the Export Credit Guarantee Corporation to provide credit insurance for exporting aircraft engines to Pan America, to help Rolls Royce increase its sales). Thus, this oligopolistic structure limits the number of participants in the race for leadership and makes it impossible for developing countries to get involved.

In these industries competition is very severe between firms because of the high risk involved. R&D expenditure is high, the time spent on research is long, and the most important of all the life-cycle of the technology which might be short (e.g. transistors). Patents are given by all governments to secure that firms' efforts are awarded and to alleviate the threat from other firms or other countries involved in that industry. However, the question remains of what happens when the patent licence expires or when licencing is the only way of exploiting the technological advantage, or when competitors sell licences to other producers which increases competition without the benefit of licence royalty to the firm, or when competitors progress faster (Financial Times April 20, 1979). These forces tend to increase the number of participants in the industry and spread the knowledge, and this is the main reason why firms and consequently governments do not favour diffusion of technology (M. Boylan (62)). Other reasons are the loss of leadership if technology is given away, the high profits involved, the high return expected on investment in R&D. For instance silicon chips were invented in mid 1960's, but nowadays, very few firms are producing them, with the inventor country the U.S. still being the leader. However, when leadership is lost the countries involved in the industry are, sometimes, not automatically eliminated. They usually buy in the new invention which helps them to take part in the industry and which could also enable them to capture a high market share (e.g. Switzerland and Japan buy silicon chips from the U.S. in order to stay in the watches industry and have managed to become the main suppliers of watches).

4.2.1.2 The firms in such industries

As it was argued before, the firms operating in such industries are very few (e.g. computer industry) and are competing with each other for the world leadership, therefore, countries lacking this technology should refer to the international market to acquire the output.

The type of firms found in such industries are international firms (see section 4.5) which produce mainly in the home country and export to others (e.g. SSIH in watches in Switzerland) and multinational firms (see section 4.4) which produce in different countries with technology usually supplied by the home country (e.g. electronics industry with Texas Instruments). The choice of a firm becoming international or multinational depends on the characteristics of the output (e.g. heavy or light product), the amount of technology needed in all stages of production, tariff barriers etc (see section 4.3).

These firms know that they have monopoly power and great technology exchange power, so that it is easier for them to negotiate, in favourable terms for them, with governments in home and host countries and are not affected so much by different international agreements, such as EEC. Host countries might be willing to attract the firms both for balance of payment reasons (import substitution and even exports) and employment reasons (reducing unemployment). Home countries know that if leadership is lost, profits are reduced as well as taxes, imports might increase and unemployment might rise.

Exchange of leadership among firms depends on the home country's environment and on each firm's research expenditure. Their market is the international market and not the domestic one, although leadership in the domestic market might be the initial objective. Since the world market is influenced by a lot of factors, such as, political instability and changes in governments attitudes, each firm tries to limit its risk to the shortest period of time. In addition, the threat from other competitors in these fast growing industries, the uncertainty and high risks that prevail, justify the high profits that these firms make by means of the monopoly power that these firms have.

When a firm becomes the leader, it can either exploit the invention by itself after patenting it or license other firms to use the production method and/or produce the product. The great problem arises of what happens after the patent expires. If the firm cannot keep up advancing, it can either withdraw from the market or buy the new technology from other firms or come to an agreement with firms which can supply technology (e.g. joint ventures see section 4.5.3). Different agreements also take place in order to minimise the high risk involved such as, cartel agreements or exchange of information. For example, ICL and HITACHI agreed to a two-year exchange of technical information because, as the director of ICL said, "with computer technology moving so rapidly, there are considerable benefits for both ICL and HITACHI in sharing knowledge and exchanging views on future trends in the industry". Thus, the number of firms involved are always tended to be kept to the minimum level.

Therefore, advanced technology remains in the hands of a few firms which have great exchange power and are domiciled in developed countries because of the necessary environmental factors. The firms are the leaders, are supported by governments, enjoy high profits and impose barriers to entry to new participants. Appendices A and B describe the situation that exists and the trends that are occurring in the silicon chips and digital watches industries respectively; it will be seen that these industries are very concentrated, with few firms able to follow and which are all having developed countries as their home base.

4.2.1.3. The effects on a country.

Advanced technology depends on a significant lead and only few firms have the power. This gives advantages to the participants and makes it difficult to exercise pressure on them. The effects will now be examined on ownership, production, balance of payments, profits and employment.

The firms involved are not threatened with acquisitions by other firms because they are capable of surviving, so long as they stay at the front of the race. Usually these firms increase their ownership through acquisition of different firms involved either in the same industry or in industries in which advanced technology is applied. For example, Philips has acquired Pye in the U.K. which promotes TV sets. The more firms they acquire the bigger they become and thus, ownership tends to concentrate on them. As far as the other

effects are concerned, (production, balance of payments, profits and employment), developed countries will have all the benefits provided that firms produce in the home country. Especially, for employment, it will not be highly increased, because these firms develop a highly mechanised assembly line to overcome any possible advantages that some of the competitors, producing in low cost countries, might enjoy.

If however, any firm decides to produce abroad (e.g. in developing countries) some benefits will be enjoyed by these countries. There are a few reasons why firms might decide to establish assembly lines abroad, although their technological advances will take place in developed countries. Developed countries have a high education level which increases demands on wealth and thus salaries and wages are high, there are less working hours per week, frequent breaks, stronger unions, heavy taxation etc and so, firms often decide to assemble abroad to reduce their costs. Therefore, production in developed countries might be lost, to the benefit of low cost countries, but developed countries always remain the base for technological advances. Apart from the possibility of reducing production costs the decision to go abroad is largely dependent on the technology needed for manufacturing the product. The fact that advanced technology industries use advanced technology components (usually produced in the home country) implies that the highest input in value added in developing countries will be labour.

Establishment of production lines abroad often reduces costs, the firm gains world wide competitiveness, profits will increase and more money will be available to spend on R&D, thus, securing the survival of the firm. The fact that some components will be exported to developing countries will improve the balance of payments in developed countries, repatriation of profits will favour the capital

balance of payments and tax revenues will also increase. If the firm imports the products from the developing countries, income will be lost through imports, but it is often the case that these firms will produce first in the domestic market before moving abroad (see section 4.3).

If production moves abroad the effect on employment favours developing countries. Usually, advanced technology industries incorporate more capital and less labour per unit of output, therefore, employment will not be dramatically changed wherever the firm sets its assembly lines (e.g. silicon chips). Developing countries expect to gain mainly from exports and substitution of imports (see section 4.3.2.2).

The life-cycle of advanced technology might result in developing countries getting involved in these industries with their own assembly lines, through the spreading of technology that might result. Moreover, developing countries can get higher benefits from such industries through innovation. Provided that developing countries can create a suitable external environment for firms (e.g. to favour attitudes for the development of entrepreneurial and managerial skills, good financing system, an information system which will reveal the needs of different industries, skillful labour force, efficient allocation of capital etc) where innovation is favoured, the newest technology can be bought and products, services and production methods (for which the original inventor is often ignorant) can be developed and after good marketing fill profitably a market (e.g. the example of Japan).

Even if this does not occur, domestic firms in developing countries could gain from the presence of the foreign firm which often introduces new components or products or production lines which help to develop new industries or modernise output in different industries.

In brief, ownership tends to concentrate on these firms while only if firms produce at home, will all the benefits be positive for developed countries. If production leaves the country, the result for developed countries is ambiguous and will depend on whether imports of final products and loss of employment are offset by repatriation of profits and exports of components. Developing countries benefit from employment and possibly exports which are expected to offset imports of intermediate goods and repatriation of profits. Developing countries can also gain from innovation by buying the new technology, provided that they have a favourable internal environment which will help innovation to be developed.

4.2.2. Medium technology industries

4.2.2.1. General

Detergents, steel, glass making, paper mills, toolmaking, cars, electrical appliances are examples of industries in the medium technology range. Medium technology industry can be defined as any industry usually with high investment, whose techniques of production are available fairly widely and many countries possess the necessary skills. Research and development tends to be more applied, using research knowledge from other fields and applying it to production methods rather than products. The output might have standardised

characteristics in its world wide spectrum of firms (e.g. electrical appliances, see Appendix C), which along with the economies of scale, lower costs and better quality control are the main features of medium technology industries.

Output can be classified in two main categories. Products intended for consumers and products used as intermediate goods. When most countries first develop an industry, they start from the final product because domestic market guarantees a near market for promotion. Production of intermediate goods will only start, if there is a domestic market available or if the country has a strong comparative advantage so that exports are secured. Therefore, in some medium technology industries where some developing countries operate, competition is more severe on the final product level than in intermediate goods (e.g. electrical appliances, see Appendix C).

The countries involved in this kind of industries are developed and developing countries, thus, the number of firms involved is greater than in advanced technology industries, which implies higher competition. The firms involved usually shop around for their parts supplies, partly to get the best price and partly to ensure alternative sources and avoid the dangers of suppliers running out when a single source fails to deliver as required. Since producers of intermediate goods supply different firms with the same quality products, final products will tend to become homogenous, while a small product differentiation will be the weapon for expansion (e.g. car industry). That is, competition is more serious and is more on price and quality than major product differences.

Competition has become more severe in some industries because some countries have developed their own ones under protection measures; thus, the market size has been reduced which leaves room only for efficient, low cost firms to survive. Incomes have increased, prices fell, the markets became saturated with the result of not only reducing the market size but leaving acquisitions and mergers the only way for expansion, thus the threats of acquisition and mergers for inefficient firms have increased. The fact that some areas are considered as a single market (e.g. Europe), the international agreements for duty-free areas (e.g. EEC) and the trend of international specialisation of production have increased some firms' dominance because they have pushed specialisation to such an extent, that other firms cannot compete. If an important factor of competitiveness is missing not only the developing but also the developed countries will suffer (e.g. lack of management and marketing in the Italian electrical appliances industry led to acquisitions by foreign firms).

The increased competition had resulted in attempts to minimise it and stop the inflow of more firms in the industry. In industries where developed countries first operated, barriers to entry have been raised, such as, economies of scale, experience, reputation, high capital investment etc. (e.g. car industry) which do not allow developing countries to enter. The attempts to minimise competition result in merger waves or drop outs and sometimes illegal measures are taken (e.g. dumping allegations against import of Italian electrical appliances in the U.K.).

Not only do forces try to minimise competition by mergers or barriers to entry, but also by raising technology to such standards that more firms will be forced to drop out or merge (e.g. promotion of driverless tractors or using robots in car assembly). The life cycle of medium technology is closely associated with advanced technology industries which are often the sources of supply for new technology (e.g. silicon chips on sewing machines). However, there are forces such as the increasing number of developing countries, buying-in technology, tariff barriers and protection measures, which increase the number of participants in the industry, and increase competition, but these are effective mostly for industries which are not concerned with world wide competition and domestic cost of production is less or equal to the cost found in other countries (e.g. brewing industry). That is, in some industries where a higher number of competitors exists, production is more or less oriented towards the domestic market, while in others the low number of large firms supplies the world market.

In advanced technology industries firms having mainly the know-how can become the leaders, while in medium technology industries know-how is not monopolized and availability of raw materials, lower costs, economies of scale is the ground where competition is based. The fact that some countries have advanced technology industries, does not mean that only firms in the medium

technology industries of that country will benefit from technology advances to overcome competition problems. Firms all over the world will benefit because firms in advance technology industries aim for expansion and profit. Therefore, technological advances are available to all firms, if they are willing to pay the price to acquire it.

The factors influencing expansion in such industries are not so much technology as capital, economies of scale, size of firms, size of domestic market, managerial skills, availability and price of raw materials, cheap and skilled labour etc and this combination of factors determine the increase of concentration ratio. The experience and efficiency some firms have might lead them to dominate the market or the capital intensity of an industry will eliminate poor in capital participants or force them to leave or merge with others etc.

Therefore, medium technology depends on economies of scale, lower costs, better quality control, not distinctive product differences and these form the basis for any firm to withstand the severe competition.

4.2.2.2. The firms in such industries.

There are three types of environment in which firms might

operate. Industries in which only domestic firms operate, industries with domestic and multinational firms and industries with only multinationals. The phenomenon of international firms is very seldom met here because transportation cost, tariff barriers and cheap inputs are very important for any firm's success. Which type of environment each country has depends very much on policies taken in the past by governments and also on the characteristics of the markets and products.

If a country had raised barriers in the past to protect its industries, domestic firms would have had an increased market share and considerable power at home. Whether these firms were capable of moving abroad and capturing more market depended on the firms themselves and the support by governments. For instance, Japan which in the postwar period was an industrial follower rather than an innovator, first strengthened its position at home, protecting the domestic market by means of quotas and high tariffs and then moved abroad penetrating markets in developing countries where competition was not stiff, before invading developed countries.

The facts that some industries were "green-fields" in the past, the barrier to entry of economies of scale enjoyed in single plants, the relatively cheap transport of the particular products, helped the expansion of multinational firms in some industries (see section 4.4). Multinational firms dominate if the area was previously advanced technology and they have obtained a large market share throughout the world before the technology has become lower, or there are substantial economies of scale. Unless exports are secured, countries lacking big markets would have found it difficult to penetrate the industry, thus

multinational firms expanded their market share. In industries where only multinationals operate competition is severe and sometimes agreements are formed between them to eliminate competition (e.g. Henkel and ICI in washing powder, see section 4.4.3.1) with the most efficient and powerful multinationals increasing their share.

Other medium technology industries are not dominated by multinational firms because either by nature of the product and transport costs (e.g. steel), or by nature of the market (e.g. daily newspaper printing). There are others that both multinational firms and domestic firms operate (e.g. electrical appliances); these domestic firms were established usually, under protection measures and tariff barriers taken by their governments (e.g. electrical appliances industry in Greece, see Appendix E).

In this last type of industry the main threat for domestic firms arise from the strong competitive position that multinational firms have. Multinational firms enjoying economies of scale, having production experience, capital, reputation, efficiency, R&D units, many divisions which can support losses made in any one of them, accumulate all the qualifications necessary to succeed in those highly competitive markets, and compete more efficiently than small domestic firms, thus increasing the concentration towards themselves. The only way that these firms can be stopped is for a country to raise barriers, if it is allowed to do so (e.g. not in EEC) and if it feels threatened and so prevent losing its industry to the benefit of a multinational firm's increase of sales. For survival small domestic firms should avoid clashes with multinational firms, merge with them or merge with non-multinationals to defend their market, find possible "holes" in the international or domestic market through specialisation in some products (e.g. Belling Co. in cookers in the U.K.); this specialisation in some product segments is an opportunity due to the standardised products that multinational firms manufacture.

In industries where only domestic firms operate competition is high with some firms having tendencies for monopoly power (e.g. steel). The competition is severe because unless exports are secured to countries which do not have such industries or unless firms are good at developing new products which can be exported, sales are constrained only to the domestic market and no firm is willing to reduce its market share which is so difficult to capture. In such industries reputation, advertising or even capital are successful barriers to entry for other firms because highly capital intensive operations may tend to monopoly as one plant can supply all or most of the demand.

Therefore, in medium technology industries competition is higher because there are more firms and countries involved. The result is an increase of the concentration ratio not only because of competition, but also because of the attempts by firms to eliminate it and raise barriers to entry. In particular, in industries where only domestic firms operate concentration increases towards the most efficient firms; in industries where multinational and domestic firms operate concentration tends to increase towards the multinational firms; in all-multinational-firms-industries higher market share is enjoyed by the most efficient and powerful firms. Appendix C describes the situation in the electrical appliances industry in Europe and the U.S. and illustrates the trend in a multinational and domestic firms environment of multinational firms to increase the world wide concentration.

4.2.2.3 The effects on a country.

The effects differ depending on the environment in each industry, the policies taken in each country and also between developed and developing countries.

In industries where only domestic firms operate, any country is self sufficient. Ownership exchanges hands within the country and concentrates towards the most efficient firms. Production takes place in the country with part of value added lost due to imports of different components, while quite often in developing countries production takes the form only of assembly lines. In this case the objective of the country changes to "more exports to pay for imports occurred", especially in countries which lack such industries (e.g. Japan in her early days of development). The employment benefits remain in this country and governments could co-operate with industrialists to decide policies which will not conflict each others objectives. Profits remain in the country to be taxed and distributed as dividends, while the balance of payments is favoured because there are not outflows of capital or inflows of final products. In particular, developing countries are better off having assembly lines than if all domestic demand was satisfied by imports of the final product.

In industries where only multinational firms operate the effects are different for developed and developing countries and are similar to the ones found in advanced technology industries. These firms

can produce in developed countries or in developing countries. If they produce in developed countries all benefits remain in the country. However, the competition, the need for low costs and the level of technology are the main reasons that production moves to developing countries. When a product is a complex of technologies, the first production to move is the simplest one which also saves transportation cost (e.g. assembly lines), then, production of simpler and less technology fast advancing components follows with the benefits of spreading employment and most probably, increasing exports in developing countries' favour. Tax revenue increases in developing countries but ownership and decision taking concentrate on those firms. The effect on developed countries' balance of payments is dubious depending on whether firms repatriate profits, increase components supply from the home country and import the final product (see section 4.3.2.1).

However, the effects differ in industries where both multinational and domestic firms operate, although the effects on foreign firms' home countries will be the same as before. Multinational firms have more advantages over domestic firms. They have the ability to increase ownership through acquisitions and they could easily bid for domestic competitors, unless they are stopped by governments. Multinational firms often try to eliminate competition by attempting to drive the domestic firms out of the market. This leads to defensive mergers in order to create the right conditions to compete with multinational firms. The result is an increase of the concentration of ownership, with high probability of falling into big firms' hands.

Production by multinational firms takes place in almost every country where domestic firms operate because import controls could stop

import of their products, thus, employment increases in the country of production. Since they are bigger in size, enjoy the same advantages as domestic firms, and are more efficient, they have more potentials of penetrating deeper the domestic market, while production near unexploited markets will help them to expand sales, competing with domestic firms for the neighbour country's market (e.g. electrical appliances industry in Greece, see Appendix E). The general attitude of such firms to move to the country they want to attack does not apply in the case of a country belonging in an economic community because tax-free areas do not impose any threats of restricting imports (e.g. Philips produces electrical appliances in Italy and exports in W. Europe).

If multinational firms do not produce in the market they want to attack (e.g. because of the small size) they can follow the approach of the "contract system" i.e. domestic firms produce for these firms and so, import barriers cannot constitute an obstacle. Any domestic firm might be willing to do so because either it feels it is going downwards or it wants to keep production in its full capacity or diffusion of some techniques might be succeeded through this co-operation.

Profits made by domestic and foreign firms will be taxed in the country. However, foreign firms could possibly reduce them through transfer pricing (see section 4.4.3.2) if it is in their interest to do so. The presence of foreign firms will reduce domestic firms' profits and might reinforce mergers but on the other hand it will force

domestic firms to reorganise and become more efficient.

The balance of payments effects are doubtful for the host country and depend partly on how strong domestic firms are and partly on the reasons of the foreign firm's entry. If the foreign firm came for the domestic market exports will not be succeeded, profits and capital will be repatriated and imports of intermediate goods will increase. The stronger the domestic firms are, the less share foreign firms have and the less negative effect they will have on the balance of payments.

In brief, the effects are different in each type of environment and also between developed and developing countries. In the types of environment where multinational firms operate low cost countries increase their employment through the spreading effect of multinational firms, while they might increase their exports depending on the reasons of the foreign firm's entry. Developed countries in such industries might enjoy higher profits, increased level of ownership, political influence, increased exports of intermediate goods, favourable trade relationships, but the balance of payments effects depend very much on the policies their firms follow (see section 4.3.2.1).

4.2.3. Low technology industries

4.2.3.1. General

Footwear, furniture, clothing, jobbing printing, leather, processing, brick making are examples of low technology industries.

A low technology industry has low barriers to entry, since technology can be easily obtained and production techniques are more or less based on skills (although medium or advanced technology tools might assist them). Low technology industries do not normally grow fast, while the most important elements for success are raw materials, craftsmanship, low labour cost. Output incorporates more labour per unit than capital and low mechanisation does not favour economies of scale. Therefore, there are only small firms, local competitors, but sometimes there is world competition through joint associations or due to world shortages (e.g. coffee).

This technology is known to all countries and, therefore, these industries can be found everywhere. For developing countries these industries form the basis for their industrial development and they usually have comparative advantages. Those advantages might be low labour cost, availability of raw materials and natural resources, cheap inputs etc. (e.g. footwear industry, See Appendix D). Governments in developing countries realise that in this area not only can they be self sufficient, but exports can be achieved. Exports will only take place if the product is suitable for exports (e.g. footwear or clothes but not bricks) and developed countries have not raised barriers. This is why they support their firms through incentives, subsidies, grants, import barriers etc. Therefore, it is not strange that some developing countries impose quotas on exports of their raw material to help their firms become competitive and at the same time eliminate competition abroad. For instance, Brazil and Argentina impose export quotas on leather skins to support their footwear industries.

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The response of developed countries is oriented towards "difusing" the advantages that developing countries enjoy. First of all, money is channeled in R&D for inventions which will substitute the scarce raw materials; for instance, when export quotas were imposed on leather, W. European firms developed a plastic material (P.V.C.) as a replacement of leather for manufacturing shoes and nowadays plastic shoes have approximately 50 per cent market share in EEC. Secondly, the technology of production is raised through mechanisation or automation, to overcome the low cost of production enjoyed in developing countries; for example, Clarks in the U.K. has heavily invested in new technological methods of production of shoes. Thirdly, protection measures are taken, such as, subsidies, quotas, tariff barriers, to reduce import penetration and make domestic firms competitive abroad mainly because of employment reasons; for instance, footwear and textile manufacturers in Europe urge EEC to raise import barriers.

Although this process might solve some of the developed countries' problems (e.g. scarcity of raw material) it does not solve the problem related to cost and especially labour cost; for example, in the footwear industry Taiwan produces cheaper plastic shoes than European countries. That is, the approach that developed countries follow is that of using their comparative advantages (e.g. advanced technology industries) efficiently to raise the level of technology of production methods and of products in order to eliminate competition. On the other hand there are forces against this trend, followed by developing countries, which try through their advantages (e.g. raw materials, low labour cost) to retain the low technology level of the industry by achieving lower production costs than those

of developed countries. In these efforts, at present, developing countries are ahead having all the advantages for success but if their penetration in foreign markets, especially in developed countries, increases to a great extent, retaliation actions might reduce their earnings.

4.2.3.2. The firms in such industries

There seem to be few large firms in these industries. The phenomenon of having multinational firms is not met because the yield on investment is very low, profits are not high, barriers to entry are very low, competition is high. The firms are usually small, often managed by their owners and employing a small number of operators, relying for their success upon the good quality craftsmanship.

Fashion (e.g. in footwear or textiles) plays an important role and the size of firms is also affected. Small firms find it difficult to generate fashion but it is easier for them to adapt fast to sudden fashion changes. Large firms have the advantage of producing fashion, are better equipped for marketing research but it is more difficult for them to change quickly their production lines whenever fashion changes. Some countries have formed associations which examine different factors in international markets, such as, fashion changes, new production techniques, in order to help their firms adapt quickly to the requirements of international demand.

Firms in developed countries are usually large in size to achieve economies of scale, follow all the trends discussed before (e.g. highly mechanized assembly lines), generate fashions, while economic

international agreements give them a bigger market for expansion which favours economies of scale. Firms in developing countries are usually smaller in size, employ higher labour force, rely on the artisan origin of the industry, achieve lower prices than firms in developed countries, but face difficulties in exporting their products if they do not belong in economic communities and mainly because of the rising protectionism in developed countries.

It seems, therefore, that developing countries dominate most of the low technology industries through either raw materials or low labour cost structure. Developed countries might have the capabilities to invent substitutes of raw materials (e.g. plastic shoes, plastic furniture) but are unable to compete with developing countries in cost structure; protection measures are usually taken to protect the viability of firms in developed countries mainly because of unemployment reasons (see section 6.1). An illustration of the trends found in low technology industries is given in Appendix D in which the footwear industry is examined.

4.2.3.3. The effects on a country.

Obviously developing countries have major advantages and much of this area is moving towards them. It will only be retained by developed countries if tariffs or quotas are raised, but this is a losing battle, unless they mechanise and get economies of scale or they differentiate in products by leading in design (e.g. Italian shoes) or transport cost is so high that developing countries cannot export (e.g. furniture).

Ownership remains within each country and loss of competitiveness does not lead to mergers but to high unemployment and drop outs. Thus, employment is threatened in developed countries, unless barriers are raised. Production takes place both in developing and developed countries with the tendency to be limited in the latter, and so profits tend to concentrate in developing nations.

In developing countries most inputs are supplied by the domestic market, while developed countries have to get the most important input (raw materials) from abroad. The cost structure seems to favour developing countries, which in a way secures exports. Their exports are the final products and raw materials while they import tools or other minor inputs. High cost countries import products and raw materials and their exports are very low either in final products or the capital goods necessary for production.

4.3. Foreign Investment.

In the world environment there is a new important economic and social development. Many industrial corporations establish and control branches or subsidiaries in many countries. This is part of the process found in international business, such as movement of goods, funds, labour, conflicts between multinational firms and host countries (J. Fayerweather (54), H. Martin (99)).

The transmission of capital, especially direct investment, is considered one of the most important ones because of its many

contributions. Its importance is emphasized by the fact that sales from foreign subsidiaries have outgrown exports and direct foreign investment have outgrown international private portfolio investment (H. Martyn (99)). This for a country means that in the world environment there are investors who are willing to transfer money from one country to another. Provided that they find a profitable area to invest. Those investors might be an opportunity or a threat for a country depending on the special circumstances of the investment, whether the country is a host or home country, the environments in both countries, the conditions in the particular industry etc.

In this section, we will discuss the different theories and expectations from foreign investment. The opportunities and threats arising from those international transactions will be looked at from the home and host country's point of view as to which are the expectations from such transactions, what home countries and firms which have the capital expect to gain and how host countries could benefit. We will then discuss in more details the different types of firms which are involved in those international transactions and can be found in various types of industries from advanced to low technology industries (sections 4.4 and 4.5).

The question of which are the factors in a country's environment which influence the performance of foreign firms operating in host countries, will be discussed in Chapter 5, while the problem of how conflicts between foreign firms and host countries could be overcome is discussed in Chapter 6 and Chapter 7.

4.3.1 International transactions.

International transactions of goods are examined by the international trade theory (C. Kindleberger (79), R. Caves and R. Jones (22)). The theory of comparative-advantage postulates that nations export these products which they can produce most efficiently and import those in which they are least efficient as compared with other nations (Ricardian model). The Ohlin-Heckscher approach identifies the unequal resource distribution as the main determinants of the comparative-advantage differentials. That is, countries export commodities whose production requires relatively intensive use of productive factors found locally in relative abundance. In addition, demand differentials in different countries influence the direction of trade and this influence is probably most significant in the flow of raw materials required in industrial products.

Other theories have sprung up to explain international transmission of commodities, notably among them G. Linder (91) stressing product differentiation and R. Vernon (160) focusing on product life cycles. Linder argues that more relevant than resource endowments are differences in basically very similar products, that arise in response to different national demand patterns and industrial development patterns. The Vernon hypothesis notes that the producer of a new product will have a competitive edge and will export until his product ages enough at which point new products will enter the trade.

Economists recognise that not only commodities are transmitted

but also resources (factors of production). According to the traditional international trade theory, foreign private investment was being considered as neutral agents for the transfer of technology, capital, management skills. It was analyzed in the classical manner as a flow of extra capital into a country, within which all else was held constant with the static effects evaluated according to the orthodox marginal productivity analysis.

However, the fact that some countries have resources that others lack is the basis for international transaction with firms playing the most important role. When a firm realizes that it has the potentials to attack other markets, it will try to capture them by exporting the products or by direct investment. Therefore, capital inflow will be expected when a country has comparative advantages that cannot be utilized because of different conditions in its environment or when a country lacks some vital factors of production.

In addition, there might be other reasons for capital flow. Exports of intermediate goods might increase if the firm has established a subsidiary abroad. Tariffs in host countries raise the cost of importing and tilt the decision towards direct investment. Capital flow is expected from a country where profit rate is low to where it is high. A corporation might invest abroad because no domestic use for funds offers a higher expected return or because it wants to secure raw materials for its production lines. However the firm does not consider investment in every other home industry as an alternative. Since the firm is best at managing its business in the industry/industries it is involved, it prefers to move abroad and capture more

market. In this way, its risk is less than if it had invested in a other industry, without experience (conservatism in corporate strategy, see J. Fayerweather (54)), while at the same time possible competition from abroad is eliminated.

The significance of direct investment for economic welfare is the transfer not just capital and technology but also know-how, good will, managerial skills, that is, elements less comprehended by economics, which is therefore inadequate since it focuses on a theory covering only exchanges of resources appearing in balance of payments data. However, its critics consider foreign private investment as the expansion of a few large oligopolistic enterprises, dominating most spheres of economic life and bringing in economic and social changes not all of them desirable and few of them directly controllable.

Direct investment is a distinctive form of international capital flow because it affects both the nation's stock of productive resources and competitive conditions in its markets. It is risk-bearing capital linked with transfer of managerial skills and knowledge, from one country to another and it is strongly industry-specific through two channels, namely, horizontal and vertical investment.

4.3.2 Economic expectations from foreign investment.

4.3.2.1 Home countries and firms.

Foreign investment is seldom undertaken by a company before it becomes an established substantial seller in its domestic market. There are basically, two ways of expanding abroad, namely, horizontal or vertical expansion.

When the firm sees potential profits in markets abroad, it uses exports or direct investment to capture the market. The choice between exporting and direct investment should reflect the producer's desire to serve a foreign market at the lowest cost. However, investment abroad can be used as a defensive or aggressive policy, depending on the degree of competition. Different barriers such as tariffs, quotas, legislation, could also be avoided once the firm is established in the country.

However, the main target is profits. P. Baran and P. Sweezy (11) showed that American industrialists have been earning higher profits abroad than in the U.S. Low competition in host countries, low cost, the experience the firm might have, the new markets available, give the firm the chance to increase its market and thus increase profits. Eliminating competition, capturing vital raw material supplies, location near new unexploited markets, increase of imports of intermediate products from the parent company are some reasons why any firm might be willing to move abroad.

The net effect on the home country is difficult to be found. There might be export generating effects from additional sales of finished goods, components, raw materials, capital equipment by

either the parent company or other suppliers, while the host country's market will favour imports from the home country. The negative elements might be an increase of imports, because the firm might find it cheaper to produce abroad and import the product in the home country or reductions of exports from the parent company or other competitors. If a company is interested in maximising its profits internationally, it is rational that it should place its sources of supply in the most efficient locations and programme its production in such a way as to obtain all cost reductions available from economies of scale and from minimizing transport costs, tax payments, tariffs etc. The net benefit for the country should be in the capital balance of payments. Repatriation of capital, remittances of profits, licence fees, royalties, service charges etc are expected to offset the negative effects caused by investment abroad. A very important element is the political influence that the country might exercise over the host country as well as the relationship which will develop out of the investment.

The net effect on the capital balance of payments and the political influence are the main reasons why capital exporting countries offer incentives for the encouragement of private investment in developing countries. Those incentives include investment guarantee schemes for political or non-commercial risks, fiscal provisions for investment income from developing countries, information and promotion activities, government sponsored investment corporations, co-operation between government aid schemes and private foreign investors (OECD (11)).

Evidence on whether foreign investment is an opportunity as well as its effects on the balance of payments for the home country is given in the Hufbauer-Adler Report for the U.S. (77) and the Reddaway Report for the U.K. (126). They found that exports of components increased, the output of local competing was reduced as well as exports of the final product. For the U.K. no trace of imports was found, while for the U.S. firms imported products manufactured abroad. However, lack of data and the complexity of the question makes it difficult to give a clear answer to whether investing abroad is an opportunity or threat for home countries.

4.3.2.2. Host countries.

The primary gain from the inflow of foreign capital is the improvement in the balance of payments during the year the capital was imported. It is expected that the capital will be repatriated, which along with the outflow of profits, interest, depreciation and increase of imports of intermediate goods will be negative elements in the long run. Those elements are expected by host countries to be offset by all the benefits that foreign capital brings.

The benefits to the host country could be categorised in two main parts, namely, domestic market and balance of payments. The foreign firm which engages in production in the country will cause a net increase in the value of output. This increase results from a combination and co-operation of factors, some of them imported and others supplied by the domestic market.

The labour force is usually supplied by the domestic market, hence lower unemployment. If the firm sets up an assembly line, some intermediate goods will be produced domestically. Therefore, there is an expansion and establishment of new industries (vertical expansion) which will supply the assembly line, with an immediate effect on employment. The secure environment and the market established round the subsidiary might initiate domestic industrialists to move into the industry, producing components or offering services to the foreign firm.

The subsidiary producing in the country is a carrier of the "demonstration effect", that is, it introduces consumption patterns and cultural changes from its home (J. Payerweather (54)). New markets are generated and more opportunities are open for domestic entrepreneurs to move in. Consumption increases because there are more goods available and prices are lower because of the absence of tariff barriers and transportation cost.

Due to the increased competition reductions in prices might result in industries where previously inefficient firms operated. If the subsidiary is more efficient oligopolistic markets could also be affected. Domestic firms facing the new entry have to improve their performance, change already established techniques and methods and so improve their competitiveness. As a result productivity of capital and labour increases and so there is also increase of wages and salaries. The structure of the industry will also be improved, since inefficient firms will be forced to leave the industry.

If the entry is in a new industry, the operation of the plant will require skilled labour not existing in the country. Therefore, introduction of new skills is necessary. New technology will be introduced, a new environment will be created which might attract more firms since the market will offer the necessary factors, while mobility of labour will enable diffusion of managerial skills.

The benefits for the government will be an increase of taxes received, which depend partly on the double taxation agreements. Because of the new environment created, there will be a need to change and improve existing legislation. Besides, the government could give the right incentives to the firms to develop the country's regional plans.

The balance of payments will be affected through the increase of exports, substitution of imports, which are expected to offset the outflow of capital.

In addition, the roles of foreign firms as transmitters of resources and as cross-cultural change agents inherently favour efforts toward innovation in the host country. The usefulness of these innovations will determine the feasibility of accomplishing the innovations. If, however, the internal environment does not favour innovations, conformity is a sound strategy to maximise acceptability of the firm in the host system. This acceptability is associated with the problems of conflicts with nationalism and national interests which could easily arise (E. Boardman and

H. Schollhanner (14), J. Fayerweather (54), E. Holde (80), (82)
The conflicts arise from the power (economic and political)
foreign firms have and the fact that a foreign firm is
considered as an "outsider" which seeks to penetrate a national
group with the objectives of profits and control. Such problems
are usually tackled through efforts to achieve maximum
accommodation among the interests of the parties and negotiations
based on relative economic and political power relationships
(see chapter 6) (J. Fayerweather (54)).

In general, the opportunities from foreign investment is
that it transfers a whole complex set of productive factors,
such as, capital, technical skills in the conventional economics
point of view; and also others less comprehended by economics,
like, executive capacity, management, know-how, good will and
a network of relationships giving access to supplies and
markets.

There have been studies examining whether foreign investment
is an opportunity or a threat for host countries. A. Safarian
(135) found with Canada there was little evidence to suggest
that foreign owned firms inhibit exports and stimulate excessive
imports. R. Caves (21) found that profits of Canadian manufact-
uring industries vary inversely with the foreign share. In
Australia higher subsidiary shares coincide with higher
productivity levels in competing domestic firms.

Therefore, foreign investment can be considered as an
opportunity for host countries but it could also be a threat
depending on the industry, the behaviour of the firm and the control
that host countries exercise; specific examples will be discussed

in section 4.4.3.

4.4. Multinational Firms.

4.4.1 General

A major feature of all countries, except perhaps those in the communist block, is the presence of a large number of powerful multinational companies (MNC). Therefore, this section is specially devoted to them and their behaviour.

Multinational firms have developed and expanded very much, especially after 1960. Technology advances create opportunities for marketing products outside the country of origin. There is a growing tendency towards greater product and market specialisation both within and among national industries. Developing, maintaining and strengthening market position, consideration of cost and location, safeguarding raw material supplies, the desire to avoid trade barriers, state assistance measures are motives which explain the establishment of multinational firms.

The definition of an MNC is important to enable the grouping of firms with the same characteristics. E.J. Kolde (30) in his introduction wrote "..... the multinational firm represents totality of organising and operating business establishment in an international context... To understand the multinational firm one must first understand its management, which is the

integrative force focusing on growth and efficiency; second its variegated, pluralistic environment which represents a disintegrative counter force from which the problems and possibilities peculiar to multinational business arise". The Committee of Experts on restrictive business practices of OECD (OECD (112)), defines a multinational enterprise as "an enterprise which carries out operations such as production of goods or the provision of services in more than one country through component units, which are subject to some measure of central control". N.H. Jacoby (77) offers the following definition. "An MNC owns and manages business in two or more countries. It is an agent of direct as opposed to portfolio investment in foreign countries, holding and managing the underlying physical assets rather than securities based upon those assets". R. Vernon (164) says "what I have in mind is simply a cluster of corporations of diverse nationality joined together by ties of common ownership and responsive to a common management strategy."

All these definitions point to the fact that all the different and many external factors, make it necessary for any subsidiary of an MNC to possess the power to solve problems, therefore, decentralisation is important. An important factor determining the success of MNCs is achieving the correct balance between what is centralised and what is decentralised. "Co-ordination assumes that there is a central purpose and a power to pursue this purpose, i.e. that there is centralisation" (E.J. Molde (93)). There are areas where centralisation is more

effective that decentralisation (e.g. finance vs marketing), while in others both are feasible depending on the firm (e.g. R&D).

4.4.2 The strategies of multinational firms.

A set of strategies is commonly found to be followed by any firm which gets involved in international markets. Multinational firms, usually, attack a foreign market in terms of the goods that the firm has been producing in the, usually strong, domestic market. The differences in costs from market to market and different environments make it necessary for the firm to differentiate prices. The MNC's good financial position make the firm able to bear high risks on launching a product and spend more money on advertising (E.J. Kolde (84)).

The choice of whether a firm will produce in a country or import depends on the cost of adaptation, tariffs, quotas, operating margins of competitors. The severe competition found in some industries has forced MNC's into pushing up product differentiation and specialisation, by manufacturing products needed world wide, while economies of scale has become one of their major advantages in surviving in the industry. Acquisition of domestic firms to eliminate competition, establishment in different countries to enable the firm to use transfer pricing are some strategies for increasing profits. The firms' good financial position helps them to spend more resources on R&D for either product invention and development or better production methods to eliminate costs on more applications of a particular product.

In finance MNCs are often able to raise money in markets where it is cheap and transfer it to countries where finance is scarce and dear, thus enjoying a comparative advantage over domestic firms. They can also generate profits in countries where risks and taxes paid are less through transfer pricing.

Not only does production in developing countries help MNCs to enjoy lower costs, but it has the advantage of facing labour movements which are either weak or do not exist at all. Although developed countries might cause problems in labour relations (JER (124)), they offer other advantages that the firms might not be willing to abandon (e.g. environmental factors for advancing technology, see section 4.2.1).

The implementation of these main strategies depends on situational constraints and opportunities and vary from industry to industry. However, these strategies can be found in many MNCs' behaviour, affect the conditions in each industry and cause different effects, which will now be discussed.

4.4.3 Economic analysis

In 1971 the value added of all MNCs was estimated at 500 billion dollars which corresponds to a share of world gross national products (excluding centrally planned economies) of

approximately one fifth. It is estimated that production of MNCs in different countries reached approximately 300 billion dollars in 1971, which was larger than total exports of any of the market economies. The estimated growth rate of international production in the past decade considerably exceeded that of world gross national product and that of world exports. Therefore, multinational firms are of great importance to the world. (U.N. Report (156)).

4.4.3.1. Multinational business and competition.

The effects that MNCs can cause vary from stimulating competition to anticompetitive effects and depend on many factors, such as, the environment of the country, government controls, trends in the industry world wide etc.

MNCs stimulate competition in many ways. In terms of market structure, an MNC can easily overcome market entry barriers because it has the technology necessary to enter markets with cost advantages barriers or the capital to spend on advertising for product differentiated barriers or the size for economies of scale.

By entering an oligopolistic market, concentration decreases and prices fall or at least the rate of price increases weakens. For instance, the entry of Firestone and Goodyear in the French tyre market in 1962 forced Michelin and Dunlop to reduce their prices (J. Behrman (12)). Even if an MNC enters by taking over another firm, concentration is not affected but competition might improve, if the domestic firm was inefficient and bound to disappear from the market.

Since MNCs operate in fast or relatively fast growing markets, by entering a market and bringing in new products, they stimulate growth, force the domestic firms to reorganise themselves and become more competitive and the result is improvement in market performance and efficiency for the domestic firms. They also turn monopolistic markets into oligopolistic and achieve import substitution which is one of the main reasons of attracting an MNC in a country.

However, MNCs have used different ways of increasing their income by causing anticompetitive effect through restrictive business practices. MNCs can restrict the range of products produced in particular countries if this strategy maximises their global returns therefore, the country is left with imports which can prove very costly.

Production restrictions, obligations to purchase specific raw materials, production and market allocations are all market sharing strategies. A good example is the Unilever-Henkel case. They both produce the washing powder Persil and had agreed to an illegal market sharing. Henkel had prevented imports of cheaper Persil from Britain into Germany and Unilever through a French subsidiary had obstructed imports of Henkel's Persil into France from Belgium and Luxembourg. MEC opened legal proceeding against the two firms who agreed to end the practices (The Times February 22, 1973).

MNCs also draw advantages by means of agreement with other MNCs (eg. international export cartel, OPEC (196)). For instance,

in the aluminium semi-manufacturers industry, severe competition resulting in low profit margins, forced the semi-fabricators to found a cartel and the restrictions applied were limitations of the total amount of exports from member countries, allotment of quotas to members, price regulation. After seven years the cartel no longer existed because aluminium producers outside the cartel entered the market with prices lower than the cartel tried to maintain (Danish Monopolies Central Authority (32)).

If the market is an oligopolistic one, higher prices are often charged without formal agreements. Dumping is often used as another way of restrictive business, and which is very difficult to detect. When INCs control the sources or the marketing of raw materials they could also charge higher prices to competitors. Irish importers of bananas complained that an INC charges uneconomical prices to drive them out of the market (OECD (112)).

In addition, international price differentiations are used, not based on differences in cost or competitive conditions. In Germany, during the oil crisis the multinational oil companies' filling stations used to charge lower prices than the independent filling stations, which were forced to buy at the comparatively high Rotterdam prices. As a result the market share of independent filling stations declined from 25% to 15% and many had to close down or affiliated to one of the oil groups (OECD (112)).

This kind of discriminatory treatment, tying agreements to increase customers' dependence and strengthen barriers to entry, common price increases, common purchasing of raw materials, restriction on the production of individual firm, co-operation with other members were found in the quinine cartel case (OECD (106)).

The fact that most countries try to apply legislation against restrictive business practices from INCOs, especially by observing the easily detectable concentration ratio (company's sales over total sales in the industry, F. Scherer (137)), INCOs try to acquire or merge with different firms abroad. In this way the national concentration is not affected, while the world overall concentration is increased, i.e. fewer firms enjoy higher world market share (e.g. the electrical appliances industry in Europe). The only effect on the national concentration ratio might be the after-the-merger effects. Domestic firms being threatened by the appearance of an INCO, try to reorganise themselves and it is very likely that more mergers will follow, thus increasing the national concentration ratio; this merger wave is often observed after an INCO enters a market where domestic firms operate (e.g. electrical appliances industry in Greece).

Another restrictive business practices method is cross-licencing agreements and restrictions on bulk sales. For example, ICI's and DuPont's cross-licencing agreement had the effect of limiting exports from ICI to the U.S. and DuPont to the U.K. (OECD (112)).

4.4.3.2. Transfer Pricing

Transfer pricing refers to the prices set on all goods traded within the firm. Profit switching transfer pricing is the transfer of goods at prices with very little or no relation to the price of the item in the open market. The "arms length" of transfer pricing is the price which would be obtained in an open market or in a transaction between unrelated parties (J. Stewart (144)).

In many cases there may not be a market price for the goods traded and, therefore, prices are set at the discretion of the parties involved. The reasons why a market price may not exist might be semi-manufactures and services in various stages of completion for which the company itself has any direct use or value, monopoly power, patents, concentration of ownership of scarce resources. The fact that these prices are set arbitrarily, makes the theory of pricing in competitive, oligopolistic and monopolistic markets not applicable.

The need for transfer pricing extends further than physical commodities into things like royalties, know-how, legal and management advice etc. Differences in many countries corporation tax, tariffs, limits imposed to the repatriation of profit or capital, exchange rates fluctuations, trade union pressures, the need to automate are some reasons which induce transfer pricing.

The secrecy which covers transfer pricing makes it difficult

to be detected, while technical knowledge is necessary to prove any incidents of such a behaviour. There are accusations of transfer pricing but very few have been proved. Quoting Sunday Times (April 23, 1978) "workers with SKF (Swedish owned ball bearings company) fear that their jobs are threatened by artificially high losses on inter group sales The charge of transfer pricing by SKF was first reported by Tass shop stewards at Luton The company blamed intense competition from Japanese imports in the U.K. and the rest of Europe. However, union officials obtained figures which show that bearings made in the U.K. were sold to sister companies in Europe below cost. At the same time the price paid to SKF overseas firms for imported bearings were higher than the prices expected".

The only way that such accusations can be substantially proved is through a detailed examination with qualified technicians employed. For instance, in Colombia there was an examination for transfer pricing in the pharmaceuticals, rubber, chemical and electrical industries where the largest number of foreign firms could be found. The Planning Office and Import Control Board carried out the study employing qualified technicians and chemists. It was found that rubber imports had been overpriced 44 per cent, chemical imports 25 per cent, electrical components 54 per cent, pharmaceuticals 155 per cent (DANE (31)).

The condition which might make transfer pricing unnecessary between two countries are equal tax rates, no price controls, import duties less than tax rate, stable exchange rates, no exchange

restrictions, no political pressure, no pressure on present profits, no trade union pressures, no difference in import tariffs. Since these conditions are out of reality there is an inducement to use transfer pricing. However, transfer pricing is under scrutiny in many countries and most governments set up different bodies to detect such practices. Thus, INCs find it more difficult to apply such techniques, but undoubtedly they will use it whenever they find the opportunity and if it is to their interest to do so.

4.4.4. Political interference.

In the American Banana Co. versus United Fruit Co. case, the United Fruit Co. allegedly induced Costa Rica to send troops into territory now part of Panama. The military action added land to Costa Rica and drove out American Banana Co. The "act of state" doctrine was used by United Fruit Co. in the Supreme Court in the U.S. which dismissed the case (U.S. (157)).

In the U.N. General Assembly in June 1972 President Salvadore Allende of Chile using the attempt of IIT to intervene in his country's elections denounced political interference by INCs. On 11th September 1973 he was overthrown.

The recent example of Shell not obeying sanctions imposed on Rhodesia by the British Government, illustrates the extent that INC's or big international firms can reach. All these examples

show the way which MNCs and international firms can manipulate their strengths to dominate the world without missing any opportunity. The secrecy and the way their techniques are applied makes legislation very difficult under the present system.

The political interference question is very difficult to be answered because there are so many factors involved, that are beyond anybody's abilities to detect them. The whole success of these firms in interfering lies in the thirst of some governments or government members for money, as well as the inability of people to control government's everyday actions and of governments to detect any actions that are against the country's interests and being able to stop them.

In the case of government officials' bribery there is not much that can be done, because this kind of bribery is part of the "country's environment" and multinational firms are using it as any firm would have done. When these firms intervene in a country's internal affairs changing political decisions for their benefit, the government is held responsible, but under the doctrine of freedom of trading business or under the cover up of the government or the party with which the intervention was succeeded, it is either impossible to detect or too late to attempt to stop it.

The way the political decentralized system functions is based on the assumption that any government is trustworthy and is always trying to pursue the best policies for the country. However, there are some questions very difficult to answer.

Should any country have a system of controlling Ministers or even higher officials? How can it be guaranteed that the objective of staying in office for another period of pursuing personal ambitions does not interfere with decision making? If the people who control have to be controlled by others who will control those others? How can freedom of action be succeeded if everything has to be controlled? Is the system wrong or parts of it and which ones? Do the above assumptions hold? If not what are the alternatives?

Under the present system MNCs behaviour can be controlled by the commercial and criminal law. The former is applied for anticompetitive practices, while the latter for cases like, bribery of government officials. However, the aim of most countries is how to construct an efficient commercial law to deal with restrictive business practices. The great difficulty in applying commercial law legislation on MNCs is the fact that such legislation is powerful only within national boundaries, while part of information on their activities may be outside those boundaries. Besides, there is not any law which can prevent restrictive business practices in the world wide level (e.g. when the world wide concentration decreases), unless there is an agreement among countries. The inadequacies in each country's law, plus the absence of a body able to control MNCs' restrictive practices on their world wide level makes it easy for MNCs to use their techniques for their own benefit.

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4.4.5 Legislation to the activities of multinational firms.

The growth of MNCs has been a major feature of the last few years, so countries have become more aware of the effects these firms cause and have started efforts to eliminate any restrictive effects. This need for legislation is not much yet but no doubt it is more to come.

Most countries make no distinction between restrictive business practices by MNCs and domestic firms. However, there are some countries which are discriminating against MNCs. For instance, the State of California discriminates in taxing profits of MNCs, by taxing not on the basis of local earnings but on the percentage of world wide profits based on turnover in that state. The problems faced are: what a country can do when an MNC under a foreign country's law takes actions which have anticompetitive effects on the country; who will be held responsible for these effects; how long the country's "arm" should be for applying its legislation; should any government discriminate against MNCs? Application of the legislation on restrictive business practices to the activities of MNCs is a very complicated one and has different aspects.

First of all the criterion of territoriality should be applied, which reveals the territory on which laws on restrictive business practices are applicable. An analysis of the

territorial scope of laws adopted by E.E.C. reveals that these provisions are applicable to practices in restraint of competition on the domestic market of each country or within the Common Market (OECD (199)).

Apart from defining the markets to which national law applies, it is also necessary to determine whether the restrictive effects on these markets are sufficient for the purpose of applying national laws (theory of effects) or whether it is not also necessary to require that the acts, which cause these effects, are determined or carried out in whole or in part within the area of national jurisdiction or even that the enterprise which engages in such acts or behaviour is established in this area.

Another theory complementing the theory of effects is the theory of enterprise unity or agency. It involves considering as a single economic unity enterprises belonging to the same group and subject to the same control, such as groups composed of parent company and subsidiaries, even though they have separate legal personalities. However, problems arise when a subsidiary does not participate in the cause of the restrictive effects or the subsidiary is not 100 per cent owned by the LNC.

In general, the problems that authorities face in exercising legislation on restrictive business practices are difficulties in the collection of data, the divergencies in laws of different countries, secrecy obligations upon national authorities,

prohibitions on the disclosure of state business secrets by both national authorities and private enterprises etc.

4.5. Other Types of International Business.

Apart from multinational firms, other types of firms have appeared, some of them very important. Some of these firms supply the international market by themselves, while others form a partnership or make an agreement to carry out operations in different countries. This section describes the main firms in which these advantages occur.

4.5.1 Domestically based firms with high exports.

There are firms which behave rather like the multinational firms, except that they have less freedom since they have a fixed point of production. These, so called international firms, operate in rather advanced technology industries and enjoy the same power as some multinational firms. There are industries with only international firms operating (e.g. Lockheed, Boeing and Rolls Royce in the aircraft industry) and industries with both multinational and international firms (e.g. watch industry with Timex as an INCO and BSEI (Omega and Tissot) as an international firm).

Their market is the international market and the reasons why these firms do not become INCOs might be: the technology needed

for production can only be found in the home country; the production line might be so capital intensive that the firms are not interested in low labour cost countries; the nature of the industry, in which very few firms control the whole world market due to advantages in technology.

The choice of a firm to become an IHC or international depends on the technology needed on the assembly line, the characteristics of the product, the market for which the final product is intended (e.g. airplanes versus watches), degree of competition, entry barriers (tariffs etc), exit barriers (profits etc) and so on.

Apart from international firms there are other domestically based firms which produce in one point and export to other countries. These firms often operate in medium technology industries and usually export to countries in which such industries do not exist. These firms can only compete in a country which has this industry, if they have a considerable advantage which offsets the transport cost.

4.5.2 Licence and know-how agreements.

These types of agreements form an opportunity for any country which either wants to acquire any type of technology or wants to exploit technology it already has.

The most common case of licence and know-how agreements is when a firm is prepared to pay royalties to manufacture a

product or use the process of another, and gain by the sales that follow (E. Kolde (30) A. Phatak (120)). The firm might be aiming at new products or supplementary products or replacement products if competition is very severe. By acquiring licence it protects itself against reduction of its own sales, increases its product range and the licensor gets his fees and avoids exporting his goods over a tariff barrier. However, the firm will be in a perilous situation if supply of know-how stops. The arrangement will be more secure, if the flow of know-how is two ways, that is, cross licencing (e.g. ICI and DuPont).

The reasons why a company decides to become a licensor are to obtain extra income, to retain established markets threatened by trade competition, to reach new markets not accessible by exporting, to enter markets quickly, inability to establish a plant abroad, to build good-will for other company operations etc (A. Phatak (120)). The licence can be patented good or process, trade names, production techniques, technical advice, components or other material and managerial advice.

In the early stages of licencing each partner remains completely autonomous. However, in the long run the licensor starts proposing integration of the two organisations. His motives might be expansion and growth, increase of volume of production, capture the foreign market before the licensee becomes bigger, the location of production might be the ideal for him for exporting to other countries etc. If the licensee refuses then the agreement might fail.

The royalty and stock participation agreements are designed for a gradual conversion from licencing to equity joint ventures operations. It might also be agreed by both parties not to interfere with each others territory once a licencing agreement has been reached to avoid conflicts (e.g. ICI-DuPont case, where ICI's exports were limited to the U.S. and DuPont's to the U.K.)

4.5.3 Joint ventures.

A joint venture is a business participation between two or more firms from two or more countries, which share ownership in the jointly established firm. The participation is not limited to equity capital, but extends to control through production techniques, trade marks, patents, managerial advice etc. This is an opportunity that countries have in order to support their industries and avoid competition (E. Folde (20), (22)).

The factors influencing the establishment of joint ventures might be: local legislation which requires that foreign firms must form joint ventures in certain industries, import barriers which threaten profitable markets, capital controls by home government, to gain access to natural resources when there is no other way etc.

A joint venture permits local capital to participate in profitable oligopolistic structure industries, transmits know-how

and managerial techniques more effectively than a wholly owned foreign subsidiary, eliminates the danger of an industry to be dominated by foreign firms, it minimises the transfer of dividends abroad and the repatriation of capital.

Multinational firms are also involved in joint ventures and their partners can be, either other multinational firms (e.g. Siemens, Bosch in the electrical appliances industry) or local private interests (e.g. Mobay by Monsanto and Bayer-Germany) or public agencies and governments (e.g. Volvo and the Norwegian Government). The attitude towards percentage of equity participation varies depending on the nature of the product, financial and management strength of one of the partners, the business environment, political sensitivity of the industry etc.

However, the advantages should be weighed against the disadvantages before any decision is taken. The foreign firms objectives might be different from its partners, therefore, its policies will face opposition from the local partner. Similarly, the local partner might find the foreign firm's policies opposing his own benefit. The risk assumed by such firms is usually higher than the one accepted by the local partner or the time-return attitude might be different. The local partner is subject to one taxation while the foreign firm is also subject to its home country taxation, therefore, attitudes might be different. The disposition of profit might give grounds for conflicts if intangible elements are involved.

There are some techniques used by foreign partners to overcome those difficulties. Managerial contracts with the local partner giving in his authority, majority on the board of directors, authority to the foreign firm to appoint members to the executive committee of the joint venture, equal representation with the views of the foreign partner being upheld in the case of deadlock, selling stock to the local stock market to reduce local partner's power, taking as partners financial institutions which pay little attention to day-to-day management, issuing two types of shares having no votes or multiple votes etc. All these techniques aim at a smooth running of the joint venture, but it depends on each case what the way out will be.

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5. INTERNAL ENVIRONMENT

5.1 General Environment

When the internal environment is examined, not only the general characteristics of the economy have to be identified, but the trends, as well as the major problems the country faces.

Firstly, the natural strengths and weaknesses of the country have to be discussed. Natural resources, climate, population levels, population density, geographical location in relation to different markets, major ports, centres of commerce etc, are all important distinctive features of the country. For instance, Australia has uranium, good weather, but it has the disadvantage of being away from developed markets (e.g. W. Europe, U.S.A.).

Secondly, the present situation of the country has to be examined. The strengths and weaknesses arising from the way those natural resources have been used, the different steps of industrial development, relative position in GNP, composition of GNP, income distribution, skills availability, entrepreneurial/managerial abilities, wage levels, attitude towards foreign capital, relationships among government, industrialists and trade unions, present labour movement, expectations in the country, R & D strengths, the framework of industrial strategy the country has followed etc, will describe the strengths and weaknesses the country has in general.

In particular, during the examination of the present situation in the country, special attention has to be given to the factors which influence managerial performance. These factors have implications not only for local firms and management, but also for international firms engaged in business operations in foreign countries (discussed in sections 4.3 to 4.5) and for governments involved in the economic development of a given nation. Those environmental factors have a strong bearing on managerial activity and effectiveness, which are both vital elements in any country's economic progress. The comparative management theory which deals with problems of managerial performance in various countries, has paid particular attention to those factors, which are external constraints within which firm management must operate (R. Farmer and B. Richman (53), A. Negadhi (104)).

Those constraints are classified into four broad categories: educational, sociological, political-legal and economic. The educational constraints are: literacy levels, specialised vocational and technical training, higher education, special management development programmes, educational match with requirements etc. Attitudes towards industrial managers and management, inter-organisational co-operation, class structure and individual mobility attitudes towards change, attitudes towards risk etc are sociological constraints. The political-legal constraints include relevant legal rules governing business, defense and military policy, political stability, flexibility of law and legal changes etc. The economic constraints are: central banking and monetary policy, fiscal policy, organisation of capital markets, external economies etc. (R. Farmer and B. Richman (55)).

Therefore, the examination of the past and present as well as the factors influencing managerial performance will indicate the path the country has followed, as well as the way it is approaching development at present. The main macroeconomic figures will be the basis for understanding the economy in general without, however, being the basis for decision making. The facts that these figures cannot identify the particular strengths and weaknesses and any government is expected to help its industries to expand, necessitate examination of the environment of different industries.

The examination of the environment found in different industries will provide the average characteristics of the industries (how the industry is structured, where the threats lie, how competitive the industry is) to both the government and firms and how this can be done will now be discussed.

5.2 Industry Examination.

When industries are examined, it is first of all important to decide the base from which the analysis is made. There are industries (e.g. computers, aircrafts etc) where the main interest in analysing the strengths and weaknesses is in relation to the world (competitors, materials etc). There are, however, other industries which are limited to a very small radius, sometimes not even as large as national boundaries (e.g. brick industry, jobbing printing etc). The industries which have to be included in an industrial strategy are those which i) are concerned with world wide competition

ii) have raw materials or components subject to world wide competition iii) are able to substitute imports (iv) have potentials to become international. These must be the primary forms of industrial strategy, but the others cannot be completely ignored. It depends whether the others are efficient or not. If they are not, then the foundations for good competitive behaviour of the industries and country are undermined. Therefore, there needs to be a back up of stimulations of certain parts of the economy as well.

The main questions to be answered in examining an industry are: what is the competitiveness of the industry; are the resources sufficient, inadequate or excessive and are these resources being used efficiently compared to the same industry in other countries; is the industry in an impossible position even in association with foreign firms; is the industry operating in the most profitable area of the market; is enough innovation being generated; is the industry adapting to the world trends etc. The answers to such questions will describe the strengths and weaknesses of the particular industry in the country.

The depth of the analysis needed depends on the industry itself and the situation in the country. If an industry is successful, less data is needed because the country's industrial strategy should leave it free to companies to perform successfully. Conversely, the worse the situation in any industry, the more likely it is that the government will need to intervene.

In cases where a more thorough study is needed for a particular industry (e.g. when domestic firms are less efficient

than competitors abroad and hence if exports exceed exports), the analysis should be segmented in different areas, so that it will be easier to identify the problems (OECD (197)). At this stage the close co-operation of firms is vital and firms will only co-operate if their autonomy is not threatened.

First of all the market size, structure and product range should be examined. Concentration ratio, market shares, cases of market reorganisation, barriers to entry, characteristics of successful and poor firms, product characteristics (durable, consumable etc) are some of the elements that should be looked at.

Secondly, the area of production and producers should be discussed. A profile of how the products are manufactured (cost structure, raw materials, value added etc) and of the types of manufacturers found (followers, leaders etc) will describe the strengths and weaknesses of the country in the production sector.

Marketing is another area which has to be examined so that its importance will be assessed. The analysis of product differentiation, product range, markets supplied, what makes a product competitive abroad etc., should be followed by a profile of the consumer for which the products are intended.

In finance raising funds, loans, dividends, cash flows, profits or losses, taxes etc, are elements that are important for the competitiveness of an industry. The labour sector should also be looked at for the availability of skilled

personnel, training, labour relations, productivity, strikes, union pressures etc. Another important area is the quality of management found in the industry and the pattern of ownership.

The picture will only be complete if the government policies taken for that particular industry are examined. This involves examination of import duties, export incentives, protection measures, subsidies etc.

5.3. Strengths and Weaknesses

When the situation in the country has been identified, a strengths and weaknesses analysis should follow. The main purpose of the analysis is to identify the deficiencies of the economy and the strengths from which expansion could be pursued.

The analysis should be divided in two parts. The strengths and weaknesses of the economy and those of the industries. The first part will include different elements, such as, natural resource advantage, location in the world markets, financial situation, general characteristics of the economy (e.g. wage level or inflation) etc. The second part will give details of what specifically the strengths and weaknesses of particular industries are. The deficiencies are compared with those found in competitors abroad or between poor performing and successful firms. The strength will also be identified relative to industries abroad. That is, a profile of each industry should be developed relative to some reference level, such as, the industries abroad.

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6. ALTERNATIVE STRATEGIES

Not having the time and resources to analyse individual countries, other than Greece, the purpose of this chapter is to describe in broad terms the types of strategy questions facing a country and to illustrate those general statements by examples.

6.1. General Strategies

When a country's both external and internal environment have been examined, the policy makers will know what the demands and needs in the country are. There are major differences between countries with a different degree of development which implies that different strategies will be required. Those differences are in terms of resources that have been found, the minimum standards of living demanded by the population, the skills available etc. Thus, these categories of countries (underdeveloped, developing, developed) have to be considered separately (R. Sutcliffe (1983)).

Underdeveloped countries have usually a high birth rate and so, many resources which have been created have to be used up to give those people their share. However, the drain is kept small because these people do not demand a good standard of living. There is no industrial strategy and creation of wealth is low. The strategy choice, for the objective of higher income per capita, is how to increase the number of industries in the country and how to create the minimum required economic conditions (e.g. external economies) which will help an industrial sector to be established.

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Developing countries usually have a strategy for creating wealth and there is an increase of GNP per capita either by developing a manufacturing sector or exploiting natural resources. Early in the development process the demands on resources for sharing wealth are not large and the birth rate does not have a great effect on the rate of industrialisation. However, as those countries move up the GNP per capita league, education increases and population's demands for a better standard of living increase. High birth-rate in some countries can lead to development being stopped in its tracks (hence, the policies, for example, in Singapore to discourage high birth rates). An important strategy choice during development is how to acquire technology and know-how to develop existing industries or new ones and so increase GNP per head (e.g. Greece, see Chapter 3 and 5).

Developed countries have formulated a strategy which has to create wealth and improve employment. Wealth has to increase because demands for sharing are much greater and still increasing. Labour cost is higher, while demands for employment and decision making on working life are much stronger. These conditions and the competition among developed countries has led to a situation in which these countries are competitive in only certain areas. Therefore, creation of wealth and increase in employment are the main two targets in such countries. However, there are also some developed countries in which demand for equality and work is high enough, without the strengths of generating it (e.g. U.S.). In such countries problems might arise from subsidised employment, size of the wealth sector etc. There is a danger that such countries might start falling down the

GNP per head league, with the result that the need to gain implies the policies of developing countries.

The strategy choice for each degree of development is also connected to the strategy choice each country has to make on its resources. Two types of resources can be found. Those, such as minerals and oil, which can be depleted and those, such as weather, which cannot. With resources which can be depleted the main question that needs to be decided is the time scale over which depletion should occur. Rapid depletion can generate finance for strengthening other industrial sectors over the long term or can be used up in the form of a temporary higher standard of living. Resources which cannot be depleted form the basis for achieving higher GNP (e.g. agriculture or tourism in Greece, see Chapter 8).

In addition, a country's people can be considered both as a resource and a claim on resources. As a resource it is rather inflexible in numbers except in so far as foreign labour can be imported or birth rates can be encouraged to fall (e.g. in Singapore by heavy taxation on large families). This resource has the characteristic that its quality in business terms can be raised by appropriate education/training investment. Thus, the facts that there are limitations in increasing or reducing the population and that natural resources should be used efficiently, implies that with regard to those resources a country is more like a company with a no redundancy policy and no wastage.

Moreover the choice of strategies for any country are also influenced by the different world trends in technology found in

different industries, namely, in advanced medium and low technology industries, as the hypotheses which were discussed earlier on showed (see section 4.2).

The first hypothesis showed that in advanced technology industries, industrialised countries dominate and aim to keep the leadership. These industries are usually capital intensive and support of these industries will result not only in high profits for the firms, thus securing the viability of the industry, but also in high tax revenue for the government. Thus, these countries facing the strong demands of people for a higher standard of living have to maintain a leading position in these industries. Sometimes this can be done merely by freeing them from constraints, other times by protecting them or even assisting them with new industries. Developing and underdeveloped countries are not able to participate and can only gain if foreign firms produce in their country (see section 4.2.1.3). For developing countries especially, production of such goods on their soil will enable them to develop new industries, innovate and also improve old industries and so, by using the newest technology available they can improve their products and production methods to become more competitive abroad (e.g. silicon chips in Greece, see section 9.4.1). Innovation is also an area where developing countries can enter provided that they have the right internal environment which favours it (see section 4.2.1.3).

The second hypothesis showed that in medium technology industries there are more countries (developed and developing) and

so, more firms are involved which makes competition more severe. The strategies followed by any country in such an area differ according to the environment. In some industries, developed countries have to lead because they were the first to develop and have raised barriers to new entries (see section 4.2.2.) In such countries the need for creating more wealth necessitates support of these industries, while the urgent need for efficiency and lower costs imply automation in high wage countries or production in low cost countries (hence, employment is reduced and wealth is shared by few, which makes the problem in developed countries more acute). Underdeveloped and developing countries can capitalize on that and give incentives for attracting foreign firms, so that output in manufacturing will increase as well as employment. In other industries where developed countries operate as well as some developing countries, the observed trend is concentration towards large firms (usually based in developed countries), thus, developing countries can either raise protection barriers or give assistance to make their industry competitive world wide or attract those large firms (electrical appliances in Greece, see section 9.4.3). In other industries, where only domestic firms operate, if need be, countries can use different types of support in order to keep the industry safe from imports. Therefore, in this type of technology, developed countries have to decide which industries to subsidise to keep their labour force to satisfy the strong demands for employment and in which ones to urge automation for accumulating more wealth. Underdeveloped or

developing countries could either support their industries to become competitive worldwide or raise protection barriers or attract foreign firms, the choice depending on the environment in each particular industry.

In low technology industries (third hypothesis) developed countries cannot compete because of lack of raw materials, high labour costs etc. With unemployment in the world increasing, loss of these industries by developed countries could cause political problems as well as high unemployment costs. Protection barriers, subsidies, research for alternative raw materials and automation are some of the ways of avoiding dominance by developing countries. Underdeveloped and developing countries should try to keep their leading position in these industries, while international bilateral agreements might help them to export.

Some countries may not be able to decide which industries to support until they have decided whether or not to join some international treaty organisations such as the EEC (see section 4.1). Several questions have to be answered for example

- i) such agreements mean bigger markets but also stronger competition will this mean the closing of an industry or its expansion in the country ?
- ii) if one industry is forced to close can another expand to take its place ?
- iii) if automation accelerates how will the resulting unemployment be handled ?
- iv) will the country be able to assist its industries to the optimum level or will it not be allowed to do so because of the agreement ?
- v) will the country have less problems if it does not sign the agreement ?

Another strategy choice which has to be made by all countries is on the international transmission of resources. Governments can intervene in the flow of resources in their pursuit of various national objectives, i.e. efforts to foster economic development, moves to protect national groups, measures to deal with the balance of payments deficits (J. Fayerweather (54)). The main emphases are placed upon encouraging the inflow of resources which contribute to development, especially capital, skills, and essential natural resources, utilising the receipts from outflows on uses contributing to industrial development and decreasing dependence upon foreign resources . Governments can either alter the effective relationships of international trade by any measure (e.g. by altering the exchange rates) which changes the price of a resource relative to the price of another resource or by direct intervention in the flow of resources through quotas, emigration restrictions etc. With regard to foreign direct investment, governments play an active role because of the economic and control terms involved. The concept of government economy initiative and control is firmly established in all countries, especially in developing and underdeveloped countries, which often enter actively into the process of establishing both the economic and control terms (e.g. price controls, taxes, foreign exchange controls etc). The greater problems in foreign firms operating in host countries arise from conflicts concerning nationalism and national interests in which politics play a great role. A careful approach should always be followed, because too many controls on firms prevent them from making their full potential contribution,

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while host countries cannot attract investment unless they have the reputation of giving them reasonable protection (for a more detailed discussion see 7.2.3).

Another strategic area for all countries is the factors in their internal environment which affect managerial performance (R. Farmer and B. Richman (53), see section 5.1). The examination of different industries in the country will give the government enough experience to take decisions for improving her internal environment which might impose constraints to growth. Governments can alter the conditions on the education level (e.g. specialised vocational training, special management development programmes etc), on politics and law (e.g. business law, bureaucracy, confusion in industry - government dealings etc), on the economies (e.g. fiscal policies, banking system, capital markets etc) on sociological aspects (e.g. extent and degree to which firms, government, universities and other agencies co-operate etc).

Thus, economic planning, objectives and measures among countries vary according to the degree of development each country has reached. However, all countries face similar questions for their industries. These include in which sectors can we remain in the lead, which industries do we have to subsidise or protect in the long run, how can we attract foreign firms to increase production facilities on our soil etc.

6.2 Strategies on the Industry Level.

Questions of the sectors in which a country can remain in the lead, can only be answered after individual industries have been

examined. Governments have to follow an industry by industry strategy, which implies analysis of the most important industries in the country and examination of the environment in each one of them.

The strategies which should be followed for every particular industry depend on the situation in each one of them and could range from invitation of foreign firms to protection measures and could also be of different types. For instance, high market share is more important for infrequent purchased products than for frequently purchased ones and also for business in which buyers are fragmented rather than concentrated (PIMS Report (113)); therefore, for such industries efforts should be directed by Government and firms towards increasing market share (e.g. electrical appliances industry in Greece, see section 9.4.5). The fact that the effects of following a particular strategy are many, and complicated, makes it even more important that both government and industry understand and follow that strategy effectively. For example, high market share increases return on investment, reduces the purchases to sales ratio and marketing costs as a percentage of sales decline (PIMS Report (122) (123)).

The range of the same strategy could also vary according to the industry. For instance, market share goals could range from increasing market share if it is below the required minimum level to maintaining the present level or even increasing short term earnings by permitting market share to fall. Other examples of a strategy

choice are improving the quality of products in an industry which can partially offset low market share or creation of larger firms which have higher return on investment or favouring small firms which do slightly better than large ones in business with low market share. (PIMS Report (122), (123)).

Survival in some industries means automation , which implies increased competition and that leads to more government support and further automation, without the survival of the industry being guaranteed. Thus, governments have to make an early vital decision. If it is decided to support a firm or industry it has to be done so until the very end, when the firm or industry will not feel threatened (e.g. when a cartel is formed). The importance of this early decision is underlined by the fact that until the industry is safe (e.g. high market share), returns will be very low because of severe competition (PIMS Report (122), (123)).

Strategic decisions have to be taken not only for existing industries but also for new ones. Some of the knowledge about business areas is visible in the world (e.g. statistics, journals) and entrepreneurs or firms would have studied it. Some areas might be found attractive, while others will be ignored. Those ignored areas have to be examined which often can only be exploited with the co-operation of foreign firms. The way such industries can develop is through incentives to help entrepreneurial skills to develop or attraction of foreign firms or even co-operation with other nations (e.g. different European countries got involved in the

airplane manufacturing industry).

The tools governments can use to implement the policies they will decide are, financial and fiscal incentives i.e. subsidies, tariffs, stimulus where gaps are, provision of education, etc, which have to be used selectively. The strategies for individual industries should aim at solving the problems the industries face and also tackle the main problems of the country. If, for instance, unemployment is the main problem, governments should find in which industries they have an advantage and urge for efficiency (e.g. automation) and at the same time assist other industries to keep or even increase their labour force; this is so in the short run, especially for developed countries because such countries have a mixture of industries which will help governments to balance the economy. It is important when policy makers decide on strategies in particular industries, to be fully aware of what the country's main objectives are as well as what its targets and means of implementing those targets in the country's economic plan are, so that all actions will be co-ordinated in the effort of achieving higher income per capita.

7. ORGANISATION OF THE PLANNING OF INDUSTRIAL STRATEGY

7.1. General Attitudes

The planning style, which any country uses for its economic and foreign policies, depends on the political style and climate of the country; so also must the organisation and procedures for planning a country's industrial strategy relate to the political element. (R. Farmer and B. Richman (53)).

In capitalist countries most government planning takes the form of creating the right environment. In communist countries planning and control is very centralised and so the individual company's plans are incorporated in the country's planning.

Both extremes have disadvantages. The success of limiting government influence to environment creation depends on the quality of directors and managers in the business environment, on new opportunities being sufficiently attractive for establishing new businesses and also on shareholders causing change in companies operating at low levels of efficiency. The communist approach to planning and control involves large administrative overheads, it lacks tactical response to sudden market changes and depends very much on an in depth knowledge of the business from the people at the top.

Therefore, in most environments the organisation of planning requires a balance to be made between the political style and the

needs of efficiency (the changes occurring in China are a reflection of this need).

The state of development will also have its effects on the organisation. Developed countries, which usually have high exports, have also the potential for success (big firms, a great number of industries, economies of scale, good management etc) and thus government intervention can be limited mainly to income distribution, energy aspects, restrictive business practices etc. Developing countries are less competitive and government influence should be extended more to short-term financing to generate new business and industries, help different industries/firms to survive the competition from other countries, regulate the international transmission of resources etc.

A difficult problem that all countries face is how to bridge the gap between the State and firms. The two extremes, State control over firms and completely autonomous firms, do not offer an efficient solution and therefore, the areas in which government intervention is necessary should be examined. (R. Thomas (151) for the example of the U.K.)

First of all, business and governments are two different areas in which any interaction should be very carefully approached. Business should have a clear purpose and be managed very effectively. Government may own a business and even set its purpose,

but should never manage it. Politicians are usually not good managers and most managers bad at politics. Delegation to managers is important for most businesses, except small ones. Thus, the government should have the role to create the environment, giving stimulus and help when necessary, but never be in a position to manage firms even nationalised firms.

The intervention by the government in firms and industries should be specified in three main areas i) regulating the internal operation and influence decision making in enterprises, through legislation on partnerships and companies, on enabling shareholders to have the necessary information in exercising control on the firms, on restrictive business practices etc ii) decision making at industry level, such as product standards, health hazards, consumer protection safeguards, economic planning at national level iii) regulating relationships between firms, such as mergers, takeovers, competition, monopoly. (R. Farmer and B. Richman (53); R. Thomas (151) for the example of the U.K.

The role of the State should be to influence business without forcing compulsory actions by firms, create the environment for business to operate efficiently, adjust the country's stance to help its business to survive. Greater interference in business can only be appropriate when the market forces cannot find successful solutions or when industry

is in danger. In this case a strengths and weaknesses analysis will help finding out the alternative strategies, which should include a wide range of options (e.g. mergers, diversification, foreign firms). This kind of examination might need the co-operation of firms, which should always be left autonomous to decide which policy to follow. Discussions between government and firms will give both the benefit of understanding what each other's objectives are and looking at the problems in the same way (see section 3.2 for the need of government and firms to "talk the same language"; see also R. Thomas (151) and Financial Times February 8, 1979 for the example of NEDC in the U.K.)

In general the political climate and state of development will give answers to the main questions of when the government should intervene, the degree of government intervention, public ownership etc. The State knowing the external and internal environment in the country as well as in its most important industries, it will be in a position to gather all the information necessary for its economic planning. The general guidelines and targets of how the economy will develop will be set up, the fiscal and monetary policy will be decided to meet the objectives set by the government (e.g. reduce balance of payments deficit), the capital markets and banking system will be monitored to contribute their best, the internal environment in the country affecting business will be improved etc. With regard to policy making on the industry level, the State knowing the environment in different industries will be more specific in its policies, while the priorities set out in the economic plan will indicate which industries to support first, which

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industries should be given incentives to automate or keep their labour force etc.

7.2. Specific Areas

Since the basis for development in many countries is mainly industry, governments should be more aware of the conditions that prevail in this area. Identification of the strengths and weaknesses in each industry is vital for policy formulation and it is also important that the government is also kept informed of how its industries progress because of the continuous evolution of the business environment. Thus, a system has to be developed which will run smoothly, strengthen the understanding between Governments and firms and be of help to both the Government, as a continuous supply of information necessary for its economic planning and decision making on the country and industry level, and to firms, as a source of information for their own planning and an influence on government policies. There are some areas which need attention whatever organisation is best for a country and these will now be discussed.

An important element is the identification of the area under examination, that is, the definition of the sector under question. This definition has to be clear and have the property of identifying different participants which might be widely spread. An industrial sector is an area which includes different firms which have common characteristics. These characteristics might refer to the product, production

techniques or even consumers. The definition of each sector depends on the level of development of the country and the special circumstances that prevail in it. For example, a country may define the sector electronics, as an area which includes firms producing digital watches, Hi-Fi equipment, TV sets etc and the common characteristics is the technology of the product (electronic circuits, silicon chips). Depending on the case, the definition should include different characteristics, such as, definition of the product, links between producers and final consumers etc. It is very important for these definitions to be kept under review because the business environment is under a continuous evolution and the borders of the sector will change.

7.2.1 "Associations"

The objective of strong co-operation and better understanding between Governments and firms to bridge the existing gap, indicates that there has to be a forum where industrialists/firms, governments and trade unions concerned will meet to work together to identify the problems and improve the performance of each sector. These "associations" will gather and group together different firms associated with the particular sector, so that a dialogue could be facilitated (see R. Thomas (151), Financial Times November 17, 1978, February 5, 1979, February 8, 1979, for the example of working parties in the U.K).

The purpose and effectiveness of the "associations" should be assessed in two parts. First its impact as a vehicle of upward communication from industry to government with both growing closer together; second its downward impact from the associations into individual industries and companies on their strategies (e.g. rationalising production arrangements or removing any constraints to growth).

The upward part is aimed at changing the traditional "arm's length" relationship between industry and government, so that policies of all types and sizes adopted by Ministers fit in as much as possible with what is good for industry. Government policies would be co-ordinated, areas of industry needing special aid schemes would be identified and there would be a growing mutual understanding. Such meetings will also help to make government departments realize the government commitment to industry. The industrial aid scheme would be designed as a result of information about industry's needs emerging from the "associations" (working parties in the U.K., Financial Times January 15, 1979).

Government policies will be affected on matters, such as, tariffs, monopoly controls, levels of competition, export incentives, aid schemes for firms trying to set up export business, stability in tax system and investment incentives etc. The "association" could provide an opposition for foreign intruders, could be influential enough to contribute to the modernisation of the industry and the threats from foreign firms could be seen as a catalyst for change.

The "associations" should try to identify medium, long term objectives for their particular sectors as well as the quality of resources, capacity and so on. It will be in the role of the associations to recognise and bring together to the attention of the firms and government any serious general deficiencies in management (e.g. banks not having sufficient marketing skills with the result that foreign banks start penetrating very effectively etc). Government action can then follow to set up dialogue, bring in consultants, short term financing etc.

The "associations" will also discuss any new opportunities in the economy that could be exploited. Finding out what the necessary elements for success are, taking into account the relevant conditions abroad and examining what the country offers, it will be easier to discuss whether the country itself could develop the industry or whether foreign firms have to be brought in. Such initiatives should be generated from both the government and firms so that each party has a more broadly based understanding of the opportunities around.

In the associations the government, trade unions and the firms participating in that sector should take part; nationalised firms and foreign firms should not be excluded. The associations will only get co-operation from firms if they are seen to be a forum for coming together to discuss broader issues so that each can come away with a better understanding of the whole and how each party sees the problem.

The main obstacle to co-operation in these associations will be confidentiality. Companies are autonomous and while they may be prepared in these "associations" to discuss common problems, especially on competition abroad, understandably they will not be prepared to blur competition at home for the sake of any industrial strategy.

Unions primarily interested in protecting jobs and increasing home pay, might object to whatever is decided. However, this does not imply that unions would not have objected, even if they were not taking part in the "associations". The difference is that by being in the associations they will have a more broadly based understanding of what is taking place and it might be easier to reach an agreement with them.

The objective of the "associations" is not only to raise new ideas but also to spread the ideas that came up in the discussions to the individual companies of the sector and establish a "bridge" between government, firms and trade unions on industrial relation issues. Therefore, much of the successful operation of the "associations" depends on their chairmen who will have the task to become "ambassadors" to explain the ideas and also become the mediators on industrial relation problems (e.g. NEDC in the U.K.)

Government interference in the "associations" should be extended to financing the operation, without using them as a first step towards a compulsory planning agreement system. On the other

hand, the "associations" will not have any power to force government or business into action. "Associations" can only influence government and business by firstly giving each a better view of the whole problem, secondly, by getting nearer to a common view and thirdly by bringing clearly to the attention of each the area in which they must make policy discussions if progress is to be achieved. The "associations" will almost certainly be used as pressure groups or lobbies. If government is powerful in them they will press government policies, while if industry is powerful then the associations will press government for all it thinks it needs to succeed.

7.2.2 State participation

As it was discussed before, the state, in a decentralised economy, should not limit its involvement in industry in laying down the legal and regulatory framework within which business is expected to operate. The State could be an active participant itself through such bodies as the nationalised firms or industries and by the provision of a wide range of fiscal and financial incentives which will be derived from discussions in the "associations" and be given selectively through the business management approach.

In particular, the level of ownership in some countries has increased, which has resulted in the formation of a different set of firms, the nationalised firms. These firms face many changes of

targets or objectives, which are usually set by Ministers; thus, they are very sensitive politically. The problems found in this area are mainly the wide scope nationalisation offers to ambitious Ministers to intervene and also, boards are told to act commercially without being structured commercially. Therefore, the State should set the purpose and objectives, appoint quality managers, delegate freedom to manage and hold management responsible for attaining the targets (see section 7.1). Nationalised firms should behave like private firms and be treated like private firms by taking part in the "associations" and enjoy the same government benefits as any other firm.

With regard to financial and fiscal incentives, such as regional development grants, offers a selected assistance to individual companies etc, which will be used to implement the selected strategies, the state should use the business management approach to apply these measures, receiving the information from the "associations" and taking into account the state of development of the country, the overall targets of the economy and most important, the different environment(s) of the industry/industries for which these measures are intended. It is vital to consider carefully the application of those measures. For instance, preserving jobs in one company might mean displacing jobs in another or encouraging resistance to industrial change and delaying nationalisation; in addition, in the case of financial assistance to firms, when losses are covered by public funds, it costs taxpayers money, it reduces real income, it reduces the

competitiveness of the firms that are not assisted and therefore, reduces their ability to employ labour. When the "ambulance service" is to be provided, it is essential to make a firm decision whether to turn the enterprise around or let it die gracefully (e.g. the task of the National Enterprise Board in the U.K.) Therefore, governments have to judge and select the appropriate ways of achieving the desired objectives and be always in a position to successfully pick owners without running the risk of attracting second-best projects.

7.2.3 Foreign firms

In every country there are foreign firms which operate in one or more industries. These firms form a special category affecting economic and political decisions. The focus on foreign capital should interest all countries because these firms might cause both negative and positive effects (see sections 4.3 and 4.4).

The main problems between foreign firms and host countries arise from conflicts with nationalism and national interests in which politics is important because of its use of those nationalistic feelings. Host nations generally feel that their national interests are best served if foreign firms have a minimum control over the flow of goods within their economies. Some governments, especially less developed countries, enter actively into the process of establishing both the economic and control terms, which cover the full range of business arrangements which affect the profitability

of the transfer of resources, the amount of income which can be repatriated etc.

However, host countries run the risk of not attracting investment, if they have the reputation for not giving foreign firms reasonable protection. Besides, too many controls imposed on firms might prevent them from making their full potential contribution. If multinational firms do not have control over their business, they will not perform the role of transmitting skills and innovations which the country might desperately need.

There are basically two approaches for minimising the conflicts between host countries and firms, namely, the accommodation and power-balance approach (J. Fayerweather (54)). The accommodation approach suggests that there should be efforts to achieve maximum accommodation among the interests of the foreign firms and host nation. This involves efforts to reduce the extent of the misconceptions of interest on the part of the management of the foreign firm, home country government officials and host country nationals. An important component of the process is the effort to minimise nationalistic emotional reactions in the interests of greater national discussion of issues by measures ranging from avoidance of heated public debate to broadening and effectively utilising the "third-culture" groups which are most capable of objective action. The "third-culture" group is a group of local nationals and foreigners who provide the bridge between the host country and activities originating in foreign culture ,

including foreign business, foreign aid programmes etc.

The power-balance approach suggests that the resolution of the hard core of valid conflict must inevitably come through negotiations based on relative economic and political power relationships. Foreign firms have the power of the combination of financial resources, technical skills, managerial competence and production capacity at their command, selectivity for choosing a country, the political strength of their home country etc. Host country's power arises from the value of the opportunity which it offers to the foreign firm and the controls it commands, such as, foreign exchange, imports, prices etc. It is important to note that the power available to both parties varies greatly from situation to situation and over the course of the time, hence, a flexible approach by both parties is always required.

Therefore, governments should focus their attention on the entry conditions and the control over foreign firms. There are some important steps for each government to follow when deciding an entry, such as investigations of the opportunities offered, information about the importance of the firm in the country or abroad, co-operation with the "associations" for relevant information on the industry/industries etc. When the reasons which attract the firm are known, the evolution of markets abroad, the movement of the particular firm in the country and abroad and the effect of the proposed incoming investment on the economy, governments will be able to derive the best decisions and so gain

more from the negotiations concerning the entry agreements and the country's commitments. On the question of control over foreign firms, governments should safeguard the country from restrictive business practices and make sure that the entry agreements are met.

In this way the government will be able to assess the political commitments easier, Ministers will have a better basis for deciding whether to reject or approve entry or even impose penalties and on what terms. It is very important that the general provisions regulating the incentives, conditions and control over foreign firms is adjusted to the country's state of development, requirements and political climate. The aim should not be to place foreign firms in a separate category but to isolate the special problems they create. They should be treated similar to domestic firms, take part in the "associations" and enjoy all incentives and aid given by the State to industry, unless it is differently stated in the entry agreement.

7.2.4 Restrictive business practices.

The cases where firms try to restrict competition are growing in most countries. Any government should focus on these problems which arise from cases, such as, merger, monopoly power, transfer pricing etc. The view and actions that the country will take depend on its internal environment and this can range from a case by case study to setting rules.

The focus should cover all types of firms, domestic, nationalised, foreign and particular attention should be paid on

multinational firms, since they have more flexibility in deciding uncompetitive actions. The "associations" dialogues can help governments in this area. Information can be given about the industry, the importance of different firms, the importance and consequences of different policies etc.

PART III

THE BUSINESS MANAGEMENT APPROACH TO INDUSTRIAL
STRATEGY- THE CASE OF GREECE.

8. DESCRIPTION OF THE GREEK ECONOMY

In part III the application of the business management approach on Greece is discussed. Before we can consider the use of a business management approach to the management of the Greek economy, there is a need to get a sense of how the economy has reached its present stage and the way it is approaching future development. Chapter 8 serves this purpose.

The lack of information and studies on different areas made it difficult for a complete and accurate picture of the Greek economy to be presented. In cases where such information were not available interviews, articles and memoranda, especially from the Federation of Greek Industrialists and Shipowners Association, were used to cover the existing gaps; for instance, the Federation of Greek Industrialists has made a study on the question of EEC entry and the Greek industry, but since access to this study is not allowed, memoranda and articles provided the sources of information presented in section 8.6. In addition, section 8.3. (the present industrial strategy in Greece) was totally based on interviews because of lack of sources, such as State Acts or articles.* This lack of information also affected the description of the Greek electrical appliances industry in Appendix E; for instance, sales are not published on firms' annual balance sheets and so, it was impossible to find data such as profitability, cost structure etc. The information presented in Appendix E were

* I am grateful to Mr. Kanetakis (Ministry of Co-ordination) for his kind co-operation and assistance concerning this particular section.

gathered totally from interviewing all the firms in the industry, since there are no articles available concerning this industry.

8.1 Evolution of the Greek Economy

Greece is located at the South East part of Europe, the nearest European country to Middle East countries. Most of the country is surrounded by sea and has a quite high number of islands. She enjoys good climate conditions, which favour tourism and agricultural products. Greece is poor in raw materials and the little quantity of oil found lately, is expected to relieve the negative balance of payments, without though covering all Greece's needs in oil. The population is 9 million, approximately 60 per cent living in 4 big cities/towns (40 per cent lives in Athens). These cities/towns from Thessaloniki to Patras form the back-bone of Greece's economic activities.

After World War II (1944) and Civil War (1949), Greece pleaded to the U.S. for loans to develop her economy. These loans were made under the Marshall Plann and were channelled into farm equipment and land reclamation projects, which increased the volume of production in agriculture. No efforts were made to develop domestic production of durable goods to substitute imports. When the aid was reduced and the drachma was devalued (1953), imports of durable goods increased. Between 1950 and 1960 GDP increased 5.3. per cent per annum, with the annual rate of increase in agriculture being 3.9 per cent and that of the industrial sector 9.3. per cent.

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After World War II (1944) and Civil War (1949), Greece pleaded to the U.S. for loans to develop her economy. These loans were made under the Marshall Plan and were channelled into farm equipment and land reclamation projects, which increased the volume of production in agriculture. No efforts were made to develop domestic production of durable goods to substitute imports. When the aid was reduced and the drachma was devalued (1953), imports of durable goods increased. Between 1950 and 1960 GDP increased 5.5. per cent per annum, with the annual rate of increase in agriculture being 3.9 per cent and that of the industrial sector 9.5. per cent.

The 1960 - 64 Economic Plan tried to alter the economic situation. This was urgent and necessary forced by the fact that in 1961 the agreement making Greece an associate member of EEC was signed. Industrialisation was the main target and the Plan stated that "it is private enterprises that must have the responsibility for the development and transformation of industry into a sector which is internationally competitive". However, specific methods to be utilised or measures to be taken for solving Greece's problems were absent. The national product rose by 6.7 per cent per annum but investment in industry, reached half the planned rate. The main attention paid by the government was on housing, roads and transport, agriculture and then mining and industry. All these pointed to a decided lag in the manufacturing section and the need for a strong catching-up process. The existence of war conditions, inflation and lack of confidence in the currency, made the Greek entrepreneurs disinvest in fixed plants and equipment and seeking to export their capital through the black market or convert them into gold or consumer goods. Industry was protected and this caused Greece's present high cost, non-competitive economy. Few large firms and numerous small marginal firms were established and the high fairly rigid price structure for manufactured products as well as imperfect market knowledge and government controls, gave the larger firms little incentive to cut costs.

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The period 1964 - 1967 was very insecure because of political instability and ended with a dictatorship which was imposed on 21st April, 1967 until the summer 1974. When the dictatorship was established a new 5 year Plan (1968 - 1972) was put into action. With regard to the industrial sector the policy was still the same as in the last Plan. The State's role would be on the one hand to improve the institutional framework and create an atmosphere conducive to investment by domestic or foreign firms and on the other, to introduce incentives including direct subsidies to improve the existing industrial infrastructure. However, for such targets political stability is necessary which the dictatorship could not offer. The dictatorship increased insecurity, imposed a non-strike controlled economy, increased the bills which Greece has to pay now, and, it generally deteriorated existed problems rather than solved them.

The period 1963 - 1973 was the period of the "Greek economic miracle" with an average annual increase of GNP of 7.6 per cent and it was unfortunate that the dictatorship was imposed when Greece was beginning to improve its economic situation. This strong performance at the aggregate level tended, however, to mask many under-lying weaknesses in the Greek economy. Those problems that were inherited from the past for the present situation were i) structural changes in industry did not follow the country's growth ii) investment in industry declined and foreign investment concentrated towards large scale projects not integrating with Greece's structure (see section 8.6) iii) industry is dominated by small production units employing fewer than 10 persons iv) immigration increased and there was a sharp drop of

farmers (v) employment in manufacturing showed a low increase and there was a growth of salaries and wages of non-agricultural workers. vi) indirect taxes exceed direct taxes which makes the distribution of income more unequatable. vii) there is a remarkable absence of any overall industrial policy with specific objectives and approaches.

8.2. The Present Situation

On top of these problems more appeared after 1973. The international business recession, the increased protectionism in Europe, the intense political importance given to Greece's entry to EEC, the massive defense expenditure (45 per cent of the budget) to handle the confrontation with Turkey, the bills dictatorship left, increased pressure from the labour force, deteriorated the situation and increased Greece's problems.

Growth is well below the rates of late 1960s; private manufacturing investment is lower in volume than in 1973; consumer prices are rising at 13-14 per cent and the drachma has been falling at an annual rate of around 14 per cent against the currency of Greece's main trading partners. In 1977 there was a decline in agricultural output and a mere 1.6 per cent growth of manufacturing output. There has also been a rapid increase of unit labour costs (about 20 per cent increase per year).

Farming is the country's biggest industry and presents many problems. Farm holdings are small and consist of unconnected plots, co-operatives are inefficient, marketing facilities are absent,

marketing abroad is almost non existent, modern technology cannot be applied because of the fragmented land etc. There is a natural constraint in Greece's expansion of agriculture because Greece is a mountainous country, therefore, growth of output can only be attained if the present problems are tackled and efficiency increases.

Manufacturing (20 per cent of GNP) has expanded at a faster rate than the economy as a whole and the contribution of industrial exports to total exports has risen from less than 6 per cent in the late 1950s to more than 50 per cent in 1977. However, there are many indications that the expansion of manufacturing industry has been less than satisfactory and has lagged behind that of other southern European Countries such as Spain, Portugal and Yugoslavia. The OECD economic survey for Greece noted that investment in manufacturing in Greece amounted on average over the period 1960 - 76 to 3 per cent of GDP against 4.5 per cent for OECD countries (manufacturing accounts for 27.3 per cent of total investment). The corresponding percentages were 6 per cent for Spain and 5.5 per cent for Portugal. The OECD survey also remarked that the growing contribution of manufactured products to total exports has come mainly from exports of processed raw materials (e.g. cement and non ferrous metals) and light industry (e.g. footwear, textiles). Technologically more advanced products have performed poorly by comparison with those of other southern European countries. The weakness of a depressed capital spending in manufacturing is due to uncertainties resulting from the current high rate of inflation, the rising labour costs, and to the steady erosion of

corporate profit margins. It is also due to the importance of small production units, which generally suffer discrimination when they apply for bank finance or export licences and the preponderance of light manufacturers, mainly textiles and other products, that face intensified foreign competition.

Although industrial expansion has been disappointing, the services sector has shown considerable dynamism. So has the construction industry; several technical companies have been awarded major projects in Arab and other developing countries. The services and construction sectors accounted in 1977 for almost 62 per cent of GDP against 14 per cent for agriculture.

Housing has been one of the most dynamic sectors of the Greek economy over the past 25 years. It has on average accounted more than 40 per cent of fixed capital formation and has absorbed almost the highest percentage of real resources of all OECD countries. Much of Greek industry has been developed to cater for the direct and indirect needs of the housing sector and has relied extensively on a high level of house building activity for its prosperity. The causes of such preference in construction of new dwellings are mainly the very high duty imposed on transfers of existing property, compared with the much lower duty for permits for new buildings, the massive concentration of population in urban centres (close on 40 per cent of the Greek population lives in the Greater Athens area) and the particular importance of apartment blocks stems from the scarcity of land. Despite the severe restrictions in household financing (banks are prohibited to finance housebuilding) as a non-production activity, housebuilding

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companies, have managed to run their business by means of the so-called "counterpart" system (where the builder effectively "swaps" a number of flats for the value of the site) and of arrangements by which other prospective buyers make a series of advance payments as construction proceeds.

Recently, there seem to be problems even in the traditional shipping industry. The Greek fleet of merchant marine, fourth size in the world behind Liberia, Japan and the U.K., consists of old ships. Britain, Japan and Norway have 78 per cent of their tonnage aged under 10 years and 3 per cent aged 20 years or more. The Greek figures are 43 and 18 per cent respectively. Ships under Greek flag accounted for 20 per cent of world losses in ships in 1975 and 1976, but Greek owned ships can claim for 50 per cent of those world losses. The decision by the London Marine insurance market to increase the scale of additional insurance premium for cargo carried in overaged ships, caused a serious problem and hits the Greek fleet harder, since the dry cargo market is in recession. However, in June 1978 in an Athens meeting Shipowner Associations from 11 countries agreed to set up a cartel, "intercargo", to support the lay-up scheme for dry cargo ships to ease the freight crisis.

Private consumption grew at 5.5 per cent during 1950-1975. The improvement of the standard of living is reflected in the change of the consumption pattern during the last 25 years and it is typical of a developing country where the demonstration effect is very strong.

High income elasticity goods have the highest increase and durable goods (e.g. cars) and semi-durable goods increased their share. Most of these highly demanded goods are not produced in Greece (e.g. cars), or even if they are produced (e.g. electrical appliances) there is a fairly strong belief that foreign products are better in quality terms than domestic ones, which all imply that the change of consumption pattern had a strong impact on imports.

For 1978 the trade shortfall should total 4.75 billion dollars, an increase approaching 1 billion dollars. Imports are up by 20 per cent, partly because of volume increases connected with the strong growth of final demand and partly because of some further deterioration in Greece's terms of trade. Exports by contrast, are likely to have risen nominally in real terms, making 1978 the second consecutive year in which exports have stagnated. The total deficit was largely covered by a 15 per cent increase in invisible earnings (shipping rose 11 per cent, tourism 27 per cent and remittances 13 per cent). The persistent weakness of exports is usually explained in terms of the lack of growth of Greece's main European markets and the application by the EEC of restraints, particularly against textiles and related products which together account for 25 per cent of Greek manufactured exports. But shipments to Middle East have not grown either.

Trade with the Arab and African world as a whole has grown faster than with any other trading group, to the point where those countries are Greece's second most important trading area after the

Common Market. The 1977 agreement on creation of a Greek-Syrian rail-ferry service is seen as a forerunner of an expanding communications network, which by eliminating the "Bosphoros bottle-neck" (which restricts overland movements of trade to the Middle East), will make access to the OPEC nations easier and cheaper, both for Greek products and European products routed through Greece.

An examination of recent trends does suggest a progressive loss of Greece's international price competitiveness. Exchange rate policy aims at offsetting Greece's relatively more rapid rate of inflation through periodic adjustments of the drachma's effective exchange rate, but it is questionable whether this policy has been entirely successful. The drachma has remained more or less unchanged against the dollar and this means that competing products from the advanced developing countries have gained a price advantage over Greek exports (Euromoney February, 1979).

The structural weaknesses of the Greek economy are apparent in a number of different ways. 60 per cent of the work force consists of self employed and unpaid family workers (as against 30 per cent in Italy and Spain and 20 per cent in OECD as a whole). Manufacturing is only 20 per cent of GNP which is lower than in Turkey, Spain, Portugal. The high importance of tourism and shipping and their nature, make it difficult for money supply to be controlled to tackle inflation. Alongside the relatively few large units, which in some cases have a low local value added and do not create other industries (e.g. Pechiney's Aluminium de Grece), there are numerous small workshops (95 per cent of total enterprises). These small units have been discriminated against obtaining bank finance, but their flexibility is expected to help them to survive competition

from EEC. Weaknesses are evidenced by the prevalence of high cost, low quality goods, the survival of a highly inefficient retail distribution system and the low quality of housing and urban life. (The Banker, December 1978).

In the financial system weaknesses are demonstrated by the high liquidity of private financial savings, the weak financial position of industrial and commercial companies, the excessive reliance on trade credit, the underdevelopment of the securities market and the high degree of concentration of the banking sector (80 per cent of banking activities are State controlled) (Federation of Greek Industrialists, see section 8.5).

The banking system in Greece plays a tremendous part in financial intermediation. The Stock Exchange has been relatively insignificant as a source of funds for private enterprise. Of the 100 biggest manufacturing Greek firms in terms of capital employed, only 35 are listed on the Stock Exchange and in most cases trading takes place in only a small proportion of shares. The little recourse to other forms of finance (money market or savings banks or building societies are non-existent) has meant that banks have played a large part in the granting of industrial credit. The following table shows the composition of capital among the largest enterprises in Greece.

TABLE 1. Capital Composition in Greece in 1975

Employees	Investors Capital	Loans
500 and over	2%	71%
100-500	35%	65%
10-100	40%	60%

The very high gearing of Greek companies can be partly explained by the wish to maintain the control of a company's capital in the hands of the founding family, while the ease with which money can be borrowed from banks and the preferential interest rates charged on loans for specific manufacturing activities (see section 8.3) make recourse to the capital market less attractive.

The failure of industry may also be partly due to sociological variables. Greeks remain first and foremost middlemen by temperament. They continue to prefer the quick returns of booming real estate investment or hard-to-tax self employed trade (tax evasion is believed to be as high as £357 millions each year, an amount which could cover half the budget deficit) to the long haul of manufacturing goods. Many Greeks prefer to run their own little shops in major cities or to work in the more enjoyable tourist industries. In general, at the relative wages now prevailing in Greece, the population shows a distinct preference for self-employment (where the ensuing independence is highly valued) or for employment in large institutions including the banks, insurance companies and the civil service where job security is high. Despite all manner of credit subsidies, industrial growth remains poor, while half the country's GNP derives from services. Even within industry, more than one-in-three of the industrial labour force is in house building or associated industries. On the industrialists level the characteristic of family-owned firms and centralised authority are obvious. A high proportion of Greek industrialists were self-made with limited possibilities of

financing from resources other than entrepreneur's capital. The high risk involved and the protective environment the State created to induce investment, made industrialists unwilling to take more risks and thus, their conservative policies are reflected in the small size of their firms and their avoidance of the corporate form of enterprises (A. Alexander (3)). Besides, lack of management education and the strong feeling that industrialists have on controlling the firm by themselves (families and patriarchic attitudes are strong in Greece), result in the non-separation of ownership and control which becomes a disadvantage in large sized firms.

In the 1979 budget the largest expenditure (9.2 bn out of 68.36 bn drs) is for technical training, which reflects the government's backing for economic development with a view to Greece's entry into EEC. Education in Greece serves the essential needs of the economy and does not have the experience and means for research to any great extent. The increasing standard of living has created a higher demand for education, but it is doubtful whether there is an educational match with requirements (e.g. too many graduates with a poor economics background and too few with proper management education). Education expenditure as a percentage of GNP has fallen from 2.3 to 1.6 per cent during 1965-1973 (compared with 2.1 per cent in Spain and Portugal). Technical education is poor and only in 1973, efforts were made to establish a higher technical education centre (KATEE), but lack of modern equipment, poor quality teachers are the main problems found.

The slowness in technical education is also influenced by the social belief that only University Education gives a better life and social status and so, technical education is considered as a second best, if not a failure. Higher education is also weak. University do not produce what the economy needs and at the standard that is best for the economy (e.g. in business or economics). In particular, business schools are more or less oriented towards law and accountancy as well as theoretical subjects because of high demand due to the continuous changes of the tax and legal system in Greece. The poor level of education and the non-existence of post graduate level studies are the main reasons for the lack of research in Greece and for the non-availability of qualified staff to match the needs of the economy. The poor management education, the scarcity of skillful personnel, the non-separation of ownership and control and the protective mantle created by government measures (see section 9.2), has resulted in Greek firms being less efficient (EMDE (45), A. Papageorge (113), V. Georgoulis (60)), which is a serious disadvantage for the industries that Greece is mainly operating in (medium, low technology industries), and which might cause heavy casualties when Greece becomes an EEC member (see section 8.6).

8.3. The Present Industrial Strategy of Greece.

The industrial strategy of Greece has the characteristics of a general macroeconomic approach. Legislative degrees have been

passed setting out various incentives and regulations for the economy. (These include :- Investment incentives and protection of foreign capital (2687/1953), measures to support tourism (1313/1972); establishment in Greece of foreign commercial and industrial companies (89/1967 and 378/1968), tax and other measures in support of regional development (1312/1972, taxation measures (12/1975, 89/1967, 378/1968, 27/1975, 11/1975, depreciation allowances (1077/1971), employment (2687/1953, 4171/1961, 89/1967, 378/1968), general terms of bank financing and maximum interest rates (Currency Committee decisions No. 1509/Sep.1968, 83/July 1973, 2/October 1973, 13/February 1974, 93/ Sep 1975, 85/July 1975, 95/October 1975, export incentives (4231/1962, 2861/1954, 231/1975, 12/1975, 849/1971, 226/1969), antitrust legislation 703/1977) etc).

These measures and incentives are applied to all industries without any discrimination. However, the State reserves the right to intervene and often does so in any industry when it thinks it is appropriate to do so. This intervention is of the kind of applying or not applying the above measures and incentives, whenever appropriate. For instance, when the W. European countries imposed quotas on imports of textile goods from Greece, the facilities supplying finance to industry stopped operating for the textile industry only. The State also uses short term policies to stimulate the industry. For example, it has been observed that the periods March - April and August - September are periods of low demand for the industry. Therefore, all tax refunds or increases of wages and salaries in the public sector take place during those periods to stimulate demands and the industry.

The derivation of industrial policies is based on domestic demand, international markets and, therefore the demand trend is taken into account, regional development, pollution and the general targets set by the Government or the Economic Plan. That is, the State observing the trend abroad and the situation in the country derives its decisions through its macroeconomic aspect..

All these general measures and incentives are decided by a state board, without consulting the industrialists, because these measures are not intended for any particular industry and because of the industrialists' incapability to contribute to the "helicopter management" of the economy.

The above mentioned measures and incentives constitute a long run set framework, which is supplemented by different short run measures for each sector. These short run measures for each sector are decided by the State, looking at it through the macroeconomic view (i.e. looking at the macroeconomic figures, such as investment, employment, exports etc) without the State getting involved with the industrialists. These macroeconomic figures and different estimates on behavioural aspects of the industry in general are the basis on which policies for a particular sector are derived. For instance, if the government observes that investment in a particular sector is falling short of the general target set by the government or the Economic Plan for investment, incentives and measures will be taken for that specific sector to stimulate development. The way these incentives and measures will be

decided is based on previous studies on the industry in general, such as, what are the reasons that industrialists are unwilling to invest. It has been found that industrialists are unwilling to invest either because of reduced profits or reduced demand for exports or no prospect of increase of output. Therefore, the State finding which one of the reasons prevail (by examination of either the balance sheets of the firms to examine the level of profits or the international demand or finding out the expansive trend in the domestic market), applies the necessary short run measures, taking into account the estimate that industrialists in Greece will invest only if one unit of investment will result in 2.7 units of profits.

An important weapon in the State's desire to industrialize has been the financial policy, which has been highly selective in Greece. Industrial investment has been supported by generous financial and fiscal incentives. In addition, foreign-exchange-earning activities (e.g. tourism, exports) have received favourable treatment. By contrast, domestic and import trade have suffered heavy discrimination, while consumer and housing finance have also been subject to severe restrictions (banks are not allowed to finance the non-productive area of housing).

The operation of fairly detailed and complicated financial controls has been aided in Greece by the very close and extensive regulation of the financial system. Heavy reliance has been placed on selective credit controls and in particular on setting the structure of interest rates (interest rates on long-term loans

have been between 2-6 percentage points less than short term loans to traders and importers), through a complicated system of special deposits to induce the banks to grant low-interest industrial loans. In addition to the interest rates, the authorities have imposed ceilings on the total amount of loans that the whole banking system may grant to domestic and import traders and personal customers. These controls have been supplemented by other measures, such as, by exempting credits to priority sectors from the imposed ceilings.

The availability of cheap long-term loans does not appear to have brought about a proportional expansion of the industrial sector. The few major investments undertaken in the 1960s (e.g. Esso, Pechiney, see section 3.6) seem to have been motivated by other factors, such as, exploitation of some mineral resource or a particular location advantage. It is widely believed that Greek industry has used its access to cheap finance to grant extensive trade credit to domestic import traders. The reliance of the latter on trade credit from industrial companies has been intensified by the restrictions on their borrowing from banks (e.g. electrical appliances see Appendix E). One result has been a substantial overgearing of industrial companies. Moreover, competition between industrial companies has shifted from price and quality to the provision of generous credit terms. Another result of the controls has been the proliferation of many small trading companies and the creation of a highly inefficient and costly retail distribution system as financial policy has discriminated against the development of large retail outlets.

The availability of cheap finance has to some extent counter-balanced the operational disadvantages of small firms and has enabled them to survive without becoming noticeably more efficient. On the other hand, small firms have inevitably been handicapped as against the bigger companies by their inability to offer adequate security to the banks to obtain larger loans. In recent years, the authorities introduced a guarantee scheme for bank loans to small firms and special incentives have been provided to firms prepared to merge and form bigger units, however, it is too early to judge the success (The Banker, December 1978).

The arrival of several foreign banks in the past 10 years, has provided a powerful competitive spur in the highly concentrated Greek banking system, but the restrictive regulatory framework and the concentration of foreign banks on wholesale business often with multinational companies established in Greece, have prevented the benefits of the much needed competition from being more fully felt. The continuous operation of highly selective policies has led to the emergence of well-identified privileged groups (e.g. large industrialists). Those groups have been able to exert enormous pressures on the authorities whenever a potentially effective measure has been seriously considered. In 1976 103 of the largest enterprises (5% of Greek firms) enjoyed 30 per cent of bank loans given to industry (those firms enjoy 45 per cent of total turnover and 50 per cent of total profits) which underlines the power that some groups have. Favouritism and close personal contacts have become essential for the provision of finance, especially to newcomers, and these have to a certain extent replaced the more normal commercial criteria. (The Banker, December 1978).

With regard to government intervention, the State's policy towards industrialisation has always been only the creation of the right internal environment in the country to help the firms to expand. No government has ever taken measures intentionally to get involved in business, that is, the weapon of nationalisation has never been used. Recently, there have been some nationalisations which were due to different circumstances rather than intention to intervene. In 1976 the contract between the State and an industrialist for the control and operation of the underground expired and so the underground became a State owned operation. The government also acquired the majority of the shares in the banks, the same industrialist who controlled the underground owned, because of misuse of the regulations and illegal transfer of money abroad; at present 4/5 of banking activities are state controlled. The national airline company, Olympic Airways, was also bought from Onassis after an agreement between the two parties. However, a major problem in the public sector has been inefficiency, which has already been seen in the newly nationalised firms (e.g. underground) and its highly bureaucratic structure that no government has been successful in solving.

In order to stimulate the modernisation and development of industry, the State recently provided a new scheme of incentives. These incentives provide for direct coverage by the State of part of the cost of fixed investment up to 50 per cent in less developed geographical areas. This sum can be considered either as an interest free loan or investors may invite the State to participate in the share of capital. Tax allowances from 40 to 60 per cent of reinvested

profits were given and the scheme provides cash grants for protection of the environment, for saving energy, for reallocation of skilled labour etc.

However, the Greek industrialists are not overjoyed and they ask for more (e.g. duty free imports of mechanical equipment, state guarantee on bank loans, faster rate of capital depreciation, less public bureaucracy etc). They consider as ultimately effective only those measures which increase directly and indirectly profitability.

In general, the government follows a short term macroeconomic interventionalist approach to strategy formulation without co-operation with industrialists about each industry's problems. It seems that the confidence the government wants to give to industrialists will be hard to achieve. The gap between government and companies does not seem to have been removed, while the business environment is not one which encourages entrepreneurs to invest, this is why, growth in the manufacturing sector has not been very rapid and lags behind from other neighbouring countries.

8.4 The Labour Movement.

The present state of labour relations in Greece is poor. During the 1967-74 dictatorship strikes were banned, but 1977 has seen one 24 hour general strike, numerous plant disputes and several long term strikes. Frequently police were brought

in, but in 1977 the government had not had the help which it had in 1976 in telling strikers they had been drafted because of national emergency and that if they continued striking they would be subject to military law.

The Greek trade union movement has long been the weakest in W. Europe. Its leadership has depended more on the goodwill of the government and the labour section of the security police than on workers support. When dictatorship closed down over 100 unions and arrested their leaders, the head of the Greek T U C (GSEE) sent the dictators a telegram of congratulations for their coup.

The trade union movement is divided into numerous and often competing unions. The head of G S E E argues that the 3,500 separate unions can only consolidate, if members of those not officially recognised join those which are. However, other unions argue that the recognised unions are rubber stamp unions. The way the Greek labour movement is financed does not promise any change. Financing passes through the hands of the Ministry of Labour and only unions recognised by G S E E receive funds.

Each year the government makes a general agreement with G S E E trying to tackle inflation. The leadership of G S E E was originally appointed by the government. It remains in power, its appointment confirmed by elections (the honesty of the elections has been challenged by both moderate and left wing unionists) but since elected is under pressure from the work force.

Wages and salaries rose by 25.3 per cent in 1976, 20.6 per cent in 1977 and is expected 21 per cent in 1978. Industrialists are concerned with wage increase and pressure on the length of the working week and conditions. While E E C seeks a 40 hour week, in Greece only in 1975 steps were taken to reduce the 48 hour week to 45 hour a week. Overtime sometimes is compulsory and the norm is still six days a week. In addition, there has been a steady increase in industrial employment.

There are fears that further slow growth in W. Europe could lead to more of the 800,000 Greeks who migrated in the 15 years to 1973, returning home. A survey in 1977 found that 4/5 of the men who returned had obtained jobs, but half of them wanted to migrate because of conditions of work and the lack of full social insurance in Greece. Unemployment benefits are limited and government retraining programmes are criticised by both employees and employers for being few and inefficient.

The ILO (International Labour Organisation) has expressed concern of aspects of recent Greek legislation. ILO was disturbed at the absence of any effective inspection mechanism with no safety conditions being reinforced by the Ministry of Labour. It was struck by the fact that no one factory it visited employed a doctor. ILO has long pressed for changes but in 1977 the government passed a law confirming the present system. Courts are also not sympathetic towards labour activities. In 1976 it was ruled that an employer was justified in dismissing 20 workers who had

set up a plant union, as they had failed to notify the employer of their plans.

8.5. Foreign Capital in Greece.

To increase the rate of economic development and reduce the balance of payments deficit the State passed law 2687/1953 for the protection of foreign capital. This law has the validity of a constitutional clause, therefore, each administrative approval for the importation of capital has protected the investor, by binding the government constitutionally to adhere to all items written into the agreement. The key provisions of the law are i) repatriation of up to 10 per cent per annum of the amount of imported capital ii) remittance of profits of up to 10 per cent per annum computed on the unrepatriated portion of imported equity capital iii) remittance of up to 10 per cent interest on imported loan capital iv) guarantee against expropriation v) the right to employ aliens vi) lower tax treatments vii) avoidance of tariffs, indirect taxes and other charges on imported raw material and machinery viii) subsidies and export incentives etc.

Foreign capital plays an important role in the Greek economy, since there is a great inadequacy of savings and technology. Most of the foreign capital was private capital (61 per cent), while the rest was loans to the State (19 per cent) and loans to private companies (5 per cent). Under the 1973 - 80 Plan the government would like to see i) foreign investment in research intensive industries for raising technological standards and introducing more efficient methods of management ii) more joint ventures and iii) more foreign investment which is not orientated towards the

final stage of production.

However, the foreign capital already in Greece has not produced the results hoped for. Although some 900 million dollars of foreign money has flowed into Greece over the past 25 years, about one third of it is American controlled. Direct foreign investment only accounts for 6 per cent of total investment in manufacturing. But firms established with foreign capital show a greater return than the average of the 212 largest Greek enterprises. Most of the foreign capital in manufacturing has been invested in chemical products, basic metallurgy, transport equipment, machinery and electrical appliances (A. Yiannitsis (167), F. Roumeliotis (133)). Foreign investment amounted to 19.8 per cent of total capital invested in fixed assets in the major industry and most foreign firms, mainly multinationals, have assembly lines (J. Ioannides (76)). But not all investments have been proved successful for Greece. A cost-benefit analysis (T. Ganiatsos (57)) showed i) Pechiney's investment (Aluminium de Grece) failed to reveal a rationale for building a large export smelter in a country with energy resources as small as Greece; it would have been superior to export bauxite ore and then import aluminium ii) The Esso Pappas project (petroleum refinery, petrochemicals) was designed for the Greek domestic market and the operating costs were higher than for plant sizes of minimum optimal scale which should have been established taking into account the small Greek market; the continuous losses meant no taxes collected, while crude oil was purchased from overseas affiliates at inflated prices iii) The Hellenic Shipyards project was the only one of the three which resulted in a net benefit for the country because the benefit of

jobs created outweighed the cost resulting from favourable credit treatment.

The effects on the Greek economy are manifold. There is a strong correlation between foreign capital and increase in gross value of production, GNP and value added per employee. Productivity (changes of output per employee) was positively correlated with foreign capital and the higher efficiency of foreign owned companies was reflected in a higher value of sales per employee, but not in a higher reported rate of profit. (T. Ganiatsos (57)). Employment increased, but only 10.3 per cent of foreign capital went to industries with high labour input. Foreign firms enjoyed high profits, while the prices of the products increased rapidly (P. Roumeliotis (133)).

On the balance of payments, from 1954 - 1966 aggregate data failed to show a replacement of manufactured imports (T. Ganiatsos (57)). The inflow of capital per year offsets the outflow of foreign capital, profits, depreciation, loans leaving a positive effect on the balance of payments. However, the stock-of foreign-capital elasticity of exports for the whole manufacturing sector is less than unity, while the foreign capital elasticity of imports is positive. These mean that imports are not reduced and exports are not high. Out of 67 foreign firms 23 do not export at all, 6 firms export 61 - 90 per cent of output and 3 - 100 per cent. This means that most foreign firms came in because of the high tariffs (P. Roumeliotis (133)), and that therefore few firms might be attracted to Greece when EEC entry brings these tariffs

down. Another aspect never examined by the government is transfer pricing. It was shown in a study (P. Roumeliotis (132)) that i) foreign firms in the metallurgy industry used over pricing which ranged from 87.5 per cent to 5 per cent with a total loss of 8.4 million dollars ii) in the chemicals and pharmaceuticals industries over pricing ranged from 229.3 per cent to 12.52 per cent with a total loss of 1.8 million dollars iii) fees paid to different representatives were found overpriced and ranged from 5 per cent to 400 per cent iv) imported cars were also found overpriced by an average of 20 per cent v) exports of spare parts for machinery for agriculture were found underpriced. The loss is expected to be higher because of the small number of cases examined and the short period covered (January 1975 to April 1976).

Foreign capital helped to cover Greece's short run structural problems. A lot of incentives were given to foreign firms and most of them established in industries with little dependence on others and were sometimes competing domestic firms. Foreign firms, usually, impose restrictive terms on government concerning imports of competitive products, raw materials etc. Once these firms are established in Greece they are treated equally to domestic firms and could easily move from one industry to another without any restrictions.

8.6 E.E.C.

Negotiations for Greece's association with E.E.C. opened in 1959 and resulted in the signing of the Association Agreement in

1961. The main reason why Greece chose this way rather than full membership was the state of the Greek economy and a relatively long transitional period was considered necessary.

The present government remains confident that by 1981 the country will become the tenth member of E.E.C. The government attaches great political emphasis to the membership and believes that by converting Greece into the W. European democratic system it will shield the country from external threats (mainly from Turkey) and act as a deterrent to a possible return to the military dictatorship of the 1967-74 period. The haste is also prompted by fears that the parallel candidacy of Portugal and Spain might delay it. In the economic field the government's strategy so far consisted of refusing to acknowledge publicly that any problems exist. EEC membership has been held out as a panacea for Greece's political and economic ills.

The E.E.C. Commission has described Greek agriculture as presenting a more serious problem than these prevailing in any member State. Farm holdings which are generally small, are fragmented into unconnected plots and thus modern technology cannot be used. Besides, the absence of appropriate marketing facilities and in particular the inefficient net of co-operatives makes the problem more acute. A National Bank of Greece report shows that progress in agriculture is rather less than what had been hoped for and considers different measures, such as switching to high yield crops, promoting land consolidation, increasing the size of farm

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units and improving the processing and marketing of agriculture products as vital measures for restructuring agriculture.

In putting the case for membership the Greek Government has concentrated on agriculture where the advantages are immediate and easily identifiable. The old Athens argument that Greece's agricultural products will compliment those of the EEC is not valid (many of them are clearly competitive, especially wines, vegetables, fresh and processed food, olive oil). Instead, there has been a change to arguing that the quantities involved are relatively unimportant on the E.E.C. scale; this argument has some support in the commission. The 6280m net transfer corresponds exactly to the amount Greek farmers will gain when the prices rise to Community levels. For example, olive oil producers will get approximately 4100m more than they currently get, while any surpluses that might result, due to prices rise and a drop in olive oil consumption and import of other edible oils, will then be a Community and not a national problem. Fruit and vegetable producers (e.g. grapes, tomatoes, cucumbers etc) will no longer be subject to Community duties on their exports, while citrus growers may not be able to increase their share in EEC but they will be eligible for substantial export rebates on their exports in Eastern Europe. Other farmers will be hard hit, such as livestock production and some cereals. Especially, domestic livestock production faces problems as the feed grain subsidies and consumer subsidies which helped keep them in business are phased out in accordance with E.E.C. rules. The declining domestic production

and Greece's inability in E.E.C. to import cheaper beef from Yugoslavia, will push Greece into dependance on most expensive imports from northern E.E.C. countries, as happened with Italy, possibly with similar adverse effects on the balance of payments and the cost of living (Financial Times April 3, 1979).

Industry faces problems as the remaining tariffs on industrial goods are brought down. The present 15 per cent tariff on industrial imports from E.E.C. will be phased out, while the 25 per cent tariff on imports from non-EEC countries will be reduced to 7 per cent. Export subsidies and other State aids will also be phased out. The exchange rate policy which was periodic adjustments of drachma to offset the more rapid rate of inflation (see section 8.2) will also be phased out because drachma will be freely quoted in foreign stock exchanges where it is widely expected to depreciate. This presents no problems for fully competitive industries (e.g. textiles, footwear) but others (e.g. heavy machinery) will have to go. Greece hopes that the comparatively lower labour costs will attract investment in industry from other E.E.C. countries, in combination with Greece's proximity to Middle East markets.

The industrialists, for all the initial difficulties they will face, are supporting Greece's membership. Greek industrialists base their confidence on the permanent factors of labour cost and freight differentials, in conjunction with Greece's relative proximity to the

expanding markets of the Middle East and N. Africa. They shrug aside the effect of the forthcoming elimination of the remains of a protective tariff system; that was in any case due to be phased out by 1984. The optimism is based essentially on the fact that Greece is a country of light rather than heavy industry and of labour intensive units of the type where product freight costs tend to be disproportionally high when compared with the cost of freight on imported raw materials. This is one of the reasons why industrialists believe that the countries in W. Europe will little by little abandon the light or assembly branches of industry and so Greece can survive and become competitive. The reasons for this confident approach are partly, because European countries will not be able to meet the high levels of costs and will switch to more complex products and partly it is a question of freight, because raw materials pay freight on weight and so are cheaper than products which pay on volume. Therefore, Greece can succeed on the grounds of low costs and proximity to M. East markets for the assembly lines. In addition, Greece is more welcome to the Arab world than the multinationals and more able to adjust production to certain peculiarities or Arab demands (Federation of Greek Industrialists, The Guardian, September 11, 1978).

Although access to the study, from which the Federation of Greek Industrialists derived these conclusions, is not allowed, there are some points to be made. It is true that Greece is the nearest European country to the M. East and the Greek-Syrian rail-ferry is expected to accelerate trade, however, it is expected that other European firms will also share the easiest access to M. East markets through Greece (mainly because of the political instability in Turkey and the bad transportation network that Turkey has) and

not only Greece. Greece enjoys lower labour cost compared with European countries and the difference in freight costs between raw materials and finished products is for her favour because she is the nearest country to the Middle East. These are important elements in a country's success in this area, that is, medium technology industries, in which competition is very severe (see section 4.2.2.) But other elements are also important, such as, managerial efficiency, economies of scale. The domestic market in Greece is small which does not favour economies of scale; there are studies which show that managerial efficiency is low (EEDF (43), J. Papageorge (118); in exports of such goods Greece has not been performing well; Greece will have to follow the common EEC tariff towards third countries with no allowance to sign special agreements.

Another area that the government also recognises is the immediate problem facing Greek light industry of the size of units. It is among the 93 per cent of enterprises employing less than 10 persons that the major casualties of EEC membership are expected. The Minister of Co-ordination before May 1978 said that ".....notwithstanding the rapid growth in output of the manufacturing sector, companies are still in many cases of a small size with limited specialisation and relatively inadequate access to modern technology. In spite of the fact that some important lines of production have become internationally competitive, there can still be no doubt that rigorous and sustained growth calls for larger, more integrated, export oriented and aggressive enterprises....." (Financial Times April 5, 1977). Against this, the Federation of

Greek Industrialists argues that even in the U.S. and EEC the small enterprise has survived and performs successfully its economic and social function; this is true as a statement but it is limited only to a number of medium technology industries and not the whole range of it, because there are industries in which big firms dominate and these firms are necessary elements for international success (see section 4.2.2), in which case the small Greek firms will not be able to survive (e.g. heavy machinery). Therefore, the question remains of whether Greek firms will be able to become efficient to withstand the severe competition in the E.E.C. especially in industries where multinational firms are also involved and whenever the standard of technology increases; so there seem to be a few problems in the optimistic view taken by industrialists.

Despite all these, the Federation of Greek Industrialists have sought to reduce fears by the Community that certain industrial sectors in Greece will create competitive conditions for sectors already in trouble in the Common Market. For instance, the textile industry exports mainly Greek cotton clothes; the footwear industry represents a small percentage of output; the iron and steel industries cater only the local market; the shipbuilding industry at present deals with repairs relying on the country's merchant marine and therefore it cannot add any problems already faced by W. European shipbuilders.

The Shipowners through a memorandum sent to the government by their union are in favour of Greece's membership with EEC because they want Greece to have a weightier voice in decision making on shipping matters, although they point out the danger of an exodus of Greek Seamen to the fleets of Community members,

because of higher wages. The union hopes that the problem of finding crews will be solved by bilateral agreements with developing countries.

Therefore, it seems that the EEC membership will not be without economic casualties, despite the approach taken by various groups including the government. Besides, the view taken by the State towards growth, has been a macroeconomic one without dealing with the fundamental problems of viability of individual industries and overcoming the penalties of trying to raise tariff barriers to protect inefficiency, which in view of the EEC entry it may inflict great damages.

9. GREECE-APPLYING THE BUSINESS MANAGEMENT APPROACH

In this chapter the business management approach will be applied to the example of Greece. The domestic electrical appliances industry in Greece has been chosen for application of the approach on the industry level.

9.1 Opportunities and Threats Facing Greece Generally.

The environment in which Greece finds herself offers some opportunities as well as threats, which have to be carefully approached. The pattern of opportunities and threats is changing because of Greece's membership with EEC. There is uncertainty in Greece of what the future will be as an EEC member and there are fears that the opportunities that exist in the Middle East will not be fully exploited, if Greece becomes an EEC member.

The opportunities Greece has consist of money flowing inside EEC from EEC funds and the flow without restrictions of private capital. The removal of tariffs in EEC offers a bigger market generally and for Greece particular offers the opportunity for promotion for light industry products, such as, textiles. Greece has the minimum required structure to develop light industry and Greek firms have adapted their products to the needs of the near located fast growing markets of Middle East. Political and trade relationships with those countries have developed well and there seem to be good prospects for further increase in the exports to the Middle East. However, this opportunity might be reduced because of the common EEC tariffs.

The threats are increased competition (from imports and establishment of new firms) arising from EEC after the tariffs fall. The origin of threats will also change, for instance, reduced threat from Japan will be followed by an increased threat from EEC Members (particularly France and Germany) in many medium-low technology industries. The demonstration effect inside EEC will cause a rise of expectations with a change in the consumption pattern and an increased demand by the labour force on wealth creation and sharing. The growing protectionism in W. Europe will cause a reduction in Greek exports, if Greece is outside the EEC and economically active population might be sent back, thus increasing unemployment. The inability of Greece, inside EEC, to sign bilateral agreements with third countries is a threat, which will have an effect on exports to third countries.

9.2. Strengths and weaknesses.

One of the main strengths that Greece enjoys is her good geographical location. It is the nearest European country to the Middle East markets, she has political stability and the 46 hour Greek-Syrian rail ferry promises an expansive communication system by eliminating the Bosphoros Turkey route. Trade with Arab countries is growing fast and these countries are the most important importers of Greek exports after EEC; in addition Greece has the minimum required basis to establish light industry to exploit those markets.

Another advantage that Greece has compared with many other countries is its mediterranean climate. This is particularly relevant

to tourism and the growing of certain agricultural products (e.g. olive oils, citrus fruits, vineyards etc).

A further strength is the low labour cost in comparison with other European countries, especially EEC members. In addition Greece is strong in shipping and also freight costs are cheaper due to low labour cost, Greece's proximity to Middle East markets and the situation in the Greek shipping fleet (old ships). In the short run those two advantages along with the geographical location and Greece's production of what Middle East markets demand (mainly in medium-low technology areas), give the country a considerable advantage. In the long run, the international recession in dry cargo transportation might render the Greek shipping fleet a weakness for the country which can lead to increase in unemployment.

A favourable feature for the balance of payments has been the inflow of remittances (by Greeks abroad) which along with shipping earnings have covered a great part of the deficit. Greek emigrants do not consider working abroad as a permanent element and send a lot of their earnings home to support their dependents. However, outside EEC the growing protectionism in Europe is expected to eliminate this positive effect.

In general, Greece has the minimum required structure to establish an industrial sector, she is good in light industry, she has a strong service sector and does not have unemployment problems, which along with her other strengths give Greece a

considerable advantage over other countries in this particular technology area.

On the other hand Greece has some disadvantages. Greece has a very weak transportation network and exports to Europe have to travel through Yugoslavia and Austria which is the cheapest route compared with that through Italy. This means that Greece has to have bilateral agreements with these countries and give concessions to facilitate her exports. Greece's poor overland transport to EEC is a good defense against imports, while she is not competitive in many areas. But later it will become a weakness which will have to be removed to allow Greece's strengths to be exploited.

Population is small and thus, the size of the market is also small. It does not offer the opportunity other countries enjoy of economies of scale. This implies that the business in which Greece can be efficient are those where the smallness of business is not a disadvantage (e.g. footwear). However, this does not prevent Greece being successful in other industries, provided that she goes for EEC as a home market which is by far a more difficult attempt (e.g. electrical appliances, see section 9.4). In the labour relations area the present situation is not favourable. If Greece is to succeed, the present unrest should be cleared to secure a smooth functioning of the economy, especially, before Greece joins EEC where the demonstration effect will increase people's demand on wealth.

With regard to the present state of development agriculture has not been properly developed and an increase in output can only be achieved if proper methods are followed (e.g. modern technology, good marketing etc), because the many mountains Greece has do not offer an alternative way. The manufacturing sector in GDP is not high despite the efforts by all governments to expand it. The majority of exports are processed raw materials (e.g. aluminium) and light industry products (e.g. footwear), while more advanced technology exports have been lagged behind.

The main fault for this situation lies with the State's approach to industrialisation. The macroeconomic approach, i.e. relying much on aggregate figures and not on logic of the market and its technology, does not give much understanding of the industry and does not indicate where the fault might be (see section 3.2). Following this approach it has become a State's policy not to intervene in private firms, which means that whenever problems appear the State uses its macroeconomic tools to solve them (e.g. changing investment incentives, grants, taxes etc). This implies that the external environment of firms also changes, which makes industrialists unable to formulate their long range planning, and this is confirmed by Greek industrialists who are continuously asking for a stable environment.

A serious fault has been the indiscriminatory support towards various industries, which does not take into account the particular different situations in every industry and the world trends in each

one of them. The lack of strong co-operation between government and industrialists operating in particular industries, does not result in discovering and evaluating the strengths and weaknesses in every industry so that the right decisions will be taken, and which is the reason why industrialists are not satisfied and not important progress has been made.

The government also does not take into consideration policies that other countries follow for their industries. Since the country is a follower and not a leader in most of its industries, the approach followed by other countries interest Greece because they show how other countries think and what they expect the future to be (e.g. Italy's decision to finance Zanussi to acquire small firms in the electrical appliances industry (Appendix C), was important because nowadays Italy dominates in this area, while Greece faces many problems for her survival (Appendix E)). This is strongly related to the absence of common objectives by the State and industrialists due to the State's ignorance of the particular environments.

In the State's financial policy, despite the generous support given to industrial investment, large manufacturing companies and small firms have failed to develop and expand into technologically more advanced products. This failure has generally been attributed to such limiting factors as the small size of the domestic market and the absence of skilled labour. These same factors have not, however, prevented Greek technical companies from expanding

successfully overseas (e.g. EDOT-STER) in competition with large companies from major industrial countries.

On the evidence of the difference in performance between the industrial sector on the one hand and the technical companies and the construction industry on the other it could be argued that financial policy, far from achieving its desire objective of creating a vigorous industrial sector, has resulted in lulling industrial initiative by providing a protective mantle. This mantle permitted the survival of inefficient companies and allowed them to divert their activities into non-industrial areas. Besides, the extensive use of qualitative credit controls may have also destroyed the distribution mechanism of the banking system money capital.

The world wide accepted belief of international specialisation of production was also followed in Greece. Foreign firms came in but the State's incapability to regulate employment and industrialisation has been quite obvious. The effects of foreign capital have not been the ones expected (e.g. establishment of new industries, see section 4.3.2.2 and 8.5.) which can be attributed to the lack of controlled entry and an out-of-date set of incentives (1953) which has not been changed since, although the world environment and Greece's needs have changed.

This inefficient approach to industrialisation by the State has also brought more disadvantages. The financial policy has resulted

in the creation and survival of small sized firms; the stock market has not been properly developed because of the highly concentrated inefficient banking system due to the many and complicated regulations; Greece lacks availability of skilled personnel because the needs of the economy have not been identified and so, the appropriate measures had not been taken to produce them; management assisting programmes have not been developed and also the non-separation of ownership and control has resulted in Greek firms being less efficient (EEDF (43), A. Papageorge (118) V. Georgoulis (60)). With respect to industrialists, most of them have always been interested in short term profits rather than viability of the firm and it is a situation that still prevails (e.g. ELCO in the electrical appliances industry, Appendix E). None of all governments, despite all the incentives and measures given has been able to establish a "social class" of managers or change the attitudes of present industrialists. This is partly due to lack of appropriate education, an area in which Greece lags behind.

Education, especially, technical education and higher education which affects directly the industry (e.g. management education) has not been properly developed. This has affected the scarcity of skilled labour, and the low managerial efficiency at present. The needs for skilled and qualified personnel in different industries have not been identified which automatically limit the rate of expansion of an industry and do not favour innovation or other research programmes. There is also no degree

of co-operation between industry and universities or other educational agencies, the only co-operation being between universities and government mostly on technical aspects (e.g. the National Polytechnic School).

The State's public bureaucratic structure and inefficiency has also contributed to the present situation of the Greek industry. There are many examples which show the bureaucratic and inefficient organisation of the State including nationalised firms or industries (e.g. the banks). Especially for nationalised firms, appointment of managers through political contacts and Ministers' intervention are the main problems (e.g. the present operation of the underground). This bureaucratic structure has always been criticised by industrialists and has reached such an extent that the National Bank of Industrial Development (ETBA) has a special department to guide foreign investors through the bureaucratic labyrinth.

Thus, Greece has all the characteristics of a developing country and if Greece aims at increasing GNP per capita and the share of manufacturing in GDP, she has to intensify her efforts at solving the various problems that exist and try to establish a better understanding between the industries and the State, especially, with the view of Greece's entry in EEC.

9.3. General Strategies .

The strategies that could develop out of the above strengths and weaknesses as well as opportunities and threats, arise from

the next serious step in Greece's development, i.e. EEC. Any strategy chosen must exploit Greece's strengths and attempt to overcome those weaknesses which are more crucial to her future, taking into account the fact that Greece is a developing country. The strategies that should be followed should not be different from the ones described in section 6.1.

Greece is a developing country and indeed, her main objective is acquisition of technology, and know how, to develop existing industries and new ones for a higher rate of industrialisation and GNP per capita. This is the right objective, taking into consideration the education demands and population's demands for a better standard of living which the EEC entry is expected to accelerate.

The general strategies that should develop should try to give priorities to areas which Greece has a comparative advantage compared to other countries. In reference to her resources, Greece should exploit better her non-depleting resources (she does not have many resources that can be depleted) and in particular her climate advantage. Improvement of agriculture and tourism are vital steps. For tourism the services offered should be improved and, the State should also impose regulation on keeping the style and architecture found in an area or on an island, whenever new accommodation units are built, so that the colour of the Greek environment is not destroyed. For agriculture, reorganisation of land, use of new technology, concentration of production in areas

that are favourable for particular products will increase output, reduce costs and improve competitiveness. Not only agriculture itself should be assisted but also other related industries in the area of processing those products (e.g. food processing, canning etc). In this way, the number of industries in the country will increase as well as employment and the value added retained in Greece will also turn on Greece's favour. The effectiveness of the promotion of agricultural products abroad (e.g. wine fruits) will also need to be improved through better organisation of the co-operatives and of marketing facilities.

Greece should follow different strategies for her different industries according to the world trends found in each one of them. In particular, in advanced technology industries, Greece cannot get involved, thus, she can only participate if foreign firms produce in the country by bringing in the technology or importing advanced components for assembly (e.g. silicon chips see section 9.4.1). Production of such output in the country will help Greece to modernise old industries or develop new ones either in products or production methods. Since Greece has a fair number of industries which can supply information of their needs, industries which are competitive world wide from which capital can be raised, she can attempt, and it is for her benefit to do so, to get involved in innovation, i.e. application of the newest technology available on other industries. For such an adventure, high level education, availability of skilled personnel, collection of information about industries' needs, financial resources, entrepreneurial skills, information and if possible production of the needed newest technology available in Greece are necessary

elements for success in this area. There have always been in Greece's economic plans objectives such as increase R&D undertakings in Greece, but measures for implementing those objectives were absent. Since Greece has some potentials for innovation, she can concentrate her efforts of some of the most important elements, (e.g. education, skilled personnel, incentives and spreading of information about new businesses so that entrepreneurs will be attracted) and can start by financing and assisting firms which have some sort of R&D department, i.e. use them as a basis on which the new attempt will be established.

In medium technology industries an area that Greece is not very good at, the strategies differ according to the environment. In industries in which only multinational firms operate Greece cannot penetrate, therefore, she has to invite those firms, the invitation depending on domestic consumption, Greece's comparative advantages, exports, imports, political implications etc (see sections 4.3.2 and 9.5.4). In industries in which multinational and domestic firms operate, support and assistance should be given to the domestic firms through different policies, such as mergers, elimination of import duties on raw materials, bilateral agreements with different countries for economies of scale etc and all technological advances in these industries have to be monitored. If domestic firms cannot survive, multinational firms should be invited with the main objective being always for Greece to retain such an industry, (see section 9.4.3 for the example of electrical appliances). Support and assistance should also be given to industries that only domestic firms operate, to keep the industry safe from imports. This support should only be given when it is absolutely necessary and should be of different types (e.g.

mergers, financial assistance etc (see section 6.2).

In low technologies industries Greece is competitive and has advantages compared with other European countries. Protection barriers, restrictions in exports of vital raw materials, subsidies, bilateral agreements with other countries, mergers, financial incentives, automation where necessary and other similar measures will help those industries to keep their competitive edge against European countries. Greece has to support those industries because she is good at them and a great proportion of export revenue is derived from those industries.

With respect to the service sector, its considerable development of exports demonstrates that Greece has a comparative advantage in service activities. The authorities might as well accept this advantage and pursue policies that would not be biased against this sector.

In general, Greece needs twotypes of investment. To increase fixed assets and investment in plant and equipment able to do a job more effectively. The most important reason for investment in technology is the very pace of technological advance and the advent of the microprocessor is likely to accelerate it (see Appendix A and section 9.4.1). No industrialist can afford not to take

advantage of this in his investment plans if he is to stay competitive. Study after study has shown that physical investment in plant and equipment accounts for only a modest fraction of productivity growth. Such intangibles as labour force quality, technological advance and management quality accounts for the rest" (Sunday Times July 2, 1978).

These general attitudes towards the different industries are not enough, the problems in particular industries have to be identified so that the right approach and policies will be decided. That is, Greece has to decide in which industries she has a comparative advantage and in which ones she has disadvantages and this will lead to the right policy formulation. The most important industries have to be examined and their environment will show the State what decisions to take. An example of how industries should be examined and what policies should be taken is given in section 9.4. in which the silicon chips, digital watches, electrical appliances and footwear industries are examined.

The support and assistance given to different industries should also take into account the international transmission of resources. Measures, such as quotas, tariffs, should take into account the conditions in different industries and should be properly applied (e.g. tariff barriers on imported raw materials in the electrical appliances industry is one of the reasons of the high costs that

prevail, see Appendix B). In addition, foreign capital and the amalgamation of foreign firms in the domestic market should be properly controlled so that Greece will enjoy more benefits than she does at present (see section 9.5.4).

An area in which Greece has to pay much attention is her internal environment. In general, the industrial strategy has to change from the macroeconomic approach to a business management approach i.e. taking into account the different environment in various industries on which policies will be derived (see section 9.5.1). In this way, the financial policy will not create a protective barrier for inefficient firms or industries as happens at present, and will result in tackling the deficiencies from which the industry suffers. The examination of industries will give the State enough evidence and experience to decide about the external environment of firms in the country, which should be kept stable and leave a lot of room for measures for individual industries.

In the banking system bureaucracy should be eliminated. Banks need to develop links with the international money market and the many controls should be lifted to allow a more efficient channelling of credits into certain areas. Inter bank lending should be allowed so that the present situation, where banks increase their share by chasing more deposits and servicing the short term easy-loan market to the neglect of the longer term financing needed by industry, will improve (The Banker December 1978, The Guardian September 13, 1978).

The development of the Stock Exchange is another task for the State. Different measures should be taken to develop a stock market which will obviously have an influence on the existing relationship between ownership and control in Greek firms. Commercial banks should become tougher in granting loans to firms which want to expand and in addition the State should not impose regulations on firms to place shares in the stock market, but once the firms go public there should be a minimum percentage of shares sold to the public (Economicos Tachydromos (40)) or as in the case of the U.S., impose tax penalties to "closed companies" where control is retained by a single major shareholder. Such measures will aim at developing the stock market and inducing the firms to participate in it.

Education is another field where Greece has to take rigorous measures. Education, as a general concept, in schools and universities should be improved to increase the number of subjects taught, satisfy the needs of the economy as well as the populations demand for higher education and reduce the number of Greek students studying abroad. In particular, skill training and technological training have to be improved to increase the amount of skilled labour, to contribute to the country's involvement in innovation, especially in advanced technology industries, but it is important that there should be a match between the skills the country needs and what kind of education is offered. In this aspect the examination of the different industries will give the State the knowledge of what the requirements in the economy are. Improvement in management education, an area where Greece has disadvantages, will increase

the number of qualified managers who will take over from or consult with entrepreneurs. Different measures can be taken to induce Greek firms to employ qualified personnel (e.g. incentives to industrialists to hire consultants) or money could be injected in establishing consultancy institutions (Greek or foreign) which will increase in quality and quantity qualified graduates in management. In addition the co-operation between industry and universities has to be strengthened which will help universities to produce what the industry needs. There is also a need to educate bureaucrats to increase efficiency in various departments especially those concerned with industry problems.

The infrastructure in Greece has to be improved, especially the transportation network. This is vital because Greece could exploit the opportunity that Middle East offers. Greece could become a transportation centre for products from Europe to Middle East and vice versa. This could also be extended for merchandise arriving from the Suez canal. The latter is a target for the long run scope and depends on how efficiently Greece could establish herself on the route between EEC countries and the Middle East. Improvements in services and routes as well as agreements with Yugoslavia and Austria will increase Greece's importance in Europe.

The State's bureaucracy and inefficiency has to be eliminated so that whatever changes have to happen in Greece's environment for the industry's benefit, will be done quickly and also the bureaucratic structure will not act as a deterrent against firms using the different incentives and measures. This has to cover the

whole range of public operations from dealings with the public (e.g. banks) to nationalised firms or industries (see section 9.5.3).

9.4 Applying the Business Management Approach on the Industry Level.

9.4.1 The silicon chips industry

The silicon chips industry (see Appendix A) is a highly concentrated industry with the U.S. being the inventor and leader. Very few firms are involved in the supply of technology for the production of such an output which is highly demanded. Demand for silicon chips has increased because of its numerous applications.

The invention of silicon chips developed new industries (e.g. pocket calculators, TV screen games etc), silicon chips can be used in the modernisation of different products (e.g. Hi-Fi equipment), but the most important of all is their application in automation which threatens to increase unemployment. For instance, silicon chips can be used in robots which can man a whole factory, without the fear of strikes or tea breaks and most important with less costs.

Lately, an increasing number of countries have started producing silicon chips buying the technology from abroad, because of the need to automate and modernise output. If countries do not automate or modernise as far as other countries (e.g. U.S.A., Japan,

Germany) the high cost of production and low volume as well as lack of modernisation will drive them out of the market. The need for high wage countries to use silicon chips is survival from competition from other developed countries which have automated or modernised production and from the low labour cost countries. In developed countries a conflict arises between the need to automate which results in high unemployment, and the strength that working people have on matters concerning their working lives. It seems that the only way in which automation or modernisation of products and production methods will not become a threat for a country, is through import barriers or different restrictions on trade, which conflicts with the world trend of economic grouping. Thus, provided that high wage countries want to participate in economic communities, there is an urgent need to automate and modernise output. For this reason, incentives are given by governments to attract foreign firms for the production of silicon chips (e.g. the U.K.) which will provide other industries with material to automate or modernise their output.

For Greece this is an area in which she has to pay a careful attention. With regard to the question of automation, Greece has low labour cost compared with other European countries and this does not make automation urgent. However, if Greece joins EEC the demonstration effect will affect demand on wealth and if inflation is kept at the present high levels, labour cost will increase and this will increase the need to automate. Labour cost is expected to increase and it is very unlikely that the advantage Greece has of low labour cost will be kept as an advantage in the long run and in such levels as to make automation necessary.

In the EEC competition is severe and Greece has to modernise output or even automate in order to become competitive. Greece has medium technology industries in which silicon chips will be used in the future (e.g. digital clocks in cookers) and has also assembly lines of some advanced technology industries (e.g. T.V. sets). Besides, Greece's geographical location and the fact that most of her neighbouring countries have not established production of silicon chips, show that Greece might have an opportunity to set up production of silicon chips.

The only way that Greece can get involved in this industry is by establishing production lines in the country, by buying technology from abroad. Since there are no firms operating in Greece, development of this industry depends solely on government action to attract foreign firms. The vital necessary elements for the production of silicon chips, apart from technology, are skilled labour and unpolluted environment (dust could make the equipment useless for months) Greece can generate skilled personnel after the necessary training and her environment is not polluted.

Greece will not gain much in employment and the benefits will be in exports of silicon chips, taxes, increased value added retained in the country and the most important of all the opportunity offered for different firms to establish production in industries related to silicon chips. The silicon chips industry should not be considered separately from the other industries which are related to chips. There is an opportunity to set up assembly lines for different products using silicon chips (e.g. TV screen

games), while progressive expansion in component making for these industries will not only increase value added, but also exports. Thus, first Greece should probably import the chips and concentrate on end products and then manufacture the chips with bought-in expertise. In this way Greece will know where chips can be applied in the economy and have a change to innovate.

Therefore, Greece should carefully examine this industry, as to which firms to invite, under what conditions, which industries related to chips and to the advantages of the economy should be supported, how the future needs of the economy (e.g. automation, modernisation) will affect production of certain goods and also production techniques, the political implication because of the low number of foreign suppliers of technology and the multinational firm involved, etc. before any decision is taken.

9.4.2 The digital watches industry

The digital watches industry (see Appendix B) is concentrated mainly towards three countries, namely, U.S.A., Japan and Switzerland, which use silicon chips as main input.

This industry developed because of the invention of silicon chips. The lead that Switzerland and Japan had in mechanical watches was lost to the Americans which forced Japanese and Swiss watch manufacturers to abandon mechanical watches and concentrate on digital ones. At present Japan is the leader followed by Switzerland, while most of the U.S. firms have left the watches

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sector mainly as a result of quality problems. The Swiss and Japanese attack the Americans not only in LCD watches (a continuous display of black or silver figures on a white background), but their efforts are mainly on analogue watches (watches with the traditional face and hands, but their mechanism has been replaced by a silicon chip) because very few U.S. firms are able to develop enough expertise in precision mechanism to challenge them. All countries incorporate extras on their watches (e.g. stop watch) to increase sales but at present the main competition is on the source of power supply. Swiss are planning to offer a 3 year battery life, while some Japanese are using solar cells as a source of energy replacing batteries.

The industry is dominated by international firms (e.g. SSIH in Switzerland) and multinational firms (e.g. SEIKO, Japan). The fierce competition has shifted production to Far East for low wages (e.g. SEIKO in Thailand), while other firms are attacking other areas of the market (e.g. electronic result boards) in their efforts to increase their market share.

Greece is totally dependent on imports and does not have any industries related to digital watches. This industry is not vital for her economy because it does not integrate with her activities; besides consumption is not high. The fact that Greece cannot develop this industry on her own means that money should be injected to invite foreign firms and develop component making. There are more important areas in Greece which need attention and

assistance that the development of a digital watches industry seems unnecessary. Therefore, priority should not be given to this industry at present. However, Greece should not exclude the possibility of developing such an industry, if foreign firms find the present strengths of the country attractive. In this case the government should carefully bargain the proposed entry, taking into account imports of intermediate goods, component making, ownership, personnel, exports, political commitments etc.

Priority could be given for a digital watches industry if a silicon chips industry is developed, so that value added will increase on Greece's favour and foreign firms might find the environment more attractive in combination with the advantages the country has. For Greece, there seems to be an opportunity to develop this industry because the number of Japanese or American digital watches makers in Europe is very limited and Greece also has the strength of low labour cost that firms might find attractive. If Greece decides to move in this industry, assembly lines is the only possibility with the objective of succeeding exports. For this reason, foreign firms (Japanese or American) should be invited in, which should only be encouraged to enter if the benefits resulting from this operation are high.

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approach the foreign firms if necessary, evaluate what the firms require, estimate the benefits that will result and take the necessary measures to establish a viable industry able to withstand competition without further government support.

9.4.3 The electrical appliances industry

9.4.3.1 World trends and opportunities and threats

In the world markets different trends have developed for different segments of this industry (See appendix C), namely, television sets, white and brown goods.

The television sets area is an advanced technology area and has all the characteristics of an advanced technology industry. The market is dominated by few countries and the firms involved are multinational firms. The black and white television sets are losing market share and the penetration of colour television sets increases. Since the future lies in colour sets, there is already fierce competition among multinational firms in this market. These firms have their own fabrication of most of the components needed and advance the technology through their own R & D departments. In Europe among the multinational firms there are also small firms (e.g. Normende, Germany), which have a share in the European market. These firms assemble only and buy the high technology components from the multinational firms that supply them, while

the rest are sometimes produced within the firm, since they are standardised components (e.g. frames). A leading country in the T.V. sets industry is Japan. Brands such as Hitachi, Sony Sanyo dominate this area with a very high market share, especially in Europe in the portable T.V. sets area. Some countries (e.g. U.S.A.) have imposed quotas on sets made-in-Japan because of many drop outs of firms due to cheaper imports.

In the white goods area (e.g. refrigerators, washing machines etc) some trends developed and became obvious especially after the oil crisis. First of all, competition has become more severe mainly because the market has got nearer to being saturated, which implies reduced profitability. Secondly, the increased competition and economies of scale have resulted in a merger wave which has increased concentration world wide. Thirdly, multinational firms seem to dominate which imposes a threat to small firms.

In particular, in the European market these trends have had their effects. The merger wave resulted in the formation of four groups, consisting of multinational firms which dominate Europe. These groups are AEG-ZANUSSI, SIEMENS-BOSCH, PHILIP, ELECTROLUX. A growing trend among these groups has been to locate their production points in E. Europe not only for lower costs, but mainly because the proximity of these countries to the fastgrowing M. East markets will increase their sales. These groups are achieving economies of scale and have a wide range of products both in white goods and brown goods (e.g. toasters, shavers).

Lately new products have been put onto the market (e.g. dishwashers, freezers) but they are intended for high income customers. Despite the threats from multinational firms, some firms are surviving in some countries by specialising in some product areas (e.g. BELLING Co. (U.K.) in cookers).

In components making the big groups have their own fabrication of components to a large extent (e.g. ZANUSSI 60 per cent). Some of the components are supplied by few firms all over Europe (e.g. hot plates), but mainly it is a medium technology area and most of the components are manufactured in many countries and sometimes some of them within firms.

One of the very few countries in Europe which succeeded in constructing a competitive domestic appliances industry, through mergers and by going for economies of scale, is Italy. Italian products, (cheap, short-life products) are dominating W. European markets, but lack of management and marketing led to Italians losing ownership in some firms. However, Italy has become the centre of production of white goods (mainly refrigerators, washing machines, cookers) in W. Europe. Other countries reacted differently by avoiding direct competition with Italy. For example, Germany captured the high priced, long-life segment of the market (e.g. SIEMENS's range) and France specialised in the small items area (e.g. Moulinex range).

In the brown goods area (e.g. toasters, mixers etc) there are multinational firms in which brown goods is a division (e.g. PHILIPS) and firms which are specialised in such small items. These products sometimes offer facilities that white goods offer (e.g. grills) and are intended for high income customers.

All these trends form the opportunities and threats that Greece faces in all areas of this industry. The threats are the high competition, dominance of multinational firms which achieve economies of scale and have component making within the firm, Italy's competitiveness and cheaper imports after Greece joins EEC. The opportunities are Greece's proximity to M. East markets and the strategy of specialisation which some European firms have used successfully.

9.4.3.2 Strengths and weaknesses

The general characteristic of the Greek electrical appliances industry (see Appendix D) is that it does not have any comparative advantage except those that the Greek environment offers (e.g. low labour cost, near to M. East etc), while brown goods are all imported.

In the television market there are a lot of small producers (about 60) which have only assembly lines and buy technology

from abroad. They assemble and wholesale foreign brands and there are only two firms which promote their own brand name. Economies of scale, overheads, components and loan charges are the main problems in this area. The assembly lines are only for black and white sets because Greece does not have colour TV transmission.

The main weaknesses found in the Greek white goods area are dependence on know-how from abroad, there is no component making within the firms or country, there are limited economies of scale, cost is higher than for the same industry in Italy. The home market is very small and concentrated in to 5 big cities/towns which does not favour economies of scale, while exports are achieved by firms individually. The product range is limited only to the main products (refrigerators, cookers, washing machines), while the non-production of other goods (e.g. brown goods) limits the range exposed to consumers. There are also problems in management, which arise mostly from the family ownership of some firms and orientation towards profit making and not survival of the firm.

The strengths are mainly those of the environment (low labour cost, low freight cost, proximity to M. East markets) and the way the firms have been approaching the market. Since Greek firms have no capital, production experience, reputation, specialised know-how etc, they have been putting products on to the market by changing products first introduced abroad.

For this purpose they have set up R & D departments which are experienced in changing products to what the Greek market wants (e.g. rotating spits in the oven). Thus, there are potentials for exporting appliances in the Middle East with the characteristics these markets want.

The government policies for this industry are under the scheme of policies for the industry in general and have been tariff barriers on products and raw materials, export incentives etc. The government support, through import duties, has been limited because of tariffs on raw materials which increase costs, but the future EEC entry has forced duties to fall and this causes the threat from imports.

Greece has been sufficient in domestic appliances with four leading firms having around 75 per cent of the market for refrigerators, 95 per cent in cookers, 28 per cent in washing machines and 20 per cent in TV sets. The world effects have had their impact in Greece. In 1976 one of the four leading European groups, SIEMENS, acquired one of the leading firms, which forced two others to merge forming HELINDA and the fourth, ELCO, to reduce its involvement in the market. SIEMENS's objectives for the future is how to lower costs to compete with Italian products, HELINDA is thinking of specialising in production of only white goods and ELCO has planned nothing, but it is good at cookers and water heaters.

9.4.3.3. Strategies for the industry.

In television sets Greece does not have any comparative advantage because high technology is beyond her capabilities. The choices Greece has are two, namely, imports or domestic production. If imports is decided tariffs should fall to drive the unefficient small assembly lines out of the market. If Greece sets the objective of keeping TV manufacturing in the country, the black and white and colour sets should be considered separately.

In black and white sets the EEC entry will cause an increase of imports of cheaper sets. Therefore, the strategy should be reduction of costs and efficient production for the small assembly lines that exist in Greece. This is a strategy that the government should have followed in the past. Assistance should have been given to the small producers to reorganise themselves and go for economies of scale (e.g. merger incentives, money injection for establishing bigger in size TV manufacturing plants etc). Nowadays, the same strategy should be followed aiming at restructuring the industry to withstand competition from cheaper imports hence, the poor policy effect of the past. Domestic producers should either collaborate or die or leave the TV industry. Manufacturing of standardised components should also be favoured through different incentives, to increase value added in Greece. If this industry is restructured, exports, especially to M. East, could increase and there is an opportunity for exports because many countries have abandoned manufacturing of black and white TV sets.

If Greece had restructured the industry in the past, she would have been able to use it as a basis to construct a viable colour TV manufacturing industry, which does not exist at present. Greece will soon introduce colour transmission, thus, demand for colour TV sets will increase and the fact that TV sets are easy to transport in H.East, give enough grounds to support a colour TV manufacturing industry in Greece. For this purpose foreign firms should be invited in because domestic assembly lines are inefficient, it is a high technology area, competition is severe and only multinational firms have the potential to succeed. Support should be given to any firm operating in Greece which has potential (e.g. Philips), incentives should be taken to attract other firms (e.g. Japanese), assistance should be given for component making, within the firms or through independent firms, the government should help financially and through its diplomats to increase exports etc. This invitation of foreign firms could be helpful in the case where the restructure process in black and white sets fails and the strategy changes into invitation of foreign firms. The aim is to make Greece a manufacturing centre of colour and, if possible, black and white sets and increase Greece's exports.

In white goods the main threat for Greece in the domestic market arises from the EEC membership which will increase imports. Greece should have restructured this industry in the past, following similar policies as Italy did, when competition was not severe. At present exports might be more difficult to achieve and much more money is needed to support the industry's survival. Greece has to choose for this area. Either to support it or let imports dominate. There are some reasons why Greece

could set the objective of supporting the survival of this industry. Greece's location and the strength of the environment are the basis for such an attempt. One of the main European groups, SIEMENS, has been established in the country, HELINDA is specialising in white goods and ELCO is reducing its involvement, and these mean that restructure has occurred and thus, it is easier to support it. The strategies that should follow should help domestic producers to overcome the obstacles which reduce their competitiveness.

In white goods the strategy should be increase of market share. Greece has the disadvantage of high cost, which implies that if she is to succeed, she has to move downwards on the production experience curve (higher output for lower cost per unit). This benefit of economies of scale can result only if a higher market share is captured.

For such a strategy Greece should concentrate on the main products she is good at (refrigerators, cookers, washing machines), support the assembly lines she has already got (SIEMENS, HELINDA, ELCO) and try to expand vertically by establishing component fabrication. The policies for such a strategy should take into account the situation of domestic firms in the European market because the low market share that domestic firms enjoy implies that return on investment will be low if the proper policies are not followed (e.g. if R&D costs to sales are not kept at low levels).

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The policies for white goods should be of the type of increasing market share not only abroad but also in the domestic market because some products have low saturation level (e.g. washing machines) and other have not yet been introduced (e.g. freezers). First of all, in international markets Italian-style products are demanded and these type of products should be manufactured in Greece (cheap, short life products). Production of gas appliances is necessary for increasing exports in Middle East. Products should be adapted to the characteristics that foreign markets want and sizes and facilities should increase (e.g. refrigerators for bungalows, grills on cookers). Markets abroad should be examined not only for finding out product characteristics but to expand sales through different contracts (e.g. department stores in Europe). Efficient promotion should be conducted in M. East and Europe to increase exports. Production and promotion of items introduced abroad but not in Greece, is a choice of each firm to follow.

Government could help in many ways. Quality standard should be set to eliminate bad quality products and add the lower segment of the home market to the main producers. Agreements with other countries (e.g. communist bloc) will expand sales. Financial support should be given in areas where the low market share is a disadvantage for the firms (e.g. R&D, marketing, investigation of markets abroad etc). Export duties on raw materials should be reduced to increase profit margin.

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In component making, money should be injected by the government to help vertical expansion. Although some firms (e.g. HELINDA) help domestic component manufacturers to improve their quality, financial assistance will help them to speed the process up and increase their range to match the requirements of domestic producers. The components which will supply other industries as well, should first be supported. Alternatively, domestic manufacturers could establish component fabrication within their companies, but since they cannot afford it at present due to low market share and financial difficulties, the government should take the responsibility to finance it.

If despite all these policies some of the firms cannot survive, the strategy should change into invitation of foreign firms through acquisitions, mergers or joint ventures (e.g. ELECTROLUX, Japanese firms). Alternatively, if this strategy fails, domestic firms should diversify to avoid clashes with multinational firms (e.g. production of non-household goods, concentration in wholesaling or retailing) and thus, imports should be let free to flow.

In wholesaling domestic firms could exploit the opportunity EEC offers of increased imports. They could increase their wholesaling range with relevant goods (e.g. Hi-Fi equipment, microwave ovens etc) and this can be an offensive policy to increase their turnover and a defensive one in case survival is threatened. In retailing formation of bigger firms with a wide range of products will decrease overheads and capture higher share in the domestic market.

In brown goods demand is increasing in Greece and some firms (e.g. AEG) export to M. East imported products. These indicate that there might be an opportunity to establish such a manufacturing industry in Greece and this should be carefully investigated. The fact that Greece does not have her own firms to expand and all brown goods are imported, means that foreign firms should be invited. The government should examine whether joint ventures with domestic producers of white goods is feasible and if so, the necessary incentives and assistance should be given. Alternatively, foreign firms should be approached (e.g. PHILIPS) and support should be given to attract them in the country. Examination of the necessary elements for success in this industry will give the government enough evidence to take the right policies, so that benefits will result.

In brief, the government has to make a decision, whether to assist the electrical appliances industry or not. If it decides to do so, it should assist the firms wherever it is needed, until the industry is viable. Since some strategies, such as, increase of market share in white goods, mean short term penalties (e.g. low profits), the government should minimise the risk and give all the help needed to the firms to expand (In Appendix E the electrical appliances industry in Greece is examined in more details).

9.4.4 Footwear industry

9.4.4.1 World trends and opportunities threats.

The footwear industry (see Appendix D) is a labour intensive, low technology industry with low barriers to entry. This implies that most countries have this industry and competition is severe within and among countries. Competition has become more severe because of some trends which have developed.

First of all, supplies of raw materials (leather) have been reduced because producers (mainly developing countries) have changed their policy and imposed export quotas on leather which enabled producers of hides to increase their local added value by doing their own tanning and making shoes for exports. This affected not only the supply of leather, but also other industries (e.g. tanneries) and thus, developed countries became dependent on source products.

This shortage of leather led to developed countries developing plastic material (e.g. PVC) to substitute leather and so plastic shoes were put onto the market. However, the technology of the substitutes was medium so developing countries could acquire it relatively easily (e.g. Taiwan). Plastic shoes have increased their share at the expense of leather shoes, but this has not solved developed countries' problems.

An important factor for competitiveness in footwear is low labour cost, which is one of developing countries' strengths.

low wage countries have increased their exports not only in leather shoes, but in plastic shoes as well (e.g. Taiwan). Since developing countries achieve lower prices, developed countries' reaction was to take different measures, such as import quotas on shoes. Thus, governments in developed countries intervene to protect their industries and mainly to keep unemployment down. Firms in developed countries also started automating and raising the technology of production to reduce their cost per unit and overcome the comparative advantage in developing countries.

The firms in this industry are mostly small firms because of the artisan origin of the shoe making industry, but there are also a few large firms (e.g. U.S.A.). Small firms have the advantage of simpler management, fast adjustment to information received etc, but are weak in generating and imposing fashion, in forecasting etc. Large firms can generate and impose fashion, collect information on trends etc, but can adapt less spontaneously to sudden changes in demand. Fashion is an important factor in footwear because changes in fashion affect tools, production techniques, product range etc. Thus, in many countries firms in order to overcome the problems of competition, size, fashion changes etc have been establishing associations, which are responsible to collect and supply its members with different types of information (e.g. fashion, production techniques etc). A growing trend in many countries is vertical integration of production and retailing, with producers establishing or acquiring retailing outlets or distributors getting involved in manufacturing which is another way of increasing turnover and surviving the increased competition. One of the reasons which encouraged imports in developed countries was the ability of

retailers/wholesalers to brand and market shoes made to the requirements of local taste (e.g. British Shoe Corporation) because of the incapability of automated production to cover the whole range.

In Europe, where consumption has been stagnated, all the above mentioned trends and effects can be found. Many were left jobless, factories closed down, the trade balance of payments in footwear went in the red and all because of cheaper imports. One country which has been able to keep a strong footwear industry is Italy. Italian shoes, mainly leather shoes, dominate most European countries and exports reach as far as the U.S. Italy's strengths are mainly low labour cost, production of leather, and the ability to generate and impose fashion, while importance is attached on ladies shoes. Other countries, self sufficient in footwear (e.g. France) in their effort to industrialize the manufacturing process and reduce costs, squeezed out the artisan work and so imports increased (e.g. French dealers buy heavily from Italy). Leaders of Europe's manufacturers called on the EEC Commission to raise barriers for imports from third countries in order to prevent further restrictions on European shoe making and to press on with dumping allegations from low cost countries (e.g. Brazil, Spain).

In particular for Greece the threats arise from increased competition from imports in the domestic market after Greece joins EEC, Italy's competitiveness in Europe and stagnation of consumption

Europe, especially EEC. The opportunities arise mainly from the high wages paid in European countries, and Greece's geographical location.

9.4.4.2 Strengths and weaknesses

Greek footwear production is made up primarily of leather shoes, production of which represents 60 per cent of total output in Greece. Importance is given to ladies shoes which in 1975 accounted for around 50 per cent of total production.

Greece is self sufficient in footwear (the per capita consumption is estimated at about 2.0 pairs). Imports, such as, clogs, Dr. Scholl, rubber shoes, represent around 0.8 per cent of apparent consumption, while around 40 per cent of domestic production is exported.

In all types of shoes, except rubber shoes, exports exceed imports, with leather shoes accounting for around 75 per cent of total exports. Greece is import dependent on rubber shoes because of lack of raw materials. In fashion Greece is mainly a follower, but there are firms which are able to generate fashion but are unable to impose it.

In raw materials production of leather exceeds domestic consumption, while PVC material for plastic shoes is produced in Greece.

The industry is dominated by small firms. The average

footwear manufacturer employs less than 15 persons which is Italy's average and there are very few firms which have production lines and retailing outlets. A number of Greek firms produce for different firms or retailing shops in Europe because of the low cost that Greece enjoys.

The strengths that Greece has are her location, self sufficiency in footwear, high exports, low labour cost, production of leather and PVC material and the fact that Greece is able to generate fashion in ladies clothes is an advantage very close related to footwear. The weaknesses are low concentration, lack of information, and co-ordination of exports because there is no association of footwear manufacturers.

9.4.4.3. Strategies for the industry.

In the footwear industry Greece has many strengths which if used properly could establish Greece a footwear manufacturing centre. If the government had taken different measures in the past, it would have been able to attack different markets abroad more effectively and it would have established a reputation with less amount of money. However, Greece has potentials and there is still time to reorganise the industry and make it more competitive before the EEC entry.

Consumption in Greece is expected to increase because income per capita increases and the EEC entry will accelerate the demonstration effect. Greece has potentials to compete with Italians in cost

structure and after Greece joins EEC Italy will be the only competitor in a high-wage area. Greece is sufficient in raw materials, is located near M. East countries, has low labour cost, there are firms which generate fashion and all these imply that the objective for this industry should be viability of the industry, increase of exports and reduction of imports, especially after Greece joins EEC.

The strategy for such an objective should be an offensive one, that is, building up market share abroad. Market share will increase only if cost is low, firms have information about different areas (e.g. production techniques, evolution of markets abroad etc) and fashion is generated. Greece should aim at expansion through the firms it has already got, securing raw material supplies and trying to keep cost at its minimum. Most attention should be paid in ladies shoes because ladies shoes fashion changes more often which could be combined with the advantage Greece has in generating ladies cloth fashions.

The policies for this strategy should aim at minimising the weaknesses Greece has and using properly her advantages. They should aim at renovating and restructuring the industry, modernising and developing production and marketing techniques and it is very important that the artisan work is not destroyed.

First of all, an urgent step is for a national producers association to be established. The small size of firms necessitates the association to offer more services than any other association.

The role and activity of this association should consist of the provision of information, advice, guidance in the spheres of management, production methods and marketing. Exhibitions could be organised on a regular basis, a fashion information centre could be set up, vocational training both at staff and managerial level should be encouraged as well as reorganisation or rationalisation of production methods, contacts should be maintained with other industries (e.g. tanneries, distributors etc) etc.

Concentration should increase towards firms which are able to produce fashion, in such a way as to secure diversity and complementarity of production. Another form of concentration would be amalgamation of different firms and the common use of productive resources.

In the costs field installation of modern equipment, where necessary, should be encouraged, while in marketing vertical integration of production and retailing should be favoured. Markets abroad should be investigated to increase subcontracting offers, find out the requirements of local taste and achieve higher exports. Efficient promotion should also be conducted in M. East and Europe to increase sales. The advantage that Greece has in generating cloth fashion should be used to increase exports of footwear, by collaboration of the cloth and footwear industry in producing "fashion packages".

The government should assist with financial and tax incentives to accomplish these policies, especially in areas where the small size is a disadvantage. Financial assistance should be given to improve the image of the Greek footwear industry abroad, loans to prove productivity and methods of marketing, encouragement to decentralise production to economically backward regions, incentives for firms co-operation and R&D activities, loans with a view of rationalisation and reorganisation, and it should also think of restrictions on exports of hides and skins and restrictions on imports of different types of footwear from various countries.

The above mentioned strategy for this industry in Greece can succeed and the government must realise its role and commitments to take full advantage of the country's present comparative advantages. If however, this strategy fails, the footwear industry will be a dying industry for Greece. The reasons are Greece's incapability to raise technology (in products or production methods) and get involved into R&D operations, the inability to support the industry if Greece is in the EEC, Italy's threat in EEC if Greece fails to achieve lower or equal prices to those charged by Italians. Therefore in this case the government should be thinking of retraining the footwear labour force and reallocating them into another sector, unless large multinational firms (e.g. Dunlop) are willing or attracted to enter the country in which case the government should approach the firms and give the necessary incentives to attract them.

9.5. The Organisation of Planning the Industrial Strategy in Greece.

9.5.1 General attitudes.

The focuses in which Greece should pay attention are not different from those discussed in chapter 7. Greece is a developing country with many limitations and the government should play a vital role in developing the country because the market forces are not effective. The role of the government should be to influence business without forcing compulsory actions and create the environment for business to operate efficiently, knowing what the strengths and weaknesses of vital industries are. This intervention, of course, depends very much on political factors but it is very unlikely that in the foreseen future Greece will become a centralised economy, with the government controlling and regulating everything, so governments should play the above mentioned role.

An important step is for the government to clearly specify its intervention in business. There is legislation on this at present, but there are a lot of areas that have to be improved or changed. For instance, on the regulations concerned with the internal operation of a firm, it should become compulsory for all firms to publish their sales figures, not only to facilitate shareholders to exercise control but also to make potential investors attracted to the Stock Market; on the decision making on industry level product standards or consumer protection safeguards should be

set (e.g. electrical appliances). There are no regulations concerned with relationship between firms (e.g. on mergers). Lately, a positive step by the government was to pass legislation (703/1977) on restrictive business practices with an approach similar to the U.S. Antitrust Law.

Since it should be the government's role not to force actions but only to create the right environment for firms to operate, Greece should pay attention to creating this environment. The opportunities and threats (section 9.1), the strengths and weaknesses of the Greek economy (section 9.2) and the general strategies that should be followed will give enough evidence to the State to improve its economic planning and adjust the country's stance to help its business to survive. The important knowledge of what the situations are in different industries will help the State to set priorities of support of different industries, set guidelines and targets of how the economy will develop, change the fiscal and monetary policy to meet best the needs of the economy, set regulations for the transmission of resources with the rest of the world etc. Thus, economy planning after the strengths, weaknesses, opportunities, threats, and general strategies have been specified, will guide resources and forces to sectors in which the country has a comparative advantage, will minimise wastage and reduce the weaknesses the country has, something which the present industrial strategy and economic planning seem to have failed to do.

However, the emphasis for the success in establishing Greece a

competitive country rests mainly on the "associations". This is where the present gap between firms and government will be bridged, so that the transmission of information upwards and downwards will begin and facilitate both government and firms in their planning.

9.5.2 "Associations"

The purpose and role of the "associations" should not differ from the one described in section 7.2.1 i.e. a place for understanding government's and firms' views for particular sectors and to ensure that any policy adopted by Ministers fits in as much as possible with what is good for the sector.

In Greece the "associations" can play a more positive role, under a slightly different structure, for the elimination of some of the weaknesses in the Greek environment. More specifically, "associations" should have permanent personnel which will try to assist with the problems that the sector faces and also collect information for the parties involved in the discussions.

In particular, Greece suffers from lack of information about particular industries which affect managerial performance and government planning. One of the objectives of the "associations" should be to help industrialists and government in their planning by supplying them with information relevant to their sector. This can be done with the "associations" providing the literature and reading which will indicate the developing trends, articles which ought to be read by industrialists and general statistics.

When the need for a special survey emerges from the discussions, the "associations" could conduct the surveys, point out different questions, hire consultants whenever necessary and even organise courses which will train employees on problems of the industry. This supply of information could cover different areas, such as, on marketing with reading material on design, improvement of quality etc, on productivity with information on investment in plants and equipment, productivity schemes followed in other countries or firms etc.

9.5.3 State participation

As it was discussed in Section 7.2.2., the State can have a great impact on industrial development through the nationalised firms or industries and the provision of different fiscal or financial incentives which should be given through the business management approach.

In Greece, the bureaucratic structure of the public sector and its inappropriate attitudes towards development has influenced the performance of nationalised firms/industries. The number of nationalised industries or firms, such as the majority of banks, national airways, necessitate attention to be given to them to increase efficiency.

First of all, legislation should be passed which will specify the guidelines for Ministerial intervention. Nationalised firms should be treated as private firms and targets should be set to their management team. It is vital that the management team consists of

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First of all, legislation should be passed which will specify the guidelines for Ministerial intervention. Nationalised firms should be treated as private firms and targets should be set to their management team. It is vital that the management team consists of

quality managers which will have freedom to manage, so that the present situation, where Ministers intervene, managers are appointed through contacts and most of them have no experience (e.g. the underground company), will be avoided. In addition, in cases where for political reasons commercial criteria is abandoned, the amounts paid for compensation should be charged to the appropriate department(s). Thus, all costs would be clear to both public and Parliament which very rarely know the costs or profits in nationalised firms or industries.

With regard to different provisions of fiscal or financial incentives, all governments have been generous. However, the effectiveness of some measures is doubtful because the results are not the ones expected, due to the macroeconomic approach used for applying them. Such measures should be used to implement the strategies selected for each industry and the economy, and be decided after a strengths and weaknesses and alternative strategies analysis has been made, using the business management approach. Such measures should be modified to what is actually attractive to firms without giving too much and control should be exercised over firms to ensure that the objective of the assistance is accomplished. Moreover, the government before covering losses in various firms with public money, should take into account the objectives of the economic plan so that money will be channeled in the right sectors and should also make an important decision whether to support a firm or let it die in order to avoid wastage. The government should also be thinking of widening the scope of its

measures to include selective assistance to individual companies (something that at present occurs only for different industries e.g. tourism), job creating programmes to tackle the threat of an increase in unemployment etc).

9.5.4 Foreign firms

The approach Greece should follow on foreign investment should not differ from the one described in Section 7.2.3. The accommodation and power-balance approach should be efficiently used so that Greece will gain more from the transmissions of foreign capital than at present.

The areas in which Greece is not efficient are the incentives, conditions and control of foreign firms once they are established in Greece. A first important step is for the present general set of incentives and conditions which applies for all foreign firms to change because i) it is out of date (1953) ii) Greece's demands have changed iii) would conditions have changed iv) Greece is about to become an EEC member. The new general set of measures should be adapted to Greece's present stage of development and problems as well as the world conditions. This set will be derived from the experience the State will get by examining the most important industries in the country. The incentives should be just enough to attract the firms without overbidding the offer as it happens at present and should also create a confident environment for the firms to find it attractive to enter. It is

important that in the new set, provisions are left for incentives which will depend on the situation in every industry.

The different environments in each industry will also specify the entry conditions for foreign firms which should be based on the power-balance approach. Information on world trends in the industry, the needs of the economy in that specific area, the particular costs and benefits the foreign firm will cause, existence of domestic firms etc, should be known to the government before negotiations start, so that the entry agreement will be signed with a full knowledge of the costs and benefits for the economy.

At present, measures taken for the control of foreign firms are absent. Such measures should be taken which should aim at finding out the restrictive business practices, regulating prices of the final product, checking for transfer pricing, regulating the percentage of Greek personnel and generally control the firms, whether they abide by the entry agreements. A problem in the Greek economy is the inability of the State to control the movement of foreign firms from one industry to another. Foreign firms should be treated equally to domestic firms in an industry, but freedom to move wherever they find an opportunity might prove costly for the economy. Decision has to be taken whether foreign firms should be restricted to move from one industry to another, unless there is consent from the State.

Thus, this area and the other discussed before should help the government realise its commitments to Greece's development,

especially in the industrial sector, and enable it to take the necessary policies and measures to increase Greece's standard of living.

10. SUMMARY - CONCLUSIONS

10.1 Introduction

The dynamic evolution of the business environment nowadays makes it necessary that a closer view should be paid on it. If industrialisation is considered to be the path for development and accumulation of wealth, a more careful approach should be given on decision making for the solution of the different problems.

In this study the business management approach to industrial strategy is described. This study originates from the argument that if a country is interested in economic growth, it must necessary begin with the productive industries which generate this wealth and which cannot be identified under the macroeconomic approach followed in many countries. To develop this strategy, which is an extension of the comparative advantage theory developed in economics, we used the conceptual framework of likening the running of a country to the management of a highly diversified firm and the way such a firm considers its expansion by looking at its external and internal environment (Chapter 3).

10.2 The Structure of the Work

The plan of the rest of the work we report is as follows :-
1) Chapter 4 refers to the external environment of a country and looks at trends that affect a country as a whole and a country's industries. We concluded that the level of technology required for each sector is the central to the problem of a sector by sector industrial strategy and for this reason four hypotheses were tested

referring to trends in advanced, medium and low technology industries.

2) In Chapter 5 we discussed the way a country can look at its internal environment. It was concluded that this examination should be partly from the economics point of view including also a discussion of the factors affecting managerial performance and partly contain a detailed examination of the country's most important industries, with a strength and weaknesses analysis for each one of them.

3) Chapter 6 refers to the alternative strategies facing a country which will be derived from the opportunities and threats (from the external environment) and strengths and weaknesses (in the internal environment) analysis. It was pointed out that such strategic choices concern partly a country as a whole and depend mainly on the country's state of development, and partly individual industries and depend on the environment and conditions that prevail in each one of them.

4) In Chapter 7 we discussed the problem of how a country could organise the planning of its industrial strategy based on the business management approach and how this system could operate efficiently.

5) To bring the general proposals into relation with real situations we analysed the Greek economy. This helped to consider the practicability of our approach and, to show how this approach

applies in individual industries, we examined the silicon chips, digital watches, electrical appliances and footwear industries. (Chapters 8 and 9).

10.3 General Findings.

The findings of this study can be summarised as follows :-

1) No country will develop successfully unless it uses the business management approach to formulate its industrial strategy, an approach which is complementary to the macroeconomic approach used in many countries and gives more detailed information about the economy, its industries and the stance of the country compared with the rest of the world.

2) The gap between governments and firms, found in the macroeconomic approach, should be bridged with more understanding of how business is done on the industry level, to help the government realise the problems that prevail in the industry.

3) Different industries have different environments with different technological concentration and different world trends and therefore, an industry by industry examination is necessary.

4) Co-operation between government and firms in each industry is important for identification of the problems and mutual understanding of how each party looks at them. This will result in the best decision taking and policy formulation for the particular industry.

5) This approach will help the state not only to derive the best solutions for individual industries, but also to acquire a better knowledge of the situation in the country, on which its targets, objectives, priorities and generally its economic planning will be based.

6) Firms will benefit from the better understanding with the government as regards their problems, which will result in the best policy formulation for the particular industries by the State, and also from finding a secure and stable environment to take their decisions and make their long range planning

10.4 Greece and Detailed Proposal from the Hypotheses

In particular for Greece the general findings are as follows :-

1) Greece as a developing country and a future member of E.E.C. has to follow the business management approach to her industrial strategy in combination with the macroeconomic approach she uses at present.

2) Greece should support those areas in which she has a comparative advantage (e.g. tourism, agriculture) and follow different strategies for her industries, depending on the world trends and conditions found in each one of them, as well as using the strengths the country enjoys (e.g. low labour cost, proximity to Middle East markets etc) in order to assist the switch from declining

industries to the ones with growth potentials.

3) A closer attention has to be given to her internal environment which creates an insecure environment for industrialists, has resulted in the market forces being insufficient, does not produce the skilled and qualified labour the economy needs and which all result in the less competitive state of the Greek economy and especially of the manufacturing sector.

4) Co-operation with industrialists is necessary to bridge the existing gap, as well as help government and firms to get a better view of the problems in both each industry and the internal environment, get nearer to a common view and bring their attention on the area in which they should make policy discussions.

We now go back to detail and relate all this information and these findings to our original hypotheses. In Chapter 4 we tested our hypotheses on the relationship between the level of technology and the kind of firms and trends found in an industry and on Chapter 3 we proceeded to an analysis of the Greek economy and its important characteristics. From this we were able to reach certain general conclusions about the way in which using the theory of business management, a policy could be derived for the way in which the Greek government and its industries could develop better the economy and face the difficulties arising from E.E.C. entry. These can be stated as follows :-

1) Advanced technology: Greece can only enter these industries by inviting large multinational firms to set up production in the country. This can be succeeded only if :

a) it can be shown that Greece has some strengths or opportunities which will attract foreign investment and/or

b) the government can offer attractive conditions and incentives.

The decision to invite such firms will depend on the advantages in the long run in the economy as estimated by the authorities and industrialists in their "associations" (see sections 7.2.1 and 9.5.2). The results of two example-studies made for this type of technology are as follows :-

i) the examination of the silicon chips industry concluded that Greece should examine carefully the possibility of inviting foreign firms to produce silicon chips because the EEC entry will accelerate the need to modernise output and it will also increase the number of industries in the country. ii) with regard to the digital watches industry, Greece should not give priority at present because this industry does not integrate with her activities unless a firm proposes to enter or a silicon chip^s industry is established.

2) Medium technology: These include some industries in which Greece is currently successful. The EEC entry will phase out all government support to these industries and will increase competition, but the "home" market will be greatly extended to

include the EEC members. After careful assessment, based on the business management approach of the various characteristics and trends (e.g. competitors, product markets etc), the government and industrialists will have to take measures to ensure the survival of those industries which are calculated to be most capable of succeeding and that any industry "drop outs" harm as less as possible the economy. Despite the fact that different policies have to be decided for each industry, there are some general ones that have to be taken.

a) Any possible technological advances in these industries have to be monitored, and where necessary, new technologies or production methods will have to be bought in or more advanced foreign firms will have to be attracted to set up production or to take over domestic firms.

b) Capital and financial incentives will have to be introduced to make domestic firms more efficient.

c) Educational facilities suited to the needs of these industries for technical skilled workers or for managers have to be improved.

d) The internal environment in the country, such as the banking system, stock market, which affects firms performance have to be improved to contribute to the increase in overall efficiency.

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d) The internal environment in the country, such as the banking system, stock market, which affects firms performance have to be improved to contribute to the increase in overall efficiency.

The examination of the electrical appliances industry in Greece, used as an example for such a technology, concluded that assistance should be given to the firms to increase their market share abroad, achieve economies of scale and reduce the present high cost structure.

3) Low technology: Greece is competitive in such industries mainly because of low labour cost and so has potentials to succeed in the E.E.C. A careful examination of the environments in each one of them will give enough evidence to the government and those engaged in the industries to decide measures ensuring the competitive edge that Greece enjoys at present. The general policies that should be followed are as follows:

a) Rationalisation and better organisation should take place to improve efficiency, especially in industries dominated by small firms.

b) Restrictions in exporting vital raw supplies, bilateral agreements with other countries, protection barriers and different fiscal and financial incentives should be given to support the viability and expansion of such industries.

The examination of the footwear industry in Greece, carried out as an example for low technology industries, concluded that the efforts should be oriented in grouping the various small producers, organising an information system for all of them and carefully investigating markets abroad.

10.5 Generalising the Work for Other Countries.

The applicability of the business management approach to industrial strategy is not limited only to developing countries like Greece. Other countries could follow it and their strategies will depend mostly on their state of development and their economic structure.

Developed countries will find in which industries they have a comparative advantage, in which ones developing or underdeveloped countries cannot operate so that their firms can expand either through exports or direct investment, which industries to finance to take the lead in technology from other developed countries, where to give financial assistance to help raising the technology of products or production methods to eliminate competition etc.

Underdeveloped countries will find which industries they can establish from the raw materials or other advantages they might enjoy, how to derive the best policies for their industries which can expand through exports, in which industries priority should be given, for which industries to raise protection barriers, where to invite foreign firms, how to develop their internal environment to stimulate entrepreneurial skills to develop, how to establish such a framework as to allow foreign firms to contribute their best etc.

APPENDIX A

THE SILICON CHIPS INDUSTRY

THE SILICON CHIPS INDUSTRY

...1. Evolution and History

The invention of silicon chips promises to change today's life. It can be called the revolution of the last decade and has already done great damage to some countries, while in others wealth has started being accumulated.

A silicon chip has all the important components of the computer etched onto its tiny surface. It is called a microprocesser. Electric pulses being directed by switches, by sending the pulses of undiffered channels, a chip could be made to do anything from arithmetic to reading a book. Some chips will totally revolutionise our way of life. This is the reason why Japan abandoned its ship building and why the next generation may grow up without jobs to go to.

The story began only thirty years ago. In the early '50s, the switches in computers were valves. Each one was hand made and expensive around £5 each at today's prices and the world market was dominated by huge American manufacturers. But in 1947 transistors were invented in the U.S. The transistor switch was simply two pimples of germanium fused to the faces of a disc of germanium and with the electrical connections made it was complete. The transistor murdered the valve industry. The U.S. valve makers had been slow to see the importance of the transistor and Japan quickly took advantage of the break through to set up transistor factories. They became the major transistor makers in the world. The transistor radio was one of the first signs of the dawn of industrial Japan. But they did not keep the lead.

In 1955 the inventor of transistors left Bell Telephone Laboratory, where he invented the transistor, for Stanford University. Stanford tries to persuade its best students and scientists of distinction to exploit new and sophisticated technologies commercially. The University runs an industrial estate just outside the campus. ~~and~~ offers collaboration on research and it invests in the factories. It was there that semiconductor began. The inventor of transistors had chosen a team of 8 scientists to help create a transistor of ^{/a} new material silicon. Germanium transistors stopped working when they got warmer than a cup of coffee. The Army gave him 50 m dollars to make a transistor to withstand battle conditions. But after only two years his 8 scientists left him claiming they found him intolerable to work with. The eight scientists persuaded the Fairchild Camera Corp. to set them up as a new company. In that factory they created a new industry and won the lead back from Japan.

On a chip of silicon were printed insulated conductor bars. Then three more layers of conducting material were printed on top and square holes punched through, so that each layer could make contact with any of the others. In each hole the touching layers formed a transistor. That's how by 1963 they reduced the cost of transistors tenfold. The single transistor was made in 1957. In 1963 it was 8 on a chip, today the figure is 250,000.

What fueled these developments was that an enormous number of circuits was needed to beat the Russian to the moon and to the second generation of guided missiles. Money for defence and space really made the industry boom. The industry grew in the valley of the South end of the San Francisco Bay.

In 1959 5 of the senior staff left Fairchild to form Rheem . In 1961 8 more left to form Sygnetics and 4 to form Amalco. In 1962 two formed another company and so it went on. Senior staff from Fairchild left to set up one company after another making the world centre for the semiconductor industry. From microprocessor a lot of people became millionaires, since the dream to put a whole computer onto a single chip came true.

12. Production and Testing

Production begins by taking the design as drawings and recording the position of each part into a computer. The computer will reduce the scale 10,000 times to create a photographic printing mask. It is used to print the circuits 200 at a time onto a wafer of a silicon. The actual production of a wafer takes three days to complete and very sophisticated equipment is needed. The lines on a wafer are no more than two 10,000 of an inch wide. Layer upon layer each placed upon the next to an accuracy of one 10,000 of an inch.

The special areas where the circuits are built are constantly monitored for dust in the air. They are 10,000 times cleaner than the best operating theatre in the world. In there they are protected by airlock after airlock from the outside world. If dirt would to get in all these equipments would be made useless for months.

After the wafer has been made it has to be tested. In fact completing a wafer is not half the cost of the process. There are many more people, more equipment and more money

spent on testing circuits than actually making them. Each computer chip is tested with a full round through of every possible instructions it can obey. Once set up, the testing of a wafer is automatic. Each test takes less than a quarter of a second and most chips fail. There is no possible way of repairing them, in fact they are doing quite well if as few as a quarter of the circuits work.

That's why there is a certain tension in the wafer area. It takes three days to complete a wafer and there is no way of knowing if the one you are making is going to work when it is finished. There are stories of firms who had chips in full production and suddenly lost control. The testing jumped to 100% failure rate. In spite of intense efforts to find the faults for month after month they produced nothing but failures. The process has so many steps that it will be impossible to find out what's wrong. That is why production is separated into smaller units in different buildings so if disaster strikes it does not hit everything.

4.3. Applications

After the wafers have been tested they are shipped to the Far East by air. In fact, all manufacturers send their chips to be mounted where labour is cheap. Once the circuits reach the Far East they are cracked apart into individual chips. The cost of handling them will no longer be shared among the circuits on the wafer. At this point the individual good ones are worth 50p each. Making connections to a chip in Taiwan with so low wages, adds another 30p. Miniaturisation is not an end in itself. It is simply the best way of making the cheapest circuits and yet the smallness is impressive.

The astonishing possibility it is now feasible to replace defective nervous tissue with synthetic brain. One of the first experiments that this is being done is almost complete in Stanford University. A small circuit built around a microprocessor and three other chips could be fitted in a deaf person's scalp. It will pick up power and sound through aerial coils as it lies buried. The microprocessor will convert speech into pattern of electric pulses and send these to his brain along four fine ones. He will not hear words, he will feel inside himself patterns of a new kind. He will have to learn the meaning of each sensation sent to the brain.

Another application is being completed in the U.S. A machine has been invented which will read to a blind man. A computer will read an ordinary book and then it will speak it aloud in its own artificial voice. In the heart of the machine there are tiny powerful computers built around the technology of silicon chips.

3.1 New industries.

Electronics prevails almost all products and manufacturing techniques. When key components become a thousand times cheaper through the use of silicon chips there will be dramatic effects. The biggest changes are yet to come but some we have seen already.

The manufacturers looked for a way to sell their chips directly to the public and at least twenty manufacturers rushed in to make calculators. A new industry was born selling £100m worth of chips a year. The existing mechanical

calculator industry came to an end. They could not cut their prices. The competition between the electronic calculators manufacturers was so fierce that after four years there are two or three manufacturers making calculators.

The next idea was to sell chips in watches. The price of the cheapest watches came down and down till now is below £10. The effect on the Swiss watch industry was shattering. Swiss used to make half of the watch movements in the world. But the electronic watch stopped all that. Seventeen firms went out of business and there was a wide spread unemployment. Europe lost £200m to the Americans.

Now there is a new war. Making games around chips that control TV screens is an industry worth a quarter of a billion pounds a year and it is growing.

1.3.2 Automation

The new supermarket check-terminals have microprocessors inside them and are called point of sale terminals. Each one is a computer in each own right and they have the power to do things that mechanical cash registers could not do. Not only totaling, but also checking the validity of the credit card through the bank's computer (supplied in New York). The terminal automatically transfers money from the customer's account to the shop's account. It could also remember what has

been sold and a total list of what has to be ordered to restock the shop is being built up. In the future this re-order will be issued automatically to the Automatic Warehouse.

Automatic warehouse are working now. Loads are delivered to it by lorries. The loads have identifying labels on their sides. A camera reads that label and the computer automatically decides where the load will be stored. None needs to know where anything is stored and none cares. The computer does it all. When the goods are needed the computer will know where to find it. All the man has to do is read which lorry is this load for.

In supermarkets each time the key in check points is pressed the computer makes a note of the time. The terminals keep a record of how fast each girl is punching her machine. It can make a detail record of each cashier, how much money she takes per hour, her number of mistakes. In Denmark where shop automation is more developed, the check out girls in the biggest supermarket chain have refused to operate the new terminals till that part of the computer supervising programme has been deleted.

Microprocessors apply to selling petrol and have already led to a 100,000 pump attendants being rendered unnecessary. The change can already be seen in the office. There is a new machine coming into use called a "word processor" and it is

probably a more important step to the invention of a typewriter. It uses no paper, the texts can be moved around, edited and instantly corrected. The machine corrects simple spelling mistakes, works out line lengths, where to begin a new page. The text is stored in memory chips controlled by two microprocessors. They rearrange the text by transferring it from one memory to another. A printer takes care if the fixed document is needed on paper. The operator will never have to leave her seat to post anything or do any filing because the next generation of the word processor will communicate with each other. Mail can be sent via computer to any other word processor in the building or via a satellite to anywhere else. Word processors will replace filing clerks and post room.

In production methods there has been a change. In FIAT in Italy robots are welding the parts of a car body together. Twenty robots manned the production line by themselves. But now with the really cheap computing whole new levels of automation are being opened up. The U.S. government is financing robot research. In a laboratory near Boston a robot assembles a complete car alternator in two and a half minutes out of standard car components. It does everything except take a tea break or go on strike. There are a whole range of American projects keeping a low profile for fear of attracting union hostility. In robots a recording is made of what a man is doing (e.g. paint a chair) and then he is no longer needed. His skills have been absorbed into the machine and the robot

repeats its action.

The change of automation has occurred not only for blue collar workers but for lawyers or doctors or teachers. A medical consultant has taught for the past seven years his skills in a computer in a hospital in Pittsburg U.S.. A junior consultant could easily use this automatic consultant. It could make diagnoses which would require the experience of several qualified consultants. The computer asks a variety of questions, examination and laboratory tests. The junior consultant feeds the results from the different tests and YES or NO to the different questions and the disease is found. The medical consultant who did this programme feels that the computer is more competent than he is.

In the land there are very few people working. The one who occasionally might be seen is the tractor driver. The equipment now put on tractors costs less than £4,000. All the farmer has to do is cut the first furrow then he can have the tractor do the work by itself. It stops when its rotating eye sees a line of light reflecting poles.

People involved in this industry feel that the big electrical companies such as General Electric, Philips and its many English subsidiaries will reduce their total employment for up to 30% in the early 1980's even though by that time their total production might be doubled of what it is now.

However, there are some questions to be answered. If industries employ so few people to generate wealth how can the money be shared out ? Will countries become divided nations of the very rich and the very poor ? Could countries adapt quickly to the new methods ? Will Trade Unions let it happen ? Unionists argue that the social pay of automation is too great. But the case of this equipment is already growing in Japan, Germany and the U.S. If countries do not automate as fast as these countries, this will only cause more disadvantages. The low cost of production and volume will destroy the other countries' industries.

Some countries such as the U.K. play a great role in the automation development. The U.K. is the world leaders of software. Software is the set of instructions that have to be written to make the computer do his job. Chase Manhattan Bank in New York used a software package from the U.K. for their trading system in the currency market. The software cost in computer can reach as much as 40% of total cost. Copyright plus tailoring, i.e. modifying the package to suit the particular user's needs, will bring high income in the U.K. But the question remains, What will the future be ? and what will the world be transformed into ?

APPENDIX B

THE DIGITAL WATCHES INDUSTRY

APPENDIX B
THE DIGITAL WATCHES INDUSTRY

1. Evolution and Technological Aspects of the Industry.

Quartz watches first appeared in the U.S. in late 1974 the offspring of the American electronic companies of Fairchild Camera and Instrument Corp, Texas Instruments Inc and National Semiconductor Corp.

After 3 centuries of steady evolution watch making has undergone a revolution in just three years. Digital watches captured a fifth of the U.S. market in 1976 and nearly a tenth of the European business. In the last two years quartz watches have succeeded in taking a significant share of the market. By the 1980's it is believed that quartz will be well established. The world watch market is estimated at around 240 m units in 1977, increasing to over 250 m by 1980 (FIN. TIMES Jan 21, 1978). Growth in the market would be unlikely if the quartz watch had not happened. The micro-electronics American firms which made this revolution seem to have applied an aggressive pricing policy. The lowest price from a major manufacturer was just under \$20 on the U.S. market in 1977 compared with over \$125 in 1975. (FIN. TIMES Feb. 7, 1977)

The world's largest watch exporters, Swiss and Japanese, were shocked by this rapid increase of sales of digital watches, and decline of prices in the U.S. market. This rapid success is the reason why the traditional watch-makers should not be blamed

for being unaware. As always Japanese were the quickest to react. Ricoh led the way followed rapidly by Seiko, Citizen and Oriental. Bulova, U.S. number two, was not far behind. But the Swiss took longer to accept that digitals were more than a passing "craze". So did the giant of the U.S. and international industry, Timex. In 1972 the industry had an early disaster. A handful of small companies had rushed their watches to market, which were poorly designed, big and ugly and so defective that returns ran as high as 60%. The biggest problem was in the digital time displays which were unreliable and often unreadable.

1.1 Technological aspects

There are three basic types of electronic watches. All use a battery to oscillate a quartz crystal whose vibrations are converted into one second pulses by an integrated circuit. In the analogue watch the circuit gears a motor which drives the hands. It is a replacement of the mechanical springs, cogs and wheels of an ordinary watch, with an electronic brain, retaining the traditional face and hands. The LED (Light Emitting Diode) type of watch is identical to calculator displays in which a line of bright red figures is illuminated by the battery. Because of high power consumption the battery has to be left inert until switched on by a button. The third display technology is called LCD (Liquid Crystal Display). Providing black or silver figures on a white background it uses far less power and so can provide a continuous display.

1.2 Quality

The need to use both hands to tell the time with an LED

watch has proved less of a deterrent than many companies feared. In the U.S. at Sears Roebuck Boston retail group the LED watch outsold the LCD by a 3-to-2 margin in 1975.

Marvin A. Meyer, a watch buyer at Sears, explained that as "the attraction of the blank dial and the sense of power the customer gets in being able to push a button and turn on the time". (Business Week October 27, 1975). More serious has been the tendency of batteries to last only a few months rather than a year claimed by some suppliers. The problem with LCD is that none can guarantee a life of more than 5 years for the display because the product is so new. Adding a small back light to make time visible in the dark increases power consumption. The use of radioactive tritium for permanent back lighting is now being introduced. However, the main concern of digital watch makers is the short-life of the batteries. There are customers who found their batteries wearing out in three months. The sign pointed to excessive power consumption but the long established manufacturers tried to blame the battery maker.

3.2 Swiss and Japanese

The Swiss were the worst affected by the digital watches. Their exports fall from 84.4m in 1974 to 62.2m in 1976, and employment has dropped from 80,000 to under 60,000. Everyone, but the most specialised high price supplier of mechanical watches, accepts that the "craze" is here to stay. The key is how far the trend will go outside the U.S. This depends on the European consumers and how they will react to a digital display of time.

Traditional suppliers like the two big Swiss groups, SSCH (Societe Suisse pour l'Industrie Horlogere S.A) with Omega and Tissot and ASUAG (Societe Generale de l'Horlogerie Suisse) with Rotary and Longines, as well as the Japanese are now shipping large quantities of digital watches. Ebauches (ASUAG) signed an agreement with Hughes Aircraft Co. which will supply Ebauches a production line to manufacture integrated circuit. But their main strategy is to exploit the accuracy and reliability electronics can offer, while avoiding a head-on clash with the electronics companies. This had led to what is known in the trade as the quartz analogue.

Whether this succeeds depends upon several factors including a reduction in the price of its mechanical components and the preference of the consumers. If the Swiss and Japanese succeed in creating a demand, this will prove profitable since few of the U.S. electronics companies could develop enough expertise in precision mechanics to challenge them. (Financial Times February 7, 1977) However, if the European consumer accepts digital watches the way Americans did, the Swiss and Japanese will be forced into confrontation with the U.S. electronics companies. Japanese and Swiss prefer LCD watches to LED and LCD watches began to appear in volume only by these two countries and the U.S. The price varies according to the country and firm. Timex is now putting on the market watches costing under £20 in line with the minimum prices from major U.S. and Far Eastern suppliers, while Swiss range of LCD starts from £30 claiming better style and quality.

Mr. Paul Tschudin, vice president of Ebauches, part of ASUAG group and Switzerland's largest maker of watch movements complains that "the digital image has been more than tarnished by some of the products. A lot of customers have been dissapointed by poor quality watches without after sale service". National Semiconductors admitted quality problems in watch production, but they claim that only 3% of its products are returned as faulty by U.S. consumers. (Financial Times February 7, 1977)

3. Future Prospects

As often happens when a new technology shakes up a competitive market place, the established companies are not leading the way. The aggressive U.S. semiconductor makers seem determined to dominate this new market. Stewart Carrell, group vice-president at Texas Instruments Inc, predicts: "There's no doubt now that the digital watch will bring the watch business back to the U.S." (Business Week October 27, 1975).

National Semiconductor Corp. and others have made considerable efforts to improve styling by slimming down the electronic module and slim line watches are now widely available, ^{/while} they are also adding extra functions. Bulova Watch Co. In the U.S. made heavy losses and was forced into the arms of a Hong-Kong family electronics business, Stelux, which provided a minority stake and a new chief executive. Timex bought RCA's liquid crystal displays and large quantities of components from other companies and appears to be gearing up for a counter attack. Timex was also forced into cutting employment at one of its British factories in the Autumn 1976.

Not only the traditional manufacturers have been hit but also semiconductor companies. Time Computer Inc. the first to market LED watches in the U.S. ran in the red in 1976. Litronix Inc has cut back.

The big problems facing the multifunction watch are the limited power supply of the battery and the evolution of a simple system for operating the various functions. The Japanese in past performance are expert in incorporating electronic gadgetary into watches. They, unlike the Swiss, accept that there is a big middle market of watch buyers who will opt everytime for a watch with a few extras, even though they are unlikely to use the extras (e.g. the stop watch function, or showing the wearer's pulse rate and calculate his blood pressure unnecessary functions for most people).

Some companies have started assembling lines in cheap labour countries, such as, Thailand where Seiko assembles some models, Timex in Taiwan. Japanese (e.g. Citizen) have also started using a solar cell as source of energy replacing battery. These cells placed on the face of the watch, transform the energy from the sun into electric current.

Swiss manufacturers have also started putting digital watches on the market, their main hope not to be left behind, relies on heavy research and development. Ebauches (ASUAG) has produced a tiny model by splitting the battery into two, each the size and thickness of a drawing-pin head. One way Swiss hope to be competitive is by improving battery life. SSIH plans to offer a 3 year battery life. Like the Americans and Japanese, Swiss

are adding extra functions to their watches, namely stop watches, calculator watches, and others will follow like dates to remember, radiopaging cheaper devices etc.

The Swiss manufacturers might be forced into assembling watches in the Far East (e.g. Hong Kong) where wages are ten times less than those of Switzerland, or even cheaper in Thailand. The author of a forth-coming European-market study for a Swiss publisher, claims to have support from leading Swiss companies for his forecast that 38% of the world watch market will be digital by 1980, therefore, reduction in costs becomes important. However, the Swiss firms are looking for other outlets of their technology. Both ASUAG and SSIH make electronic results boards for sporting events and display systems for railway stations and airports. ASUAG has set up its own production of circuits and hopes to be able to do contract work, making integrated circuits for others.

Future trends in the market might be a continuing shift of production to the Far East, a growth in the overall market because of the advent of quartz and its continuing decline in price, the steady increase of the quartz share within the overall market, especially LCDs and analogues, the possible emergence of protectionists demands aimed at cutting out unfair competition. Finally, the rash of price cutting has meant that producers and distributors see their profit margin attacked at the same time as the market is growing.

The revolution in watch making limited the number of countries which can produce digital watches. In other

European countries (e.g. U.K., Germany) there have been some manufacturers producing mechanical watches. Now they have found themselves in a declining industry and their only way of survival is production of digital watches. The answer to the question of whether they can do it themselves without being acquired, does not favour them. However, there are some firms which are trying to find themselves in that market by buying technology from abroad (e.g. Trafalgar in the U.K.)

4. Jeweller and Service

Not only will the traditional watch makers could be driven into an ever declining sector but the traditional retail jewellers would be forced to leave the watch business completely. There is a public relations battle over batteries in which there is a wide range of different kinds. They have to be bought at jewellers or watch repairers shops. They usually have to be changed by trained people while there might also be a shortage of batteries in various parts of a country.

The after sales service has also changed. Watch repairers have to learn new skills. In fact, the American and Japanese electronics companies, which went into quartz watch production as a by product of their basic business, failed to provide adequate after-sales facilities.

The jewellers are losing business since over four-fifths of digitals are being sold through other outlets. In Germany,

France and the U.S. the lead has been taken by department stores and mail-order houses. The watch market was governed by jewellers who took a profit margin of 50% plus. However, the department stores or any other shop selling digital watches apart from jewellers, are enjoying lower profit margins which increases their sales. In the future jewellers will have less service to offer to customers because the watchmakers themselves will handle what little service or repair is needed on digitals.

APPENDIX C

THE ELECTRICAL APPLIANCES INDUSTRY

APPENDIX

C

THE ELECTRICAL APPLIANCES INDUSTRY

THE ELECTRICAL APPLIANCES INDUSTRY

21. Methods of Production and Domestic Appliances

Throughout the world there are two types of production in manufacturing industry, namely, production to order and production for stock. In the production to order customers order what they want with the specifications they want (e.g. furniture). In the production for stock the manufacturer has to produce in advance of customer's requirement with the aim of being able to meet those requirements on demand. Goods made for stock are more or less standard, while goods made to order vary according to customer's wants.

As far as the process of production is concerned there are two basic processes indifferently of whether it is production to order or production for stock. These two processes are the making of components, and final assembly into the finished product. This "make or buy" decision is one which, theoretically, depends entirely on relative price. However, historical background of the firm and safeguarding of supplies in terms both of quality and of avoidability are very important. In the highly organised production processes of today, the whole process of production may be temporarily stopped by the absence of one part or even the absence can cause a factory to close down.

Domestic appliances are made for stock. In the earliest days of the industry production was to order. The first products by G.E.C. in Britain in 1880's, were usually made up

to individual requirements. The customer was invited to state what he wanted; the company then undertook either to find a manufacturer or to make the goods itself. Facts such as the customer's ignorance of what exactly he wanted, the progressive reduction of the price of electricity for domestic use so that moderate incomes could reach it, created the need for making standard appliances.

In the beginning appliances were produced against distributor's orders but as the market became gradually stable, manufacturers began to anticipate these orders by making for stock. Nowadays, large firms think of it as very important to have a regular rhythm of output in each period, so as to secure the greatest economies of labour utilisation and of materials buying; the resulting inflexibility of output means that fluctuations in demand can only be satisfied by varying finished stock of appliances.

Generally speaking, appliances are made for stock and the output of large firms is somewhat inflexible; they find it very difficult since the processes of production are not easy to establish. The problem of whether a company should have the making of components (fabrication) and assembly or only assembly and how far making of components could be made within the concern, depends on many considerations. Type of production, location of the plant, for the more remote the plant is the more difficult and risky it is to find bought-out parts, are very important. There are firms which have only assembly line

and firms with both fabrication and assembly (e.g. Belling Co., U.K. and Siemens, Germany). There are components which are commonly bought out, like, thermostats, timing devices, hot plates etc.

While the manufacture of minor appliances involves making or buying out the small parts and then assembling them, sometimes by mass production methods, major appliances are more complex to make. The main parts of large appliances are being sub-assembled at the same time as their cabinets are built up. The cabinet and the sub-assembled parts are fitted together with the help of conveyor belts. Exhibit 1, shows the materials that go into domestic appliances in quantity per unit.

However, different economic situations changed production, dropped out different products, helped other appliances to increase their market share and generally had a decisive impact on the industry. A very good example is the energy crisis in 1974. Some products benefited from the energy scare. Microwave oven producers capitalised on the situation promotionally with significant results. Electric cookers, especially in the U.S., strengthened their dominance of market share, forcing gas cooker producers to scramble in an all-out effort to market complementary full lines of electrics. Electrically heated dwelling units in the U.S. increased their saturation through 1974. Other products have been less energy fortunate. The existence of many gas appliances is threatened in some countries. Electric shaver manufacturers feel further threatened by blade razors because consumers think that it takes less energy to heat

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the water for a blade shave than use the electric razor even though electrics consume less energy. (Appliance Manufacturer 1975).

C. 2 Electrical Appliances Industry in Europe by Country

The European electrical appliances industry is dominated by large industrials. Table 1 shows the largest industrials in Europe classified according to their turnover. There have been a lot of mergers, especially in 1970's, because of changes occurred in the market. In most European countries there is a high percentage of ownership of domestic appliances in households. Table 2 shows the penetration of domestic appliances into households. That means that most buys are replacement and not first buys. The market, therefore, has reached its saturation level in which there are many manufacturers for a small size market. Survival and competition are the main reasons why so many mergers and joint ventures occurred among companies from different countries. Examination of what the situation is in some European countries will give a better picture of the problems each country faces. This examination concentrates on the main category of domestic appliances, the so called "white goods", and includes refrigerators, cookers and washing machines. We will also refer in the Television Market because it is related to domestic appliances, since most firms are involved in production of both categories of products.

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TABLE 1. Largest Firms in the Electrical Appliances Industry among the 4,000 in Europe in 1975 (rank by sales)

Rank	Sales #	Firms	Rank	Sales #	Firms
2	8,001	Philips (NLD)	213	565	Grundig (GER)
7	5,765	Siemens (GER)	332	362	Bauknecht (GER)
21	3,632	AEG/Telefunken (GER)	474	231	Hoover Ltd (UK)
33	2,661	General Electric (U.K)	525	199	Thomson Brandt (FR)
39	2,411	R. Bosch (GER)			
71	1,471	Thorn (U.K)	1,220	94	Arthur Martin (I)
126	942	Lube Inv. (U.K)	2,129	46	Philco Italian (IT)
135	917	AB Electrolux (SWE)	2,301	41	Belling Co (UK)
183	668	Bosch-Siemens (GER)	2,978	26	IRE (IT)

Source: 1976's 2000 Largest Companies, S. B. K. Co. U.K. 1977.

Note: Zanussi is not included because in 1975 it was linked with AEG; in 1973 it was ranked 132.

TABLE 2. Household Ownership of Domestic Appliances (percentage)

	Washing Machines	Refrigerators	Electric Cookers	T.V. sets
Austria	62	84	n.a.	n.a.
Belgium	74	80	16	24
France	74	90	100	33
Germany	80	85	n.a.	33
Italy	73	90	80	73
Netherlands	84	88	18	35
Sweden	80	90	n.a.	n.a.
Switzerland	92	73	n.a.	n.a.
United Kingdom	70	80	44	29
U.S.A.	97	100	n.a.	27

Source: Marketing in Europe, Minel

n.a.: not available

ITALY

Italian manufacturers have dominated Europe for the majority of white goods. In 1972 the Italian share in European production was 48% in refrigerators, 36% in washing machines, 30% in cookers and stoves, 43% in dishwashers.

Zanussi, the biggest of all, operates under the umbrella of INDUSTRIE A. ZANUSSI (IAZ) (International for the non Italian market). The Italian industry in 1968 was suffering from a severe recession and many formerly large and prosperous companies faced insolvency. The Italian government expediently asked Zanussi IAZ to acquire these companies and gave a large cash grant in order to promote the plan. The result has been the formation of the largest appliance manufacturer in Europe selling more than 5 million appliances a year. Italian manufacturers are assisted by the government measures in terms of tax, duties, export rebates etc.

However, Zanussi only recently has begun to show a profit, as previous years' losses were the result of digesting all the companies acquired in 1968. One of Zanussi's advantages is the profitable operation of manufacturing most of the components and sub-assemblies. Its components supply more than 60% of Zanussi internal requirements. It also has an extremely well organised delivery system from the Italian factory; for example, transit time to U.K. is ten days via the company's special trains to Calais. Zanussi controls Stice, Becchi, Castor, Zoppas, Triplex. It manufactures under brand names of foreign firms, 17% under the brand name AEG. In December 1973 AEG-TELEFUNKEN secured the future continuation of this long

standing successful co-operation with IAZ S.p.A., by acquiring a 20% minority interest in that company.

Another Italian Group is INDUSTRIE RIUNITE EURODOMESTICI (IRE) formed in late 1969 by IGNIS S.p.A. (ITALY) and PHILIPS (Netherlands). Philips, an Ignis customer for years, hooked up with that company in late 1969 in a joint venture known as IRE. Ignis brought factories and outlets to the deal; Philips financing and advanced management know how. Hit by serious labour problems and internal dissensions the joint venture lost 2.5m dollars in 1970 and 4.8m dollars in 1971. But Philips was willing to pay 15m dollars to acquire control of both IRE and Ignis and thus protect an important source of supply. Ignis had in 1972 33% of the Italian Appliances market and 22% of European refrigerator market. In July 1972 Philips acquired full control of Ignis S.p.A. and IRE. When Philips split its Domestic Appliance Division into Small Domestic Appliances and Major Domestic Appliances, it based the latter in Italy. Ignis was the first to introduce 2-doors-fridge and top loading washing machine.

PHILCO-FORD is owned by Ford (USA) producing electrical appliances and it is the number three Italian firm which has become financially linked with a foreign firm. Philco was totally acquired by Robert Bosch GmbH (Germany) in April 1972. Philco's activities are manufacture and distribution of refrigerators, washing machines and television sets.

INDESIT S.p.A. is a quite famous firm throughout Europe. It produces refrigerators, cookers, washing machines and colour T.V. It is the domestic market leader for electric cookers and ranks third in the refrigerator segment of the market. Exports account for 70% of its production mostly to U.K. and France. It produces about 8,000 units and its prices have been 20% - 30% lower than other firms. It was established in 1960 with the name Indes but later on it changed to Indesit (Indes-Italy).

CANDY is a very famous brand name for GIED. It produces cookers, dishwashers, washing machines and refrigerators under the brand name Kelvinator (USA). However, it is very famous of its washing machines and is the market leader for this product.

MERLONI S.p.A. manufactures electric water heaters, cookers, washing machines, refrigerators, dishwashers. It ranks third in the cooker market with 12% market share and first in the water heaters market with a stake of 30%. It also has a 4% market share of washing machines.

The Italian market has not been penetrated by foreign brand names. It has so far succeeded in keeping its market fully satisfied by Italian products.

In the refrigerator market Zanussi, IRE, and Indesit have 70% market share (Zanussi has 49.1%). In cookers the leading firms are Zanussi and Indesit, but Indesit is the one which

dominates. Zanussi has 41.6% market share, while number three firm is Merloni with 12%.

In washing machines Zanussi has 22%, Candy 23%, Indesit 20%, Ignis 6%, San Gorgio 8%, foreign firms have 3% - 4% of the market.

In TV sets in monochrome Zanussi ^{/has} 18%, IRT, (Fabbrica Italiana Radio Televisori S.p.A. is a subsidiary of Telefunken - Fernseh - und Rundfunk GmbH, AEG - Telefunken and manufactures TV and radio sets) 15%, Philips 13%, Philco 13%, Seimart (Magnadyne) (Italy) 13%, Grundig (Germany) 6%, Autovox (Motorola USA) 6%, Voxson (Germany) 6%. In 1976 Italy introduced colour programmes in T.V. The leading firms in colour T.V. are Grundig (GER), AEG-TELEFUNKEN (GER), Philips (NTL), which all of them have approximately 30% of the market. Other firms are IRT (AEG), Zanussi, Autovox (USA), Voxson (GER). The T.V. sets market is the only market that foreign produced products have such a high penetration. There are quite a few foreign firms which enjoy more than 50% of the market share.

The Italian manufacturers depend very much on foreign trade. The domestic market has virtually reached saturation level and it is now relied upon replacement sales. The fact that they manufacture for foreign firms' brands gives them the lead to the white goods market or simply, they are good at manufacturing white goods.

The threat of a decline in demand for domestic appliances in developed countries (mainly Western Europe) is leading Italian manufacturers to new markets in developing and socialistic countries, within the scope of economic co-operation agreements. Sales to these countries, however increasingly, take the form of the supply of semi-finished products to be assembled locally by an infant domestic industry. Quoting the Financial Times August 22nd, 1973.

" After nearly two years of negotiations the Ariston Merloni domestic appliance group is reportedly about to sign a contract for the construction of an automated and completely self-sufficient plant to produce 500,000 electric cookers annually near Moscow. The company will benefit both from the know-how and royalty payments.(Merloni) has licenced the production of refrigerators in Yugoslavia, water heaters in Hungary and negotiations are under way for a refrigerator plant in Bulgaria...."

UNITED KINGDOM

The electrical appliances industry in the U.K. is structured in a different way. While in Italy there are about three groups which dominate the Italian market with a high share in the European market, in the U.K. there are different firms which are leaders in one or two products with a not high share in the European market. Their European market share is very small compared with what other foreign firms enjoy. Although, British manufacturers produce the whole range of white goods, some firms are good at one or two products (e.g. Belling in cookers, Hoover in vacuum cleaners and washing machines).

Another difference with Italy is the structure of the firms that exist in the industry. The Italian firms are solely manufacturing electrical domestic appliances, whereas British firms, however not all of them, are conglomerates having a division named "domestic appliances" (e.g. Tube Investments). Some of the foreign firms that operate in England are very successful and, especially, one of them Hoover Limited (U.S.A). There are quite a few domestic firms which have a fairly high percentage in the British Market and in some products they have 100% of the market (e.g. cookers)

The most important firms in the British electrical appliances industry are the following:

THORN ELECTRICAL INDUSTRIES LIMITED manufacturers in a wide field in electrical and electronic industries. It produces television sets, radio, mixers, domestic appliances etc. It has a lot of subsidiaries and it wholly owns Kenwood

Manufacturing Company Limited. It also has 16% of the shares of WILKINS AND MITCHELL LTD which are the makers of "Servis" washing machines.

BELLING & CO is a private company which produces only cookers and has a quite big stake in the British market for electrical cookers.

GENERAL ELECTRIC CO (GEC) LTD is a highly diversified firm and its activities include major interests in heavy electrical and power engineering, industrial equipment and diesel engines, telecommunications, electronics and automation, cables, components and consumer products. It has a lot of subsidiaries and it owns Hotpoint.

TUBE INVESTMENTS LTD is another conglomerate and is one of the world's biggest producers of precision steel tubes, leading maker of bicycles and an important manufacturer of machine tools, domestic appliances (Cookers, Washing machines, water heaters, central heating equipment etc), general engineering and electrical products.

The foreign firms that manufacture in Britain are HOOVER LTD, controlled by Hoover Co. of Ohio U.S.A., and manufactures and markets electrical cleaners and other household appliances, and ELECTROLUX wholly owned by ELECTROLUX AB (Sweden) manufacturing refrigerators, vacuum cleaners etc.

Britain like most European countries relies on replacement sales. Over the last five years Italy has become the

factory for most of the British domestic appliance industry's output of white goods. They are distributed either with the original Italian manufacturer's name, such as Zanussi, or are manufactured in Italy but distributed under a British name. Most of the large U.K. white goods manufacturers, such as Hotpoint (wholly owned by GEC), have at least part of their range supplied from Italy.

In washing machines Britain is Western Europe's third biggest producer and exporter. In the domestic market in sales 37% is first buys and 63% replacements. Of course, Hoover is the most important company but in the U.K. as a whole foreign firms dominate having more than 50% of the market.

Hotpoint (GEC)	16 - 17%	Hoover	39 - 40%
Servis	12 - 13%	Indesit	7 - 8%
Tube Invest.	4%	Philips	6 - 7%
Electric Board	4 - 5%	AEG	5%

Some of the main manufacturers believe the whole industry is in danger of collapsing if the imported automatic machines are not stopped from dominating the market. The reason behind this is that imports to Britain are growing in a contracting home market, while exports of British machines are low; imports account for 59% of the market. The ex-works cost of British automatic machines averages out at nearly 40% more than the landed quayside price of the - mostly Italian - imported machines. In January and February 1976 Hotpoint, Hoover and Servis announced cuts in production to compensate for the reduced demand for their products. There is suspicion that the Italian machines are being dumped, however, this is not very clear.

In the cookers market gas cookers are beginning to lose their

factory for most of the British domestic appliance industry's output of white goods. They are distributed either with the original Italian manufacturer's name, such as Zanussi, or are manufactured in Italy but distributed under a British name. Most of the large U.K. white goods manufacturers, such as Hotpoint (wholly owned by GEC), have at least part of their range supplied from Italy.

In washing machines Britain is Western Europe's third biggest producer and exporter. In the domestic market in sales 37% is first buys and 63% replacements. Of course, Hoover is the most important company but in the U.K. as a whole foreign firms dominate having more than 50% of the market.

Hotpoint (GEC)	16 - 17%	Hoover	39 - 40%
Servis	12 - 13%	Indesit	7 - 8%
Tube Invest.	4%	Philips	6 - 7%
Electric Board	4 - 5%	AEG	5%

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In the cookers market gas cookers are beginning to lose their

share in favour of electric cookers, the reasons being the distribution, reduction in price and the more-easy-to-use electricity. The cookers market is the market that domestic firms derminate; they nearly have 100% of the market.

Belling and Co.	24%
Thorn	37%
Tube Inv.	50%
G.E.C.	3%

In refrigerators U.K. relies 55% on imports and exports 13% of its production. In sales 37% is first buys and 63% replacements. Foreign firms in this market have nearly half of it.

Hotpoint	3%	Electrolux	13%
G.E.C.	5%	Hoover (Zanussi's products)	5%
Thorn	3%	Indesit	9%
LEC Refrig. Ltd.	5%	Melvinator (USA) (White Consolidated Industries Inc. USA)	2%
		Frigidaire (General Motors USA)	7%

In the refrigerators market there is no single firms with a big stake with each firm having a somewhat small share.

Hoover has a marketing agreement with Zanussi to distribute Zanussi's refrigerators. In 1977 Zanussi's plans were to launch an aggressive marketing campaign to make British consumers more aware of the Zanussi brand name. Zanussi's British operation is headed by Mr. G. Dorman who, talking about Zanussi's former policy, said that in the early days Zanussi lacked the marketing experience to push its products in overseas market (Electrical Review December 17, 1976).

In refrigerators Italians have been very successful in putting many continental manufacturers out of business. Their method of attack in Britain is that they firstly supply well known British Companies who manufacture other appliances in Britain. The well-known British name on the front overcomes the British housewife's prejudice against foreign goods. Secondly, they market in U.K. under their own name, approaching the retail trade direct and either offering to deliver to the retailer or for the retailer to collect the units from a depot on the car loading principle, with the buying price varying according to which method the retailer chooses. In both cases the success depends on price. The Managing Director of Hotpoint said "that their (Italians') landed cost prices are much below the British manufacturer's average selling price in the trade. Neither materials nor labour are appreciably cheaper in Italy. It is well known that the cost of basic raw materials is international. Of course, the actual prices of such things as sheet steel, vary from time to time and from country to country, but we are just as able to take advantage of this as the Italians. Figures have been published showing that the all-in cost of labour in Italy, including fringe benefits is about equal to Britain. Larger outputs must, of course, mean lower manufacturing overheads but this does not account for the difference.... there is no doubt that on this basis dumping is taking place ..." (Electric Review 13 October 1967)

In the television sets market, although there are very famous foreign firms operating in it, the British manufacturers

have the highest share in colour and monochrome T.V. sets

	Colour	Mono		Colour	Mono
G.E.C.	12%	6%	Philips	7%	8%
Thorn	32%	32%	ITT	3%	4%
Fye (Philips)	10%	11%	Sony	2%	
Decca Ltd	7%	10%	Hitachi	4-5%	

Generally, there is a strong feeling among British manufacturers that Italian products are being sold in Britain at a loss. But whether they are being dumped is less clear. The Association of Manufacturers of Domestic Electrical Appliances (AMDEA), the only association which could make the approach to Government on dumping, said that it had had no approach from British manufacturers.

There seems little that British manufacturers can do about the low price of Italian machines. The big European makers, such as Zanussi, have been making, for example washing machines, for so long now that they have written off their original tooling costs and ".... can produce a new model easily with just some badge engineering according to an authoritative industry source...." (Engineer 1 April 1976).

If the allegations of dumping cannot be substantiated an investigation into whether the Italian manufacturers are receiving indirect subsidies (Hotpoint argues 15%) could help to stem imports - EEC trading regulations frown on government assisted industries in one country damaging companies in another. But as long as some of the British

manufacturers are making useful profits out of cheap Italian machines, Britain can only expect "half-hearted" attempts to stem the flow. The British Government and the manufacturers have obviously been alarmed at the extent of import penetration. A sign of this alarm is the government's decision to include the domestic appliances industry in the "Industrial Strategy" (1976) of the resuscitation of British industry.

However, the British manufacturers have found what the Italian products have been lacking; and this is quality. The Marketing Director of Tube Investments said "We see ourselves as a slightly up market company from the point of view of quality and this is of course reflected in prices. We make no attempt at all to compete with the lower priced continental imports. To help support this view the company's advertising campaign are weighted on quality than price" (Engineer 1 April, 1976).

GERMANY

The German electrical appliance industry's structure has many common features with the British equivalent. It is dominated by big firms which are very highly diversified i.e. Siemens, Bosch, AEG - Telefunken.

Generally, German manufacturers enjoy a lot of advantages like prestige, good-designed products, high quality, somewhat low prices etc. In the "white goods" market a comparison between German and Italian products will give quite a few fundamental differences. The most important advantage of the Italian

products in their price. Especially in refrigerators and washing machines, German products enjoy fame for quality but their prices are higher than those charged by Italians. Although, Italian white goods are superior to German ones in prices, the Italians lack quality. Quality is considered to be an advantage that Italians do not fully enjoy. This disadvantage forms the basis of attack against Italian products. The Italian production is efficient, well-designed products and cheap in prices. German success has been based on efficiency and good design combined with prestige, high price image appealing almost exclusively to the upper classes. This might be a policy that Germans followed in the beginning, since only the upper classes could afford to buy electrical appliances as a sign of class distinction.

The major firms in the German electrical appliances industry and at the same time throughout Europe are the following:

SIEMENS A.G. However significant the volume of their foreign sales, the Federal Republic of Germany remains their most important market. They are divisionalised in groups: components, data systems, power engineering, electrical installations, medical engineering, telecommunications. In the electrical home appliances Siemens's activities are determined by the activities of Siemens Electrogerate GmbH (SE) (Berlin and Munich). SE handles Siemens AG home appliances business. In the annual year 1971-72 all assets and liabilities of the home appliances co-operations operated by Robert Bosch GmbH and by Siemens were transferred to Bosch-Siemens

Hausgerate GmbH with 50% share each one of them. Siemens AG's interest in SE and Robert Bosch Hausgerate GmbH (HG) were transferred to Bosch-Siemens-Hauseräte GmbH (BSHG). SE and HG were then merged with (BSHG). Sales of the company are made through two newly established companies under the same name as before (HG and SE) but for the account of BSHG. The two sales companies are wholly owned by the respective parent companies. In 1976 Siemens acquired Pitsos S.A. in Greece which produces refrigerators, washing machines, cookers, and oil stoves, thus, establishing production in Southern Europe. Siemens has firms abroad in 38 countries (16 in W. Europe, 4 in Africa, 6 in Asia, U.S.A., Canada, 9 in Latin America, Australia).

ROBERT BOSCH GMBH - STUTTGART. The company's activities are in three major areas: automotive equipment, manufacturing equipment - industrial supplies, household appliances. It operates in 9 countries in Europe, 3 in Latin America, 3 in Asia, Australia, U.S.A., Canada. The joint venture for the manufacture of appliances is represented on Bosch's side by Robert Bosch Hausgerate GmbH, Blaupunkt-Werke GmbH of Hildesheim and Junkers & Co GmbH of Wenzau (both Blaupunkt and Junkers are owned by Bosch). Robert Bosch Hausgerate GmbH produces refrigerators, automatic cooling systems, freezers, washing machines, dishwashers, washer driers, cloth driers, air conditioners, small appliances. In April 1972 Philco-Ford Italiana SpA, Bergamo, Italy, was acquired which produces fridges, washing machines and T.V. sets. Bosch owns 100% of Philco but so far earnings of this company have suffered considerably from strike actions, declining market, occupation because of the release of a certain number of personnel etc.

ALLGEMEINE ELECTRICITÄTS- GESELLSCHAFT or AEG-TELEFUNKEN

The Company's main activities, with the percentage of sales-share in 1973, are power engineering 8%, industrial systems 12%, telecommunication system 9%, transportation equipment 6%, industrial components 17%, electronic components 4%, office machines 7%, domestic appliances 26%, consumer electronics 11%. It operates in 16 countries in Europe, 4 in Asia, 1 in Africa, U.S.A., Canada, 5 in Latin America, Australia. Major shareholders in the company was General Electric Overseas Capital Corporation, Schenectady, New York, but GE sold its investment in AEG in 1976. In the electrical appliances industry AEG has a quite big stake in the German market. In December 1973 they secured their future continuation with Industrie A Zanussi S.p.A, by acquiring 20% minority interest. In 1973 the German enterprise AEG-Telefunken, planned to acquire 25.01% of Zanussi. However, AEG received a note by the Federal Cartel Office that it might prohibit this acquisition because i) Zanussi sells great quantities of its electrical appliances to Germany, its best customer being, besides AEG, the mail-order house Quelle ii) the whole industry showed a high concentration ratio iii) the common market share of both enterprises fell within the market share presumptions of the newly amended Act Against Restraints of Competition. AEG then acquired only 20% of Zanussi's capital, which was accepted by the Federal Cartel Office (OBCD (103)). They also own Fabbrica Italiana Radio Televisioni SpA, Milan (a subsidiary of Telefunken), which manufactures T.V. and radio sets for domestic consumption and export. There is also an increasing engagement in Eastern Europe with Yugoslavia,

Poland and USSR. In Yugoslavia and Poland there is co-operation in the production of consumer electronics equipment, domestic appliances and office machines, while the increasing interchange of technical and scientific know-how with USSR has provided an improved basis for business. Some of AEG's subsidiaries in the electrical appliances industry are Muppersbuch, Neff/Junker & Roh, BBC.

GRUNDIG AG, FÜRTH. It produces radio, TV sets, cassette recorders and owns several plants in W. Germany, France, U.K., Italy, Portugal, Austria, Sweden, Denmark, Switzerland. It is a family owned firm and all it has is assembly lines. During 1974-75 expenditure on components and different third parties was 40% of total turnover. This policy enables Grundig to maintain very competitive prices and to project the image of high product quality at reasonable prices. It appears that the Grundig management has to some extent been prepared to sacrifice a high level of profitability in order to strengthen its competitive position.

BAUKNECHT (GOTTLOB BAUMNECHT 'ELECTROMOTORENBAU). Its activities are manufacture of domestic appliances, electrical equipment, fitted kitchens etc. The company runs for Bauknecht family interests.

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In the cookers market the major part of import is accounted for by German manufacturers importing from their own foreign subsidiaries. Siemens is the major importer from Austria and AEG imports from its Yugoslavian subsidiary. AEG Group dominates, Siemens is the second followed by Quelle which sells imported products.

AEG group	57%
Siemens	15%
Neckerman	4%
Bauknecht	4%
Bosch	3%
Quelle	10%

In refrigerators German producers charge more than Italians and it is the only product that imports in Germany exceed exports. The bulk of the resulting imports is subsequently sold on the German market under domestic producer's own brand names (e.g. AEG is getting supplies of fridges from Zanussi). The major firms in the market are

AEG	Philips	(NTL)
Bauknecht	Indesit	(IT)
Bosch		
Siemens		
Neckerman		

In the washing machines market the German manufacturers dominate. The leading firms are

AEG (BBC, Kuppersbusch)

Bosch

Candy

Siemens

Quelle

Miele

In television sets there are roughly a dozen major suppliers of which four of them are controlled by foreign interests. Saba (85.9% owned by General Telephone and Electronics), Shaub Lorenz (ITT Co), Graetz (ITT Co), Allgemeine Deutsche Philips Industrie GmbH (Alldelphi, Philips). Blaupunkt (a subsidiary of the Robert Bosch group) and Siemens are linked through the common subsidiary Bosh-Siemens-Hausgeräte GmbH. Some family owned firms have almost 50% of the market.

Grundig	25%	Philips	11%
Normende	11%	ITT	10%
Loewe Opta	9%		
AEG	10%		

Leading manufacturers are taking keener interest in the retail distribution especially of cookers and allied equipment and AEG already has an interest in the leading manufacture of "kitchen-studios", thus securing important outlets for combined sales of kitchen furniture and cookers.

The German market judging from the brands sold has not been penetrated by foreign firms, but this is misleading because foreign firms manufacture for the domestic ones although the penetration is not extremely high. German manufacturers have

progressively opted for a policy of either themselves setting up manufacturing facilities in such countries (Eastern Europe, Far East, Italy, Austria, Eire etc) or of contracting out the production of parts and for whole appliances to local manufacturers.

THE NETHERLANDS

While all the countries so far have something to show and offer in the European market, the Netherlands do not have much to offer. Generally, the Dutch white goods market has been captured by foreign firms.

The only Dutch firm which is very famous in the world is N.V. PHILIPS GLOEIINGFABRIEKEN. Its main activities are T.V. sets, lighting, domestic appliances, radios, record playing equipment, electronic components, telecommunications and defence systems, electro-acoustics, data systems, industrial equipment, medical systems, pharmaceutical-chemical products, allied industries and glass, music. In the domestic appliances industry their position has been strengthened in Europe by close co-operation with Ignis SpA (Italy) and by the decision to build a factory for dishwashers in association with Bauknecht in West Germany; the name of this joint subsidiary by Bauknecht and Philips is Euro Hausgeräte GmbH at Neunkirchen (W. Germany). In 1972 full co-operation was entered into with Ignis SpA and thus at the same time with the production company IRE (Philips wholly owns Ignis and IRE). In view of the volume and diversity of activities of the Domestic Appliances Division

it was decided to split it into two separate product divisions, one for Major Domestic Appliances and the other for Small Domestic Appliances. The Major Domestic Appliances Division is based in Italy. As Philips claims the transfer of the division's head office to Italy, where the main production was already concentrated, has brought about better co-ordination between marketing and production policies.

Dutch manufacturers have control on two products namely cookers and T.V. sets. The cookers market is the one that Dutch producers have been able to resist the attempts of Belgian, German, French and Swedish producers to enter.

All T.V. sets produced in Holland are manufactured by the Philips group either with the Philips brand or to be marketed under the Erres or Aristona labels by Radema (a Philips subsidiary). Philips Group is credited with a market share of around 65%.

In the washing machines Dutch manufacturers have concentrated on the simpler models while the consumer has favoured automatic models. The market is dominated by the German brands, AEG, Miele, Baulmech, Bosch, and Italian brands Zanussi, Ignis and Indesit.

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The majority of these supplies (70%), is delivered by Italy and 25% by W. Germany (predominantly refrigerators with a capacity below 250 litres). Ignis and Zanussi produce fridges under the Dutch brand names Philips, Erres, Marijnen. The market leader is Philips with the Philips and Ignis brands. Indesit is the second with a high share in the lower price segment of the market. Zanussi group sells its refrigerators under the Zanussi, Zappas and Marijnen brands. German brands are Bosch (which is thought to have the highest German penetration in the existing fridge park in Holland) AEG, Baukracht, Siemens. The market shares in refrigerators are thought to be as follows Philips 20%, Ignis 7%, Indesit 15%, Zanussi 12%, AEG 10%, Bosch 8%.

BELGIUM

In household appliances Belgium is not self supported. There is a large scale import from different countries mainly Italy, Germany and France.

Although there is no production of electrical appliances there are a few Belgian firms which import, sometimes assemble, and market white goods under their own brand names. These firms are ACEC, Novey and Nestor Martin. NESTOR MARTIN is the most important of all. This firm works in close association with Usines et Fonderies Arthur Martin (France). In 1972 Arthur Martin were in financial difficulties, one of its largest creditors being Nestor Martin of Belgium. Subsequently, Gecoma took over a majority of Arthur Martin's shares and this holding has now been ceded to the Swedish Company AB Electrolux which actually holds 74-75% of the

shares. AB Electrolux in January 1976 purchased the majority of the shares in the Martin Group which with the Arthur Martin companies in France, Nestor Martin in Belgium, Menalux in Switzerland is one of the leading European manufacturers of cookers, washing machines and dishwashers.

ACEC (ATELIERS DE CONSTRUCTIONS ELECTRIQUES) was taken over by Westinhouse (USA) during 1970-71, but due to heavy losses the latter now wishes to sell its holdings. There is nowadays some question of nationalising ACEC.

There is no production of such items like cookers in Belgium and the market, therefore, is supplied by imports. Suppliers of cookers are AEG group, Siemens Bosch, Bauknecht, Philips, Zanussi. The French Scholtés, Rosieres, de Dietrich, Arthur Martin are also extremely active. However, a few Belgian manufacturers such as ACEC, Nestor Martin import or assemble under their own brand names. But the majority of imports of cookers is accounted for by W. Germany which has 60% of the volume. Many of the cheaper models are manufactured in low cost countries such as Yugoslavia and Spain; this is the case with Bauknecht and Siemens. The "Neufunk" range of electric cookers, marketed by GB-Inno-BM, the large Belgian department store group, is largely of Italian and Yugoslavian manufacturers.

In washing machines there is a large scale import of Italian made machines most of which are produced by Ignis, Indesit and Zanussi. Ignis products are imported by Philips, while Zanussi machines are sold under their own name but are also marketed by Inno-BM under its own brand name "Neufunk".

The AEG and Bauknecht range is made up of Italian manufactured machines sold under the AEG or Bauknecht brands. Calor (SEB France) and Nova (ITT Belgium) have been highly successful in this market. The more expensive automatic machines come from Germany, the lower priced automatic washers from Italy and the bulk of the cheaper "miniwash" type items from France. 75% of washing machines marketed in Belgium is accounted for by AEG, Bauknecht, Bosch, Siemens, Hoover, Philips, Candy Indesit, Philco. The bulk of the trade is likely to consist of partly finished goods between Philips in Belgium and the Netherlands.

Demand in refrigerators is mostly satisfied through imports. The major countries of origin for refrigerator imports are Italy, Germany^{/and} and France. Italy has 55% share, W. Germany 21%, France 11%, West Germans and French suppliers specialise in higher priced and larger models than Italian producers. The major suppliers of refrigerators to the Belgian market are estimated to be Bauknecht, Philips, Nestor Martin, Frigidaire (USA), Singer, Hoover, Zanussi. German manufacturers are currently increasing their share of the Belgian market at the expense of Italian and other producers. This trend follows the earlier expansion of Italian products at the expense of American controlled brands.

In T.V. sets market Philips has 50% of the market of monochrome and colour T.V. sets under the Philips, Siera and SBR brands. ITT under Schaub-Lorenz brand has 25%. The other firms that follow are Grundig, Thorn Electrical under its Carad-Ferguson brand and Barco with 25%.

FRANCE

France is the country that is self sufficient in some white products and in some others demand has to be satisfied by imports.

The most important French firms in the industry are :- THOMSON-HOUSTON HOTCHKISS BRANDT, which is the largest in France, manufacturing all types of electrical equipment and appliances, radio and T.V. with subsidiaries and associated companies abroad (3 in Latin America, 6 in Europe, 1 in USA, 1 in Canada). Household appliances constitute 28% of the group's turnover. SOCIÉTÉ D'ÉBOUITISSAGE DE BOURGOGNE, (SEB) took a majority share of Calor (France) and controls Tefal and Société Française d'Équipement Ménager. ARTHUR MARTIN companies are part of Martin Group operating in France, Belgium, Switzerland. Martin Group was acquired by AB Electrolux in January 1976 (Electrolux has 74 - 75% of the shares). Another famous French firm is MCOULINEX S.A. owned by Mr. Jean Mantelet and manufactures household utensils and electrical appliances. There is co-operation between Thomson and Arthur Martin. Thomson manufactures Arthur Martin's refrigerators, while Arthur Martin manufactures Thomson's cookers.

In refrigerators Thomson-Brandt is the only French manufacturer of refrigerators and freezers. The company's products are marketed under the Frigeco, Frigéavia, Frimatic, Vedette brands. Thomson-Brandt has an estimated market share of 55% in the total volume of sales of refrigerators to the consumers. Philips/Ignis sells refrigerators under the Philips, Laden, Radiola and Schneider brands. Together Philips/Ignis account for 21% of refrigerator sales. Arthur Martin

distributes refrigerators and freezers under its own name, but buys these appliances from Thomson-Brandt. German manufacturers AEG/Telefunken, Bosch, Siemens and Bauknecht are particularly active. Hoover France has bought out a new range of refrigerators and freezers; the company's refrigerators are manufactured in Italy and the bulk of its freezers in Denmark.

Thomson-Brandt	39%	Arthur Martin	7%
		Frigidaire	3.5%
		Bosch	2%
		Philips/Ignis	21%
		Italian Brands	18%

In washing machines French manufacturers have the majority of production.

Thomson-Brandt	60%	Arthur Martin	12%
		Philips	7%
		Lincoln	6%
		Hoover	4%

Italian producers, Zanussi followed by Candy and Indesit, account for approximately 72% of imports.

In ^{/the} T.V. market Italy is the principal foreign supplier with 64%. Imports of portable colour sets are mainly derived from Japan (69%).

In T.V. the major manufacturers are RTC (Radiotechnique-Campelle, subsidiary of Philips), Grundig operating in France, Blaupunkt operating in France and Matsushika in Spain with ITT having 15% of the colour T.V. market.

SWEDEN

This country like all European countries has been faced with intense competition from Italy.

In the refrigerators market Electrolux has the highest market share around 40% while, the majority of imports is dealt with Italians.

In washing machines Electrolux and Husgvarna have the highest percentage of domestic production but 30% is foreign penetration (Hoover, Indesit, Siemens).

In T.V. sets Philips is the dominant group with estimated 80 - 85% of total Swedish production. The group's members are Philips, Dux, Conserton, AGA and Radiola.

The leading firm on the refrigerator market is the ELECTROLUX concern including its Swedish affiliate Elektroelios. This concern is specialised in household goods and its influence is felt through Scandinavia. In 1967 Electrolux and the refrigerator division of Atlas, the largest Danish producer of refrigerators merged, with Electrolux as the majority shareholder. Association between the two was made possible by the absence of custom duties on refrigerators exchanged by Sweden and Denmark both EFTA countries. Electrolux has also come to an agreement with the largest Finnish firm UFO OY whereby Electrolux refrigerators and freezers are sold in Finland by UFO OY whereas UFO OY products are sold in Sweden by Electrolux. Electrolux supplies refrigerators and freezers to Swedish Philips AB, which has stopped production of such goods

in Sweden. The main activities of the firm are Household appliances and cleaning machines, industrial products (saw mill products, catering, hospital and industries equipment, steel fittings and material handling equipment etc), office products (machines, furniture, printed products etc), commercial cleaning services (contract cleaning laundry services). It owns the office products branded FACIT, and in January, 1976 they acquired the Martin Group, which means that Electrolux has considerably strengthened its position on the French, Belgian, and Swiss market. In the same year they acquired Tornado S.A. consisting of companies in France and Holland, and so they have increased the group's market share on the French and Dutch domestic vacuum cleaner markets. They also have been established firmly in the American market through National Union Electric, Connecticut USA, their subsidiary which is one of the largest manufacturers of domestic vacuum cleaners in the USA - and has a large share of the American market for caravan refrigerators.

2.3. Analysis of the Electrical Appliances Industry in Europe

The facts that the electrical appliances industry produces durable goods for stock and the benefit (value added) of having the making of components within the firm plus, of course, the assembly line, imply that a firm can only service if it is big enough.

Generally speaking, it is a very capital intensive industry and as the output (durable goods) of each firm is somewhat inflexible, provided that the firm aims at efficient operation,

each firm has to find a quite big market to promote its products. High yield on investment is succeeded by high turnover and high profits. That is, high investment means that the firm will try to achieve high turnover and high profits to make the whole operation successful.

Demand for durable goods depend very much on income as well as price and faces the problem that once the market reaches its saturation level it automatically turns to a smaller one. Generally, production of durable goods means high capital investment, high price for the products, dependence on increase of income, big markets for the promotion of the goods, with the question remaining of what happens when the market reaches its saturation level.

All these characteristics are met in the electrical appliance industry. Of course, risk is spread on a number of different domestic appliances and not all these markets reach saturation level at the same time. Besides, inventions help to keep the industry going as well as improvement of old products. There are quite a few examples. Refrigerators have reached saturation level, while freezers are recently being demanded. Demand for dishwashers is going up to reach a high forecasted demand, while the market for washing machines has been reduced. On improvement of products, a new type of cooker has been promoted in which the oven is working with hot air instead of electrical spirals.

In this industry a lot of multinationals operate, which

are highly diversified. Most of them have diversified in such a way so that fabrication for most of the components used for electrical appliances is succeeded within the firm, while, most of them reach the wholesaling level. This vertical integration, apart from safeguarding supplies of raw materials, benefits the retaining of high value added in the concern. These firms (AEG, Siemens, Bosch, Philips etc) have succeeded economies of scale in components making by selling for other companies, for instance, Siemens produces circuits for its own T.V. sets and also sells these circuits to other different companies not belonging to the same Group. This high output means lower price, which is reflected on the "white goods" price.

However, there are quite a few firms which are specialised only in domestic appliances (e.g. Zanussi, Indesit, Grundig) and most of them are "good" only at one or two products. Although they are not diversified they have a well organised vertical integration; Zanussi produces 60% of its needs for components.

A general examination of the market shows that it has reached its saturation level in most of the "white goods" range. This fact affects the behaviour of the firm of how it should approach the market because consumers behave differently. When a market stops being "first buys" and becomes "replacement" market, customers change their pattern of behaviour. They already have the experience of their old product and it is more likely that at their second buy they would like something different. They might require better design,

new colour, different shape or increased utility (i.e. more uses than their old product). Especially, in the electrical appliances industry they might want that shape and style, which will fit with the rest of the items in their kitchen.

Consumers are more aware of what they want and since prices for appliances have reached the level that can be approached by almost all income-levels, they are more likely to look for something different.

From the manufacturers point of view, a lot of things have to change. A manufacturer must be careful of what he produces and his main aim will be to convince consumers that they have to change their old products, either because they are out of fashion (fashion is very difficult to be achieved in domestic appliances) or because his new products offer better and higher utility. In order to succeed that, it is very common for producers to offer to buy customer's old item and exchange it for a new one, with the customer paying the extra amount of money needed. In that way they keep their production going and retain their share in the market.

Of course, a manufacturer in a replacement market will try to improve the quality of his products by finding what customers need or to minimize production costs so that price will fall or even to invent a new product. If we follow history, the most important wants that had to be satisfied were the means to cook and store food for a long time. Then washing and cleaning machines followed and nowadays all these

items have reached their saturation level. New inventions were promoted and improvement on the old products was attempted. In the last decade dishwashers, T.V. sets, freezers are more on want and their demand is expected to reach high levels. Improvement attempts have showed quite a variety of "new products" (e.g. mini-cloth washing machines, mini fridges, hot air cookers, timing devices, absorbers etc). The severe competition that exist among firms is expected to increase penetration of these products in households.

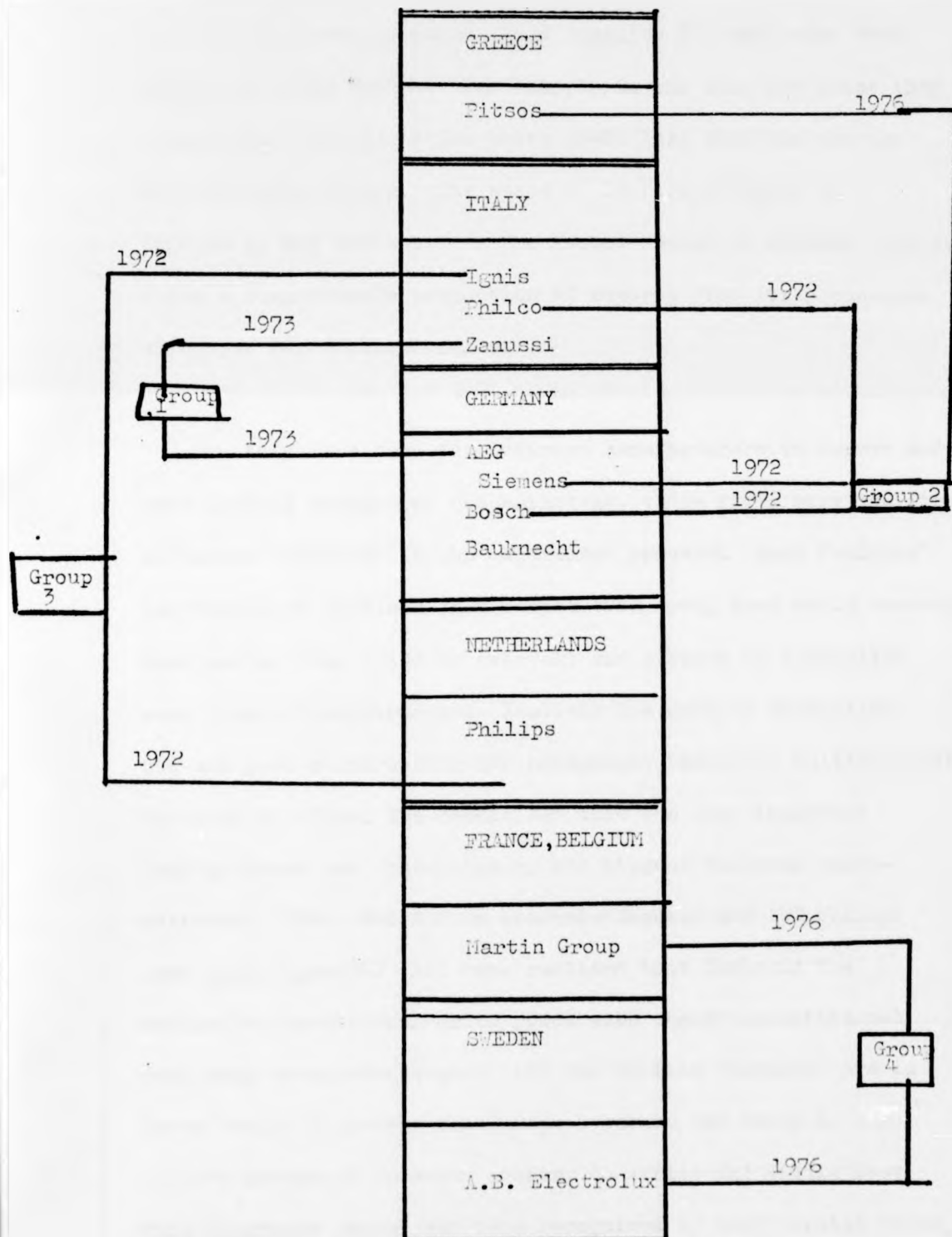
The question arises of what a manufacturer can do when he is faced with a "replacement market" and finds out that nothing much can be achieved through its own firm. As it was discussed above, he first tries to keep his stake in the market working through his own firm (improvement, inventions etc). But when internal expansion cannot be achieved and survival is threatened through market reduction and high competition, there is no other way than to turn to the external environment. Avoiding competition or minimising competition will help him to survive. This is the main reason, without ignoring the other benefits (economies of scale, cost reduction etc) that most manufacturers in this industry think of a merger or takeover.

In spite of greater business activities the profitability of firms or division of multinationals has decreased. The main

reason for this is the large number of manufacturers in the major domestic appliances sector which has caused strong pressure on selling prices and resulted in the too narrow profit margins. It was to be expected that this situation would set a process of adjustment in motion. In Western Europe this has been reflected in recent years in a succession of mergers. This inevitable trend is leading to highly mechanised and efficient mass production and will gradually enable this branch of business to show better profitability. Table 3 shows the mergers wave that occurred in this industry in Europe and the four groups that have emerged.

The Director of Zanussi in U.K. described the situation as follows "... There are too many firms chasing too little business, that, is over capacity exists throughout Europe....." (Electrical Review 17 December, 1976). Many small firms cannot survive in a market like this because either they do not have efficient management or the market is too small for them, after the pressure multinationals exercise trying to maintain their position. A. Gurthie Philco's manager says "We simply had difficulty in finding a future as an independent small company" (Electrical Review December 24, 1976). A very efficient weapon that big firms have is their ability to withstand losses through the support of other divisions and they can even reach the "strategy of dumping" in order to survive (British allegations against Italian products).

TABLE 3. THE CONCENTRATION IN THE ELECTRICAL APPLIANCES
INDUSTRY IN EUROPE



The best manufacturers all over Europe are the Italians. They produce cheap products, good quality for the price they charge and good design. For example, in the U.K. the price they charge plus transportation costs is 40% less than the average British manufacturer. The share of Italian products in imports is not reflected in the market shares of Italian brands, since a considerable proportion of exports from Italy consists of output for foreign brands.

Since they have been the dominant manufacturers in Europe and were lacking management and marketing, these firms were the first to become "victims" in the adjustment process. Both "raiders" and "victims" realised that competition among them would destroy them and so they tried to overtake the problem by fulfilling each others disadvantages. Italians are good at production but not good at marketing and management which the multinationals accepted to offer. The result was that the most important Italian firms are controlled by the biggest European multinationals, AEG - Telefunken controls Zanussi and IRT, Philips owns Ignis SpA-IRE. All have realised that Italy is the centre for traditional white goods with cheap production and very many other advantages. All the Italian factories are in North Italy, i.e. near the European market, and Italy is the nearest developed European country to Africa and Middle East. This important factor has been recognised by most foreign firms,

with Philips transferring its Major Appliances Division in Italy, R. Bosch acquiring Philco and Siemens acquiring Pitsos.

Siemens and Bosch, two of the leading European multi-nationals, in order to overcome the difficulties in their electrical appliances division, merged in a very peculiar way to minimise competition and succeed economies of scale. When they realised that they cannot have a profitable electrical appliances division they established a joint venture (50% each firm) by merging their two divisions. This joint venture is on the manufacturing level, while for the marketing operation they have their own old divisions which operate for the joint venture. The acquired Italian firm Philco is owned by Robert Bosch GmbH, but it obviously co-operates with the joint venture, while Siemens acquired Pitsos in Greece and thus the group's operations in Southern Europe are secured.

Besides, Philips which acquired Ignis, established a joint venture with the German firm Bauknecht in manufacturing of dish washers but the marketing operations depend entirely on each one of them. This is an attempt to minimise production cost. Another group which has emerged is the Swedish group A3 Electrolux which acquired very recently the Martin Group. This is the group's first serious movement to achieve high penetration in most EEC countries.

However, all "raiders" do not depend their existence only on electrical appliances. All they were trying to achieve, was to keep their stake and maintain their production in the market. These big groups that have been created, form barriers to entry to any other firm and so leaves most of The European market divided among them.

These four groups that have been created are the conglomerates: AEG-Zanussi-IRT, Siemens-Bosch-Philco-Pitsos, Philips-Ignis-Bauknecht, Electrolux-Martin. Most of them are now trying to expand their business in developing and socialist countries, where the market is still "first-buys".

The situation nowadays is that of four groups' domination, which have literally formed an oligopolistic situation (there were 11 firms before the adjustment process began), while there are some small firms (e.g. Grundig, Indesit) which seem to have enough advantages to stay in the market. However, these small firms are specialised in mainly one product (Indesit in Washing Machines, Normende in T.V. sets, Grundig in T.V. sets).

The most important group in the European market is AEG-Zanussi followed by Philips-Ignis and Siemens-Bosch with Electrolux being the follower. The Director of Zanussi in U.K. thinks that "... the European Market in "white goods" will be

dominated by Zanussi-AEG and Ignis-Philips. But in the Scandinavian market one of the emerging forces will be AB Electrolux, while in the U.K. Thorn (Domestic) Appliances will become an even tougher competition...." (Electrical Review 17 December, 1976).

A study was published in Europartners (Financial Times 30 December, 1976) a grouping of leading banks in France (Credit Lyonnais), Italy (Banco di Roma), Spain (Banco Hispano Americano) and West Germany (Commerz Bank) describing the existing progress towards specialization in the European industry. The study shows how Germany has taken the lead, making products which have a much longer life than those from Italy and sell about twice the price, while recently French manufacturers have concentrated their product ranges, especially in small items (such as the Moulinex range). The study forecasts that W.German and French appliance manufacturers will specialise in both high value and relatively small models, while Italy will gradually become the "only manufacturer" of the more traditional electrical appliances (such as refrigerators and washing machines). The study suggests that the forthcoming moves towards greater specialisation across frontiers will involve a further increase in foreign holdings in the Italian industry. Finally these non-Italian companies will centralise their production especially

of more traditional "white goods". The report forecasts that AEG will join Philips in establishing its world production centre for these products in Italy. The study has accurately forecasted some happenings however, the last one has not yet been accomplished.

C 4. The Domestic Appliances in the U.S.A.

C 4.1 Market structure

The appliance industry in the U.S. remains difficult to measure. It is big and diverse and within its highly competitive climate secrecy concerning product plans, comparative success of market, proprietary manufacturing systems and investment in new plants and equipment compound the problem.

The following firms with their market share in each market describe the situation in the U.S. in 1974.

COOKERS		REFRIGERATORS	
General Electric/Hotpoint	34%	GE/Hotpoint	26%
Magic/Chef	11%	Whirlpool	23%
Tappan	10%	White	11%
Frigidaire	9%	Frigidaire	12%
Westinghouse	8%	Admiral	9%
Whirlpool	5%	Amana	4%
White Consolidated	4%	Philco-Ford	6%
Roper	8%	Westinghouse	6%

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Whirlpool	5%	Amana	4%
White Consolidated	4%	Philco-Ford	6%
Roper	2%	Westinghouse	6%

COOKERS

McGraw-Edison	40%
Hardwick	2%

WASHING MACHINES

I.V. SEES

		COLOUR		BLACK & WHITE
Whirlpool	33%	RCA	20%	14%
GE/Hotpoint	18%	Zenith	24%	16%
Maytag	17%	Admiral	6%	10%
Fedders/Norge	7%	Quasat	9%	7%
Frigidaire	7%	GE	7%	7%
McGraw-Edisonb	6%	Warwick (Whirlpool)	7%	6%
Westinghouse	5%	Magnavox	5%	
White	5%	Philco Ford	5%	5%
		GTE Sylvania	6%	

The most important firms in the major household appliances in the U.S. have been :-

General Electric is one of the most famous American multi-national and among the most powerful ones. It covers a wide range of activities and it is highly diversified. Its historic business categories with their percentage of the Company's total sales in 1976 are: Industrial Components and Systems (electric wheels,

motors etc) with 26% of total sales; Industrial Power Equipment (steam turbine-generators, nuclear operations etc) 17%; Aerospace (jet engines, earth orbiting satellites etc) 11%; International (exports and the operation of diversified foreign affiliates each of which manufactures and sells a variety of products generally in their home market) 22%; Consumer (laundry appliances, refrigerators, air conditioning, television sets, timers and clocks etc) 13%; GE Credit Corporation which is a wholly-owned non consolidated finance affiliate which engages primarily in consumer financing and commercial and industrial financing markets. The categories which seem to be more profitable are Consumer goods representing 13% of total sales and 19% of total earnings and Natural Resources with 6% of total sales and 17% of total earnings. In 1976 GE sold its investment in AEG-TELEFUNKEN, the Canadian GE and GSW Ltd agreed to form a new company Canadian Appliance Manufacturing Company. Agreement was also reached with Westinghouse Canada Ltd (WCL) for the new company to purchase the major appliance operations of WCL.

Westinghouse Electric Corporation. Quoting the Company's annual report 1974 from the Chairman's Review of 1974 "... A serious drain on Westinghouse earnings in recent years has been the losses suffered in our major appliance business. In late December we reached agreement to sell the major appliance

business for White Consolidated Industries, Inc. The sale was to become final upon the completion of a number of steps called for by the government, including satisfaction of the U.S. anti-trust requirements. It included five Westinghouse plants in this country (U.S...), the appliance marketing and consumer service organisations and subject to the approval of the Canadian government, the household appliance business of Westinghouse Canada Ltd (WCL). White also received the option to buy the Westinghouse appliance subsidiaries in Spain, Italy and Venezuela, subject to approvals of those governments...."

In the 1975's annual report it was stated "... Late in 1975 to avoid prolonged court action, Westinghouse signed a consent decree in connection with an allegation by the Securities and Exchange Commission that Westinghouse had made false statements regarding its intention to remain in the major appliance business. The consent decree is not an admission of wrong doing and the Corporation is vigorously defending against three class action suits which have been filed against the company based on similar claims" The three operating companies of Westinghouse are Industry Products Company (Motors, controls, circuit breakers etc. with 33% of total sales; Public Systems Company (elevator controls etc) with 21%; Power Systems Company (nuclear steam supply systems, turbine generators etc) with 37% of total sales.

Zenith Radio Corporation. It is mainly a T.V. manufacturer and supposed to be one of the most important in the American televisions market. Its product range is colour TV, black and white TV, audio equipment, parts and picture tubes, hearing instruments and watches. In 1976 each product had the following percentage in the company's total sales: colour TV 73.92%, black and white TV 9%, audio equipment 9.2%, parts and tube 4.7%, hearing instruments and watches 1.18%. Zenith's sales growth in colour TV during 1976 did not match the increase for the industry as a whole resulted in a decline in market share for Zenith. Zenith claims that the ability of some Japanese TV makers to engage in unfair methods of competition and unfair acts with respect the importation of T.V. sets in the U.S. has characterised the chaos in the American T.V. industry. Zenith has continued to pursue the law suit that it had filed in 1974 against major Japanese T.V. and electronics manufacturing and their Japanese and U.S. subsidiaries and Motorola in alleging violations of U.S. antitrust and dumping laws. Zenith shows particular strength in the market for large screen colour T.V. receivers. In the black and white market while industry unit sales rose by 5%, Zenith sales dropped by 3% "..... primarily, the result of gains made by lower priced competitive offerings"(Zenith's Annual Report 1976).

RCA. It is a highly diversified firm and one of the most important competitors for Zenith. Its divisions are : Electronics - Consumer Products and Services (TV sets, Phonograph Records and Tapes, consumer services etc) with 25.6% of total sales; Electronics - Commercial Products and Services (picture tube, solid-state devices, avionics, commercial services etc) 12.3%; Broadcasting (National Broadcasting Company or better known as NBC) 17.8%; Vehicle Renting and Related Services (Hertz Corporation) 14.5%; Communications (telex services, interconnection between computer or terminals in the U.S. and overseas, television via satellite etc) 4.3%; Government business (meteorological satellites, development of a complete shipboard defence system, services to NASA, U.S. armed forces etc) 6.9%; Other Products and Services (real estate, frozen food, floor coverings, book publishing but for the last one negotiations, started with The Times Mirror Company to purchase Randen House, RCA's book publishing company) 17.3%. Electronics - Consumer and Electronics - Commercial accounted for 40% of 1976's total sales. In its television products division Color Trak, its new T.V. sets, accounted for 42% of RCA's total sales in colour television.

Other quite important firms in the U.S. industry are Whirlpool Corporation with 61% approximately of its sales attributable to

appliances; General Motors through its wholly owned subsidiary Frigidaire which accounts for 1.6% of GM's total sales; White Consolidated Industries Inc., which owns Kelvinator Inc in the US and Kelvinator Ltd in the U.K. and quite a number of other firms and 44% of its sales are attributed to appliances; Motorola Inc. in the T.V. market with 23% of its sales of consumer products; Admiral Corporation with 36% of its sales from major appliances and 64% from consumer home electronics; McGraw-Edison Company in which 17% of its sales are attributable to major home appliances.

4.2 Effects of the Recession-Storm

By any measure, 1974 was a bad year for the appliance industry but it proved that the American public considers appliances to be necessity items, not luxuries. "According to an advance estimate by the Association of Home Appliance Manufacturers, shipments in ten major appliance product categories totaled approximately 34.3 million units in 1974 for the second best year in history. Off a slight 2% in unit volume from 1973's pace-setting sales, the industry nailed down a strong sales year despite a nagging set of problems that ballooned fiercely in the fourth quarter". (Appliance Manufacturer January 1975.)

The industry would have scored its best year in 1974 if there had not been severe weaknesses in the builder market which was far less than half that of the early 1973 peak rate. The left over problems from 1973 such as shortages of raw materials, the energy crisis, health regulations, federal pressures for standards revision, improved product safety, lifting of price controls pushed the industry's easy-going in a very difficult position.

As might be expected mergers, acquisitions drop-outs and entries were announced. Westinghouse dropped out selling its business of major appliances to White Consolidated Industries Inc and its Canadian plants to Canadian Appliance Manufacturing Company (a new company formed by GE and the Canadian GCW Ltd). Philco-Ford and White Consolidated agreed for White to purchase two Philco manufacturing plants, the Philco name, and the sales and organisation of Philco's Home Products division. However, after three months this agreement was called off and in October, 1974 Philco was in the news as GTE Sylvania acquired the Philco name and distribution rights for the Home Entertainment Products division. According to the agreement by May 1975, GTE would have also taken over manufacture of the units. Teledyne Packard Bell announced (May 1974) plans to discontinue production of I.V. and stereo equipment. The Motorola-Matsushita agreement caused shock

the industry and even after the Federation allowed Motorola to complete the sale of its TV sets operation to Matsushita (May 1974), Zenith dropped a legal bomb by filing suit against 20 Japanese firms and Motorola asking damages which could exceed 900 million dollars. In Sept. 1974, North American Philips owned by N.V. Philips made its offer for Magnavox acquiring more than 83% of the shares. Philips did not acquire so much Magnavox's TV plants as the firm's U.S. Marketing and distribution base since it will need them for its video disc system promotion in the U.S. *(Appliance Manufacturer January 1975)

During 1977, although Japan remained a prime competitor for many U.S. markets, the comparative strength of the dollar had created attractive overseas potential for some farsighted U.S. firms. Schick's via Sony is selling personal care products in Japan, Motorola is delivering large screen colour TVs to the Japanese market through AEM, RCA does the same in Taiwan through Lai Fu Trading and Whirlpool's landmark agreement with Sony on majors for Japan has blossomed into a brisk business. Monetary changes have also brought foreign firms in the U.S.. Sony built a second plant in San Diego, giving them both a picture tube and assembly facilities; Hitachi opened a facility in Redondo Beach, California to assemble colour TVs, stereos and electric fans.

7.4.3. The Television Market and the Japanese.

Television has been a troubled product line. In 1976 the foreign TV producers had 37% of the U.S. market for colour TV, which is double the level in 1975 and lately it reached 40 per cent. In the black and white market the foreign

penetration, most of it Japanese, has forced at least five U.S. companies to drop out since 1968 and since 1971 60,000 TV workers have been laid off.

The primary reasons for this chaos was the sharp increase in sales achieved by Japanese imports. This was attributed largely to very low priced merchandise often sold under the brand names of American retailers. In 1974 Zenith filed the lawsuit against 20 major Japanese and U.S. subsidiaries and Motorola in alleging violations of U.S. antitrust and dumping laws. Zenith tried to petition the imposition of countervailing duties that had been filed in 1970, but the U.S. Department of the Treasury issued a final determination denying the petition. This petition alleged that Japanese TV makers were benefiting from bounties and grants provided to them by the Japanese Government. In September 1976 eleven labour organisations and five companies representing the domestic colour TV industry filed a petition with the U.S. International Trade Commission urging that quotas be established to limit TV imports in the U.S. RCA did not join in efforts by others in the TV industry to seek import quotas or other restrictions on the imported TV sets because the company believed it could compete effectively with all manufacturers. In May 1977, Japan agreed to voluntarily limit its colour TV shipments to the U.S. to 1.75 millions a year, 40 per cent lower than 1976's record, for a period of 3 years. This decision was a "joint" decision taken by a government agency, the powerful Ministry of Intern. Trade & Industry (MITI) and big TV makers. They consulted among themselves and decided how many sets each company could export.

There might be quite a few reasons why the Japanese accepted so easily the quotas solution. They should have had an excellent year in 1976 because the U.S. economy had just

started improving and there were Bicentennial events as well as a Presidential Election that millions of Americans wanted to view. Besides, there is a feeling in Japan that the TV industry has lost its competitiveness since neighbouring competitors such as Singapore and Taiwan take away foreign markets in the Middle East, Latin America etc.*(Newsweek May 1977). This might push the Japanese to set up more potential profitable plants in the U.S. Three Japanese companies already have large U.S. plants, i.e. Matsushita, Sony, Hitachi.

The following table shows the percentage of ownership in the TV market in colour TV sets as well as black & white sets. Matsushita acquired Motorola's TV assets adding an 8 per cent share of the market to the 2 per cent enjoyed by its Panasonic subsidiary. Finally, Sanyo in 1976 picked up a controlling interest in Warwick Electronics and accounted for just under 10 per cent of the market. Sony built an assembly plant in California which is turning out more than 400,000 sets a year with up to 6p per cent imported components. Mitsubishi started a plant in Irvine, California and Toshiba says it will open one next year. At the same time Zenith, RCA, Sylvania, Admiral and SE have established facilities in Mexico and the Far East to cut production costs.

97%	of all U.S. households have T.V. sets
45%	of all homes have more than one T.V. set.
77%	of all home T.V. sets are colour models.

Source: U.S. News and World reports, Sep 12, 1977

Replacement market for colour sets is estimated at 45% of the industry's 1976 sales of 7.7 million units

4.4. Review of the U.S. market.

The U.S. market has a lot of similarities with the European one. There are three or four firms in each market which have 70 - 75% of the market, with General Electric being the most important. General Electric resembles some big European firms like Siemens or Philips, which operate in most markets and have a quite satisfactory market share. G.E. has 34% of the cookers market, 26% fridges, 13% washing machines, 7% of colour and 7% T.V. sets. Apart from those big firms, there are some small ones which are good at one product (e.g. Maytag with 13% in washing machines, RCA with 20% in the T.V. market, Magic Chef with 11% in cookers) which is similar to the pattern found in the European market.

The white goods market in the U.S. has reached its saturation level and therefore has become smaller. That means, that organisation and R&D are quite important and only big firms can survive. The small firms will be forced either to drop out, or to diversify, (e.g. utensils), or limit themselves in a local market. The energy crisis affected the American firms and the "readjustment" process started. Mergers (Motorola's T.V. operations with Matsushita), acquisitions (GTE-Sylvania acquired Philco-Ford), drop outs (Westinghouse sold its business to White Consolidated Industries Inc.), pressure on government (T.V. makers for the imposition of quotas for Japanese T.V. sets) were used as means by firms to keep their market share and expand wherever possible.

The most important firms in the market, have their own component making process producing the majority of their components requirements. This is exactly what the leading

European firms do. What the Europeans do not have is the high penetration of foreign firms in some product areas. There are quite a few foreign firms operating in the U.S. and most of them have established their own plants especially in the electronics area, such as Sony, Hitachi. Taking the U.S. and W. Europe as two different distinct areas there are not many "transactions" of white goods between those two areas, while in T.V. sets shipments of components is more often met. Commerce is restricted within continents mainly because of the weight and volume of products and to a less extent of tariff barriers for the protection of the different industries.

Exhibit 1

Raw Materials Used in Domestic Appliances (quantities per unit)

Electric Cookers		Refrigerators		Washing Machines	
Aluminium	3 lb	Aluminium	3.4 lb	Aluminium	10lb
Brass	0.1 lb	Copper	1.25 lb	Brass	0.5 lb
Glass	7.8 lb	Gasketing	3.25 lb	Gasketing, rubber	2 lb
Insulation	3.75 lb	Insulation	5.85 lb	Belts drive	2 ft
Plastic	2.2 lb	Plastic	49.4 lb	Plastic	13 lb
Steel	123.5 lb	Steel	154.5 lb	Steel	105 lb
Tubing metal	39 ft	Tubing	23 ft	Tubing	5 ft
Die castings	1.05	Compressors	1	Die Castings	22
Knobs/Pushbuttons	14	Knobs	2	Knobs	2
Labels/nameplates	25	Labels/nameplates	7	Labels/nameplates	3
Wire rack	78 ft	Wire rack	144.6 ft	Brakes	1
Convectors, electrical	77	Convectors electrical	3	Convectors electrical	6
Cord, electrical	3 ft	Cord elect.	6 ft	Cord, elec.	5.5 ft
Fuses	1	Fan blowers	1	Gears	5
Heating elements	39 ft	Motors	1	Motors	1
Pilot/indicator lights	25	Adhesives	0.21b	Pumps	1
Relays	0.5	Relays	1	Relays	1
Solenoids	0.5	Refrigerant	0.5 lb	Solenoids	1
Switches	7	Switches	1	Switches	5
Thermostats	0.5	Thermostats	1	Seals	4
Timers/motors	0.75	Timers	1	Timers	1
Wire, electrical	83ft	Wire, electrical	34.5ft	wire electrical	95 ft
Fasteners	168	Fasteners	203	Fasteners	180
Paint	0.075 gal	Paint	0.17 gal	Paint	0.5 gal
Porcelain enamel	34 sq. ft	Porcelain enamel	34 sq. ft	Porcelain enamel	60 sq.ft
Adhesive tape	7 ft	Adhesive tape	35.55 ft	Adhesive tape	7 ft
Corrugated fibreboard	88 sq.ft	Corrugated fibreboard	101.4 sq.ft	Corrugated fibreboard	150 sq. ft

Electric cookers	Refrigerators	Washing Machines	
	Steel-binding strap 17 ft	Hose, plastic	7 ft
		Hose, rubber	16 ft
		Valves	1
		Sensors	1

Colour T.V.

Aluminium	0.75 lb.	Adhesives	0.037 lb
Plastic	11 lb	Fasteners	152
Steel	94 lb	Knobs	11.5
Capacitors	175	Labels/nameplates	24
Connectors	24	Paint	0.02 gal
Cord, electrical	7 ft	Solder	0.25 lb
Diodes	50.5	Corrugated fibreboard	31.25 sq ft.
ICs	5		
P-C boards	1.43 sq ft.		
Picture tubes	1		
Resistors, fixed	276		
Resistors, variable	27		
SCRs	-		
Speakers	1		
Switches	4.5		
Transformers	9		
Transistors	34		
Voltage regulators	1		
Wire electrical	170.5 ft		
Adhesive tape	23 ft		

Source: Appliance Manufacturer Jan 1975 p.74. The figures are based on imports received from numerous manufacturers for their "typical model".

APPENDIX D

FOOTWEAR INDUSTRY

APPENDIX D

FOOTWEAR INDUSTRY

FOOTWEAR INDUSTRY

1. The Footwear Industry in Europe by Country

W. GERMANY

In Germany Italian supplies within imports declined from 51% in 1974 to 49% in 1975 and 47% in 1976. A considerable proportion of imports (up to quarter of total volume) consists of footwear sub contracted by German manufacturer or made directly by them in foreign subsidiaries. This applies in particular to Taiwan where the plant operated by Deutsche Schuh-Union is thought to account for some 40% of that country's supplies to the German market. Another leading German footwear producer, Gabor, is said to be supplied for 2/3 of its total output from abroad. Domestic demand in W. Germany is satisfied by 64% of imports. Per capita consumption of footwear was put at 3.9 pairs in 1975 and 4.2 pairs in 1976.

At the end of 1976 there were 492 plants for the manufacture of footwear in W. Germany 19 less than in the same period of the previous year. It is aimed to concentrate German production on upper quality lines, for which there appears to be increasing export potential and to buy in staple lines from abroad. The following table depicts the situation in W. Germany (in pairs).

	Production	Imports	Exports
1975	113.7 m	145.3m	15.2m
1976	116.3 m	160.5m	13.0m

In the long term the use of synthetics is almost certain to increase, despite the current trend among consumers towards

nature products.

BELGIUM

Domestic production accounts for less than 15% of domestic demand while the rest of consumption is satisfied by imports. Half of these imports are originated from Italy with France supplying a further 11%. Some 42% of domestic production was exported to France and The Netherlands. The demand and supply in Belgium is given below.

(in pairs)	Production	Imports	Exports
1975	10.4m	22.58 m	4.49 m
1976	8.5m	20.42 m	3.57 m

FRANCE

During the last few years France has very rapidly industrialised its manufacturing process in footwear. However, the artisan work was squeezed out and the result was that French industry is only able to produce medium quality goods with too little thought to styling. As a result fewer leather boots and shoes are available from French manufacturers and dealers began to buy heavily from Italy. An example is the clogs demand. When the demand for clogs became acute in 1976 the French industry was not in a position to supply the market.

Consumption per capita was 4.6 pair in 1975, it increased to 4.7 pairs in 1976, while the situation in the market is as follows.

(in pairs)	Production	Imports	Exports
1975	229.0m	74.4 m	60.6 m
1976	213.0 m	88.98m	53.8 m

The year 1975 was the first year that the footwear balance of payments was in the red. France had been able to keep imports less than exports, however, the Italian products were able to reverse the order.

THE NETHERLANDS

The per capita consumption in Holland is less than that in Germany or France. In 1975 it was 3.0 pairs, while in 1976 increased to 3.4 pairs. Exports accounted for 47.1% of domestic production in 1975 and 57.45% in 1976.

Domestic demand is highly satisfied by imports (87% in 1976) with main countries of imports being Italy, Germany, France and Spain. A more detailed description is the following.

(pairs)	Production	Imports	Exports
1975	14.2 m	33.9 m	6.7 m
1976	14.1 m	40.1 m	8.1 m

ITALY

Italian footwear production is made up primarily of leather shoes, production of which represented 50% of total EEC production of this kind in 1976. Another characteristic of the output of the Italian footwear industry is the importance of ladies shoes, which in 1975 accounted for around 65% of total output. In no other country does the share of women's footwear exceed 50% of total production. There is a trend towards a

bigger share of town leather shoes and boots in production at the cost of sandals and other types of leather footwear, while the ladies' footwear share tends to increase.

Thus, Italian shoe making attaches great importance on fashion and style. In effect, fashions in shoe making originated predominately in Italy and Italian styling is thought to be one of the reasons for the present important position of the Italian shoe industry in Europe. The situation in Italy is as follows.

(pairs)	Production	Imports	Exports
1975	347.7 m	6.98 m	232.4 m
1976	389.6 m	9.51 m	264.7 m

There are 7,564 footwear producing firms in Italy. All but one produce less than 1% of total output of the industry and this is the sector of Italian industry with the lowest degree of concentration.

The five largest firms between them account for only 5% of total sales by the footwear industry. The average footwear manufacturer employs only 15 persons. The larger manufacturer accounting for less than 1% of total production has production capacity of up to only 2,000 pairs of shoes a day.

The reason of this extreme fragmentation is the artizan origin of the shoe making industry. The absence of technological and financial barriers to entry to the sector (a sample survey

among 146 shoe manufacturers showed that more than 40% of those interviewed had started their business without any capital at all, or at best with a credit from supplier) (Marketing in Europe November 1977) and the marginal importance of economies of scale in shoe manufacturing, especially for the production of leather shoes, in a large variety of styles and fashions which is characteristic of Italian footwear production. The usual mark up in this industry in Italy reaches as high as 100 per cent.

UNITED KINGDOM

In the U.K. the situation in the footwear industry does not differ very much from those in other countries. The table below describes the situation in the U.K.

(Pairs)	Production	Imports	Exports
1975	163.553m	79.062m	17.184m
1976	156.803m	97.523m	18.195m

The footwear industry produced a deficit of 496m. Italy increased its share from 27% in 1971 to 32% in 1976 by value. Italy, Spain and France provided 49% by value of Britain's imports in 1976.

However, there are indications of a comeback. Recent trade figures showed a fall of imports by 13%, exports to the U.S. rose by 50% and to EEC by 13%, but the overall exports figure fell by 2%. The longer term problems still remain: the home market is growing slowly (the per capita consumption is 4 pairs); imports are taking a rapid rising share of it; growing international protectionism limits exports prospects.

Part of the difficulty lies in the structure of the industry. Around 400 small manufacturers are sandwiched between one dominant supplier and most important one dominant distributor. It is alleged that the big wholesaling companies (e.g. BSC with 30-40% of total U.K. sales) forced the domestic manufacturers into low profit margins which makes product development and export marketing impossible, and that also these firms often buy overseas unnecessarily. In the case of leather, the dominant supplier is British Tanners and small manufacturers find it difficult to obtain small quantities of leather in particular colour or finish (an important factor for fashion shoes), because of the lack of diversity of sources available.

There are companies which are investing in new plants and improving their products in their effort to increase the technology of production and reduce the unit value of home produced shoes (e.g. J. Clark). Two thirds of the industry's sales and employment are accounted by firms such as Clark, Dunlop Footwear, Bally and Bata which sell mainly in the domestic market and their efforts lie in developing sales in rapidly growing sectors such as sports and leisure footwear and increasing exports to new geographical markets.

The two main problems arise from increased cheap imports from Far Eastern suppliers and from EEC, mainly Italy, and the protectionism in industrialised world. The footwear industry working party pointed out that to compete successfully with major European suppliers many firms will need to upgrade their products, concentrate a greater proportion of their output in

footwear with high unit value and there should also be collaborations with clothing producers to develop a "fashion package". With regard to imports from Far East, quotas were imposed on non leather shoes from Taiwan, but British manufacturers fear of back-door imports through other countries. British manufacturers also alleged for dumping by Czech and Polish sandals and export subsidies in Brazil and Spain.

E.E.C.

Leaders of Europe's manufacturers called on the EEC commission of stem shoe imports from third countries to prevent further restrictions on European shoe exports and to press on with dumping investigations.

Since 1972 the European shoe industry has lost 66,000 jobs, production has fallen 2% to 910 m pairs a year, imports have increased 30% to 231m pairs a year. Compounding problems for

for the industry was the stagnation in European shoe consumption over the same period.

The European Footwear Federation (EFF) said it will continue to press Brussels for dumping investigations on Brazilian and Spanish shoe imports. It claimed that Brazil gives export subsidies, while in Spain tax refunds on exports are considerably higher than the taxes collected. The EFF complained that the 3% EEC tariff is the lowest in the world and would like the commission to demand tariffs to be negotiated bilaterally. In other countries tariffs are higher, for instance, Japan has 27%, Australia 34%, Brazil 17%, Argentina 20%.

U.S.A.

In 1975 an estimated 51% of domestic footwear production had upper leather, 24% of vinyls and the remainder of other materials including wood various fibres and textiles. Shoe consumption fell during the period 1972 to 1975, while imports of non rubber footwear increased. Italy is the main supplier of leather shoes followed by Spain, Brazil, Argentina, Republic of Korea, Mexico, India, Romania, while Taiwan is the leading supplier of vinyl footwear.

The American Footwear Industries Association asserting that exports of non rubber footwear were subject to bounties or grants, filed petitions with the Treasury Department against countervailing duty against Spain, Argentina, Brazil, Taiwan and Republic of Korea. The Treasury Department announced that

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indeed Spain and Brazil give bounties or grants and quotas were imposed; restrictions against footwear from the Far East were also imposed.

2. The Present Situation

2.1. The problems in the footwear industry

The trend in the footwear industry appears to be concentration of production in some low cost countries and increase of imports in others. Among the EEC members Italy seems to be the only country in which not only exports exceed imports, but to a considerable difference. Other countries which had a good traditional footwear industry (e.g. France) seem to be losing their market at the expense of imports.

The problems in the industry seem to be quite a few. First of all stagnation of consumption; in EEC domestic demand of shoes in 1976 was 966 m. pairs compared with 917.443 m. pairs in 1975 and 984.2^m pairs in 1972. Prices of leather shoes increased and, there was a shift of demand to synthetic shoes while many countries got involved into producing synthetic shoes. However leather shoes still constitute the greater percentage although they are losing market. During the last fifteen years there has been a decrease of enterprises producing footwear and many were left jobless, which is a result of higher imports since there was, in the countries, no unemployment problems. Other reasons explaining this evolution are the stagnating demand and technology which forced marginal enterprises out of the market. It did not lead to mergers as expected but very rarely in some countries take overs occurred of small specialised firms.

The international trade pattern had its effects on every country. In Europe imports of synthetic shoes increased, while in the U.S. increased leather imports reduced domestic production. However, imports in aggregate figures fall in the EC, while they increased in the U.S., but the pattern of dependence has changed. Europe seems to become more dependent on leather shoes, while dependence on synthetic shoes is reduced, but it is still high (47 per cent of imports in 1976 compared with 52 per cent in 1962). In some countries (e.g. Italy, Spain) the low dependence on foreign trade applies on all products, while in high dependent countries the dependence applies to source products (e.g. France in rubber shoes). Low wage countries (e.g. Taiwan, Brazil), have increased their exports to Europe and the U.S., while imports in these countries are very low and this is the reason why more manufacturers in Europe and the U.S. ask for restrictions on imports. However, a big problem in the industry has been the reduction of supply of leather due to a change of policies by leather exporting countries.

D. 2.2 Raw materials

The shift of production from leather goods to synthetic ones occurred because of the wide price fluctuation and the reduction of supply of leather.

The price of leather depends on world's cattle population, demand for meat, need to rebuild herds etc. When unfavourable situations prevailed, the price of leather increased while it decreased when the conditions ceased to apply.

Another factor which had a great impact on developed countries was the change of developing countries' policy. These countries, like Brazil, Argentina, used to export raw materials hides and skins to developed countries which used to process the skins before reaching the footwear manufacturer. However, measures taken by developing countries resulted in the reduction of the quantity of raw materials exported, while at the same time the tannery industry and manufacture of footwear in less competitive countries were supported. The outcome was that these countries increased their value added retained in the country (tanned skins and semifinished or finished products), while at the same time they control raw material and most of the output.

The impact on developed countries was felt in the tanning industry and the supply of leather. Developing countries' position was strengthened by simply using properly their advantages. However, the low wages paid in these countries is another advantage which improves the countries' position. Since footwear industry is a labour intensive industry, developing countries find themselves in a situation where they can produce cheaper products.

McBain (33) found that in developing countries (low wages) there is little difference in the profitability between alternative projects of machine-intensive and labour-intensive techniques when all projects costs and benefits are considered. However, in the case of developed countries (high wages), machine-intensive techniques are more profitable than labour intensive. He also found that low-wage countries manage to offset the higher

levels of operative productivity found in the machine-intensive industries in developed countries.

The change occurred in the supply of raw materials, forced the use of synthetic materials, especially for soles. The appearance of substitutes lowered the supply of leather and so prices rose. This was reflected in demand, with leather shoes reduced in number (524.1m in 1972 in EEC dropped to 430.09m in 1975) and increase in the number of plastic shoes (153.2m in 1972 in EEC rose to 173.515m in 1975). Plastic shoes seem to be gaining market at the expense of leather shoes.

This trend affects production methods, with side effects on other industries (e.g. tanneries) which are being diminished. The use of leather for soles has been reduced, with a negative effect on tanneries processing heavy hides, and it has been replaced by synthetic rubbers characterised by uniform quality than that of leather. Using synthetic materials, like Polyvinyl Chloride (PVC) or synthetic materials, wastage is reduced, batch cutting is more suitable, prices are more stable and skilled labour cost is reduced.

12.3 Structure of the industry

The industry is dominated by small firms with the U.S. being the only exception. The firms are family owned and therefore they are easy to run.

Every type of firm, big or small, has its advantages and disadvantages. Small firms are unable for fashion research and

to impose fashion, are able to adjust fast once information is received, have simple management i.e. quick decisions usually made by a single person, are less risky to rapid fashion changes, have not expensive technology which is not necessary to pay with large scale production, are weak in forecasting ability, cannot initiate action or keep their traditional production methods which is met by serious competition from the new technology (synthetic replacing leather), have less opportunity to spread risk over production as a whole when only a few lines are manufactured. On the other hand, large firms can adapt less spontaneously to sudden changes in demand, are better equipped to forecast and anticipate consumers' preferences, might have their own retailing shops and so they are kept informed of consumers' reactions and trends in demand. Although they have expensive equipment, they can achieve low prices, and have the ability to invest in equipment to produce a wider range of products.

Apart from the manufacturer a very important role is played by the distributors. Retailers, usually, are getting high profit margins (e.g. in the U.S. 50% on home made footwear and 63% on imported goods, in Japan the manufacturers' price is doubled, in Sweden 80%, Canada 41-47%, Italy 100% (OECD (110)). This can be explained by the high rents paid for outlets in the city centres, unsold stock, importance of distribution over production. Producers are now getting involved in distribution, while independent retailers are being diminished. However, the phenomenon of distributors getting involved in production is not rare (e.g. Norway) (OECD (110)).

Advances in technology are not achieved through the small firms, but through the manufacturers of tools and machinery and suppliers of raw materials. Advances have been made in the computerisation of cutting operations, stitching in high frequent techniques, and assembling, which all could be applied to leather and synthetic materials.

2.4 Fashion

Fashion is quite important for the shoe industry. The bigger the manufacturer the greater his impact on fashion. The producer which enjoys a fairly substantial market share is able to impose fashion.

Fashion influences production through the increase of the per capita consumption of footwear. Fashion causes obsolescence of style, colour and design, which forces producers into manufacturing ^{/only} what they will sell. This means high marketing cost per unit, reduction of productivity, increased rate of machine depreciation. All firms have the ability of quick adaptation to fashion changes but they cannot influence fashion. Another strange characteristic of fashion is the time lag between launching a product in two different geographical areas. Fashion usually starts in the capital and when it reaches the suburban areas, another product might be needed to be launched in the capital, therefore, the manufacturer should produce two different products at the same time. Taking into account the great variety of each product, manufacturers run greater difficulties and risks. However, this has the benefit of

testing the product in one region and thus acquiring experience for the other areas.

The type of footwear produced in every country is very essential. McBain (38) found that profitability of projects in developing countries was more sensitive to the type of footwear and to the quality of management, than to the factor intensities of the manufacturing technologies. Products should be in fashion in order to be marketable, but the technique used for manufacturing is also important. The value added on each product determines the profit margin for each type of footwear. Frequent changes in fashion means changes of tools or other techniques of production which result in a narrow profit margin. Fashion induces firms to produce a wider range of products, either through new equipment or through acquisitions, for the only purpose of attracting more customers.

3.2.5. Actions taken for the industry.

Different types of measures and actions have been taken by governments and the firms themselves to protect or restructure the footwear industry.

Small firms can obtain information about fashion and production techniques from different Associations or Institutions specially established for this purpose. The formation of associations (e.g. American Footwear Industry Association in the U.S., Footwear Research Institute in Sweden, the European Footwear Federation in the EEC) for information on marketing, fashion, production techniques, trade unions, pressure on government for quotas or duties against foreign competition is a very efficient approach taking into account the low barriers to entry in this industry.

However, governments have the greatest power of establishing a constructive industry and relieve it from its main problems such as high import penetration, reduction of supply of skins and hides. Quotas or import duties are being imposed and some governments are being asked to increase them. These restrictions are imposed either on raw materials or on footwear. Taxation, subsidies, grants (Germany, France, Norway), loans (Canada, Sweden), retarding schemes (France, U.S.), tax relieves (U.S.) are being used by different countries to increase domestic production, lower import dependence and increase their aggressiveness (exports).

D 3 General Review of the Industry

Sources of supply of raw materials are quite important for the development of this industry. The countries enjoying sources of supply have a great advantage over other countries. However this safeguard of supplies (skins and hides) had its negative effect. Synthetic materials are gaining more market share compared with leather whose market share is getting lower. Synthetic products are cheaper and taking into account the rapid changes of fashion, consumers are more prepared to buy these shoes to leather ones.

Since leather goods are more expensive, consumption per capita should not be very high unless GNP per capita is high. The lower the GNP the lower consumption per capita (e.g. the U.S. GNI per capita is 6,331 dollars and consumption of footwear per capita is 3.72 pairs per year, while in Italy GNI per capita is 2,752 dollars and consumption of footwear per capita is 2.45 pairs per year). It might be argued that in the long run demand

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for footwear will increase more rapidly in low GNP than in high GNP countries.

Other factors affecting demand for footwear are the climate conditions in each country, weather changes in each season (bad weather during spring results in low sales of spring-shoes), attitude towards sports, climate conditions for sports (sales of ski-shoes in Egypt should be negligible compared with sales in Switzerland) etc.

Advertising does not seem to appear for ordinary shoes. Advertising budgets seem to be higher for sports shoes than for town-shoes and boots. The reason for that is the concentration ratio in these two different types of shoes. The numbers of sports shoes are less in number than those of ordinary shoes. (e.g. Dunlop, Adidas). The oligopolistic structure of the sports shoes market enables the makers to spend more financial resources on advertising. Advertising and other promotional activities are of marginal importance for the sector of leather shoes. There is hardly any brand awareness among consumers and the leading manufacturers are known because of their retail outlets rather than their branded products.

Footwear industry is one of the industries that can easily be safeguarded by government policies since there are no foreign firms movement across countries. The products are light, easy to transport, not bulky and not affected by weather conditions. It cannot be classified as a "high technology" industry and that's why the barriers to entry are almost not existent.

Licensing and sub-contracting occurs but this has no effect on the country which exports. The effect is on the balance of payments of the import-country but this can be easily regulated or restricted. However, there is a great difficulty to safeguard an economy which has signed agreements or belongs in an economic community. The U.S. can do nothing on Italian imports of shoes, while it could have taken some actions if it did not belong in the E.E.C. However, the EEC itself has established an Association dealing with third countries. In this case Italy should be the "happiest" country because it can expand its exports in different European or non-European markets without fearing retaliation from the EEC countries. The only way that quotas can be imposed on the Italian shoes is if the dumping allegations raised are proved right.

In the non-EEC-members and especially Far East the situation is not perfect. Those countries like Taiwan, Hong Kong enjoy cheap labour, achieve low prices for their products but if they become a threat for other countries they are bound to lose. Quotas were imposed in the U.K. and U.S. against Far-East-made shoes. When a country finds itself unable to compete with others it automatically tries to restrict the other countries' aggressiveness either by being more defensive (protectionism) or threatening retaliation. Both ways seem to be very effective and it applies for all industries (e.g. quotas on shoes, or Japan's agreement to lower imports of cars in the U.S.).

APPENDIX E

THE ELECTRICAL APPLIANCES

INDUSTRY IN GREECE

APPENDIX E

THE ELECTRICAL APPLIANCES INDUSTRY IN GREECE

E.1 Definition of the Industry

In general the firms involved operate in the electrical and electronics area. However, there are differences in the range of appliances in which domestic and foreign firms operate.

The domestic firms operate mainly in the electrical household domestic appliances area and supplement their production by manufacturing products relevant to domestic appliances. More specifically, domestic firms, generally, have four main divisions, namely, major appliances (white goods), electronics, heating-cooling systems and utensils. Although the foreign firms operate in the same area, apart from utensils, they have a wider product range in the same divisions, they have more divisions such as, brown goods, and are highly diversified (e.g. telecommunications equipment). By "white goods" is meant bulky products usually white in colour, which are supposed to satisfy basic needs and, therefore, considered to be a necessity. "Brown goods" are less bulky products, which are not considered a necessity and might supplement white goods; they might offer facilities that white goods offer, but they are considered more of a luxury. Brown goods appear in markets where the income per capita is high. Refrigerators, cookers, washing machines, dishwashers, freezers are considered as white goods, while toasters grills, electric shavers and so on are considered to be brown goods.

The following table (Table E) shows how foreign and domestic firms are divisionalized and products typical of each division.

TABLE 4. Divisions and Typical Products in Domestic and Foreign Firms in the Electrical Appliances Industry in Greece.

DOMESTIC			
WHITE GOODS	ELECTRONICS	HEATING-COOLING	UTENSILS
(Refrigerators Cookers Washing-Machines Absorbers	(TV Sets)	(Oil stoves Air conditions Water heaters Solar energy	(Enamelled pots etc)
FOREIGN			
WHITE GOODS	ELECTRONICS	BROWN GOODS	...
(Refrigerators Cookers Washing-Machines Absorbers Freezers Dishwashers Vacuum cleaners	(T.V. Sets Hi-Fi equipment)	(Mixers Toasters Shavers	

Domestic firms concentrate mainly on white goods, T.V. Sets and oil stoves. An importance difference is that foreign firms' product range includes not only electrical, but also gas household appliances, while domestic firms concentrate on only electrical goods. The products domestic firms promote are all manufactured by them. Foreign firms operating in Greece import their products, but some of them have a proportion supplied by domestic manufacturers to avoid the tariff barriers. All domestic ^{firms} operating in this area produce and wholesale their products but do not own any retail outlets. There is no production of brown goods in Greece and all these are imported.

E.2. History

The electrical appliances industry was established after the second World War (the first electrical appliances were manufactured in the beginning of 1950). The Electricity Board was the first to promote electrical appliances through its general plans to provide each town and village with electricity. The appliances sold were mainly electric refrigerators and a few electric cookers (cookers with gas bottles were more in common).

However, sales growth was slow because most people could not afford the high prices of imported appliances, there was widespread poverty (dwellings were more important than appliances), and there was a high rate of unemployment. Cheaper appliances, such as, refrigerators with ice and cookers with gas bottles, were sold in larger quantities.

The "green field" attracted some entrepreneurs whose business flourished, because not only were they the first in this field, but the government prevented other firms from entering the industry. In 1950 the first Greek electric refrigerators and cookers were produced, in 1963-64 the first washing machines and in 1969 the first T.V. sets (TV transmission started in Greece in 1969).

When production of electrical appliances started in Greece, sales were sluggish and the effect on the balance of payments was

unimportant. However, by 1960 prices and quality of Greek made appliances had improved and in the 1960-70 decade sales expanded fast. The economy was going better, income per capita was increasing and the demonstration effect from other countries for a better life pushed the demand for electrical appliances up.

TABLE 5 shows domestic sales in different years in pieces (domestic sales - domestic production and imports-exports).

TABLE 5 Domestic Sales in Greece in Pieces

	Refrigerators	Cookers	Washing Machines	T.V. Sets
1960	26,935	25,500	4,318	-
1963	64,625	36,417	11,703	-
1968	160,848	49,794	52,959	61,462
1970	171,002	66,325	66,672	147,054
1971	179,723	80,408	85,686	155,958
1972	226,610	88,931	97,866	235,533
1973	295,475	130,887	151,289	314,618
1974	222,641	98,511	118,335	207,961
1975	184,063	102,792	167,854	197,231
1976	200,701	136,722	160,974	205,768

Source: Statistical Year book and External Commerce of Greece.

Transmission started in Greece in 1969.

The above table shows that domestic sales of these four products has increased enormously since 1960. Over this period domestic production has taken an increased share of the total sales as TABLE 6 shows.

TABLE 6. Percentage of Sales met by Domestic Production
(Imports = 100% minus domestic production %)

	Refrigerators	Cookers	Washing Machines	T.V. Sets
1960	76	61	-	-
1963	68	73	13	-
1968	62	39	11	26
1970	84	92	22	83
1971	90	96	25	89
1972	88	97	29	92
1973	91	93	42	95
1974	91	96	44	94
1975	85	99	49	87
1976	86	95	57	89

Source: Statistical Yearbook and External Commerce in Greece.

In the next section we will try to illustrate the present situation in the industry and the major problems it faces.

B.3 Present Situation

B.3.1 Market Structure and size

The domestic market is not a very big market (in 1976 it took 201,000 refrigerators, 137,000 coolers, 161,000 washing

machines and 205,000 TV sets), and it is not yet saturated (35% in refrigerators - 70% in cookers, 55% in washing machines). This market is dominated by four domestic firms, namely, ISOLA, PITSOS, ESKIMO, ELCO, as the following table shows.

TABLE 7. Percentage of Volume of Domestic Production held by the 4 Leading Firms.

	Refrigerators	Cookers	Washing Machines	T.V. Sets
1970	73	93	37	27
1973	91	98	74	30
1974	94	100	75	24
1975	90	93	50	22
1976	88	100	51	23

* Only three firms are involved ISOLA, PITSOS, ESKIMO

Apart from the high share in domestic production these firms have, their market shares are also high in some products as TABLE 8 depicts.

TABLE 8. Market Share of the Four Leading Firms (percentage in aggregate)

	Refrigerators	Cookers	Washing Machines	T.V. Sets
1970	61	35-36	19-20	24
1971	71-73	35-36	23-24	27-23
1972	74-77	95-96	26	33
1973	32-37	96-99	31	23
1974	34-100	96-99	34	18-20
1975	75-94	93-98	24-25	16-17
1976	74-90	94-95	27-31	20

In 1973 SIEMENS acquired ELCO. The remaining firms, namely, ISOLA, ESKIMO, ELCO, reacted differently to this acquisition. ISOLA and ESKIMO formed a joint venture, HELINDA, to produce their products, while both firms continued selling their products independently. ELCO reduced its involvement in the market by diversifying into utensils and solar energy devices.

Apart from those four domestic firms, there are foreign firms involved, which mainly, import their products. PHILIPS is the only one which has assembly line in Greece only in TV sets, while its white goods are imported from Italy. Other firms (e.g. AEG) have some of their products produced domestically to overcome high tariffs and import the rest. PISOS, long before its acquisition by SIEMENS, was producing for SIEMENS, AEG, ZANUSSI. HELINDA produces not only for ISOLA and ESKIMO, but for ELECTROLUX and different department stores in Europe, with ELECTROLUX's products sent only to the Middle East market. The products manufactured locally for foreign firms are limited to the same product range as that of domestic producers.

The following table shows the relationships between the main producers, wholesalers and retailers in this market.

TABLE 9. Firms Operating in the Electrical Appliances Industry in Greece.

Producers:	HELINDA	PISOS-SIEMENS	ELCO (only coolers)	PHILIPS (only TV sets)
Wholesalers:	ISOLA ESKIMO	PISOS-SIEMENS	ELCO	PHILIPS
Importers and Wholesalers:	AEG, ZANUSSI, HOOPER, INDUSIT, PHILIPS ETC.			
Retailers:	Many small firms operate, which promote domestically produced appliances and imports.			

E 3.2. Historical development of the firms in the industry.

ISOLA S.A. was established in 1950 by Mr. P. Dracos with the main operations being manufacturing of iron water pipes, cast iron etc. In 1951 it produced electric cookers, in 1952 refrigerators, in 1955 oil stoves, in 1964 washing machines and in 1969 air conditioners and TV sets. Production of the old products stopped and the firms entered solely in the electrical appliances industry. From 1952 to 1963 it manufactured water heaters but, as it is argued by ISOLA, lack of safety standards for the quality of water heaters and low quality from its competitors pushed ISOLA out of the market.

ISOLA participated with one third in HELIFRIDGE, a firm owned by PHILIPS (1/3) and IGHIS (1/3) but in 1974 it bought the remaining 2/3 of the shares. Under the contract with which ISOLA acquired HELIFRIDGE, ISOLA had to supply PHILIPS with white goods for two years. However, PHILIPS claims that the products were of low quality and after the two years period co-operation stopped. ISOLA also had its own retailing system "Alyssos Dracos" but it was not successful because of the refusal of other retailers to promote ISOLA'S products, since they thought of Alyssos Dracos as a competitor. ISOLA now reaches the retailers through its own wholesaling firm.

ISOLA pays royalties to different foreign firms such as THOMSON BRAUER (France) for TV sets, UNITED FURNIDRIES ARTHUR MARTIN (Belgium) for cookers, RCA (USA) for TV sets. In 1973 (the peak of inflation in Greece), demand for appliances increased

and this was mistakenly taken by ISCOLA as real demand. It expanded its assets and invested in a plant in ~~Attika~~ (60 kms outside Athens) with capacity exceeding 90% of domestic production. Next year demand fell and this investment was not operating at full capacity. This dangerous situation, the heavy loan charges and the threat from ~~PITSOI'S~~ acquisition by SIEMENS forced ISCOLA to merge with ESKIMO forming "Hellenic Industries of Appliances" (HELINDA) in 1976. HELINDA'S owners are ISCOLA (1/3), ESKIMO (1/3), National Bank of Greece (1/3). This joint venture manufactures for both firms, mainly refrigerators and washing machines, under the brand names ISCOLA and ESKIMO, but promotion and advertising is carried out by the old firms independently. In this way the factor (500,000 appliances per year) operates at greater capacity and \$1.08 millions of overhead expenses is saved. However, the plant could produce more than it is producing now, if another shift is introduced. HELINDA also produces for ELECTROLUX and these products are sent to N. East.

ISCOLA claims that its market share is around 25-30% for refrigerators, 15% for washing machines. The firm is still managed by the Dracos family which still has the majority of shares, although it has shares in the stock market.

VICINETAL-ESKIMO was established by Mr. Stavropoulos in 1958 manufacturing refrigerators with ice and oil stoves. In 1961 electric refrigerators were produced, in 1962 cookers, in 1967 washing machines, in 1965 absorbers and in 1969 TV sets. It is managed by the Stavropoulos family and claims to have 20-25%

market share for its main products, namely refrigerators, cookers and TV sets which are followed by washing machines. It pays royalties for TV sets to the German firm Schaub-Lorenz. In 1976 it formed "HELINDA" in partnership with ISOLA in its effort to survive the severe competition from foreign firms and the EEC threat when tariffs are abolished. ES HIO has its own wholesaling outlets which promote only its own products. It is the second firm which has shares in the stock market but the majority belongs to Stavropoulos family.

PITSOS S.A. was established in 1865 by Mr. Pitsos manufacturing oil stoves, cutlery etc. It then produced refrigerators with ice and after its contract with FRIGIDAIRE (UK) for the supply of motors, it produced electric refrigerators. The production of cookers, washing machines and TV sets soon followed. PITSOS in order to attack the belief that foreign products are better than domestic ones, promoted two refrigerators with the foreign names "Princessa" and "Contessa" and established itself in the market as a reliable firm.

PITSOS also produces for SIEMENS, ZANUSSI and AEG. The brands coming out of PITSOS's factory have been PITSOS, SIEMENS, BOSCH, AEG, ZANUSSI. AEG had acquired 18% of PITSOS's shares and ZANUSSI less than 5%. Troubles from the unions (strikes etc), increase of costs, reduction of profits, forced Mr. Pitsos to sell his firm to SIEMENS which now acquires 55% of the shares. PITSOS has been one of the most important Greek firms, which nowadays has become a threat for the other Greek firms. It exports mainly to the Middle East and Africa and its acquisition by SIEMENS is an effect of the trends that exist in Europe.

ELCO-VAYIONIS S.A. was established in 1949 by Mr. Vayionis, manufacturing crockery, aluminium crockery, water heaters etc. In 1955 it produced its first cooker while its first refrigerator was manufactured in 1969. Its main products are water heaters and cookers, while refrigerators do not count much of its sales. ELCO has a reputation for its water heaters with 60-65 per cent market share and cookers with 70 per cent of the market and produces refrigerators for exposing its name to the consumers. Its patents, as in most firms, include different parts of different products.

ELCO has licence agreements with THOMSON BRANDT (France) mainly for cookers. It has very recently produced a kind of water heater which was found attractive in the German markets and ELCO is planning to expand its production of water heaters from 500 to 1,000 units per day. In fact, two are the main strengths ELCO has. Production of cheap cookers and expertise in water heaters. Apart from these ELCO has the lowest number of employees (450 to 500) and the less overhead expenses. ELCO operates at full capacity for its cookers, and it cannot export because all its cookers are absorbed in the domestic market.

For a number of years ELCO was producing utensils. In 1977 the utensils division was not part of the firm since one son of the owners established an independent firm producing them. Instead, a new solar energy devices division was established. There is potential market for such devices because electricity is expensive and the climate is suitable for such installations. ELCO is indirectly involved in washing machines because another son of the present owners has established a plant producing

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San Giorgio (Italy) washing machines, and ILCO will presumably be inherited to the sons of the owners.

AEG-HELLAS Industry of Electric Products Ltd was established in 1950, producing circuits breakers, pumping units, electric motors etc. It imports and distributes white and brown goods with PITSOS producing some of its range (AEG has an 18% stake in PITSOS's shares). It does not export to other countries but all the orders it receives are sent to Germany. It only exports brown goods which are not produced in Greece. Its imported product range does not cover the whole range produced in Germany because the Greek market and the Greek consumer do not allow it. It does not sell TV sets because TELEFUNKEN (wholly owned by AEG) operates as an independent firm. AEG claims that quality is its main aim and that only AEG and Miele have a 100 per cent quality control on their products.

PHILIPS was established in 1961 producing telephone exchanges, telecommunication equipment and TV sets. In electrical appliances, PHILIPS imports its white goods from Italy and it does not intend to set up production in Greece, except keeping that of TV sets. It thinks that when Greece joins EEC, its prices will be lower than those of domestic producers.

SIEMENS TELE-IND LTD was established in 1964 producing telecommunications equipment. In 1971 SIEMENS established a subsidiary SIEMENS-industrie operating in electrical appliances. This firm bought 5% of PITSOS's shares in 1976. SIEMENS imports

some of its products while others are produced in Greece. It agrees that its imported products are intended for the higher class, but it produces in Greece to achieve lower prices to compete with the Greek products and expand exports to Middle East. Its main objective is to reduce costs in MISOOS, so that it could attack the markets more successfully.

E 3.5 Other aspects of the industry.

Domestic manufacturers produce a product only if it has been introduced abroad. They bring the product in the country, commit some alterations on it and introduce it in the market. These alterations are monitored from the small R&D department that all firms have. R&D is oriented towards development and some detailed changes which will match the Greek reality (e.g. MICO introduced the small hot plate for the small coffee pot). These alterations and changes are patented.

The characteristics of the Greek customer differ from those found in Europe. While Europeans change their products more frequently, Greek customers would like to have them as long as possible and thus quality is important. This imposes a problem to manufacturers because they should produce two kinds of products. Cheap ones for exports and good quality for domestic consumption. However, this attitude has started changing in big cities and towns which implies that Italian-style products (cheap and short life products) should be produced.

Another attitude of domestic producers is to produce the whole range of appliances, although they are not good at all of

them. Thus, they produce unprofitable items in order to have the brand name exposed to customers (e.g. ELCO in refrigerators). This attitude affects productivity and reduces efficiency.

Management in the industry is also not very efficient. The non separation of ownership and control had had its bad effects and it was the main reason why PILSOS was acquired by SIEMENS.- HELINDA is trying to solve its organisational problems by appointing a new independent manager and the problem of underutilisation that reduces profitability. ELCO also seems to have problems in management (it missed the chance to enter in the TV market, it does not have plans to produce gas appliances to attack the Middle East markets). However, the approach that Greek firms followed to attack the market (by changing the products) has been the best one to help them to survive because of lack of capital production experience, regulation etc.

The Greek Government in order to make Greek products more competitive abroad subsidises exports by approximately 15 per cent and this applies to all firms. The Government imposes taxes on domestic production, and it also imposes high tariffs on imported goods; the difference of these two shows the percentage of domestic production. This protection is less than it seems to be because import duties are also imposed on imported raw materials. For instance, in TV sets protection amounts to about 20% but import duties on some of raw materials is more than 20% (e.g. cathodic lamps by 37%).

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quality. This affects the entire firm because it eliminates them from the lower segment of the market. The firms are also complaining of the frequent changes of government's incentives, its bureaucratic structure and the lack of planning which affects their long range planning.

A problem that Greek firms face is the belief that existed, that foreign products are of better quality and more reliable than domestic ones. This belief has now started changing, however, the bad quality products manufactured by those small firms tends to slow the pace of change of attitudes.

The most important raw materials are imported because there are no domestic producers, and some are domestically produced such as plastic and wooden frames etc and recently TV lamps. Value added in Greece is 25-45 per cent compared with 65-75 per cent in EEC. The cost structure in Greece is estimated as follows.

TABLE 10. Cost Structure in Greece.

	Refrigerators	Cookers	Washing Machines	TV sets
Cost	10	13	10	7
Labour	43	30	22	26
Domestic raw materials	26	26	37	40
Imported raw materials	31	61	31	27

Cost in Greece is on average of 50 per cent and sometimes more than in Italy. The reasons are the small market, lack of vertical integration, cost of inputs, low productivity, underutilisation (HELINDA), diseconomies of scale, inefficient management.

Exports of white goods are not many. The majority of cookers are exported to France, refrigerators 10 per cent in Europe and 70 per cent in Middle East, while all washing machines are exported to Middle East and Africa.

E. 3.4 Television Sets

Television sets belong in the high technology category where domestic firms do not have the capabilities to penetrate. In the TV market in Greece there is a lot of competition because there are a lot of makers. All makers, approximately 60, are small firms manufacturing for different foreign firms and those makers undertake the wholesaling distribution. The domestic firm in electrical appliances are involved in TV making (ISCLA promotes sets under its own brand name, ECHINO promotes CHAVE-LORENE, FITSOS promotes its own brand name) and all three of them have approximately a fifth of the total market.

Table 11 shows the cost structure in value in TV sets in Greece and compares it with EEC.

Table 11 Cost Structure of TV sets in Greece, Greece in \$ EEC in \$

Labour Cost	3	2.2
Loss because of continuous changes in labour force	3	
Cost of Licence and Design	4	2.2
Imported components	21.2	
Components produced in the country	25	75
Loss in keeping stock of raw materials and semi-finished products	14	10.1
Loss of economies of scale	18.3	-
Loan charges	13.2	4
Cost of Net worth	6.5	
Loss because of imports	5	-
Overhead	21.2	3
Profit	12.5	12.5
	<hr/> \$212	<hr/> \$125

Source: KETE "Electronics Industry"

It can be clearly seen that economies of scale, overheads, components and loan charges are the biggest disadvantages of the Greek TV industry.

Another problem facing the Greek TV industry is the excess profits made by wholesalers and retailers. Table 12 shows the price increase from manufacturers to retailers both in Greece and EEC.

TABLE 12. Formation of Consumer Prices in the TV Industry

Prices charged by	Greece in \$	EEC in ₤
Manufacturers	212	135
Wholesalers	272	60
Retailers	472	
Reductions	160	
TOTAL PRICE	420	135

Source: "ENE "Electronics Industry,"

Overheads are expected to be high in wholesaling and retailing in Greece because of the small size of the distributors, but it is doubtful whether this explains the difference between EEC and Greece.

E.4 Strengths and Weaknesses

The Greek electrical appliances industry does not seem to have any comparative advantage as such, except those offered by the Greek environment (low labour cost, low freight cost, next to the growing Middle East markets).

The strengths and weaknesses in white goods can be segmented in different areas. In manufacturing the industry is dependent on know-how from abroad, there is no component making within firms or the country, cost is higher than Italian, raw materials are taxed, there are no quality standards, there are limited economies of scale because of the small market etc. There are strengths from the fact that PHILIPSA's plant has been newly equipped, SIEMENS has established in the country, domestic firms

(e.g. HELINDA) are trying to help producers of components to improve their quality, labour cost is cheap, there are R&D departments experienced in developing products, firms follow the strategy of specialisation etc.

In reference to the product range all products, except TV sets, belong in the medium-low technology category which is favourable for producers who possess neither technology nor funds to set up R&D departments able to compete with big firms. Domestic producers' range is narrow compared with that of foreign firms and can be considered as a disadvantage for the firms which cannot increase their range, namely, HELINDA, ELCO. A general disadvantage is that all producers are narrowed only to electrical goods and no gas appliances are produced, which are demanded in N. East.

Domestic firms are not organised towards exports and thus exports are achieved by firms individually without the assistance of any kind of association. Government has not helped this industry at all, while its protection had not produced any good results.

In management some firms are family owned and this has not shown good results. For instance they could not foresee what the future would be and did not find the right time to attack the N. East markets, when European firms were fighting over the European market. Besides, the objective of some firms (e.g. ELCO) is the survival of the firm but short run profit. However, they have followed the right policy of adjusting the products to the needs of the market they serve.

None of the domestic firms is involved in retailing or wholesaling of other products. In retailing there are small firms which cannot give high discounts and there are no hyper-markets or discount shops which could increase sales. A feature of the market which can be considered both as a strength and a weakness is the fact that the domestic market is not widely spread, concentrated on only five big cities/towns, which helps both domestic and foreign firms.

In TV sets the numerous small producers do not favour reduction of cost and economies of scale, which can only be achieved if reorganisation occurs. Production concentrates in black and white TV sets, which is the dying segment of the TV industry.

E.5. World Patterns

In Appendix C the electrical appliances industry in Europe was described and the main trends and patterns found were discussed.

In the European television market multinational firms dominate, since it is a high technology area. These firms have their own making of the majority of components and technological advances take place through their own R & D departments. Some of the components are supplied by few multinational firms, while others are standardised and produced in many countries. There are small firms operating in this industry (e.g. Varadero).

which are good at assembling, but buy components and know-how from multinational firms. The European market has concentrated in manufacturing colour TV sets, where the future lies and there is already fierce competition among the multinational firms.

White goods is a capital intensive industry and since output of each firm is somewhat inflexible, each firm has to find a big market to promote its products. That is, economies of scale are important. This is a very important feature, since most markets have got nearer to saturation and their size has been reduced. This implies that a different approach should be followed for "second buys" markets, where competition becomes more severe and profitability falls. Multinational firms dominate the industry and have been successful in achieving economies of scale and fabrication of part of the components within the company.

In particular for Europe the increased competition has resulted in a merger wave with concentration increasing towards the multinational firms. Four groups have been formed, namely, AEG-ZANUSCHI, PHILIPS-IGNIS, SIEMENS-OSRAM, TECHNOLUX-MARTIN GROUP. These groups are highly diversified and have most of the components-making within their firm (e.g. ZILUZE manufactures 60 per cent of the components it uses), which safeguards its supplies and increases value added. A growing trend among these groups has been to produce in C. Europe to benefit from the low labour costs and finally from the proximity of C. European countries to the growing markets of Middle East and N. Africa. Despite the power that these groups have, there are other firms which are

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good at making more products (e.g. ...), but in these firms found specialisation is ...

Especially, new products have been ... (e.g. ... freezers) which are intended for high ... The range of "old" products has also been ... the introduction of small ... (e.g. ...). Components in these goods are of ... technology and are produced in many countries ... but there are also a few components ... by the firms (e.g. hotplates).

Some countries had foreseen this ... and tried to support their industries (e.g. ...). Italy, ... of scale, production experience, ... and for these reasons ... acquire the small firms. But what Italians did not have were efficient management and marketing, which is one of the reasons that led to Italians losing ownership of their firms (e.g. ...); the other reason was severe competition and Italy's geographical situation. In fact, what Italy achieved to do was to make Italy the leading centre in Europe in white appliances; the European ... of ... Italy appliances which are cheap, ... products. Other countries reacted differently ... competition with Italian products. For instance, ... for smaller ... priced, long ... products ...

In brown goods there are multinational and specialized firms (e.g. PHILIPS versus HOUJINEN). These products are intended for high income customers and sometimes offer facilities which white goods offer. The benefit of the firms which produce white goods and brown goods is the exposure of their brand name into consumers eyes.

E.6. Threats and Opportunities

The threats in this industry arise mainly from EEC. When Greece joins EEC, competition will become more severe since imports will become cheaper and will compete with the products manufactured in Greece.

In television sets the imported items will be cheaper than those made in Greece and since there is no way of stopping Greeks buying imported items, domestic assembly lines face extinction.

In white goods the main producers SIEMENS, HELLINGA and ELCO will face increased competition from the other three main groups (ALC, PHILIPS, ELECTROLUX) and from other firms such as HOOVER, SONY, DAUENBUCH etc. This competition will be particularly fierce for HELLINGA and ELCO because all other firms, including SIEMENS, will have the advantage of bringing in more products (e.g. brown goods) and have their brand name exposed to consumers eyes. The main weaknesses of domestic producers, namely, cost structure, size, management, education of people will increase the threat from the cheaper Italian products.

In markets in Europe the saturation level is high and multinational firms dominate, which will make Greek exports difficult to achieve.

The opportunities abroad are mainly exports to Middle East, N.African countries and communist block. These markets have been attacked by foreign firms, but since the level of ownership seems to be low in those countries, there is an opportunity for Greek exports. In the European markets there might be also an opportunity for Greek exports, through production for different department stores or other firms.

Opportunities exist in the domestic market because the market in some products is not saturated (e.g. washing machines), while other products have not been introduced (e.g. freezers). In wholesaling domestic firms could increase their wholesaling range because the EEC entry will increase imports and this is a chance for domestic producers to increase their turnover. In retailing there is also an opportunity because there are no big firms (e.g. hypermarkets or discount shops) which could achieve lower prices than those charged by the numerous small retailer shops.

E.7 Strategies in the East

The situation in the industry shows that Greece does not

have any comparative advantage towards other countries, therefore the strategies the country should have followed in the past should have been how to use the opportunities and strengths Greece offers and how to use the vital elements for success that other countries had (e.g. economies of scale, low cost etc). This means that the objective of the country for that particular industry should have been to support the viability of the industry and reduce imports.

In television sets the objective should have been for Greece to have a viable TV manufacturing industry. The aim should have been for Greece to have assembly lines of black and white sets which would produce sets able to withstand competition without tariff barriers. The question of ownership of the assembly line should not have caused such concern because Greece cannot survive in this industry by herself. The strategy should have been reduction of costs and efficient production for the many inefficient assembly lines. These producers should have been assisted to reorganise themselves and go for economies of scale. The policies should have been merger incentives, financial assistance for establishing a TV assembly plant, reduction in the allowances to establish etc. This would have made TV sets made in Greece more competitive, so that exports might have increased. If this strategy had failed, the strategy should have changed into inviting foreign firms by taking the necessary incentives to attract them. If Greece had been successful in that, the black and white TV manufacturing would have been more efficient at present and would have also been the basis for constructing a viable

colour TV industry.

The government should have foreseen that demand for colour TV sets would increase and that measures to restructure the industry were vital, if Greece was to keep such an industry. If the structure in the black and white industry was not effective to support a colour TV manufacturing, the government should have been thinking of inviting foreign firms (e.g. Japanese), through different incentives.

The aim in this industry should have been not only to keep a TV manufacturing industry in Greece (black and white and colour) but make Greece a TV manufacturing centre for exports mainly to W. East. The main policies which have been oriented in attracting those firms which would become exporters, in the government giving export incentives, signing bilateral agreements with other countries etc. In addition, the government should have looked at component making within the country to increase value added, by favouring production of standardized components. Incentives and assistance should have been given to either TV assembly lines to expand vertically, or attract foreign firms or encourage entrepreneurial skills to develop.

In white goods the strategies to pursue the objective of survival of that industry are more or less the same. Either the country could develop the industry on its own or foreign firms should have been invited in. In the latter case, the government should have been thinking of the appropriate incentives to attract the industry and encourage entrepreneurial skills to develop.

to capture higher market share. Specialisation of production in the main white goods area would have given the country the opportunity to acquire expertise in the European market and would have reduced costs. Merger incentives and financial support could have resulted in constructing viable firms. Economies of scale could have been achieved by different agreements with other countries to overcome the weakness of the small Greek market. Investigation for favourable markets abroad would have increased sales and promotion should have included the opportunity that department stores in Europe offer.

If the country could not have remained in the industry with her own firms using the strategy of specialisation, foreign firms should have been invited in. The world trend and the merger wave indicated that multinational firms were the only way that Greece could survive in this industry. Therefore, those firms had to be invited in, unless the political question on ownership prevented it. This means that the government should have given incentive either for the domestic firms to merge with foreign firms or for joint ventures to be established.

Component making should have also been looked at. Value added should have increased through incentives for the establishment of component fabrication either within the firms or through different independent firms, either domestic or foreign. Reduction of import duties on raw materials would have helped domestic producers to increase their profit margins and succeed lower prices.

If, however, the domestic firms could not survive and for political reasons foreign firms could not have been invited in, Greece could have raised barriers to protect domestic production. However, this is not an efficient approach for the long run and EEC membership would have abolished them. Alternatively, imports should have been left free to flow, with incentives given to the domestic producers to diversify or concentrate on wholesaling and/or retailing.

In brown goods the opportunity of establishing production of such goods in Greece should have been investigated. Since the Greek market could not take such goods, the only reason for producing brown goods would have been for exports. It should have been examined whether domestic producers of white goods could have adapted their assembly lines in producing such goods for firms abroad and the necessary measures ^{if so,} should have been taken (e.g. financial assistance, export incentives etc). The strengths the country offered might have been enough to attract foreign firms to produce in the country and different incentives from the government could have helped to attract them. Since Greece could not penetrate the market with her own brands, the aim should have been to establish brown goods manufacturing in Greece without too much concern on ownership, unless political reasons prevented it.

However, the government did not take any decisions in the past for the industry in general. In white goods when PIRELLA was acquired by SIEMENS, it was treated as an agreement between

two firms, leaving nothing to do with the industry. Moreover, the EEC membership did not cause any concern to the government and nothing was decided.

E.3. Strategies for the Future

The strategies for the future should take into account the present situation of the industry, the EEC membership, the location of the country and the future prospects as seen by the firms themselves.

In television sets Greece is weak at present and the EEC membership will increase imports of cheaper TV sets. The choices Greece faces are the same she should have faced in the past, namely, imports or domestic production. The fact that no policy was taken in the past, makes it vital for the government to take measures to restructure the industry, if it sets the objective of keeping a TV manufacturing industry in Greece.

In black and white sets the restructuring that should have taken place in the past, should occur. The strategy should be to lower costs and increase efficiency. The aim is to construct efficient assembly lines in Greece able to withstand competition from abroad. The domestic producers could better have to collaborate or die or leave the TV industry because the EEC entry and the future penetration of colour sets will drive them out of the market. The restructuring process should assist

both domestic and foreign firms which are willing to participate and should also think of component making to increase value added in Greece. The policies that should be followed should be similar to those that should have been taken in the past (e.g. merger incentives, financial assistance to group the many small assembly lines under a lower number and bigger in size plants, selective assistance to firms with potentials (e.g. PHILIPS) etc). In component making incentives and assistance should be given to any firm (independent or producer of TV sets) to set up production of components. If the industry is restructured and becomes efficient, exports could increase and there is an opportunity for exports because production of black and white sets has been abandoned in many European countries.

If Greece decides to establish a colour TV manufacturing industry, the only choice left is invitation of foreign firms because the black and white sets producers are at present very inefficient to establish colour TV manufacturing. The objective in this area should be not only to establish a colour TV manufacturing in Greece and reduce imports, but also to increase exports. There is an opportunity to make Greece a colour TV manufacturing centre because firstly, Greece will soon introduce colour transmission and thus demand will increase, and secondly, TV sets are light products and easy to transport to Middle East. Since it is a high technology area and only foreign firms have the potential to succeed, these firms have to be invited. Support should be given to any firm operating in Greece which can become competitive (e.g. PHILIPS) and other

foreign firms should also be invited (e.g. Japanese). The policy should be for the government to find the right incentives to encourage firms to establish production of colour sets, to assist component making in Greece either within the firms or in other firms independently, to give financial assistance to cover marketing expenses and expenses for the investigation of markets abroad, give export incentives, help the firms to achieve economies of scale (e.g. through agreements with other countries) etc. Those foreign firms could also help in the black and white sets because if domestic producers cannot survive and the strategy becomes invitation of foreign firms, those firms might serve the purpose.

In white goods, since PHILIPS and LG do not plan to set up assembly lines in Greece, the firms which will secure survival of the industry in Greece are HELINDA, SIEMENS and EICO. The world trends have had their effects on Greece; one of the main European groups operates in Greece (SIEMENS), another firm specialises in white goods (HELINDA) and the third firm is reducing its involvement in the market (EICO). The objective that Greece should set for white goods is to keep assembly lines in Greece. There are a few reasons why Greece can set the objective of retaining production of white goods in the country. First, restructure has occurred with one of the main groups (SIEMENS) producing in the country; domestic firms are specialising and the fourth European group, ELECTROLUX, which has been linked with HELINDA, has not moved in W. Europe. Secondly, the opportunities and strengths the Greek environment offers (Middle East, low freight costs, low labour cost) are vital

elements for success.

Greece has the disadvantage of high cost, which implies that if she is to succeed she has to move towards the production experience curve (higher output for lower cost per unit). This benefit of economies of scale can only result if a higher market share is captured. Therefore, the strategy that should be followed in white goods is increase of market share. For this strategy Greece should concentrate on the main white goods (refrigerators, coolers, washing machines) and start from the assembly lines she has already got. The main firms (SIEMENS, HELINDA, and ELCO) should be supported and at the same time the industry should be helped to expand vertically in components making through either the main producers or other firms. Greek firms have a low market share in Europe and this implies that high return on investment can only be attained if the proper policies are followed (e.g. if R & D costs to sales are kept at low levels). Thus, the policies for white goods should also take into account the situation of the Greek firms in the European market.

The policies for the white goods sector should be of the type of increasing market share not only abroad but in the domestic market as well; the reasons are the low saturation level in some products (e.g. washing machines) and the fact that products introduced in Europe have not been introduced in Greece (e.g. freezers). First of all, Italian style products should be produced because they are internationally demanded. The range should include gas appliances because such products are demanded in Middle East countries. The facilities and sizes of products

should increase (e.g. grills on windows, wall refrigerators for bungalows etc) to increase sales. Products should be modified to what each market wants to increase penetration. Markets abroad should be investigated not only for product adaptation but also for expanding sales through contractors (e.g. for department stores or other firms). Efficient marketing promotion should take place not only in Europe but in Middle East countries to increase exports. Production and promotion of items introduced abroad but not in Greece (e.g. freezers, dish-washers) is a choice for each firm to follow.

Government could assist this process in many ways. In the home market, quality standards should be set to drive bad quality makers out of the market and add the lower segment of the market to the main producers. Its diplomatic relations could help signing agreements with other countries (e.g. clearing system with communist countries) to help firms to expand their sales. Financial assistance should be given in areas where firms find their low market share a disadvantage (e.g. R&D, marketing, design, investigation of foreign markets etc). Import duties on raw materials should be reduced to increase profit margin.

In the components making area financial assistance and incentives are necessary to help vertical expansion. Component making could be established either within the main producers of white goods or through independent firms. At present domestic producers of white goods cannot undertake such an investment expenditure because of their low level of know and financial difficulties, thus, the government should finance it. Alternatively, money could be given to the small component making manufacturers

to speed up the process of improving quality and increase the range to match with what white appliance manufacturers require. The components whose production should be supported first, are those which are used as inputs in other industries (e.g. cables etc).

In the case where domestic manufacturers cannot survive the strategy of increase of market share should change into invitation of foreign firms. For this purpose, incentives should be given to domestic manufacturers to merge or establish joint ventures with foreign firms (e.g. ~~YAMAGUCHI~~, Japanese firm). Alternatively, imports could be let free to flow and domestic manufacturers should be urged to diversify in areas where they avoid clashes with multinational firms (e.g. production of non-household goods, utensils, concentration in wholesaling and/or retailing etc).

There is an opportunity for domestic firms in wholesaling because the EEC entry will make imports of relevant products cheaper and thus, domestic makers could step in and increase their wholesaling range. This range could cover all similar products (e.g. Hi-Fi equipment, microwave ovens etc). This policy could be both a defensive one in case survival is threatened and offensive to increase their turnover. Another opportunity also exists in the retailing sector where no big firms operate and small retailers dominate.

In brown goods the government should investigate the possibility of establishing production of such goods in Greece.

At present, some firms (e.g. IBM) are working in periods from 1960 to 1965 but the rate of expansion is not for such goods is increasing, and the rate of expansion is not such an industry is Greece. These firms have not been able to expand, foreign firms should be attracted in. For this reason, discussions with the state authorities of white goods to establish joint ventures with foreign firms, will show whether they find it attractive and if so the government should proceed in taking the right incentives and measures. Alternatively, different foreign firms should be approached and the government should examine what the necessary conditions will attract firms in this industry are. This will allow them to establish location, products, ownership, etc., and to the state, etc., exports etc, so that benefits will be to the whole country.

In general, the government should take a vital decision, whether to support the electrical appliances industry or not. If it decides to do so, it should support the industry until the industry is viable and safe, otherwise it would be a waste of money. This decision is vital because until the industry is safe (e.g. high sales share in white goods), the industry will be low because of severe competition. There are different strategies, such as increasing market share in white goods, imply consolidation, the government (e.g. low profit) the government should find the way and support the firms or encourage them.

REFERENCE

REFERENCES

1. Allgemeine Electricitas - Gesellschaft-Telefunken, Frankfurt (H) Germany, Annual Reports 1971, 1972, 1973.
2. R.C. Ackoff, "A Concept of Corporate Planning", Wiley-Interscience, N.Y. 1970.
3. A.F. Alexander, "Greek Industrialists". Centre of Planning and Economic Research, No. 12 Athens, 1964.
4. H.I. Ansoff, "Corporate Strategy", Penguin Books Ltd., U.K., 1976.
5. Appliance Manufacturer Magazine, January 1974, January, 1975.
6. C.E. Ayres, "The Theory of Economic Progress", Schocker Book Inc., N.Y., 1962.
7. B.B.C. - 2 "Horizon", March 21, 1972, "Now the chips are down", Produced and written by E. Goldwyn.
8. B. Balassa, "Patterns of Industrial Growth: Comment" American Economic Review, June, 1971
9. R.J. Ballon, "Joint ventures in Japan", Sophia University and Charles E. Tuttle Co., Tokyo 1967.
10. The Banker, December 1972.
11. P.A. Baran and P.M. Sweezy, "Monopoly Capital" Penguin Books Ltd., U.K. 1973.
12. J.H. Behrman, "National Interests and the Multinational Enterprise" Englewood Cliffs N.J. 1970, p.21.
13. A. Berle and G. Means, "The Modern Corporations and Private Property". New York Macmillan Co. 1932.
14. F.H. Boorman and H. Schollhammer, "Multinational Corporations and Governments", Praeger Publishers N.Y., 1975.
15. B. Bosch GmbH, Stuttgart, Germany, Annual Reports 1972, 1973, 1974, 1975.
16. G.E. Bradley and E.C. Bursk, "Multinationals and the 29th Day" Harvard Business Review, January-February, 1972

17. D.I. Brash, "American Investment in Australian Industry" Australian National University Press, Canberra, 1966
18. Business Week, June, 10, 1970 - p.73; August 18, 1970 - p.42; October 27, 1970 - p.72.
19. Gandilio, "The Economy of Greece 1944 - 1965", Praeger Publishers N.Y. 1962.
20. C. Carter and R. Williams, "Investment in Innovation" Macdonald and Co. Ltd., London 1971.
21. R.D. Caves, "Multinational Firms, Competition and Productivity in Host-Country Markets", Economica, May 1974.
22. R. Caves and R. Jones, "World Trade and Payments" Little, Brown and Co., Canada, 1975.
23. Ibid p.170.
24. D.F. Channon, "Strategy as an Analytical Process" Manchester Business School, May, 1973.
25. J. Charnock, "Hardware Factors Surviving in a Hostile World" University of Warwick, November, 1977.
26. Chase Manhattan Bank, "Investments in Greece", Athens 1973.
27. H. Chenery, "Patterns of Industrial Growth" American Economic Review 1960, p.625.
28. H. Chenery and L. Taylor, "Development Patterns: Among Countries and Overtime" Review of Economics and Statistics November, 1968.
29. P. Conley, "Experience curve as a Planning Tool", Chemical Marketing Research Association, U.S.A. 1970
30. T. Conley, "Domestic Electrical Appliances", Cox and Wyman Ltd., London, 1966.
31. DANE 1971, Bulletin Mensuel de Statistique No. 230, June, Bogota, Colombia.
32. Danish Monopolies Control Authorities 1963, p.161.
33. L. Dowd, "Principles of World Trade" Allyn and Bacon Inc, Boston, 1966.

34. E. Dracopoulos, Economikos Tachydromos, December 15, 1977 p.22 (in Greek).
35. H. Duerr and J. Greene, "The Problems Facing International Management", National Industrial Conference Board Inc., Managing International Business No. 1.
36. J. Dunning, "The Multinational Enterprise", George Allen and Unwin Ltd., London 1971.
37. _____, "The Future of Multinational Enterprise", Lloyds Bank Review, July, 1974.
38. P. Dumont, "False Start in Africa", Andre Deutch Ltd., London 1966, p.32
39. The Economist, January 10, 1976, p.57; February 26, 1977 p.77; May 28, 1977, p.106.
40. Economikos Tachydromos, August 5, 1978, p.15 (in Greek).
41. EDA, Economikos Tachydromos, January 12, 1978, p.1 (in Greek).
42. EEC Commission, December, 1974.
43. EEDF, "Management in Greek Firms", The Greek Management Association, Athens 1972 (in Greek).
44. Electrical Review, October 16, 1977 p.62; December 18, 1972 p.700; January 41, 1975 p.112; August 13, 1976 p.45; December 17, 1976 p.25.
45. Electrical Times, April 12, 1974 p.4; August 23, 1974 p.44; November 29, 1974 p.1; June 16, 1975 p.2; October 29, 1976 p.10.
46. Attiobolaget Electrolux Group, Stockholm, Sweden, Annual Reports 1975, 1976.
47. H. Ellis, "Industrial Capital in Greek Development" Centre of Planning and Economic Research, No. 3 Athens 1964.
48. Engineering, February 26, 1976; April 1, 1976.
49. ECHINO-VICTORIAL, Economikos Tachydromos, August 15, 1974 (in Greek).
50. EDA, Hellenic Industrial Development Bank, "Investment Guide", Athens 1972, 1977.

51. ETEBE, "The Middle East Opportunities for Greek Exports"
National Investment Bank for Industrial Development,
Athens, 1977.
52. Europe's 5000 Largest Companies, R. Bowker Co. N.Y. 1975.
53. R. Farmer and B. Richman, "Comparative Management and
Economic Progress", R.D. Irwin Inc., 1965, U.S.A.
54. J. Fayerweather, "International Business Management:
A Conceptual Framework", McGraw-Hill Book Company, 1969
55. Financial Times.

1972	4 April, p.24	1977	22nd June, p.30-40	24 May, p.2
	8 June, p. 4		24 June p.29	26 May, p.2,1
	19 September, p.19		4 July, p. 4	31 May, p.14,1
	14 October, p.20		22 July, p. 7	6 June, p.10
1973	22 March, p.20		3 August p.6	7 June, p.15
	7 June, p.12		24 August, p.21	19 June, p. 2
	22 August, p. 4		31 August, p. 8	27 June, p.13
	20 October, p.25		2 September, p.11	30 June, p. 8
1974	27 April, p.14		15 September, p. 8	17 Nov. p.18
	12 October, p.20		3 October, p. 4	
	19 October, p.11		4 October, p. 7	1978
	30 December, p. 5		12 October, p. 7	15 Jan. p.12
1975	22 May, p.15		5 December, p. 8	5 Feb. p. 8
	5 June, p. 7		15 December, p. 8	8 Feb. p. 8
	11 October, p.11		23 December, p. 6	12 March p.12
	10 December, p.3,13	1978	3 January, p. 1	20 March p.18
1976	24 May, p.4		10 January, p.7,15	
1977	11 January, p.6		13 January, p.16-32	
	12 January, p.9		19 January, p.8,20	
	19 January, p.10		21 January, p.14	
	26 January, p.10		26 January, p. 6	
	7 February, p.19		2 February, p.1.	
	9 February, p.16		22 February, p.13	
	24 February, p. 6		27 February, p.16	
	7 March, p. 5		13 March, p.38	
	5 April, p.31-35		14 March, p.14	
	13 April, p.10		31 March, p.2-6,18	
	2 June, p.30		11 April, p.11	
	8 June, p. 7		17 April, p.11	
	16 June, p.11		28 April, p.	
56. J. Galbraith, "The New Industrial State", Hamish Hamilton Ltd,
London, 1967.
57. T. Ganiatsos, "Foreign-Owned Enterprise in Greek
Manufacturing" Ph.D. Thesis in Economics, University of
California., L.A.
58. T. Geiger and F. Geiger, "Tales of Two City-States: The
Development Progress of Hong Kong and Singapore"
National Planning Association, Washington, 1973.
59. General Electric Co., Connecticut, U.S.A., Annual Reports
1975, 1976.

60. V. Georgoulis, "A Comparative Management Study of Selected Greek and European Multinational Manufacturing Firms Operating in Greece", Unpublished Ph.D. thesis, University of Bath, 1978.
61. D. Germidis and M. Negreponi-Delivani, "Industrialisation, Employment and Income Distribution in Greece" OECD, Paris, 1975.
62. B. Gold, "Research, Technological Change and Economic Analysis" Lexington Book, U.S.A., 1977.
63. J. Greene and M. Duerr, "Intercompany Transactions in the Multinational Firm" National Industrial Conference Board Inc., U.S.A., Managing International Business N G.
64. The Guardian, March 26, 1977 p.15; June 4, 1977 p.1; November 3, 1977 p.17; February 23, 1978 p. 23 February 28, 1979 p.20.
65. R. Hartewell, "The Causes of Industrial Revolution in England" Methuen and Co. Ltd., London, 1967.
66. C. Hatziyargyris and I. Iliou, "Polivethnika Ypermoasopolia" Gunterberg, Athens 1975 (in Greek).
67. H. Heck, "International Business Environment" American Management Association 1969.
68. B. Hedley, "A Fundamental Approach to Strategy Development Long Range Planning", December 1976
69. G. Helleiner, "Manufactured Exports from Less-Developed Countries and Multinational Firms" The Economic Journal, March, 1973.
70. Hellenews, "Industry in Greece" No. 5, July 7, 1977 (in Greek)
71. W. Hoffmann, "The Growth of Industrial Economics" Manchester U.P., 1958
72. C. De Houghton, "Cross Channel Collaboration" Political and Economic Planning Publications 1967.
73. G. Hufbauer and F. Adler, "Overseas Manufacturing Investment and the Balance of Payments", US. Treasury Department, Washington, 1968.
74. ICE/Commission, Reports on Cases before the Court 1972-75, p. 624 - 702.
75. Investors Chronicle, November 12, 1976, p.486.
September 22, 1978, p.396.

76. J. Ioannides, "Criteria For Evaluating The Greek Industry, Foreign Investment and Diffusion of Technology" Polytechnic School of Athens, 1976 (in Greek)
77. H.H. Jacoby, "The Multinational Corporation" The Center Magazine Vol. II. No. 1 May 1973 p.47
78. A. Jones "The New Inflation" Penguin Books Ltd. U.K. 1974
79. C. Kindleberger, "International Economics", R.D. Irwin Inc, U.S.A. 1967
80. E.C. Kolde, "The Multinational Company" D.C. Heath and Co., U.S.A., 1974.
81. Ibid. p.147
82. _____, "International Business Enterprise" Prentice Hall Inc. Englewood Cliffs, N.Y. 1968.
83. Ibid p.203
84. Ibid p.344
85. S. Kuznets, "Quantitative Aspects of Economic Growth of Nations" Economic Development and Cultural Change, July, 1957.
86. S. Lall, "Transfer Pricing by Multinational Manufacturing Firms" Oxford Bulletin of Economics and Statistics, August, 1974.
87. _____, "Multinationals and Development" A New Look" National Westminster Bank Review, February, 1975.
88. W. Land, "Too Much Emphasis on Management Assistance?" Journal of Small Business Management, July, 1975.
89. E. Layard, "Cost Benefit Analysis" Penguin Books Ltd., U.K., 1972.
90. W. Lewis, "The Theory of Economic Growth" Allen and Unwin, London, 1963.
91. G. Linden, "An Essay on Trade and Transformation" Almqvist and Wiksell, 1961.
92. A. Little, "The Middle East Opportunities for Greek Exports" ETEBA, Athens, 1977.
93. McJain, "The Choice of Techniques in Footwear Manufacturing for Developing Countries", Ministry of Overseas Development H.M.S.O. 1977.

60. V. Georgoulis, "A Comparative Management Study of Selected Greek and European Multinational Manufacturing Firms Operating in Greece", Unpublished Ph.D. thesis, University of Bath, 1978.
61. D. Germidis and N. Negreponi-Deliwani, "Industrialisation, Employment and Income Distribution in Greece" OECD, Paris, 1975.
62. B. Gold, "Research, Technological Change and Economic Analysis" Lexington Book, U.S.A., 1977.
63. J. Greene and N. Duerr, "Intercompany Transactions in the Multinational Firm" National Industrial Conference Board Inc., U.S.A., Managing International Business N G.
64. The Guardian, March 26, 1977 p.15; June 4, 1977 p.1; November 3, 1977 p.17; February 23, 1978 p.23 February 28, 1979 p.20.
65. R. Hartewell, "The Causes of Industrial Revolution in England" Methuen and Co. Ltd., London, 1967.
66. C. Hatziyangyris and I. Iliou, "Polytethnika Ypermonopolia" Gunterberg, Athens 1975 (in Greek).
67. H. Heck, "International Business Environment" American Management Association 1969.
68. B. Hedley, "A Fundamental Approach to Strategy Development" Long Range Planning, December 1976
69. G. Helleiner, "Manufactured Exports from Less-Developed Countries and Multinational Firms" The Economic Journal, March, 1973.
70. Hellenews, "Industry in Greece" No. 5, July 7, 1977 (in Greek)
71. W. Hoffmann, "The Growth of Industrial Economics" Manchester U.P., 1958
72. C. De Houghton, "Cross Channel Collaboration" Political and Economic Planning Publications 1967.
73. G. Hufbauer and F. Adler, "Overseas Manufacturing Investment and the Balance of Payments", U.S. Treasury Department, Washington, 1968.
74. ICE/Commission, Reports on Cases before the Court 1972-75, p. 694 - 702.
75. Investors Chronicle, November 12, 1976, p.436. September 22, 1978, p.396.

76. J. Ioannides, "Criteria For Evaluating the Greek Industry, Foreign Investment and Diffusion of Technology" Polytechnic School of Athens, 1976 (in Greek)
77. N.H. Jacoby, "The Multinational Corporation" The Center Magazine Vol. II. No. 1 May 1970 p.67
78. A. Jones "The New Inflation" Penguin Books Ltd. U.K. 1976
79. C. Kindleberger, "International Economics", R.D. Irwin Inc, USA. 1965
80. E.J. Kolde, "The Multinational Company" D.C. Heath and Co., U.S.A., 1974.
81. Ibid. p.163
82. _____, "International Business Enterprise" Prentice Hall Inc. Englewood Cliffs, N.Y. 1968.
83. Ibid p.298
84. Ibid p.343
85. S. Kuznets, "Quantitative Aspects of Economic Growth of Nations" Economic Development and Cultural Change, July, 1957.
86. S. Lall, "Transfer Pricing by Multinational Manufacturing Firms" Oxford Bulletin of Economics and Statistics, August, 1973.
87. _____, "Multinationals and Development" A New Look" National Westminster Bank Review, February, 1975.
88. N. Land, "Too Much Emphasis on Management Assistance?" Journal of Small Business Management, July, 1975.
89. R. Layard, "Cost Benefit Analysis" Penguin Books Ltd., U.K., 1972.
90. W. Lewis, "The Theory of Economic Growth" Allen and Unwin, London, 1963.
91. S. Linder, "An Essay on Trade and Transformation" Almqvist and Wiksell, 1961.
92. A. Little, "The Middle East Opportunities for Greek Exports" ETEBA, Athens, 1977.
93. McBain, "The Choice of Techniques in Footwear Manufacturing for Developing Countries", Ministry of Overseas Development H K S G 1977.

94. W. McGrew, "Littons Noble Experiment" Columbia Journal of World Business, January - February, 1972.
95. A. Maizels, "Industrial Growth and World Trade". National Institute of Economic and Social Research No. 21 OUP 1963.
96. E. Mandel, "The Marxist Economy Theory", Marlin Press London 1968.
97. Marketing in Europe.

1963 Nov p.4	1973 Mar p.4	1975 June p.4, 47
1969 Mar p.40	June p.4	Sep p.37,64
1970 Dec p.22	Sep p.4	Mar p.27
1972 Mar p.26	1974 Mar p.40	Sep p.7,20
June p.4,53	June p.4	Dec p.32
Sep p.4	Sep p.4	1976 May p.22
Dec p.37,55	Dec p.32,53	June p.4
		Aug p.14
		Nov p.32
98. Marketing Research

1975, Feb p.1.	1976 June p.14
May p.11	Oct p.3,13
1976 Feb p.12	Dec p.1-17
Mar p.17	1977 Feb p.22-26
99. H. Hartyn "International Business", Collier-Macmillan Ltd., London, 1964.
100. J. Miller, "The UN Report on Multinational Corporations" The Arthur Anderson Chronicle, October, 1975
101. Le Monde Diplomatique, July, 1977 Athen D.I. (in Greek)
102. Monopolies Commission, London, 1973.
103. H. Myint, "The Economics of the Developing Countries" Hutchinson Publishing Group Ltd., London, 1964.
104. A. Negandhi, "Management and Economic Development - The Case of Taiwan" Martinus Nijhoff, The Hague, 1973.
105. Newsweek Magazine, April, 1977, May, 1977.
106. OECD, "Exports Cartels", Paris 1974.
107. _____, "Gaps in Technology, Pharmaceuticals" Paris 196
108. _____, "Greece-Economic Survey" Paris, 1978
109. _____, "Guide to Legislation on Restrictive Business Practices EEC, U.S.A., "Vol IV June 1976.
110. _____, "Industrialization, Employment and Income Distribution in Greece" Paris 1975.
111. _____, "International Investment and Multinational Enterprises", Paris 1977.

112. _____, "Report of the Committee of Experts on Restrictive Business Practices in Multinational Enterprises", Paris, 1977.
113. _____, "Investment in Developing Countries" Paris 1975
114. _____, "Mergers and Competition Policy" Paris 1974
115. _____, "Statistics on Leather and Footwear 1975-1976" Paris 1977.
116. _____, "The Footwear Industry" Paris 1976
117. I. Osborne, "Cartel Problems" American Economic Review December, 1976.
118. A. Papageorge, "Transferability of Management : A case study of the U.S. and Greece" Ph.D. Thesis, University of California, L.A. 1967.
119. H. Parker, "Innovation Unleashed. A U.S. response to growing World Competition" Business Graduate, Spring 1972 p.17.
120. A. Phatak, "Managing Multinational Corporations" Praeger Publishers N.Y. 1974, p.277.
121. H.V. Philips Gloeilampenfabrieken, Eindhoven, The Netherlands. Annual Reports 1971, 1972, 1973.
122. PIMS Report (Profit Impact of Market Strategies), S.Schoeffler et al. "Impact of Strategic Planning on Profit Performance" Harvard Business Review, March-April, 1974
123. _____, R. Buzzell et al "Market Share - a Key to Profitability" Harvard Business Review, January-February, 1975
124. I.E.R. "The Growth and Spread of Multinational Corporations" The Economist Intelligence Unit, Serial No. 5., October, 1969.
125. R.G.I. N.Y., U.S.A. Annual Reports 1975, 1976.
126. W. Reddaway, "Effects of U.S. Direct Investment Overseas: Final Report" CUP 1969
127. Retail in Business
1972 Nov p.40
1974 Jan p.24
1975 July p.15
1976 April p.14,20
1977 Jan p.12-19
1977 Jan p.17
1977 Jan p.11

128. K. Rindt, "Small Firm Personnel Problems and Management Assistance" Journal of Small Business Management July, 1975
129. R. Robinson, "International Management" Holt, Rinehart and Winston Inc, USA. 1967.
130. Ibid p. 47.
131. S. Rose, "The Secret of Japan's Export Prowess" Fortune January 30, 1978.
132. P. Roumeliotis, "Transfer Pricing in Greece" Papazisis, Athens 1976 (in Greek).
133. ———, "Direct Foreign Investment and the Greek Economy" Centre of Planning and Economic Research 1975 (in Greek).
134. Royal Commission of Farm Machinery, Ottawa, Canada 1969.
135. A. Safarian "The Exports of American Owned Exports in Canada" Papers and Proceedings of the American Economic Association, May 1964.
136. J. Saville, "Primitive Accumulation and Early Industrialisation in Britain" Socialist Register 1969 p.263.
137. F. Scherer, "Industrial Market Structure and Economic Performance" Rand McNally College Publishing Co. USA; 1970.
138. S. Sethi and W. Holton. "Management of the Multinationals" The Free Press, N.Y., 1974.
139. Siemens Aktiengesellschaft, Munich, Germany. Annual Reports 1974, 1974, 1975, 1976.
140. Siemens Hellas, Ekonomikos Tachydromas, October 21, 1976. p.25; December 2, 1976 p.7 (in Greek).
141. S. Skounmal and Kasis, "Electronics Industry in Greece", Centre of Planning and Economic Research, Athens, 1974 (in Greek)

142. H. Steuer and C. Voiodas, "Import Substitution and Chenezy's Patterns of Industrial Growth - A Further Study" Economia Internazionale, 1965.
143. Ibid p.69-70.
144. J. Stewart, "Multinational Companies and Transfer Pricing" Journal of Business Finance and Accounting, 4,3 (1977)
145. G. Stigler, "A Theory of Oligopoly", Journal of Political Economy, February, 1964.
146. W.P. Strassman, "Technological Change and Economic Development" Cornell University Press N.Y., 1968.
147. Sunday Times (1978).
19 Mar. p.62 4 June p.63 30 July, p.60
9 April, p.62 2 July p.54 3 Sep p.53
13 April, p.55 9 July p.54
23 April, p.60 16 July p.62
148. R. Sutcliffe, "Industry and Underdevelopment", Addison Wesley Publishing Co., USA., 1971.
149. Ibid p.69.
150. P. Temin, "A Time Series Test for Patterns of Industrial Growth" Economic Development and Cultural Change, January, 1967
151. R. Thomas, "The Government of Business" Philip Allan Publishers Ltd., Oxford, 1976.
152. _____, "Business Policy/ Philip Allan, Oxford, 1977.
153. The Times
1972 24 May, p.25 1977 3 Mar, p.20 1978 6 Feb. p.15
1973 6 Mar, p.21 3 May, p.18 22 Feb. p.21
5 May p.15 25 May p.21 23 Feb. p.20
11 Sep p.20 9 June p.18 10 Apr. p.19
1974 5 Mar Suppl. 4 July p.19 12 Apr. p.21
26 Apr. p.22 9 July p.15 28 Apr. p.25
9 Sep. p.17 8 Aug. p.21 26 May p.1
1975 22 May p.25 19 Aug. p.16 1 June p.15
5 June p.18 5 Sep. p.15 7 June p.30
1977 5 Jan p.15 6 Oct p.24 9 June p.23
7 Feb p.16 1978 25 Jan p.19 12 June p.4
25 Feb p.25 2 Feb p.17
154. N. Tsaloglou, "Pitsos-Siemens" Pathimerins Newspaper, June 20, 1976 p.1 (in Greek).
155. U.N. Report, "A Study of Industrial Growth" Department of Economic and Social Affairs, N.Y., 1963.

156. _____, "Multinational Corporations in World Development" Department of Economic and Social Affairs N.Y., 1973.
157. U.S. 215 347/1903.
158. U.S. News and World Reports, September 12, 1977
159. C. Vaitos, "Intercompany Income Distribution and Transnational Enterprises", Clarendon Press, Oxford, 1974.
160. R. Vernon, "International Investment and International Trade in the Product Cycle" Quarterly Journal of Economics VOL LXXIX May 1966.
161. _____, "Managers in the International Economy" Englewood Cliffs, N.J., 1972.
162. _____, "Sovereignty at Bay: The Multinational Spread of U.S. Enterprises" Basic Books, London, 1971
163. _____, "The Economic Environment of International Business" Englewood Cliffs, N.J., 1972.
164. Ibid p.204.
165. Westinghouse Electric Corporation, Pittsburg, U.S.A., Annual Reports 1974, 1975, 1976.
166. B. Yamey, "The Restrictive Practices Court", Weldonfeld and Nicolson, London.
167. A. Yiannitsis, "Foreign Capital in Greece", Economics Tachydronos, April 25, 1975 (in Greek) _____
168. H. Yoshihaka, "The Japanese Multinational" Long Range Planning, April, 1977.
169. Zenith Radio Corporation, Chicago, U.S.A., Annual Reports 1975, 1976.