CHAPTER 4
FOREIGN-OWNED COMPANIES IN IRELAND

OVERVIEW
Foreign-owned firms employ about 80,000 people in Ireland, or about 34% of the total manufacturing workforce. This is an increase of 22,000 over the 1973 employment of 58,000, which represented 27% of total manufacturing employment in that year (Exhibit 4.1). This substantial increase contrasts with the modest increase of just over 2,000 jobs in indigenous industry over the same period.

Yet, this increase masks a considerable turnover of jobs within foreign-owned industry. In fact, about 16,600 jobs, equal to 29% of the total in foreign-owned companies in 1973, have been lost over the past seven years (Exhibit 4.2). A similar percentage of jobs were lost in indigenous industry. The gross loss was offset by gains in existing companies of 12,400 jobs, and by 26,500 jobs created by new companies (Exhibit 4.3). Job gains in existing companies were proportionally similar to those in indigenous industry. Employment generated from new projects, however, was proportionally higher, and is the main cause of better performance in the foreign sector of industry.

Over 85% of employment in foreign firms in Ireland is in companies based in the United States, Great Britain, Germany and the Netherlands. Over the past seven years, the U.S. share has increased dramatically from 28% to 42%, while the share represented by British companies has declined from 39% to 26% (Exhibit 4.4). The relative importance of the United States as a source of new employment is growing rapidly. In 1979, over 70% of all job approvals came from U.S. based companies (Exhibit 4.5).

As Exhibit 1 demonstrates, foreign-owned firms operate in a wide variety of industries, including mechanical engineering, electrical engineering, food, drink and tobacco, textiles and clothing, and a large miscellaneous category of plastics, instruments and consumer goods. Recently, however, job approvals have increasingly been concentrated in electrical and mechanical engineering, which together represented almost 60% of all job approvals for 1978-1980 (Exhibit 4.6) and a similar percentage of grant approvals (Exhibit 4.7). Chemicals, textiles and medical products (within the miscellaneous category) have also shown substantial increases.

The role of so-called “multinational companies” in economic development has occasioned great political and social debate over the past decade. On a purely economic basis, one can view the relationship between these companies and host governments as resulting from different, but in many cases potentially compatible, interests.

A large company producing traded goods will usually invest outside its home market for one or more of four reasons: (1) to gain access to a market which is difficult to serve competitively from outside due to tariffs, logistics, or customer preferences; (2) to gain access to a pool of skills not sufficiently available in the home country; (3) to gain access to a needed raw material; (4) to gain access to low labor costs, or to special tax or other financial advantages.

During Ireland’s protectionist period, a number of firms in the food and automobile industries, in particular, established companies in Ireland in order to gain access to the Irish market. Because the Irish market is small, these companies often established sub-scale plants which performed the minimum number of manufacturing steps necessary to satisfy local content requirements. Many of these firms have closed since the Anglo-Irish free trade agreement in the mid-1960s and EEC entry in the mid-1970s.

Currently, most foreign-owned companies use Ireland as a convenient manufacturing satellite for sales in the EEC. Over 80% of the companies visited during our study came to Ireland primarily because it provided a tax shelter for penetrating the EEC. Fourteen percent, especially those who came in the 1960s or early 1970s, were attracted primarily by the relatively low wage rates. Today, Ireland still has the lowest average tax and wage rates of all EEC countries. A company with a European Community market can reduce its taxes, avoid EEC tariffs, and even gain access to investment grants or financing assistance by establishing a plant in Ireland. This is why most of the foreign companies have come.

In this sense, Ireland is similar to Singapore and Puerto Rico, which are both small tax havens used as satellite manufacturing locations for Asia and North America respectively. This contrasts with foreign company investments in Germany and the U.S., where firms seek access to large home markets or particular skills available in those countries. Exhibit 4.8 shows the relative proportion of foreign-owned companies in the manufacturing employment of selected countries and the export ratios of those companies. The larger countries have lower proportions of foreign ownership and lower export ratios, while smaller, less economically developed countries show the highest foreign penetration and highest export ratios.
A host government welcomes foreign-owned companies because they provide jobs, foreign exchange and new investment capital. These companies can also provide know-how, skill training, demand for an industrial infrastructure, and markets for indigenous industries. These benefits are particularly crucial to a country trying to raise its national income through industrialization.

In Ireland, foreign companies have provided jobs, net export earnings, and the beginnings of an advanced industrial infrastructure. The key questions to be answered in evaluating Ireland's program of attracting foreign companies are (1) to what extent the jobs and net exports earned will last; and (2) to what extent these companies support Ireland's desire for higher industrial incomes by helping Ireland to overcome the investment barriers to successful participation in complex factor cost businesses.

The longevity of employment and exports from these companies depends on whether the Irish operation is part of a strong viable company, and on whether the local Irish plant can be cost competitive with other comparable plants within and outside the company.

The ability of foreign-owned firms to help Ireland's industrial structure to support higher income levels depends upon several factors: whether the Irish operation is dependent on low wages; the presence within Ireland of business functions which are crucial to the competitive success of the business as a whole; requirements for significant white or blue collar skills; and opportunities for linkages for skilled indigenous sub-supply.

The remainder of this chapter is devoted to a brief analysis of whether the foreign-owned companies in Ireland meet these criteria. Our analysis focuses on the engineering sectors, both electrical and mechanical, since they represent the largest proportion of current employment and project approvals. We also discuss the chemical and pharmaceutical industry since it has been responsible for a significant portion of total investment in the country. Other sectors are mentioned only briefly.

**ELECTRICAL ENGINEERING INDUSTRIES**

Electrical engineering industries have been Ireland's most significant growth areas in the late 1970s and promise to expand even more in the 1980s. These industries include electrical equipment and components; discrete and integrated electronic components; computers and computer peripherals; telecommunications equipments; consumer products such as television and calculators, which use large numbers of electronic components; and testing and control instruments.

These industries, particularly the electronics portions, are growing rapidly worldwide. Participation in the electronics industry has been a major goal of most countries' industrial plans. Not surprisingly, this industry has been the major focal point of activity for the IDA over the past few years. The fast growth of the industry worldwide makes it an attractive target for job approvals, and it has other attributes which make it attractive for Ireland. As Michael Killeen stated in a speech at Trinity College on December 4, 1979, "The electronics industry is characterized by high technology, high skill, labor intensity, propensity to expand, good working conditions, environmental acceptability, low transport costs and low energy use".

Recent press reports in Ireland have trumpeted the movement of electronics companies into the country with headlines such as "North Dublin — The New Silicon Valley", and so on.

As of December 1980, about 700 multinational companies in the electrical and electronics industries have begun operations in Ireland, employing over 10,000 people. This number is expected to grow rapidly over the coming years. Estimates given by the chairman of the IDA predict 25,000-30,000 employees in the industry by 1985, of whom 11,500 will have university degrees or be skilled personnel (Exhibit 4.9).

Since so much hope is pinned on the development of this sector, it is crucial to understand the factors that determine competitive success in different parts of the sector, and to know which parts can contribute to long-term rising incomes in Ireland.

The electronics industry consists of a wide variety of businesses with differing competitive economics. Exhibit 4.10 gives some representative cost structures for different products within the industry. Though drastically oversimplified, these structures suggest that key competitive factors differ among the various parts of the industry.

The manufacture of printers, for example, is primarily a mechanical operation where product and process design are the keys to competitive success. Product design is important as a means not only to achieve improved product capability, but also to reduce manufacturing costs. The marketing and service aspects of the business are minimal, as the products are sold primarily to a handful of computer manufacturers.

The process control systems business differs in competitive economics. A series of sensors, measuring and recording instruments, microprocessors, and a computer are engineered and assembled to provide a control package for a paper mill, chemical plant or power plant. Some metal fabrication is required as well as a number of sub-assembly and assembly tasks, particularly for cable harnesses and instruments, but the key to success lies in applications engineering, product research and development, and technical service.

In this business, application-related expertise for customizing hardware and software packages and the ability to "debug" and service systems after they are running are the most important components
of the value added by a company. A competitive product design and
sensor technology are also necessary. The manufacturing process itself
is not the key factor which differentiates competitors.

Integrated circuit businesses are of two kinds: customized and
standardized. In the former, the design of a specific circuit, which can
take from one to three years, is key to competitive success, as is the
efficiency (yields) of wafer fabrication. For a basic (standardized)
memory chip, on the other hand, the product and process engineering
are the most important factors. Again, manufacturing expertise is not
the most crucial factor in competitive success.

In addition to these products, the electrical engineering sector
consists of a wide range of electrical accessories and components,
as well as consumer, telecommunication, and electrical capital goods
products, all containing businesses with different competitive economies.

Because of the importance of product and process design, the
electronics industry needs many highly skilled white-collar workers, such
as application engineers and software, test and service technicians.
Also, unlike heavy process industries, it is not highly capital intensive
nor does it require an elaborate physical infrastructure or a great deal
of energy (with the exception of wafer fabrication).

American companies have traditionally dominated the electrical
and particularly the electronic industries worldwide. Recently, Japanese
companies have challenged this dominance in a range of products,
and Japanese firms now dominate in consumer electronics and in
various electrical and electronic component and accessories businesses.
American companies have usually internationalized their production
rapidly, seeing the need to build worldwide volume rapidly to compete
against each other and against the newer Japanese, and, in some areas,
European competitors.

Although Ireland has been expanding rapidly in these industries,
it is a relative newcomer to electrical engineering. Other countries with
no major indigenous companies have a larger employment in these
industries than Ireland, and a higher total proportion of their foreign
owned employment in these industries (Exhibit 4.11).

A recent survey by the U.S. Conference Board showed that 80 of
the largest 86 U.S. electrical engineering firms had manufacturing
facilities outside the U.S. Twenty-six of the 80 had facilities in Ireland,
and 42 others had invested in Europe but not in Ireland. Eleven of
the companies used Ireland as their only European location (Exhibit
4.12).

In general, Ireland has attracted plants from large electrical equip-
ment companies, such as General Electric or Westinghouse, who tend
to have manufacturing facilities in many countries in the world. Ireland
has not attracted the largest electronic companies (with a few excep-
tions) but rather has received investments from smaller, fast-growing
companies. For example, Ireland has attracted the number 15 and
number 101 companies in world production, of integrated circuits,
Mostek and Fujitsu (Exhibit 4.13). Many of the industry leaders, such as
Texas Instruments, Motorola, National, Fairchild, and Intel, also have
offshore plants, but not in Ireland (Exhibit 4.14). A similar picture is
evident in computers where Digital Equipment Corporation (DEC) is the
only larger company to have located in Ireland (Exhibit 4.15). In
general, industry leaders have located in larger European countries.

The 11 companies from the Conference Board list who have located
in Ireland but in no other European location were all small at the time
of their investment in Ireland, and six of them had previously located
in Puerto Rico. Generally, small, fast-growing electronics companies
are highly profitable but because of rapid growth requirements, often
lack cash. This combination of high profit cash shortage and the
need to internationalize quickly makes Ireland and Puerto Rico as
attractive locations for many of them.

But one must look more carefully to determine the extent to which
the electronics industry is really rooted in Ireland and can contribute
to rising incomes in the country. Of the 60 companies we surveyed,
none have a truly stand-alone operation in Ireland, and only three
have operations in Ireland which embody the key competitive elements
of the company’s business. All the others are currently manufacturing
satellites performing partial steps in the manufacturing process. In
a handful of cases, limited product adaptation or process engineering
is undertaken, but in most cases the facilities are limited to manu-
factoring. Manufacturing operations are reasonably integrated at some
of the peripheral manufacturers but most of the operations surveyed
performed only assembly, test, packaging and simple machining or
casting functions.

Very few of the electronics companies in Ireland do significant
marketing, research and development, or integrated manufacturing
in the country at present (Exhibit 4.16).

The potential for skill development in Ireland has also been limited.
The electronics industry is a very high-skilled industry worldwide, but
the activities in Ireland’s electronics industry do not now reflect this.
Only about 1% of the employees are currently engaged in engineering
activities, only about 1% are skilled craftsmen, and only about 5%
are technicians. Managerial personnel constitute only about 4.5% of total employees.

Perhaps more significant than the sheer percentages is the nature of work being performed. Irish industrial leaders in most electronic multinational firms are essentially satellite plant managers. Manufacturing managers of satellite plants or financial officers of manufacturing facilities would have to move on to other responsibilities within the company in order to gain the well-rounded skills necessary to manage a good-sized company. The managers Ireland is currently training in the electronics industry may be limited in their overall development unless they move away from Ireland to company headquarters.

Similarly, general surveys done in Ireland of the plants conducting research and development fail to distinguish activities which are crucial to competitive advantage in product or process development from those which are less important.

Engineering functions performed in Ireland, with a few exceptions noted, have until now been limited to product adaptation and marginal process improvements. We do not mean to disparage these activities, but rather to note that the type of linkage spinoffs a “Silicon Valley” requires are less likely to occur in Ireland because of the level of responsibility and the nature of the tasks performed by managers and engineers.

The electronics industry in Ireland is also failing to provide an opportunity for significant sub-supply linkages, as we showed in the last chapter. Our interviews reveal that this is not for lack of interest on the part of the foreign companies. On the contrary, many of these companies are suffering serious cost penalties by importing components, and wish to see indigenous sub-suppliers develop.

Because of all these factors, it is an overstatement to say that Ireland is currently in the electronics industry to any significant extent despite the presence of many facilities in the country. In the computer area, for example, the facilities in Ireland vary from final assembly and test operations to the volume assembly (with some fabrication) of some components. As we said earlier, the key competitive activities in computer businesses involve product design (including hardware, systems software, overall system architecture and language software) and, where sales are not done through original equipment manufacturers, marketing and service. None of the computer companies in Ireland conduct any of these activities there.

Some of the assembly or component manufacturing operations in Ireland do process development, product customization or test pattern design, but this is minimal. Though the responsibilities given to Irish managers may be somewhat increased in coming years, no companies expressed the intention of doing fundamental design or marketing from Ireland.

These comments are not meant to disparage those working in Ireland’s computer assembly facilities, as their contribution is a necessary part of the company’s success. Rather, we mean to put the Irish computer industry into perspective. It is inaccurate to understand that Ireland is really participating in the heart of worldwide computer activities.

In the instruments area, in some cases, applications engineering is crucial and in other cases, product design is key to success. There is one case where an Irish operation is crucial to a company’s overall competitive advantage, (though most product R & D is done in the U.S. and the key sensor mechanisms are imported from the U.S.). In the other cases, Ireland is an assembly and simple fabrication site.

Ireland now has eight companies making computer peripherals. These businesses are more analogous to mechanical engineering businesses (or in the case of tape, chemical businesses) than to electronics businesses. Products usually consist of mechanical parts, electronic controls and power supplies. Product design and increasingly process design for fabrication are crucial to competitive success. Three of the eight companies in Ireland do some product modification and integrated fabrication, but even in these cases most product and process design is done at the parent company.

The consumer electronic and electrical components businesses in Ireland consist primarily of assemblies, ranging from motors to cable and including various product sub-assemblies and components. About one-third of the companies interviewed in this area had come to Ireland for the low wages, some of them prior to EEC entry. In a few cases, product adaptations are done in Ireland, but the majority of these are low labor-cost assembly operations.

The integrated circuit industry consists of many different operations which represent at the same time some of the most skilled and the least skilled operations in industry. IC packaging, a typical low labor-cost operation, has migrated successively to lower labor-cost countries, with the latest plant being established in Sri Lanka. On the other hand, product and process design are among the most technically advanced industrial activities. Currently, the only operations in Ireland are for packaging and testing, with one notable exception which is fully integrated from design through fabrication, assembly, testing and marketing for one of its product lines.

Plans exist for two new companies, to fabricate wafers in Ireland, though in the next few years they will do only final test and assembly. We were not able to learn what technologies and what levels of integra-
tion are planned for these facilities and we cannot evaluate at this time the extent to which key competitive activities will be carried on in Ireland.

In seven of the 60 electronics companies examined, IDA personnel expect that further integration will occur in electronics projects which have arrived in Ireland over the past two years. Our interviews confirm this in three of these cases (though the extent of the integration is unclear) but raise questions about four other cases.

The electronics industry in Ireland is growing rapidly and many of the companies are highly profitable. This means that jobs will be created and prevailing labor rates maintained in the near future (with the possible exception of certain projects in the electrical component and consumer electronic group). The industry therefore ranks well on our criteria for viability in the near future.

However, the electronics industry in Ireland has not so far provided the mechanisms for Ireland to move toward higher value-added businesses. Companies have come to Ireland primarily for tax concessions and other subsidies, and to enter the EEC.

If present levels of skill development and sub-supply infrastructure are not improved, the industry's long-term future will be threatened. History in the fast-growth products of the 60s and early 70s teaches that after a certain number of years, growth slows in glamour industries and "shakeouts" occur. This will no doubt occur in many parts of the electronics industry in the next five to ten years. Without a large pool of skilled labor in Irish operations, without key elements of competitive leverage in Ireland, without a well-developed sub-supply infrastructure, and without larger fixed asset commitments in the industry, some Irish operations will be vulnerable. Without these elements, it is also doubtful that this industry could support a continuing rise in real income over the long term.

MEchanical ENGINEERING

Mechanical engineering covers a wide variety of businesses with radically different competitive economics. The products of the sector range from finished processing plants, machines, motor vehicles and appliances; to castings, tools, sheet metal parts and forgings necessary to make them; to varying levels of sub-assemblies such as motors, pumps and gears in between.

For some component businesses, such as commodity bearings, long manufacturing run lengths which allow process automation and minimize manufacturing overheads is key to success. In other component businesses, such as toolmaking, the skill level of the manufacturing personnel and their ability to form high-quality tools in minimum time are keys to success. In still other components, such as large plate heat exchangers, purchasing scale of key materials and scale of presses can be the crucial determinants of success.

Sub-assembly businesses are more varied. For the production of high-volume appliance motors and compressors, for example, process automation, particularly of materials handling functions, and product and process designs which minimize rework can be the crucial factors in competitive success. For other sub-assemblies, such as motors or pumps for the agricultural after-market, distribution and service can be key elements which differentiate successful from unsuccessful producers.

For large assembly businesses, such as automobiles, airplanes, industrial machines, or construction and agricultural equipment, competitive economics can vary based on the purchase frequency and on the importance of after-sale service and parts in the business. For items sold in large quantities where after-sales service and parts is important, distribution scale is crucial, as in the example of the construction equipment industry given earlier. For businesses such as industrial machinery or aircraft where order frequency is low, operating costs for each new generation of product is the key to competitive success. For large quantity businesses where spare parts represent a small percentage of total product cost, such as automobiles, design and manufacturing technique are crucial. Finally, for the sale of large process plants which are not spare parts intensive for the manufacturer, applications engineering, financing, and the ability to gain scale in contract administration and manufacturing scale in key components can be crucial.

Generally, mechanical engineering businesses require a large proportion of skilled engineers for process and product design, and a large number of skilled blue-collar workers for tool and die design and fabrication, machine setup and maintenance, rework, and precision machining. The only exceptions to this are in assembly areas or simple metalworking tasks.

With the exception of vehicle design and assembly businesses such as automobiles and aircraft, mechanical engineering businesses are often faceless in a country. They do not sell direct to the public, and the highly specialized nature of their product encourages the formation of small- to medium-sized companies (75 to 2,000 employees). Such companies may have over 50% of the world market in a highly specific product and still be of medium or small size. Large companies in mechanical engineering businesses are often agglomerations of small discrete entities.

Mechanical engineering businesses are highly interrelated. Machines tools are necessary to make motors and bearings, and conversely, motors and bearings are necessary to make machine tools. Large assembly industries, like automobile and aircraft, require a large variety of smaller
companies nearby to supply components. The apprenticed nature of much of the labor force also causes clustering of activity. For these reasons, certain countries or regions develop mechanical engineering traditions. A large part of the Swedish and German economies are dependent on mechanical business, and the Midlands of Great Britain and the Midwest of the United States are steeped in mechanical traditions as well.

Mechanical engineering industries are often highly labor intensive, but unlike the case of apparel or shoe production, the labor is generally skilled. As a result, only small parts of the industry are open to low-wage countries. Some assemblies, simple metal fabrication, and the production of certain sub-assembly products such as pumps or simple machine tools, are generally the only parts found in these countries. In contrast to many other businesses, the industrialization of newly developing countries and the increasing wealth of OPEC countries has boosted most mechanical businesses by providing new markets. Similarly, the growth of the plastics, synthetic fiber and hospital products industries in the 1960s and 1970s, and more recently of the electronics industry, have created demands for new types of capital equipment, e.g., plastic moulding machines to replace some metal-working machine tools. In general, the mechanical industry usually shows consistently good (though sometimes cyclical) growth, though not at the spectacular levels of electronics.

The overseas investment pattern of American firms in mechanical engineering is significantly different from that of electronics. Of the 175 largest U.S. mechanical engineering firms, about 30% have no investments outside the U.S., compared to only 8% among electrical engineering firms. Those that have invested abroad have generally done so in large developed country markets. Only one company has Ireland as its only European investment, and only 12 have invested in Ireland at all. This represents 6% of the total sample, versus 33% in electrical engineering (Exhibit 4.17).

Ireland's foreign-owned mechanical engineering companies consist mainly of sub-assembly and assembly shops of the sort commonly found in newly industrializing countries. Usually, some machining, turning, punching, metal-forming or coating functions are performed, but they are limited in complexity and assembly forms the basis for most employment. Of the 34 shops surveyed, about half had only one or two skilled blue-collar workers and one or two engineers. Most of the rest have a small pool of skilled workers and designers for modifications of products, but together they represent less than 1-2% of the workers in the plant.

There is one notable exception which employs over 40 skilled toolmakers and a number of engineers and draftsmen producing tools and, more recently, stampings for the auto industry. Four other companies perform significant design functions in Ireland and employ a number of skilled workers, but these companies remain in the minority. Five other companies produce goods for which Ireland is the sole source for the parent company, though these products are often simple in design and require little manufacturing skill.

The foreign mechanical engineering industry in Ireland is hampered by a shortage of skilled workers and by the absence of a skilled infrastructure of suppliers in areas such as casting, toolmaking, precision plastics and machine shop sub-contractors. Cost penalties for foreign firms setting up in Ireland and importing these components are high. The mechanical engineering companies in Ireland purchase less than 10% of their component needs in Ireland, though this is economically disadvantageous. They would like to buy more, but the low quality and high cost of the sub-suppliers prevents this.

Some of the unskilled sub-assembly operations may be vulnerable to rises in wage rates, and others are potentially vulnerable because of the high cost of importing key components. The few companies which employ skilled labor or are independent design operations contribute significantly to industrial development in the country, though they too are penalized by infrastructural deficiencies in skill level and sub-supply in the country.

CHEMICALS AND PHARMACEUTICALS

The chemical and pharmaceutical industries in Ireland consist of fairly specialized plants which import feedstocks or intermediates, perform a few process steps and export either intermediates or finished products. Ireland has not attracted very large petrochemical or basic chemical projects (with the exception of the Aughinish alumina project), but rather has provided a home for highly profitable specialized projects of medium capital intensity — 5 to 50 million pounds.

The competitive key in most fine chemical and pharmaceuticals is R&D. Many of the products and processes are patented, and competitive advantage is gained in product quality or engineering for low-cost production. In five of the 32 businesses surveyed, distribution scale was also a key determinant of overall competitive advantage.

Because the fine chemical and pharmaceutical businesses operate in highly specialized areas and their new developments are often patentable, significant competitive edges within a given business can often be gained, leading to very high profitability. It is not surprising, therefore, to find that many of these firms have found "tax-free" Ireland an attractive location.

In fact, in the statistics compiled by the U.S. Commerce Department
on overseas investments of U.S. firms, this industry represents 56% of total investment by U.S. companies in Ireland, 68% of all income earned by U.S. companies in Ireland, and 75% of all reinvested income (defined as the difference between U.S. parents' shares in the earnings and gross dividends of incorporated affiliates) of U.S. companies in 1979. This is significantly higher in all categories than other industry groupings (Exhibit 4.18), even though this industry represents less than 10% of the employment in U.S.-owned firms in the country. The profitability of this industry also partly explains (along with the tax rate) why the after-tax profits of U.S. firms in Ireland is better than that in other European locations (Exhibit 4.19).

Overall, this industry shows a considerably higher ROI than any other in Ireland (Exhibit 4.20). The industry's high profitability has also made Puerto Rico an interesting site for locating plants due to its low taxes. Currently, 84 plants employ close to 20,000 people in the industry in Puerto Rico. Many of the companies who have located there are the same as those in Ireland (Exhibit 4.21).

In addition to being highly profitable, many of these chemical and pharmaceutical plants employ a higher proportion of skilled labor than other industries in Ireland. In the surveyed plants, 45% of the workforce on average were university engineers and chemists, an additional 10-15% were technicians and skilled craftsmen (fitters, welders, etc.) and 3% were management personnel. Because of the scale requirements for successful R&D and process development, as well as for capital investment, however, it is not the type of industry likely to yield significant spinoffs by these skilled personnel.

Only two of the 32 companies surveyed carry on research and development in Ireland and none managed the distribution system from Ireland. Thus, the key activities which determine competitive success in the industry are not carried on in Ireland. None of the Irish operations could easily operate independently of their parent companies.

Further, the industry provides very little direct opportunity for sub-supply. Chemicals and feedstocks are bought in from abroad and sent out again. Less than 3% of the direct materials used by the companies surveyed could be purchased in Ireland. The major sub-supply opportunities come during the construction phase of plants, where a large number of construction workers have been employed for a number of years. Some ongoing maintenance work is also provided. In addition, these projects have formed a base of demand for infrastructure developments such as power generation, port facilities and shipping.

The tax incentives offered by Ireland form the basis for these companies' presence in the country. Any changes in transfer pricing rules or in tax laws in other countries which made these incentives less attractive could cause a number of these facilities to close, since the companies interviewed reported that they suffer significant logistical penalties for operating in Ireland.

**OTHER FOREIGN-OWNED ENTERPRISES**

Of the other foreign-owned enterprises operating in Ireland, the largest group is in health care products. Other enterprises can be loosely categorized as consumer products companies, ranging from fibers or textiles and clothing to housewares products and utensils.

The health care products industry in Ireland consists of two parts: disposable plastic products and medical appliances. Total employment by companies in the disposable products area is large, and these companies have often located in regionally distressed areas of the country. On the other hand, this industry is based on labor costs with few, if any, skilled workers. The six companies we surveyed had less than 1% of their workforce in managerial, engineering, technical and skilled blue-collar positions. Nor are they integrated into the Irish economy. They buy some moulded plastic parts and packaging in Ireland, but this represents on average less than 10% of their total purchasing requirements.

The key competitive variables in most of these businesses are product design and distribution scale. None of these companies coordinate or perform these activities from Ireland. Traditionally, these companies have been extremely profitable and have come to Ireland primarily for tax advantages and secondarily for low-cost labor.

The medical appliance business represents a mixed picture. One of the most sophisticated foreign operations in Ireland, designs, manufactures and markets orthopedic implants, all in its Irish operation. Of the eight companies surveyed in this sector, two others have performed some modest research and development (product modification for European or developing country markets) and two perform marketing functions in the country. With the exception of one company, the skill levels of the workforce, both blue- and white-collar, are relatively low, representing less than 5% of total employees. For the eight companies we surveyed, purchases within Ireland are also relatively low, though this would rise with an improvement in the quality and cost competitiveness of local suppliers.

Overall, the medical products area has provided stable employment and steady growth, though recently a few of the companies have had to cut back because of the recession and intensifying competition, especially from Asia. With one exception, Ireland is not crucial to the competitive success of these companies, though there are a few cases where limited development and marketing is done in the country. Training and linkages are currently minimal.
As in electronics, the IDA is hopeful that some recently approved projects will provide a higher skill mix than the current average, and that a few of the existing projects will undertake some significant research and development in the future.

In the consumer and textile businesses, low manufacturing costs based on low-cost labor and long run lengths is sometimes the key to competitive success. In other cases, the ability to establish price premiums through brand image, distribution strength, or design is crucial. In the late 1960s, many firms, particularly in clothing, were established in Ireland to take advantage of low labor cost, tax incentives and the Anglo-Irish free trade treaty. Many of these companies were dependent on Ireland's relatively low wages, and many have closed down or reduced their size considerably.

Another part of the textile industry, much heralded when it first came to Ireland but now in trouble, is the fiber industry. Worldwide oversupply, sparked by the movement of many developing countries into synthetic fiber production, has caused a crisis in the Irish fiber industry. In contrast to the other chemical and pharmaceutical companies in the country, fiber production in Ireland is primarily a commodity process. Technology was fast moving in the 1950s and 1960s, but has matured since then. Because market growth has also matured, one-time glamour industries have become quagmires.

Though the sector does employ skilled workers and contributes to infrastructure development, it does not have the necessary ingredients to promote significant income growth. Skilled labor is employed, but key competitive functions are not performed in Ireland; linkages are not significant; and the Irish operations are dependent on parent companies. Long-term oversupply in the industry makes these firms vulnerable.

More recently, a number of firms with price premium competitive advantage, have established plants in Ireland. Often these tend to be highly profitable firms, and the combination of tax incentives and relatively low wages (within the EEC) have made Ireland an attractive location for manufacturing.

In most of these businesses, Ireland is primarily a manufacturing location. While a small degree of design work and careful production and quality control techniques are required, the skill levels needed are limited. The operations performed in Ireland are not the ones essential for the achievement of price premiums. Nevertheless, these projects are more competitively defensible than the older ones, which have become subject to low-wage competition.

While many of these "price premium" operations will provide stable employment in Ireland, most will not support a significant movement to higher income levels of the country as a whole.

Obstacles to Successful Growth in Foreign Owned Industry

Ireland's economy is becoming increasingly dependent on foreign-owned enterprises. The Irish government spends a large portion of its scarce resources to entice these companies to Ireland. The long-term defensibility of the jobs created by these firms is therefore of crucial importance. Equally as significant is the extent to which these companies contribute to raising living standards in Ireland by accelerating the pace of industrialization and speeding the evolution of Ireland's industrial structure towards high value-added-per-employee businesses. The following sections explore the obstacles to foreign firms contributing defensible jobs and rising incomes to Ireland.

Defensibility of Employment

As exhibits 2 and 3 demonstrated, about 16,800 (29%) of the jobs existing in foreign owned firms in 1973 were lost by 1980, and this was only partially replaced by expansions in other existing firms (12,400). Some people argue that the mix of companies more recently attracted to Ireland will show an improvement in jobs defensibility over past projects because they are higher technology engineering industries rather than more traditional textile, clothing, and food sectors. There is no clear evidence to support this view. All industrial groupings lost jobs in the 1973 to 1980 period in existing firms except the chemical and pharmaceutical industries (Exhibit 4.22), which had a large number of startups in 1972 and 1973. While the ratio of net change to existing employment was worse for the textile, clothing and food sectors than for engineering industries, it is unclear whether this reflects sectoral differences or merely differences in the age of the companies.

A survey of all foreign-owned firms approved and receiving grant payments in mechanical engineering from 1970 through 1978 reveals a troubling picture. Of the 78 firms so granted, 17 have closed and 35 have declined from peak levels of employment. Of the 13,601 jobs actually in existence in these companies between 1970 and 1981, only 6,053 remain as of January 1981 (Exhibit 4.23). This demonstrates that the results in Exhibit 22 may be optimistic for those industries, like mechanical engineering, where significant employment was being created in the 1970s. The 1973 figure for many of the firms created in the early 1970s may reflect recent startups. The exhibit also indicates that employment decline in companies is a more significant risk than closure, at least in the first decade of existence.

The mechanical engineering industry in Ireland consists of satellite sub-assembly, assembly, and simple fabrication facilities, some of which are still dependent on low wages in Ireland. The Irish infrastructure for
mechanical engineering industries is still relatively weak. The number of companies performing highly skilled or competitively significant activities is still small. Though certain projects with potential high skill content are promised in the coming years, the greater portion of projects now being approved do not change the overall skill profile of the industry. Overcoming the obstacles to change the pattern demonstrated by Exhibits 4.22 and 4.23 will be extremely difficult.

The electronics industry is relatively new to Ireland. Electrical engineering companies in Ireland in the early 1970s show a picture of job and maintenance similar to that of mechanical engineering firms. It is too early to tell how the recent wave of electronics projects will perform. Though these companies are now growing rapidly, there are a number of threats to Irish electronics employment which may dampen future performance.

Capital intensity is likely to increase in key electronics areas such as peripherals production and integrated circuit fabrication. The manufacture of printers for example has experienced a doubling of output per manhour in the past two years, according to one of the current producers in Ireland. In semiconductor fabrication, fixed assets per unit of output are increasing at 20% per year, and industry leaders intend to remove human beings from the process to as great an extent as possible in order to improve yields. Even in traditional unskilled labor-intensive processes such as electronic board insertion and integrated circuit packaging, greater automation is likely in the future. Automatic insertion machines and “board chip” technology are reducing the labor content in the former, and machines for attaching leads are being developed in the latter.

This increasing capital intensity may lead to job losses; to an increase in grants necessary to attract and maintain projects and perhaps to a reduced loyalty to current locations on the part of some companies.

An additional threat to Irish electronics employment is the inevitable slowing of growth in some electronics businesses in the coming five to ten years, and the resulting “industry shakeouts”. Currently, most electronics products are experiencing rapid growth, and most company failures result from capital insufficiency or technological obsolescence. As has happened with the boom industries in the 1960s and early 1970s, such as synthetic fibers and medical disposables, this growth will not last forever. As growth slows, many companies will decline. Ireland is the home of many smaller companies trying to catch industry leaders. Some may succeed, others will not. Ultimately, as growth slows, manufacturing satellite plants in countries with small home markets become particularly vulnerable. Most Irish operations in electrical engineering businesses do not embody key skills or processes which will make location in Ireland indispensable.

We do not mean to say that prospects for defensible employment are dim in the future. We only wish to indicate that there are many difficulties which might prevent the achievement of better results from companies establishing operations in Ireland today than those achieved from companies that arrived over the past decade. Many companies, particularly those in chemicals, pharmaceuticals, many electronics and medical products, and many branded consumer goods are highly profitable in Ireland on an after-tax basis. However, this has been consistently true for many years, and has not prevented job losses. The industry that Ireland attracts today is indeed more sophisticated than that which was attracted a decade ago, but the same is true for Ireland’s competitors. Industrial development requires running at ever increasing speeds just to stay in the same place.

It is reasonable to expect a continuation of job losses in foreign-owned firms at a rate similar to that of the past decade. This means that new companies must be attracted to Ireland for significant employment gains to be registered in foreign-owned industry. This is not a negative conclusion. It means that most jobs will be defensible for the next decade. More questionable, is the extent to which the employment provided will increase the sophistication of Ireland’s industrial structure and, therefore, the industrial incomes of the country.

The Sophistication of Foreign-Owned Firms in Ireland

Foreign-owned industrial operations in Ireland with few exceptions do not embody the key competitive activities of the businesses in which they participate; do not employ significant numbers of skilled workers; and are not significantly integrated into traded and skilled sub-supply industries in Ireland. Many people in Ireland acknowledge these facts but believe that events already underway will change this situation as new higher-technology industries are attracted to the country. The electronics industry is often used as the primary example of the change.

*The problem of job losses in foreign-owned firms is not limited to Ireland. In Scotland and Belgium, two other locations which have attracted foreign industry, the defensibility of foreign employment declined in the 1970s from that of the 1960s, especially in the latter part of the decade, although foreign industry still performs at least as well as indigenous industry. Between 1966 and 1971, U.S. companies in Scotland increased employment by 5.4% compared to a decline of 2.8% in all Scottish industry. Between 1971 and 1976, U.S. industry declined by 0.5% and all Scottish industry declined by 0.8%. In Belgium, job losses in foreign-owned firms active in 1968 were 21,889 by 1976; job gains from firms active in 1968 amounted to 54,939 jobs. Though accurate figures do not exist, it is estimated that 3,567 jobs were lost by closure between 1975 and 1978 with only 9,047 new jobs created. Overall, foreign-owned industry in Belgium has outperformed indigenous industry.

many perceive to be occurring.

The IDA, NBST, CII, IIRS, ANCO and other groups have developed and are implementing strategies for deepening the level of integration of the electronics industry in Ireland. Efforts are underway to improve the skill levels in the country through the universities, technical schools and newly developed research centers. Component and service industries necessary to boost the industry are being encouraged. Government purchasing and general infrastructure are being improved. The IDA is actively encouraging firms to integrate R&D, marketing and applications engineering and a few notable successes have been achieved. The IDA is also encouraging the expansion of software activities in Ireland.

Despite these impressive efforts, it will not be easy to alter the fundamental characteristics of the electronics industry in Ireland as described above. Product and process design and applications engineering and marketing are the competitive factors which often determine success in these businesses, and which employ the most skilled people. There are a number of reasons why companies might prefer to place the crucial parts of these activities in countries other than Ireland.

- Applications engineering and marketing functions are often best performed near large concentrations of customers, both for reasons of logistics and because of the national preference of purchasers.
- Many American companies believe that it will become increasingly important to employ locals in large EEC countries in order to counter government efforts in these countries to develop an indigenous electronics industry. Engineering and marketing facilities are convenient means to accomplish this goal.
- A number of American companies feel that crucial R&D functions should be performed close to home to minimize the risk of spinoffs.
- Even with improved phone and plane service, Ireland's remoteness and small size will always make air service limited, a disadvantage for marketing functions.
- A tax haven is not necessarily a good place from which to handle marketing and engineering functions. Since these activities are often recorded as costs on the profit and loss statement, they subtract from current profits. It often makes more financial sense to perform these activities in a location where taxes must be paid.

Even for manufacturing operations, most electronics firms in Ireland (with the exception mainly of some of the smaller parent companies) have other plants in Europe. In many cases, they perform the operations requiring skilled blue-collar labor and sophisticated process engineering in other countries, and do the simpler operations in Ireland. For example, one large company which recently expanded its Irish operations has also recently undertaken investments in France and Germany. The Irish operation will be a low-skilled assembly plant, while the French investment is for a research center and the German investment is for the manufacture of a complex product requiring significant process development.

A number of fast-growing companies manufacturing only in Ireland have expressed in interviews the intention to make their next investments in other countries. This does not arise from any dissatisfaction with Ireland. On the contrary, they are extremely happy with their Irish operations. The desire to diversify manufacturing locations arises from a concern about "putting too many eggs in one basket," as one of the company executives put it.

Further integration is occurring in Ireland's existing electronics plants, but with a few notable exceptions always mentioned, this integration will not significantly increase the importance of the Irish facilities. The addition of one or two engineers for product or process adaptation, the transfer of some fabrication of machined parts to Ireland to replace imports, or the introduction of some repair capability to Ireland instead of shipping computers in need of rework to other locations, are typical of the extensions of current activities which are likely in the near future. These are desirable. They will increase employment and value-added in Ireland and will require additional skilled employees. We are not convinced that these extensions will enhance Ireland's industrial sophistication enough to assure significant rising incomes in the future, however.

Comparison with other countries which have been the sites of mobile electronics investments in the past does not support greater optimism. Both Scotland and Puerto Rico have had significant-sized electronics industries for many more years than Ireland (Exhibits 4.24 and 4.25).

Scotland currently employs about 34,000 people in its foreign-owned electronics sector. Industry leaders such as IBM, Honeywell, DEC and Burroughs in computers; Motorola and National Semiconductor in integrated circuits; and Beckman, Hewlett Packard and Bourns in instruments, have been operating in Scotland for many years, some since the early 1950s. Despite this longevity, the degree of integration in these operations is limited. A recent consultant's report on the Scottish electronics industry states that "The majority of non-Scottish operations were established as manufacturing satellites, and few have progressed significantly beyond this role."

Some engineering functions are carried out in Scotland, particularly
by English companies, but little by European and U.S. companies.

English companies have shown a commitment to local R&D and design, and in such cases as Ferranti and Marconi, a considerable one. In general, some corporate functions and/or autonomy have been allocated to the Scottish operation...

Almost all the resident European companies have established manufacturing satellites in Scotland with little or no R&D capability or autonomy... The majority of U.S. operations in Scotland were established as manufacturing satellites, and the parent companies have been reluctant to develop them beyond this role.

Though a number of U.S. operations in Scotland (somewhat less than 50%) are performing an R&D function, 65% of technical employment, loosely classified by the companies as R&D activity, is in fact production and test engineering at a fairly rudimentary level.

A number of companies do have UK marketing and marketing support based in Scotland, and a few have European marketing functions there. The Scottish operations of some major companies also include logistics centers for Europe with a high proportion of personnel classified as managerial or technical to coordinate these functions.

The foreign-owned electronics industry in Scotland does relatively little sourcing locally. With the exception of printed circuit boards, packaging and some metal work, most component and materials sourcing is done in England. Only about 15-25% of the needs of foreign electronics firms can be purchased in Scotland.

This picture of the Scottish electronics industry shows more significant development than that of Ireland in R&D, marketing, and sub-supply linkages. It remains at a limited level, however, despite the fact that Scotland has a long-standing base for engineering education, has easy access to the English market, and has a more well-developed physical infrastructure than Ireland; and, despite the fact that many major firms have been there thirty years, such as IBM, Burroughs, NCR and Honeywell, and others for almost ten years, such as National Semiconductor, Motorola and Hewlett Packard.

Puerto Rico’s electronics industry is structured similarly to Ireland’s, supporting similar wage rates and similar activities. However, its production consists primarily of sub-assemblies rather than final assembly, since it does not provide access to a new market area for American companies. Despite its longer history in electronics, it has not advanced beyond Ireland in skill levels, degree of sub-supply, or independence of operation. Ireland, like Puerto Rico and Singapore, does not wish to attract simple manual integrated and PCB assembly operations and thus has differentiated itself from the new generation of low labor-cost countries like Malaysia, the Philippines and Sri Lanka which are now entering the electronics industry.

We have focused on the electronics industry because it is the one where hopes are greatest for increasing sophistication in the future. Developments in the mechanical engineering industries do not promise significant changes in the current structure of Irish industry, either.

Programs currently underway will substantially improve Ireland’s physical infrastructure and its education and skill base for the electronics industry. This should mean that Ireland can achieve levels of integration as good as those in Scotland. This level of sophistication however is still considerably less than Ireland seeks.

Programs currently underway will ensure that the structure of Irish industry will evolve slowly toward higher-skilled activity; a small number of additional firms will locate sensitive parts of their businesses in Ireland in the coming years; and sub-supply integration will increase. These programs will raise Ireland’s income levels - but not dramatically. Ireland’s education and skill levels, and infrastructure will continue to be limiting factors, though efforts to improve these factors can and should continue and will bring important results for the nation’s wealth. The ultimate limiting factor, however, is the competitive economic dictates of the high technology multinational firms. Their business economics in most cases will limit the placing of key competitive activities in a small, relatively remote “foreign” country even with significant incentives. As we will discuss later, this is the ultimate limitation for using multinationals for Ireland’s industrial development.
SECTION III:
AN ASSESSMENT OF CURRENT IRISH INDUSTRIAL POLICY

CHAPTER 5
IRELAND'S CURRENT INDUSTRIAL POLICY:
HISTORICAL ANTECEDENTS, CURRENT INTENTIONS,
AND OVERVIEW OF POLICIES AND INSTITUTIONS

Historical Antecedents
Modern Irish industrial policy has had as its goal the creation of new employment in industry with ever-increasing income levels. The methods for accomplishing this goal have been consistent since the 1950s: encouraging industrial investment by Irish and foreign companies through general promotional activities and financial incentives, and opening the Irish economy to free trade. The first strategy was initiated in 1950 with the creation of the Industrial Development Authority, and the second was initiated with publication of the paper "Economic Development" and the introduction of the first "Program For Economic Expansion" in 1958.

The government of Ireland has long accepted the need for an industrial strategy. In the proposal accompanying the creation of the Industrial Development Authority in 1950, Mr. Morrissey, The Minister for Industry and Commerce at that time stated that "The Government is certain that in the national interest the development of industry should not be left to follow a course set by the uncoordinated activities of individuals, companies and groups working to cater for market requirements as determined by themselves. There is still a wide field for further industrial activity, but it is one in which there is need at government level for assisting and supplementing the efforts of private enterprise, firstly by careful research and planning so that it may be determined by reference to national as well as to individual interests what precisely remains to be done and how and where it may best be done, and secondly, by taking the necessary steps, to ensure that developments regarded as necessary or desirable will be undertaken and carried out."

Measures to provide financial incentive for industrial investments have been continually increased during the past thirty years. The first grants were provided beginning in 1952 with the creation of An Foras Tionscal, an agency empowered to give grants up to 100% of the cost
of land, buildings and training of workers, and up to 50% of the cost of machinery and equipment in regionally depressed areas of the country. Since then, there has been a steady increase (subject to EEC rules after 1973) in the grant aids given in Ireland for industrial investment.*

- In 1966, the IDA was given the authority to grant aid up to 2/3 of the cost of industrial buildings and land anywhere in the country.
- In 1959, this IDA grant authority was turned over to An Foras Tionscal and increased by allowing an allowance of 1/3 the cost of plant and machinery to be grant aided along with the 2/3 grants for land and buildings up to a total of 250,000 pounds.
- Also in 1959, SFADCO was created and empowered to make grants up to 50% of the cost of machinery and equipment to companies investing at Shannon airport. It also provided training grants and factories for lease at an industrial park it was creating.
- In 1963, the distinction between land and buildings and plant and machinery was abolished. Grants for capital investment as a whole in depressed regions were extended to 2/3 of total expenditures for projects under 250,000 pounds and 50% or 1,000 pounds per job (whichever was less) for larger projects. For non-depressed regions, grants up to 50%, or 2/3 in exceptional cases were allowed for smaller projects; for large projects the same rules held as for depressed regions. Labor training grants were also instituted universally.
- In 1965, Gaeltarra Eirinn, which had been established in 1958 to promote employment in the Gaeltacht areas, was empowered to make grants and to buy shares in companies.
- In 1966, An Foras Tionscal was empowered to establish and administer industrial parks.
- In 1969, with the merger of IDA and An Foras Tionscal, the maximum grant limits were abolished and grant rates were reset at 40% for depressed regions and 25% for other areas, with an additional 20% possible in exceptional cases. At the same time, new industrial incentives were offered including grants for leased assets, interest rate subsidies, loan guarantees, and research and development grants of up to 50% or 15,000 pounds per project.
- In 1970, standard grant rate guidelines were set at 50% or

5,000 pounds per job in depressed regions and 35% or 4,000 pounds per job in other areas except Dublin, which received 25% or 3,000 pounds per job.

- Beginning in the mid 1970s, the introduction of tax based leasing provided additional subsidies in the form of bank tax relief passed on to industrial companies for investments.
- In 1977, the IDA was permitted to supplement its normal financial support with assistance to working capital needs of projects by first time entrepreneurs.
- In 1978, research and development grants were increased to a 50,000 pound maximum.
- Also in 1978, section 84 of the tax code allowed banks to provide working capital financing to companies at low interest rates as a flow through of tax reductions accruing to them.
- Recently, additional grants not specifically tied to capital investment have been provided for several industries.

This rather long list portrays a government grant program which expanded progressively from a selected regional base to nationwide coverage, and from assistance for specific types of assets to a wide variety of grant types.

Concurrent with the expansion of these direct grants has been a steady increase in tax incentives given by the government to encourage industrial investment. These began in 1955 with the granting of a 50% tax remission on the profits earned on increases in export sales over the previous year. As with direct grants, these tax incentives were continually expanded over the following 25 years.

- In 1958, the tax remission on profits from incremental exports increased to 100%, and accelerated depreciation allowances on industrial plant and equipment were introduced. Also in that year, profits arising from export business at Shannon airport were exempted from tax until 1983.
- In 1960, the 100% tax remission on profits from increased exports was extended to 15 years with diminishing concessions for an additional 5 years.
- In 1967, free depreciation for plant and machinery in depressed regions was introduced with 50% initial allowances in other areas. A 20% allowance was instituted on buildings and land in all areas.
- In 1968, the initial allowance on plant and machinery was raised to 60%.
- In 1969, the export profits tax relief was extended to 1990.
- In 1971, free depreciation of plant and machinery was allowed.

in all areas of the country with an additional investment allowance of 20% for depressed regions.

- In 1975, the initial allowance applying to buildings and land was increased to 50%.
- In 1981, the export tax relief was replaced by a 10% across-the-board tax on all profits, which, when all the various allowances are considered, effectively means a negligible tax for most manufacturing projects in Ireland.

This progressive increase in grants and tax incentives represents one of the two strategies used to attain Ireland's goal of increasing industrial employment and real incomes. The other main strategy has been the opening of the economy to free trade, which was seen as necessary for developing higher productivity in Irish industry.

The opening up of Ireland's economy began in 1958 with a policy document and with the relaxation of controls on foreign ownership of Irish industry. The various financial incentives already described worked in harmony with these programs. The major steps accompanying this effort were the following:

- In 1961, the Committee on Industrial Organization was established to review the structure of Irish industry in preparation for opening up the economy.
- In 1963, an "adaptation grant" plan was established to help Irish firms adapt to the changed trade circumstances, with grants up to 25% of necessary expenditures. Also in 1963, Ireland instituted a 10% unilateral tariff cut.
- In 1964, another 10% unilateral tariff cut was instituted, and the law limiting foreign ownership of Irish industry was abolished.
- In 1965, the Anglo-Irish Free Trade Area Agreement was signed, providing for successive tariff cuts over 10 years in nearly all manufactured products until the tariffs were virtually eliminated.
- In 1969, adaptation grants were replaced by the re-equipping grants scheme, paying up to 25% (35% in depressed regions) of necessary investments for industrial modernization.
- Finally, in 1973 Ireland joined the EEC and free trade with other EEC countries was introduced in nearly all manufactured goods over a five-year period.

As we have shown in previous chapters, these policies have led to a massive change in Ireland's industrial base, with a large proportion of the industrial jobs eliminated and replaced by new jobs, and with additional new companies created. Ireland's industry has been thoroughly transformed over the past two decades.

The opening of the country to free trade (within the EEC) is essentially completed. The incentive packages for industrial investment and the agencies established to administer them still evolve, but strategically are similar to those which we have just described.

With these two philosophical underpinnings in mind (commitments to government incentives for industrial investment, and free trade within the EEC), we now turn to a discussion of the current strategy for Irish industrial development.

CURRENT INTENTIONS

The most recent statement of Ireland's industrial policy is contained in the Industrial Development Authority's 1978-1982 plan. The primary goal of this policy is to create 15,000 new manufacturing jobs each year, which, assuming a job loss in existing industry of 5,000 jobs per year, would mean 10,000 net new jobs created each year. In order to accomplish this, the IDA estimates that it must approve over 30,000 potential jobs per year since their estimates of historical rates of conversion of approved-to-actual jobs is slightly less than 60%. This commitment to new job creation requires a doubling of previous levels of approvals.

The plan also expresses several other goals: that at least half of these new jobs be created in Irish-owned firms or foreign-owned firms already resident in Ireland; that additional manufacturing investment be made in state-owned companies; and that Irish natural resources be further developed. Finally, the plan expresses a particular interest in encouraging the development of small indigenous firms.

More fundamentally, the plan specifies the types of industries to be encouraged in Ireland.

"An industrial strategy must recognize the profound changes taking place in industry. Traditional industries in Europe face intense competition from the newly industrialized countries using up-to-date equipment, which combined with low labor costs can undercut European producers. By comparison, Ireland is not a low labor producer. . . . our industrial strategy must recognize that Ireland's home market is no longer protected by tariffs and that the available home market is too small to support the expansion of many industries and firms. They must win export markets to survive and grow".

"The practical implications of this for our industrial strategy are that we should encourage industries with one or more of the following characteristics:
Industries suited to the education and skills of our workforce employing graduates, craftsmen and technicians, make us less vulnerable to competition from low cost producers, e.g., electronic, electrical and mechanical engineering.

Distinctive Irish quality products, e.g., fashion and craft based products.

Introducing and developing products with a high added value. In general this implies moving from production at the bottom end of markets, to those characterized by good design and quality, finish and presentation.

Developing natural resources, particularly in beef, dairy, timber, zinc, where market conditions justify investment.

The strategy has many implications. Irish industry needs more investment in the research and development of new or improved products; enough effort is put into quality, design and finish of many products. . . only a handful of Irish firms have staff engaged on export market research or direct selling overseas. Considerable further restructuring is required within traditional industry in order to get on the growth path outlined.”

Although often expressed in less detail, these policy goals have been at the center of Irish industrial development strategy for well over a decade.

The goal of increasing the technology content of Irish industry has often been expressed and hopeful beginnings highly touted. During the debate on the Industry Act of 1969, the Minister for Industry and Commerce, Mr Colley said, “Since the mid 1960s, not only has technology been developing more rapidly in traditional industries, but new industrial development has been entering areas of more advanced technology, and the number of large scale projects requiring high level of skills has been increasing.”

In the IDA’s 1970 annual report, the research park in Naas was announced. “It is hoped through the promotion of the Naas Park to attract to Ireland research and development investment by leading international companies. The premises for the first project in the Park, the European research headquarters for Standard Pressed Steel Corporation (USA), is under construction. The company, which already has two major factories in Ireland, has appointed an Irish engineer, recruited in the USA, to manage its new research unit.”

The need for greater export efforts from indigenous companies has also been recognized for many years. Indeed, CTT was established in the 1950s to meet this need. The Committee on Industrial Progress in its 1969 report stated, “We have been forcibly struck by the wide spread lack of appreciation of the need for a market based approach and for proper marketing plans. This weakness in marketing is an inheritance from the protected era when management and workers came to regard capacity to manufacture as largely entitling them to having the home market for the goods they produced reserved for them.”

Since the late 1960s, it has also been a clear intention of industrial strategy in Ireland to promote new indigenous industry, and the means for doing so have followed the same general strategic lines as are being followed today. Then, as now, successes were often announced. In the debate over the 1969 Industry Act, Mr Colley stated, “I am particularly pleased to see an increasing number of Irish based projects figuring in the job creation list and can further report that the small industry programme which I inaugurated such a short time ago is also showing very worthwhile results. In the six months ending June of this year (1969), 119 projects were approved under the scheme.”

In addition to small industry development programs, the promotion of industrial linkages has been used as a means to create new indigenous industry since the late 1960s. Again, quoting Mr Colley, “I have already referred to the work being done in this direction by the small industries division of the IDA towards increasing the linkage between older established industries and new industry. Two other sections of the IDA, the Home Industries Division and the Project Development Unit, examine opportunities for linkage at an early stage, as projects come to the IDA. The Institute for Industrial Research and Standards is doing valuable work in assisting manufacturers in developing products and is embarking on a scheme to provide information on the capabilities of firms, commencing with engineering industries.”

Finally, the desire to assist further investment by state enterprises and to encourage the development of Ireland’s natural resource base has been a consistent aim of policy. Successive administrations have focused new state-owned companies, and plans for recreating timber resources, building modern beef and dairy processing plants, developing NET fertilizers and other resource-based projects have been key elements of policy for many years.

A review of the activities of major industrial policy institutions demonstrates the specific ways in which these goals and means have been implemented.

Policies For Indigenous Industries
Most of the basic programs set up to develop an indigenous industry in Ireland have been in place for a decade or more. Recently, however, many government agencies have re-focused their efforts and introduced some new schemes to give renewed stimulus to indigenous job
creation. In this section, we review these policies and the mechanism which have been established to implement them.

The three Irish development agencies — IDA, SFADCO and Gaeltarra Eireann have all recently put more emphasis on indigenous development in their statements of policies and programs. The IDA is aiming to have 35% to 40% of new job approvals in the next three years come from indigenous companies* and has revamped its organization to achieve this goal. SFADCO was given a mandate in 1978 by the Minister of Industry, Commerce and Tourism to launch a new pilot project for developing small indigenous firms in the Mid-West. Udaras na Gaeltachta has used various incentives in the Gaeltacht regions to spur indigenous enterprise.

IDA Programs

IDA strategy for new job creation in indigenous manufacturing has had four major thrusts: to combat job losses by grants and through the IDA rescue unit; to increase employment in large Irish firms, to stimulate the establishment and expansion of small Irish firms, and to encourage companies to make known their purchasing requirements to existing firms in Ireland.

Plans to combat job losses have focused around the Re-equipment Grant Program introduced in 1969, to help Irish industry re-equip and rationalize in anticipation of increased competitive pressures caused by opening the economy to free trade. It was seen as a transition aid rather than as continuing support for normal replacement investments. Fixed asset investments to modernize technology or achieve greater scale economies are grant aided by 25% (35% in non-designated areas) even if additional jobs are not created from the investment. Grants are also given for investments in water treatment facilities to meet health and safety regulations, standby electricity-generating equipment, and energy-saving projects.

The re-equipment scheme was designed mainly for indigenous industries: foreign-owned industries established under the new industries program were excluded except for energy-related projects. Some of the foreign firms which were established during the protectionist period were given re-equipment grants as well. The program was intended to operate on a selective basis, concentrating on firms with growth prospects and viable positions. A development plan explaining the basis for commercial soundness was required for each applicant. Between 1970 and 1979, indigenous companies were approved for 191 million pounds in re-equipment grants or 81% of the total given out under the plan. The main recipients of this aid have been the Food sector (45% of the total), and the Drink and Tobacco, Cement and Glass, and Paper and Printing sectors (around 10% for each).

In addition to giving financial support, the IDA has encouraged restructuring through co-sponsorship of several task forces in specific sectors. In footwear, for example, a task force established in June 1976 by the Minister of Industry, developed policy guidelines which resulted in IDA grants to thirty firms during the two following years. In clothing, joint discussions with the CII led the IDA to give larger grants to “high quality” product diversifications.

Additional restructuring powers were given to the IDA by the 1977 Industrial Development Act, including interest subsidies on bank loans for working capital for mergers or acquisitions within selected sectors. A Rescue Division has been organized to handle those cases where special financial packages as well as fundamental corporate changes are necessary. Using these tools, the IDA works with Foro Teoranta and the banks to salvage potentially viable companies. In some cases foreign partners have been encouraged to aid these firms. Where there is no hope of viability, the IDA policy is to try to establish a job-replacement project for the community.

In the downturn of 1975-1977, the IDA arranged for 96 rescue packages, representing a total of 9,500 jobs, and 53 replacement projects with a job potential of 3,600 jobs.

Attempts to encourage expansion in large indigenous firms (companies over fifty employees) have been organized through the New Industry Program, which provides grants of 45% of the cost of eligible fixed assets (60% in non-designated areas) to expanding companies. This program handles both foreign and Irish-owned companies.

Two new programs have been added which help established firms expand into new products and services. A program which subsidizes 50% of the costs incurred (building, equipment and staff) in developing new products and processes was introduced in 1970. In 1979, 225 R&D projects were approved at a total cost of £3.1M. The Service Industries Program was introduced on a pilot basis in 1974 and later extended; it aims to create jobs in service industries such as engineering consulting, process engineering, surveying and software development. This program gives service industries such as computer software the same kinds of capital grants as manufacturing activities, as well as training grants for up to 100% of eligible costs (trainee and tutor salaries and travel costs). Plans are underway to expand the grants available in this program.

Attempts to promote small Irish industry began on a pilot basis with the formation of the Small Industries Program in 1967, and was extended to the whole country (except Dublin) in 1969. Dublin was included in 1978. This program promotes the creation of new firms

*A further 10% to 15% of job approvals are to come from already established companies.
as well as the expansion of existing small firms, and applies to companies with fewer than 50 employees and less than £400,000 in assets. It provides a more inclusive financial package than that available to larger companies as well as more advisory services and "hand-holding" in the planning for growth.

The financial assistance includes the normal capital grants (60% and 45% rates), rent subsidies and training grants. In addition, a Working Capital Scheme, introduced in 1987 under an agreement with the Associated Banks, provides overdraft loans for working capital beyond those permitted by normal banking facilities; as of August 1980 the ceiling was £35,000.

A program of building "clusters" of small factory units was started on a pilot basis in Sligo in 1974 and extended to nine locations at the end of 1977, for a total capital cost of £2 million. In 1980 half a million square feet were provided for small firms at thirty-six locations outside Dublin. In Dublin a pilot cluster of small units is under construction in the Liberties, and more are planned at Pearse Street and East Wall, to give a total of 270,000 square feet. In rural areas where no industry has so far developed, small pilot factories in selected towns in West Donegal, West Sligo, Mayo, South Kerry, will be built.

Internally, the IDA has arranged for special treatment of applications from small industries. A separate division has been set up with staff devoted to processing a large number of small grant applications, and to visiting potential applicants.

A Small Industries Committee was established at IDA to co-ordinate the services of various state bodies. The purpose of this committee is to provide an "integrated and coordinated program of services to the small firm"* using the expertise of "specialist agencies such as ICC, IPC, CTT, ANCO, IIRS, as well as the banks and finance houses."

Since 1967, but particularly over the last three or four years, the IDA Small Industries Division has been marketing its services in the country with the "same methods that have been so successful overseas."

Information "clinics" and seminars with local bank managers, universities, and regional colleges have been held to disseminate publicly about available incentives. A whole marketing campaign has been launched including direct advertising, press releases, speeches, and feature articles. For example, in 1978, brochures and audio-visual presentations to potential entrepreneurs in small towns were prepared, as well as promotional activities aimed at emigrants in the U.K. and the U.S. Finally, the regionalisation of the small industries program was undertaken with the establishment of county-by-county employment targets in 1979 to ensure wider coverage throughout the country.

The IDA industrial plan for 1978-1982 calls for an intensified marketing and promotion drive (launched in 1979) to increase the number of job creation proposals from within Ireland. Recently a massive campaign featuring speeches by the new IDA managing director has been organized throughout the country.

In order to handle the amount of on-the-ground services and aftercare provided to small firms, the small industries division has doubled its staff over the last four years to a current level of fifty people, of which twenty-five are professionals.

The rate of projects approved is now three or four a day. The Small Industry Division staff estimates that they spend 75% of their time on advisory services (including preparation of the application) and 25% on the actual approval process. This staff has been supplemented by the County Development Officers since 1970, and subsequently by County Development Teams. In the two cities where there are no CDOs, Waterford and Cork, regional IDA offices have staff which handle only small industries projects. In Dublin, a special team has also recently been set up to handle these projects. This regional network ensures a more intense after-care service than is typically needed for larger firms.

To avoid overcapacity and "saturations" of any given sector, a monitoring system has been established to identify "sensitive sectors" where grants are not available. There are two kinds of "sensitive sectors." The first includes non-traded industries with over-capacity for the home market; and the second includes resource-based industries for which there is an inadequate supply of native raw materials. The industries defined as "sensitive sectors" changes over time; Exhibit 5.1 gives a list of them as of 1979.

To further enhance the effort of small industry creation, an enterprise development program was established in 1978 to encourage "first-time" Irish entrepreneurs with professional backgrounds (managers, engineers, etc.) to establish businesses for themselves. The Small Industries Program had been mostly catering to the blue-collar skilled trades (fitter, toolmaker) and production supervisors. It was felt that the time was ripe to encourage spin-off enterprises led by Irish managers and engineers trained in foreign firms.

Working capital financing was identified as the major barrier for start-up of good-sized projects considered by "third-level" educated managers, and fixed asset grants were not adequate. Financial incentives in this program therefore include interest subsidies on bank borrowing which can reduce the actual cost of present interest rates from 16% to 10%, and an IDA loan guarantee that alleviates the problems of

*Review of Small Industries Programs, IDA 1980.
personal mortgages. In some special cases IDA equity investments can also be arranged.

The Enterprise Development Program is administered by a separate unit of eight people. In slightly less than 2 years, sixty projects have been approved, representing around 2,500 job approvals. As of the end of 1979, on the basis of 2,000 jobs approved, 30% were in mechanical engineering, 20% in electronics (including software) and the balance in a wide range of consumer products. Around 60% of the projects were started by engineers or technicians and another 20% by other graduates.

The promotion of businesses to act as subcontractors to foreign-owned industry was carried out initially by a Project Development Unit (1969) within the Home Industries Division of the IDA. This unit advised entrepreneurs on forming companies. In 1975, a Project Identification Unit was established to identify new manufacturing opportunities in Ireland and to encourage existing and new companies to exploit these opportunities. PIU is the body most closely concerned with establishing linkages between foreign firms manufacturing in Ireland and Irish-owned sub-contracting firms (both for new plant construction and manufactured components). PIU also works on import substitution for the public sector and the agricultural sector.

PIU executives watch the local market and when they perceive major opportunity to replace imported products, they informally contact the purchasing company. They may also conduct market surveys to identify the level of current and future demand for imported products, and to establish the feasibility of local manufacture by reviewing the manufacturing process involved, the availability of technology, and the marketing scale required. These surveys are not exhaustive. They generally contain three or four pages of basic facts on the business concerned. Over one hundred surveys have so far been undertaken by PIU; those relating to sub-contracting for the electrical/electronic, packaging and plastics, and mechanical industries are listed in Exhibit 5.2. All surveys are lodged at IDA offices throughout the country and are open to inspection by anyone interested. In 1980, surveys were consulted by some 400 people.*

If at the time of the initial survey or thereafter, demand for particular products is found to be strong and manufacture in Ireland thought to be feasible, PIU will determine whether the investment is suitable for small industry (fewer than fifty employees) or large industry (over fifty employees) and, in conjunction with the appropriate IDA section, identify potential investors. PIU's involvement ceases once a potential investor has been contacted and is in discussion with an IDA section.

In cases where there is doubt as to whether projects are suitable for large or small industry, or as to whether additional capacity is needed, these projects will be referred to the IDA Board for decision. The Board may instruct PIU to approach certain investors, or recommend that another IDA section closely involved with the purchasing industry decide the appropriate course for the supplier industry.

Over the last 6 years, PIU has identified 24 projects, leading to a potential of about 2,160 jobs. About 60% of these were small firms. In 1980, 18 projects were identified with a total job potential of 500 that could directly be related to the activities of PIU. Another group of projects indirectly related to PIU activities resulted in another 500 jobs approved.

**SFADCO Programs**

In May 1978, the Shannon Free Airport Development Company was given a mandate to conduct an experiment "for the development of small indigenous industry in the Mid-West Region in a special and intensive way not hitherto attempted in this country" (Mr O'Malley, Dail Eireann 31/1/1978). This experiment was to last 18 months, and SFADCO completed an evaluation of the first results in the summer of 1980.

The thrust of the pilot project was to devise and test new ideas and programs to stimulate the growth of small indigenous companies. "I want them to go into every town, village and parish in the Mid-West and scour it out in the most intensive way that was ever done to develop any possibility of local enterprise there" (Seanad Eireann, 1/3/1978).

The SFADCO experiment tried some 47 "programs" aimed at influencing people to start companies, or, in existing companies, to improve physical infrastructure, to improve the level of management capability and technology, to add to product range, to improve marketing, or to enhance the availability of finance.

To provide close contacts between the small entrepreneur and the agency, projects are handled by four county field offices (one per county). They appraise initial inquiries (80% of time spent), look after approved projects, liaise with CDT's (County Development Teams) and promote the agency programs locally. Their goal is to build personal contacts between small firms and a local representative and to avoid delays, unnecessary travel and other communication problems.

Training programs in "new entrepreneurship" or technical matters for small firm managers are handled by SFADCO. About 10 courses with 100 participants have been organized and 13 new businesses in their start-up period have been counselled as a follow-on to the course.
SFADCO has sought to fully exploit Irish experience abroad (U.K. and U.S. mainly) by launching "emigrant promotions". Some 22 projects were approved in 1980 (480 jobs) as a result of this campaign.

Several advertising and promotion campaigns have been directed at raising awareness about the programs and at "stimulating respect for entrepreneurs and a desire to emulate them". Advertisements in the press and on TV and radio, as well as feature articles, have been used.

Business advisory services are given at no charge to small firms not only in preparing their expansion plans, but also on a wide range of short-term problem-solving issues, mostly in the areas of financial control, marketing, materials, or production operations. This initial consulting function can be later extended by more specialized assistance from one of the other state agencies (IIRS, CTT, ANCO, etc.)

To make financing more available to small firms, commercial bank support and improvement of ICC services have been called for. The Bank of Ireland has initiated a pilot loan scheme for small firms with the possibility of a two-year payback moratorium, and two other banks have appointed officers to deal especially with small firms.

To foster linkages with large industry a "Matchmaker Service" has been established and exhibitions of components purchased have been organized. Some 700,000 pounds of orders have resulted in 1979, and 1.6 million pound in 1980. Consoriums of small firms have been encouraged and this idea has so far been applied in the construction industry (to serve the Alunina project). Finally, two technology centers have been supported by SFADCO.

In 1981 an Innovation Center is being established in Limerick. It will gather together at a single location technical advisory services, (IIRS, CTT, etc.), laboratory facilities, financial aid services, and a data bank containing ideas for new small firms.

A Microelectronics Applications Center has been established with NIHE Limerick with the aim of diffusing information about microelectronic applications to all firms and fostering potential spin-offs from established firms.

SFADCO believes in the value of a specialized agency for small firms which would make all advisory services, financial incentives and support programs directly available to these companies. The agency would serve as a "one-stop-shop" for small industrialists, and refer them to specialist agencies for more in-depth problem solving. The staff resources and capital expenditure (in buildings particularly) devoted by SFADCO to small industry represents the greatest effort ever undertaken for these firms.*

*Its staff has grown from 186 to 226 people since the end of 1972 and current expenditures have increased by 43% in constant terms. Fixed assets have increased by 5.4 million pounds in 1980 terms, to about twice the 1977 level.

In its three years of operation (1978-1980) the small industry pilot project of SFADCO has approved 345 projects, representing a total of 4,421 potential jobs and £8.2M in grants. This compares with the 456 potential jobs created in the three years before the project was started (1975-1977).

Udaras Na Gaeltachta
Udaras Na Gaeltachta was established in 1958 (with the Gaeltarra Eireann name) under the Gaeltacht Industries Act of 1957, to promote economic and cultural development in the areas of the country where Gaelic is the first language. Gaeltarra Eireann was given the power to establish new industries in 1965, to invest in and make grants to companies. Its decisions are subject to the approval of the Minister for the Gaeltacht after consultation with the Minister for Industry.

The Gaeltacht areas consist of a number of isolated rural pockets lacking the physical infrastructure and educational facilities necessary to attract industry. According to Udaras, power supplies, water supplies and sewage systems are defective and unreliable. Roads are among the poorest in the country and telephone and telex services are "appalling, even by Irish standards". Medical facilities, shops, sport facilities and schools are also inadequate. There is no pool of managers or skilled workers and the past century and a half of decay has induced a behaviour of fatalism and "dependency".

In the face of these nearly insurmountable development problems, Gaeltarra Eireann was given the very broad mandate of promoting not only industry but also agriculture, tourism, services and, of course, linguistic and cultural traditions. Over the years, and in the face of the need to supplement failing private initiative, Udaras has taken on more and more direct ownership responsibility.

To minimize infrastructural disadvantages, Udaras has built pilot factories in the more important centers, has provided housing for management, and has leased special-purpose factories. Udaras concentrated between 1967 and the early '70s on rationalizing sub-scale operations threatened by free trade, especially in spinning, weaving, knitting and plastic conversion. A program of "minor grants" was also introduced to help smaller firms, and a number of small joint ventures were established to replace lost jobs.

From 1970 onwards, Udaras put more efforts into job creation and shifted from a zone of simply awarding grants to one of active "hands on" and direct strategic management of some of the joint ventures established. In 1973, an investment management function was created and Udaras has increasingly had to inject more capital and more professional management into these businesses, as some of the private
partners were unable to survive by themselves.

As a result of this direct management role, Udaras has invested about £30 million over the last thirteen years in sixty-eight companies, twenty-one of them being fully owned and another eleven majority owned. Those companies in which Udaras has a stake now provide 1,800 jobs, and total grant-assisted employment has risen from 700 to 4,500 jobs between 1967 and 1980.

The companies, both new and existing, which have received investments have mostly been in the wool industry (spinning and weaving, carpets, knitting), fish farming and processing, tourism (hotels, a golf course, an airline), but they also include a few engineering businesses such as armoured cars, metal cabinetry, and optical lenses. Present policy is to attract private companies rather than to extend the existing portfolio investments.

Policies for Attracting New Foreign-Owned Industry to Ireland

The IDA is the primary agency concerned with attracting foreign-owned companies to locate in Ireland and ensuring the success of their start-up in the country. The attraction of foreign-owned companies to Ireland has been a consistent policy for over two decades. With the raising of IDA job approval goals in recent years, the effort to attract foreign investment has intensified.

The IDA has developed a marketing organization which is unquestionably the most dynamic, most active, most efficient and most effective of its kind in the world. Both potential investors and other development agencies view the IDA as the premier organization in the field. The characteristics which have contributed to this success are well known in Ireland and have been perfected over many years of experience: excellent market coverage through a large number of sales offices in different countries; a thorough and well targeted process of identifying prospects; a command of media and promotional techniques; aggressive and well-planned sales procedures; a “one-stop-shop” organization in Ireland; effective capabilities for industrial intelligence, sectoral analysis, and financial analysis; significant clout in “getting things done” for new prospects in Ireland; a well developed advanced factory program; the ability to provide quick responses to customer inquiries and to make quick decisions on proposals; and an intelligent and dedicated group of professionals working in an organization with a very impressive esprit de corps. When one considers that this capability has been essentially fashioned over only a ten to fifteen year history, it is not surprising that the IDA has a well-earned reputation as the leading organization in its field in Europe.

Though the strategy of the IDA has centered on maximizing new job approvals from foreign-owned investors, it has made some selective distinctions among types of projects to be attracted. In general, the IDA will discourage or reject projects where there is a question about the viability of the parent company, where the capital intensity and subsequent grant required is too great for a small country with limited resources, where environmental effects are too negative, and where products produced, such as firearms or contraceptives, go against the political or social mores of Ireland. Over recent years, projects which are clearly seen to be based on low-cost labor and where the competitive locations being considered are very low wage countries like Sri Lanka, the Philippines or Malaysia, are also not pursued.

For projects which pass through these screens, differentiations are often made with respect to grant level, with projects seen to be particularly important to the country receiving higher grants than those which are seen as average. While this is usually done on a case by case basis, the projects most often seen as particularly worthy are those which have the promise of high technology and high skill, those with high value added, those with long-term growth potential, those from companies considered leaders in their field, whose presence can help “sell” Ireland to others, those using native natural resources, those with spin-off possibilities to existing firms, those that can provide jobs quickly, and those willing to locate in less developed regions.

The incentives which the IDA can use to induce a company to locate in Ireland are varied and substantial. The fundamental attraction is the 10% tax which, in fact, can usually be reduced to a much lower level or eliminated altogether through various depreciation and other tax credits. In addition to this, significant capital grants on fixed assets can be provided (which averaged 45% in 1979). Grants for training personnel and research and development are also available. Finally, through tax based leasing and interest subsidies, further fixed asset and working capital subsidies can be provided. In some limited cases, the IDA will also provide loan guarantees, or interest subsidies, or take equity in projects, or promote joint ventures between foreign and local companies. The IDA will grant aid to companies first setting up in Ireland and will also assist expansions. It has also previously assisted modernizations to protect jobs under its re-equipment and modernization programs.

The current strategy of the IDA has been to encourage firms locating in Ireland to develop an integrated business in the country, that is, to locate marketing and technical functions as well as European headquarters in Ireland. They have directed efforts particularly toward electronics companies and to professional service companies because the IDA perceives these as growth industries which employ high skilled people.
Policies for Raw Materials-Based Industries
The IDA plan for natural resource-based industries calls mainly for adding value in the beef, dairy, timber and zinc industries. In the beef industry, the new strategic plan calls for improving output, quality and efficiency in areas such as vacuum packing, portion-controlled cuts of meat and processing meat, frozen and canned products. In dairy, "the emphasis will be in diversifying milk into high value-added products". In timber, efficient sawmilling capacity is projected to bring processed Irish logs to sufficient quality to use in the construction industry in order to replace imports. Facilities to use thinnings and waste for pulp and paper are also called for. Finally, the intention is stated to build a zinc smelter when demand conditions are appropriate.

The IDA also plans further development of the harbor in Cork and the deepwater area in the Shannon Estuary.

The need for a more integrated approach is expressed in the intention to "work closely with the Department of Agriculture, (in the dairy area) in the interest of a co-ordinated approach to the development of the sector."

INDUSTRIAL POLICY INSTITUTIONS

In addition to the Industrial Promotion Agencies operating in Ireland, a number of other institutions are instrumental in Ireland's industrial policy. We will briefly discuss their functions under four categories:

- Financing
- Marketing
- Research, Development and Technical Assistance
- Education, Training and Management Assistance

Financing
In addition to the grants, low-cost building leases and joint venture equity provided by the three development agencies, two state financial institutions provide firms with loans and leasing facilities.

The Industrial Credit Company (ICC) was set up in 1933 to provide long and medium term loans up to 15 years to manufacturing industry as well as to services, trade, and tourism. It is 99% owned by the State and has in recent years received an annual repayable advance from the State as well as State guarantees for foreign borrowed capital.

In addition to its regular long-term loans, ICC has recently introduced new types of financial investments. EIB (European Investment Bank) loans for up to 10 years are provided at a 12.5% fixed interest rate for manufacturing firms of fewer than 100 people and for amounts up to £500,000. Sixty million pounds has been borrowed from the EIB and 600 projects have been financed since this scheme was introduced two and a half years ago. Working Capital Loans of up to £250,000 are available for manufacturing firms. For these two schemes, the exchange risk (on loans from abroad) is underwritten by the Irish Government.

Two programs – Development Finance and Venture Capital – provide seed money to projects more risky than normal commercial lending criteria. The first scheme is by far the largest and the Irish Government bears half the risk through a fund that has been underwritten by it.

Overall out of the 1,570 projects financed in 1980, 90% were for small firms under 100 people accounting for 75% of loans. The overall finance provided by ICC in 1980 was £71 million (in constant terms) a decrease from 1979 but an important increase over earlier years.

Leasing and hire purchase are also available. New plant and equipment may be leased with a primary payback period of usually 5 years. Sale and leaseback facilities exist for industrial properties. This is also done by finance companies and Life Insurance companies. ICC has a £3m loan facility from EIB which is designated for energy conservation projects. The terms are similar to other EIB funded loans but are also available to companies of up to 250 employees. The ICC also has two subsidiary companies – Mergers Ltd, which specializes in the field of mergers and take-overs, and Shipping Finance Corporation which provides finance for shipbuilding. This latter administers a scheme of loans for Irish shipyards subsidized directly by the Ministry for Industry.

ICC's criteria for loan applications include normal banking risk/return guidelines, as well as employment potential, regional impact and utilization of indigenous raw materials. The ICC operates as a commercial corporation and has been profitable since its creation. ICC profitability (as measured by return before taxes on average net worth) has been around 20% in the last 3 years, up from around 13% in 1976.

Foir Teoranta was established in 1972. Its function is to provide financial assistance to manufacturing firms experiencing difficulties and in danger of closing down because of inability to raise funds from commercial sources. In order to qualify for assistance from Foir Teoranta a firm must be of a significant size, nationally or locally, and there must be evidence that failure to receive financial assistance would have serious repercussions at a national or local level. In addition, Foir Teoranta may only advance funds if satisfied that the firm has good prospects of returning to profitability.

Foir Teoranta has a direct staff of about 17 people drawn from ICC plus four Management Consultants. In its operations, the company
works closely with the IDA Rescue Division and ICC. Since its creation Foir Teoranta has invested £9 million in shares of 12 companies requiring assistance and has lent approximately £38.5M current pounds to 242 companies. Out of these 242 firms, 82 have closed or been liquidated, 29 have repaid their borrowings in full and 128 (58%) continue to be actively supported by this company.

The company’s outstanding loans and investments at December 1980 were £22.3 million net. Many of the first receiving support from Foir Teoranta are businesses experiencing difficulty as a result of open trading conditions and stiffer competition following the Anglo-Irish Free Trade Agreement, or EEC entry.

Marketing
The main programmes to promote Irish manufactured goods abroad are administered by Coras Trachtala (CTT). In addition, specialized boards exist for some food products. The Irish Goods Council is the marketing arm for Irish goods in the domestic market and for promoting import substitution.

Coras Trachtala (CTT) was started in 1952 under a recommendation from the “Dollar Exports Committee” that a special organization should be established to help exporters earn more dollar currency. In 1955 CTT’s activities were extended to all markets except Great Britain. In 1958, Great Britain was included and CTT was made both an advisory and promotional agency for exports. CTT’s activities can be grouped into three types:

- Individual company assistance is by far the largest activity (65% of total resources are committed) and includes several advisory services. Marketing advice and facilities include the drawing up of itineraries for visits abroad, potential overseas buyer identification, liaison with foreign importers or businessmen, facilities for product display and meetings for buyers in overseas offices. Market research, commercial intelligence and transport information are provided in Ireland for free. Assistance with publicity and publications is available for exporters. Consultancy on product and package design is also provided for free.

- Individual grants to companies is the second main activity and uses up about 15% of resources. These grants can cover sales visits to foreign markets and the bringing of customers to Ireland, market research and consultancy, overseas trade-fair participation and individual promotional and advertising campaigns. They also can cover recruitment of sales personnel in export markets; testing and approval in foreign markets, demonstration of capital goods, the hiring of design consultants, graphics design, translation and production of sales literature and packaging materials, feasibility studies; and initial research for construction related services.

Most of those grants are however subject to limits both in proportion of total cost (usually 50%) and absolute amount (a few thousand pounds typically).

Finally, joint schemes where CTT helps groups of companies in export promotion use up 20% of resources. These include for example the organization and financing of trade missions, trade-fairs, exhibitions, store promotions and sectoral missions, abroad. Overseas buyers’ visits to Ireland are organized and assisted as well as license seeking missions overseas.

In total, around 1,700 firms are CTT clients, of which 500 are on a regular basis.

An Bord Bainne was created in 1961 as a state-sponsored agency with a monopoly on all dairy products exports. In 1973, to comply with EEC regulation, it was transferred to the Farmers Co-ops and is now financed through a levy on sales. Its revenues in 1979 were £13 million, which makes it the largest operational budget of all Irish marketing agencies, and its total turnover was £500M. In addition to its role as a commodity exporting organization, the Board has over the years diversified into specialty product marketing and retail distribution abroad. It has, among other undertakings, launched an Irish branded butter in the UK (Kerrygold) and is now introducing it on the continent. It also has acquired Adams Food in the UK as a channel for its butter, with about 10% market share.

The Meat Export Board (CBF) was founded in 1969 as the statutory body responsible for “developing, promoting, and assisting exports of cattle and sheep, meat and meat products”. Its board is appointed by the Minister for Agriculture and comprises representatives from producers, slaughterhouses and exporters. CBF is financed through levies on slaughtering and exports. The board has also tried in recent years to diversify into higher value added exports such as the sale of VAC-PAC meat in Germany with the help of private deboners.

The objective of the Irish Goods Council is to “promote, assist and develop the sale of Irish goods on the domestic market”. Its charter covers industrial as well as consumer goods and has been described by its promoters as a “domestic equivalent of CTT”. In early 1978, the government embarked on a nation-wide three-year, program aimed at shifting about 3% of personal consumer expenditure and as much industrial components purchases to Irish goods, thereby creating 10,000 jobs. Most of the activities of the Irish Goods Council have been toward reaching this goal.

For industrial goods, IGC has set up a small department of three people to identify import substitution opportunities with buyers and communicate them to local suppliers. In 1979, 1,300
visits were made and 325 requests from purchasers processed. Several exhibitions were organized to feature components and sub-assemblies for a total value of £50 million. State bodies such as P & T or ESB are participating in specific exhibitions also. A weekly "opportunities list" is shown in the Irish Independent. The IGC reports that its activities in the sub-supply area resulted in 12 million pounds of new business for local manufacturers in 1978, 15 million in 1979 and 18 million in 1980. The Council believes that a target of £30 million in 1981 is possible and says that a total of as much as £35 million could be candidates for import substitution.

For consumer goods, the IGC goal is to reduce import penetration by improving the quality of Irish goods and the marketing efficiency of Irish producers. IGC operates at the manufacturer, the retailer and the consumer level. The "Guaranteed Irish" quality label is now given to over 1,000 producers or 90% of potential recipients, who contribute for part of the expenses (150,000 pounds in 1979). Trade promotions, cooperative market research, and advertising campaigns have been organized and partly financed by IGC in clothing, footwear, furniture, carpets, giftware, building materials, and agricultural machinery, involving a total of 370 firms in 1979. A total of 5 million pounds in orders has resulted from visitors to trade-fairs. Individual marketing advice has been given in product design, packaging, advertising, and promotional literature, to some 43 firms.

At the retail level, the Council has launched a Guaranteed Irish Retail Stock scheme which assists consumers in finding the best places to shop for "G.I." products. Store promotion is encouraged, including display, special offers and competitions. A retail advertising incentive scheme has been introduced to encourage joint manufacturer/retailer advertising of Irish products, assisted by IGC to a limited extent. Informal trade buyers' meetings are organized by the Council, and display staff attend briefings at the Council's headquarters.

Finally, IGC activities at the consumer level have been based on national advertising campaigns (Guaranteed Irish), lectures, and illustrated talks in the country. Participation of the Chambers of Commerce, the schools, trade unions and other groups of the Irish community are sought. IGC also maintains a consumer complaint bureau which processed more than 4,000 inquiries in 1979.

Overall, the Irish Goods Council has a staff of twenty people and a budget of £1.75 million of which .75 million is spent internally.

Research, Development, and Technical Assistance
The major agencies responsible for technical development for industry in Ireland are the IIRS, the NBST and the Kilkenny Design Workshops. More recently, some new research centers have been established in the country, in Limerick and Dublin, to assist industrial development.

The Institute for Industrial Research and Standards (IIRS) was first established in 1946, but it was not until 1961 that it was given its current charter. IIRS is responsible for standards specification, and certification and approvals, as well as doing contract research for the manufacturing industry. In addition, the IIRS has developed a technical advisory function, and provides information to assist new and existing companies in new product and process development. The Institute maintains a staff of industry and technology specialists in some industries like knitwear, clothing, timber and electronics. It also provides services which are applicable to all industries, such as energy conservation and water treatment. Most of these services are fee paying. Since 1961, the IIRS staff has increased from 35 people to 600 in 1980.

In a recent survey done among its fee-paying clients (2,500 clients in total representing 10,200 invoices), IIRS has found that 65% of its projects are in testing, analysis and certification; 24% were to give technical advice to improve product quality, train workers or reduce cost; and a very small proportion was for new product or process development. The rest was split among various areas such as energy savings or pollution control. In addition to direct consulting and problem solving with individual firms, IIRS sells technical publications and performs literature searches, organizes seminars for technical training, and is called on to do general investigations. On average, the Institute assignments are quite short as more than 70% of invoices are less than 250 pounds. The agency's services are mainly used by medium and large firms (Exhibit 5.3).

In the early 1970s, a major effort was undertaken at IIRS for new product and process design and development. High expectations were placed on the possibilities of developing new businesses through a kind of "technology push". As many as twenty people were working on internally generated ideas for research, particularly in specialty chemicals, and mechanical engineering. As no commercial spin off has resulted from this effort, the IIRS has now decided to limit its research function to contract work.

The Institute works for both foreign and indigenous firms in such diverse projects as overhead projectors, micro-processors, enzymes and spaghetti machines (Exhibit 5.4). The projects done for foreign firms are usually larger and more significant in terms of potential employment than the contracts from indigenous industry, which have so far been limited to small product refinements (except for the large Avoca mine project).

More direct assistance to indigenous firms has been provided in the form of technical start up advice and "hand-holding" or patenting and bringing an invention to full commercialization. The level of in-
The National Board for Science and Technology (NBST) is the chief body responsible for advising the government on policy in the field of science and technology and for coordinating various activities in this area. The Board was formed in 1977 to increase the effectiveness of science and technology in Ireland's economic and social development.

The Board has encouraged university training of greater numbers of scientists and engineers, and a better integration of the education sector with industry. It has also concentrated on the innovation process within small firms in Ireland, trying to assess what policies can give the best assistance to indigenous efforts at technical innovation. Finally, the Board has undertaken numerous studies of technological developments in various sectors of industry.

The Board also represents Ireland in various EEC and other international projects for technological development, and organizes and disseminates information of overseas technical developments in Ireland.

In addition to these activities, the Board offers a variety of grants to encourage research, including a general scientific research grant scheme, a scheme to encourage research at universities which can directly benefit industrial companies, and grants for postgraduate study abroad by Irish engineers and scientists.

The NBST publishes a science budget each year, reviewing the state of technical development in all agencies and industrial sectors throughout the country and making recommendations for policy emphasis and resource allocation.

Though its own budget is relatively small (2.5 million pounds), it has a pervasive influence on technical and scientific activities throughout the economy.

Kilkenny Design Workshops (KDW) is a government owned company formed in 1964 with responsibility for advancing design standards in industry.

KDW's activities may be broken down into two principal areas. First, it carries out practical design assignments for industry on a fee or royalty basis. These industrial design assignments include mainly graphic and Industrial design, and are carried out in a variety of industries. In several cases recently, including one for an Irish affiliate of a U.S. company, KDW has combined with the Engineering Division of the IIRS to bring a product to a marketable stage. Other projects carried out for clients by KDW's Industrial Design Service include component layout and external design of telecommunications and electronic equipment goods. Some fifty-three graphics design projects were completed for clients in 1979. They include assignments in the areas of packaging, logos, and layout of business stationery.

KDW's other main activity is the operation of two shops, one in Kilkenny and one in Dublin, which offer Irish-made domestic products considered by KDW to meet a high standard of design. Adjoining the Dublin shop there is a space which may be rented by companies for the display of products which are considered to meet appropriate design standards.

In 1979, KDW employed 135 people and carried out 150 design assignments for fee paying clients. Some one million pounds of its 1.7 million pound costs in 1979 were internally funded by sales revenue from client's assignments and shop sales.

Research and Innovation have been the focus of public policy recently as five new technical centers have been announced in the last two years. Three specialized institutions will work on electronic technologies or applications, while two general-purpose organizations will engage in contract research and promotion of innovation for small firms.

In electronics, a microelectronics application center is being built on the Limerick campus. It will engage in consultancy and technical promotion. It will prepare feasibility studies for the introduction of microelectronics in products and processes, provide equipment and laboratory facilities for new product development, and offer training programs. Its services will cater to small firms.

Two other microelectronics centers are planned to open: one in Dublin will specialize in water technology, and another one in University College, Cork, will be a general research center in integrated circuits.

A European Research Institute of Ireland has also been launched at the NIHE in Limerick earlier this year. It will be initially supported by a grant of almost one million pounds from IDA and 1/2 million pounds from Irish companies as well as foreign companies. In addition, IDA is providing laboratory and office facilities at a cost of 1.5 million pounds. It will be managed with the support of the Georgia Institute of Technology of Atlanta and will engage in contract research for clients in Ireland and overseas, on the model of institutions like Battelle, or SRI.

The Institution will provide initial employment for 85 persons in total and hopes to get 2 million pounds from contract research in its first year.

Finally, an Innovation Center was inaugurated in Limerick in July, 1980, catering to small firms. It aims at coordinating all services that an entrepreneur needs to develop a new idea. The concept of an Innovation Center is taken from the U.S., where certain universities in the late 60s have attempted to teach and support innovation (MIT, Carnegie
Mellon, University of Oregon). These centers were funded by the U.S. National Science Foundation. They have developed into two types of operations. The first ones are instructional and provide classroom teaching of the process of entrepreneurship and innovation. The second are practical, where ideas are developed and commercialized. The Innovation Center at Limerick hopes to combine the two approaches although with more emphasis on the practical approach. The whole concept is to match available "ready made" new product ideas with existing entrepreneurs, to help inventors through the "incubation process," and to provide a "one-stop-shop" to all starting ventures looking for finance and advice.

More specifically, workshops and a "nursery incubator factory building" will be available locally. A data bank of new product ideas, using foreign data banks such as the Copenhagen Technical Institute or NASA, will be available on line to subscribers. Finally, business advisory services in finance, marketing and production engineering combining the capabilities of IIRS, CTT, IPC, NBST and SFADCO will be available. It is hoped that the center will bring product or process ideas to fruition by helping an entrepreneur to overcome the difficulties of patenting, product development, market testing and commercialization.

The Center is directed by a board including representatives from SFADCO, NIHE, IIRS and NBST. IIRS and the Irish Productivity Center have assigned staff to the Center. Its services will be available nationwide.

As of the end of 1980, the Innovation Center has reviewed 155 projects. Forty-one have been "matched with entrepreneurs"; the others have been rejected, are waiting for entrepreneurs or are still in the screening process. Among the 41 "incubating," three have had a capital proposal approved, for a total of 55 jobs, 14 were in the draft phase and 24 were still in review stages. The Center itself has been responsible for 8 new product ideas so far, out of which four are still alive.

Education, Training and Management Assistance

The Irish Management Institute, founded in 1952, is the major institution in Ireland devoted to management training, focusing on managers who already have some experience in industry. It has a total budget of about 3 million pounds, of which less than 30% comes from the Irish government and the EEC. The rest is supported by member companies.

The IMI sponsors courses for various functional managers, both from indigenous and overseas firms. It also operates a special program for small owner-managers. It has a staff of 100, of whom 30 are full time faculty.

Over the years, the IMI has developed a very positive reputation abroad which has led to consulting contracts abroad for IMI personnel and the use of IMI as a model by some developing countries.

Though no accurate figures are available, it is our impression that the proportion of Irish managers taking some course work with the Institute is quite high when compared to other countries.

The Irish Industrial Training Authority (ANCO) conducts training schools for industrial workers, provides advisory services for companies on in-house training, and coordinates apprenticeship training programs for skilled blue-collar trades. Special programs are run for training in small businesses.

ANCO's programs include training of individuals who have never worked in preparation for their first job, training of individuals in mid-career at its schools, and in company training of employed workers. It also trains training instructors. Finally, ANCO runs management training courses to promote greater efficiency in manufacturing and distribution within firms.

In 1979, training grants of 14.2 million pounds to train eleven thousand people were approved in IDA new industry programs; 4.5 million pounds was approved to train 5,000 people in existing industry projects; 4,400 man days of in-company training was carried out; 1,500 apprentices were trained in ANCO centers (in addition to about 500 in industry centers); about 8,000 managers participated in management training courses; and about 1,000 instructors were trained.

ANCO is funded by company levy, by IDA grants given to companies for their training requirements, by the Irish government, and by funds from the European Social Fund. ANCO's total budget now exceeds 26 million pounds.

The Irish Productivity Center (IPC) is a joint employer/trade union sponsored agency which has its roots in the late 1950s when a non-permanent organization was established to form a statement of productivity improvement principles acceptable to both sides of industry.

In 1964, the Government agreed to make funds available for setting up a permanent body. By this time, the statement of productivity principles had been agreed upon. A small organization was formed to undertake research and provide information and advisory and educational services on industry efficiency and labor management relations.

IPC evolved into its present form in 1973. It provides advice on the commercial and technical aspects of improving productivity and on the social aspects of implementing productivity plans aimed mainly at small and medium-sized businesses. It also provides a labor-management relations service for all sizes of business, but mainly directed at larger firms. Finally, IPC maintains a research and public relations service to support its main activities.
The Business Advisory Service (BAS) is a full-time consultancy service providing general management advice to small companies. It has about twenty consultants who advise approximately one hundred and twenty firms a year. BAS will advise firms up to 200 employees in size. The average size of client, however, is between 50 and 60 employees. IPC estimates that it has advised approximately one thousand firms, or about a quarter of all firms in this category.

Consultancy assignments are carried out by individual consultants who spend between three and four weeks with each client. The focus of communication between IPC and a client is usually the owner-manager who typically has little time to plan for the long-term and who needs an external appraisal and assistance for organizing its resources according to its goals. Hence, the relationship established between owner-manager and an IPC consultant is generally a close one and repeat studies every three to four years are typical.

IPC’s other principal activity, providing advice on labor-management relations, is typically commissioned jointly by unions and employers. There have also been requests from labor representatives for IPC to play a mediating role in “inability to pay” claims of employers under the National Pay Agreements. IPC provides independent advice on job evaluation, productivity measurement and assessment of company plans involving redundancy. There has recently been a shift away from “inability to pay” mediation work to similar work advising companies and unions on the implementation of productivity programs and general advice on labor-management relations. Some ten to fifteen consultants are involved in labor-management and productivity studies, often the same consultants as those involved in business advisory work. Approximately twenty studies of this kind were completed in 1980.

A CRITIQUE OF IRISH INDUSTRIAL POLICY

As the foregoing indicates, Ireland has a very sophisticated and extensive industrial policy, involving large numbers of people in a wide variety of activities to assist industrial development. The intentions expressed in the philosophy and goals of Irish industrial policy are intelligent and clear, the agencies are extremely inventive and energetic in devising programs to carry out these goals, and substantial sums of money are being spent in support of these efforts.

Yet, the industrial structure described in earlier chapters of this report does not reflect the successful implementation of these goals. High-skilled, high-technology enterprises are rare; Irish indigenous exports are small and limited in geographic scope; Irish companies are not successfully providing sub-supplies to foreign-owned industry; small firms exist primarily in low-skilled non-traded businesses; little cooperation exists between primary producers and processors in raw materials-based businesses; foreign-owned industry is often unsophisticated and the evolution of existing companies shows inadequate promise for substantial improvement.

We find little to disagree with in the stated goals for Irish Industrial Policy. Increasing the wealth of the Irish people through providing more jobs and enhancing real incomes of those employed, are appropriate goals. Emphasizing the development of Ireland’s natural resources and indigenously-owned industry to accomplish these goals is wise. Ireland is blessed with natural resource endowments which if correctly managed can provide foreign income with little import requirement.

Successful indigenously-owned industry is, in the long run, essential for a high-income economy. No country has successfully achieved high incomes without a strong base of indigenously-owned resource or manufacturing companies in traded businesses. Home-based companies inevitably bring managerial and high-skilled technical employment, a requirement for high levels of services and direct income to the home country. When the going is rough, they tend to make decisions in line with the national interest of the country in which they live and in which most of their assets exist.

Having said this, it is also sensible for a newly industrializing country, like Ireland, to actively attract foreign-owned firms to accelerate the development process. These firms bring needed capital, a market for the creation of industrial infrastructure, skills, and jobs to the country.

We also agree with Ireland’s attempt to industrialize as an open economy within the EEC. There are many complex arguments surrounding the question of protection for a newly industrializing country. However, for one as small as Ireland, it is clear that many industrial activities would be too expensive if conducted only for the small Irish market. Without ruling out selective protection in very specific cases, we agree that Ireland must in principle develop within the world economy.

Finally, we agree with the use of government funds and initiative to stimulate the development process. Holders of private capital, both Irish and foreign would find better opportunities in other countries if market forces alone were dictating their choices. For a variety of political and social reasons, Ireland was not able to industrialize in the 19th and early 20th centuries and must now “catch up” to the rest of Northern Europe. Because of market size, geography and the limited industrial experience of the workforce, significant public incentives are necessary to initiate and accelerate the process of industrialization.

Therefore, we find little to disagree with in the goals and general
approach of Ireland's industrial strategy. We are also impressed with the institutions, and staff guiding Ireland's industrial development.

The state-sponsored agencies concerned with industry impressed us, in most cases, as being extremely well-run organizations. Their staff is very professional and dedicated. The level of motivation is high, and there is no doubt that all possible efforts are being made to achieve the goals stated publicly. Moreover, communication between private industry and public agencies is usually very good. Information is freely provided and there is a high degree of mutual respect. There is undoubtedly in Ireland a degree of common purpose regarding industrial development that is rarely found in other countries.

The programs as stated are creatively designed to help indigenous industry develop, and we have constantly been impressed by the imagination and efforts that each agency has devoted to these various schemes. Agencies in Ireland have studied in depth what is done in other countries in their areas and have applied the best of foreign experiences to Ireland. In addition, many programs in Ireland go beyond those seen in other countries. Indeed, many Irish agencies consult to developing countries and have acquired considerable know-how over time.

We are also impressed by the announcements of job approvals, funds allocated, numbers of people trained, volumes of new export or sub-supply contracts gained, etc. Yet, the existing state of industry in Ireland raises serious questions about the fulfillment of goals.

One explanation for this seeming paradox concerns timing. Ireland's industrial structure has developed very rapidly in a short period of time. Perhaps it is just a matter of more time before current policies will yield the high value added, competitively strong industrial structure necessary to meet desired employment and income goals.

The following chapters evaluate current industrial policies in light of Ireland's current industrial structure and the changing international competitive environment. These chapters indicate that the gap between results and intentions may be partly a matter of time, but also results from deficiencies in the means of implementing industrial policy in Ireland.

CHAPTER 6

THE COST OF IRELAND'S INDUSTRIAL POLICY

The cost of conducting Ireland's industrial policy has more than doubled in real terms over the past decade. Expenditures are divided among a number of agencies, and include agency operating costs, grants, capital expenditures, direct tax forgone and debt. About three-quarters of total funding is in the form of direct allocations, about twelve per cent is in the form of debt, and thirteen per cent is in the form of tax forgone from the banking sector (Exhibit 6.1).* The IDA receives by far the largest share of total funds (62% of all direct funding), must approve the leasing which represents half of the tax forgone, and heavily influences other expenditures. The major portion of IDA funds is awarded in grants to companies investing in Ireland.

Each year, the IDA approves a targeted amount of grants to be given to investing companies to create jobs in the country under its new and small industry programs. Exhibit 6.2 shows grant and job approvals by industry sector for foreign-owned firms between 1973 and 1980. On average, a grant of £8,400 (1980) was approved for each anticipated job. Exhibit 6.3 indicates similar data for indigenous companies over the period 1973-1979 where the anticipated cost per anticipated job was £4,600 (1980).

Exhibits 6.4 and 6.5 show actual payments made and jobs created and sustained for these grants. Exhibit 6.4 shows that the actual grant cost per job, for foreign-owned firms is actually lower than anticipated. This results primarily from the lag in payments compared to approval times which, because of inflation, makes the pound worth less when it is paid than when it is approved, and the fact that payments to recently attracted companies sometimes lag employment creation.

*We have not included tax forgone from manufacturing activities since obtaining this figure acquires numerous assumptions about variations in the size of the manufacturing base under different tax regimes. The Revenue Commissioners estimate revenue forgone under Export Sales Relief as follows:— 1978/79 — £53m, 1979/80 — £85.6m. We also have not included borrowings by the ICC.
The picture for indigenous industry is significantly different. As Exhibit 6.5 shows, the cost per job created and sustained for these companies is actually 12,500 constant 1980 pounds, almost twice that for foreign-owned companies. For foreign companies, 24% of approved jobs currently exist, but only 21% of payments have been made, while for indigenous companies, only 17% of the jobs are existing while 46% of the grants have been paid. The differences in these ratios arise from the fact that unrealized jobs from foreign-owned firms arise primarily from firms never realizing their projected asset or employment targets and therefore not receiving full projected grants. In indigenous firms, goals are more often met, but not sustained as firms decline or go bankrupt after having received their grants.

These figures indicate the cost for new jobs which have been created and sustained only through direct grants. Between fiscal 1973 and 1980, about 2 billion 1980 pounds has been spent on Ireland's industrial policy in total. From this effort, about 33 thousand jobs have been directly created which still exist today. If the employment multiplier developed by Henry for the non-food sector is used, an estimated 39,000 additional jobs have been indirectly created from this effort. This means that each job had a cost of almost 29,000 pounds. This measure of benefit does not include real income increases that have resulted from Ireland's industrial policy nor jobs which would have been lost that have been saved. A more detailed weighing of costs and benefits must quantify these and other benefits to a greater extent.

The theoretical amount that could justifiably be spent to attract new industrial jobs to Ireland is very high from the point of view of both the national balance of accounts and the exchequer. Discussions of national returns on investment are quite technical and can engender elaborate debates, but for purposes of discussing policy, the tradeoffs involved can be illustrated quite simply.

For the national economy as a whole, as long as unemployment is high, it is safer to assume that a new project brings value added equal at least to average employment cost per worker, plus an average multiplier for employment created through purchases internal to Ireland. Even if few profits are reinvested in Ireland, for companies we surveyed this would produce a value of five to eight thousand pounds per worker per year.* Thus, a grant cost of 7,000 pounds per job is paid back in one year, and one of 15,000 pounds per job is paid back in about two years. The 29,000 pound total cost we have calculated has a payback of about 4 years.

*Possible refinements in this type of calculation are endless, a more complete calculation of value-added would include profit and depreciation rates, opportunity costs for various workers, and accurate purchase figures for goods and services.

For the exchequer one can consider as income the direct and indirect taxes received on this value-added. This might amount to 20-30%, or 2,000-3,000 pounds or more per directly created job per year. To this benefit may be added the avoided cost of unemployment insurance payments. Once again, payback times will be short at rates of 7-15 thousand pounds per job, though they may become extended beyond 29,000 pounds per job.

Regardless of how sophisticated one makes this type of calculation, the result will usually be positive for the type of investments commonly made by Irish development agencies. In this sense, one could justify expenditures above those currently allocated for industrial development in Ireland, as long as total grant cost per sustainable job did not go significantly higher than has historically been the case.

But this ignores the limits which exist to potential investment funds in the Irish national budget. It also fails to consider other more productive uses of the funds that might be found. Finally, and most fundamentally, if the jobs could be created with a lower expenditure, then it is wasteful to spend as much as Ireland is now doing even if the "ROI" is reasonable.

We see no reason to believe that too much is being spent on indigenously-owned industry, though in the next chapter we will question its method of allocation. In fact, additional funds, properly allocated, could well be used to help develop strong indigenous exporters. We do, however, question the levels of expenditure on attraction of foreign-owned firms. Currently Ireland receives almost no tax revenue from the foreign-owned companies operating in the country. In addition, capital, training, and research and development grants are available to companies locating in Ireland. These historically have cost Ireland over 7,000 pounds for every job created and sustained. Finally, if various tax-based leasing and financing schemes are included, an additional 1,500 to 2,000 pounds is given up by the exchequer to encourage foreign-owned industry to invest in the country.

Incentives are given because the payback in value-added to the economy and in cash returns to the exchequer are attractive. They are necessary because the country possesses disadvantages (relatively poor physical infrastructure, a relatively unskilled labor force, a small home market, etc.) which make it less attractive than other countries for investment. In this sense, one can view the incentives as a discount which the country gives to would-be investors to lower the price of investment in Ireland.

As with the price for any product (in this case, Ireland as an industrial location), the competitive marketplace determines how much discount must be given. One can never prove that discounts are too high or too low until they are varied and the marketplace responds. Decisions to
raise or lower discounts must be based on circumstantial evidence.

In the case of Ireland, after extensive interviews with companies who have invested in Ireland and others who have invested elsewhere in Europe, and analysis of incentives offered by Ireland and other countries, we believe that in many cases, too much is being offered to attract firms to the country.

**IRISH AND EUROPEAN INCENTIVE LEVELS**

Incentives for new investments are available in most European countries. In some cases they are part of a general national effort to attract foreign investment, as in Ireland, Scotland or Greece, and in other cases they are linked to particular regional development problems, as in France or Germany.

Some parts of the incentive packages are automatically granted to any new investment, like Regional Development Grants in some areas of the United Kingdom. Most of the grants however are made on a case-by-case basis, though generally within fixed limits. For investments of an exceptional nature, even those limits may not apply. During the negotiations between a company and prospective countries for investment, bargaining is the rule. Some powerful companies will encourage countries to outbid each other in order to maximize the benefits derived from incentive schemes.

We have sketched out some comparisons of competitive funding schemes to place the financial package offered by Ireland in perspective. Most packages are extremely complex and we offer only a brief summary of major provisions here.

**Republic of Ireland**

The most distinctive feature of the Irish package is the exceptionally low (10%) corporate tax rate for the manufacturing sector. This rate is in effect until the year 2000.

Another program affecting profitability is the 100% first-year depreciation allowance on buildings and equipment (net of the value of cash grants for the building).

The front-end package consists mainly of a cash grant which averaged 45% of total fixed investment for new foreign ventures in 1979, including land, within a preferred limit of £12,000 per job created. For investments of an exceptional nature, the £12,000 limit is sometimes exceeded, and grant to asset ratios of 60% have been awarded even for projects not qualifying for special regional consideration.

To cover the remaining share of the investment, two incentives are often available:

- **Tax-based loans** granted under Section 84 of the tax code can cover up to 70% of borrowing needs, including working capital. The interest rate payable on Section 84 loans is roughly half the market rate. This is due to a corporate tax exemption for banks on the earnings of these loans. Interest payments however are not tax deductible for the recipient of the loan.

- **Tax-based leasing:** under this provision of the tax code, a bank can buy an asset and lease it back to the user company. Principle and interest are generally paid back quarterly over 5 years. The bank also receives the portion of the cash grant negotiated by the company for the asset concerned. It can offset the capital allowances on the gross value of the leased asset against its own taxable profits. As a result, interest paid by the investor on the leased asset varies from +3% for a 20% cash grant to -7% for a 50% cash grant. A maximum of 35% of equipment can benefit from the tax-based leasing incentive. Interest on leasing is tax deductible for the investor.

Training and research and development grants are available on a discretionary basis.

**Northern Ireland**

The incentive package in Northern Ireland is based on extensive front-end aid; a 30% cash grant for buildings and equipment is available without a maximum limit per job created. In some industries, the cash grant may be complemented by a £4,000 per job sectoral grant or an additional 23% capital grant or in very special cases, both. Unlike the cash grant, the sectoral grant is taxable and not depreciable. Employment grants of £3,000 per worker are also available in Northern Ireland. This provision makes the region particularly attractive for very labor-intensive projects.

Fiscal measures are less attractive in Northern Ireland than in the Irish Republic. The normal tax rate of 52% is applicable, though there is a first-year 100% depreciation allowance on equipment and 54% on buildings.

Soft loans are often given at a rate 3% below normal market rate, with a 3-year interest-free period. They are available for fixed assets and working capital requirements without any set limit.

Factories built in advance can be rented at advantageous rates. They are sometimes provided rent free for up to 5 years.

This set of measures is generally complemented by a 15 per week/ per worker subsidy for up to 30 weeks.
Scotland
In some areas of Scotland, a 20 or 22% grant is automatically given on building and equipment cost. This grant (named Regional Development Grant or R.D.G.) is not taxable. It can be complemented in industries such as electronics by a sectoral grant covering up to 25-30% of fixed investment cost. This sectoral grant is generally taxable and not depreciable. On a case-by-case basis, a selective grant amounting to 20 to 30% of building and equipment cost can also be given, though not in addition to a sectoral grant. These grants come under Sections 7 and 8 of the Industry Act of 1972.

Fiscal measures are similar to those of Northern Ireland, with a corporate tax of 52% and depreciation allowance of 100% of equipment and 54% of buildings during the first year.

Loans can be obtained with a 3-year interest-free provision and a concessory rate of 3% during the four succeeding years. The total amount of such loans is however limited to a maximum given by the formula:

\[ 60\% \times (\text{fixed investment + working capital}) - \text{RDG} \times 40\% \]

Training grants, also available in Scotland, are often replaced by a £2/job/week employment premium.

Incentive schemes available in Wales are of a similar nature.

France
French incentives in development areas are based on a £3,000 per job cash grant (Regional Development Grant), limited to a maximum of 25% of total fixed investment. The RDG is taxable and depreciable over the life of the asset. It can be complemented by low-priced industrial sites (at about half market price) and by interest-free leasing of buildings over a 15-year period (amounting to a 55% grant on buildings at current interest rates).

Fiscal measures in France are not especially attractive. Only 26% of building cost can be depreciated upon completion, and there is no extraordinary allowance for equipment.

Finally, long-term loans can be granted at around 2% below normal market rate, with no limit on the amount available.

Germany
Two kinds of cash grants may be obtained in German development areas. A 7.5% cash grant on fixed assets, excluding land, is not taxable but depreciable. Another cash grant raises the total grant to 25% of fixed assets, including land; it is not taxable and not depreciable. 35% equity funds are needed to benefit from any cash grant.

Fiscal measures are not attractive in Germany. Depreciation allowance is 12.5% per annum on equipment and 5% per annum on buildings without any special first-year allowance. The tax rate of 60% has been considered as a 10% disincentive in our comparisons.

Loans can be obtained in Germany at a 9% commercial rate. This rate is a significant financial incentive compared to most other European countries.

The Comparison
In comparing various incentive packages, simplifying assumptions have to be made, because of the discretionary nature of most schemes. There is a significant difference between what a country is prepared to offer a particularly attractive project* and what it offers on average to ordinary projects. We have made two sets of rough comparisons which show the relative attractiveness of Ireland’s incentive for specific projects. The first comparisons take particularly attractive projects and the second comparisons take average projects. In the first comparison, high levels of incentive are assumed and for the second comparison average levels of incentive are used.

Two projects with different financial parameters were selected to make the comparison. Two calculations have been made for each

*One which provides high skilled jobs, key competitive activities, significant high opportunities, etc.
project, one assuming average profitability and the other high profitability. Project characteristics are described in Exhibit 6.6.

The attractiveness of the packages is evaluated from the point of view of the investor. The criterion selected is the discounted value for the investing firm of all the incentives received over a five-year period for each job created in the project. This is an evaluation method which understates the Irish subsidy, since its tax-based incentives have great value beyond five years when compared to the “front-end” incentives offered by others.

In so far as possible, all the measures just described have been taken into account in the computation of incentives available in different countries. Research and development and training grants and special joint venture arrangements have not been included since they are highly discriminatory.

A comparison of incentive packages on this basis cannot take into account all the discretionary elements involved, nor the significance of the cost penalties to be overcome in each country. Nevertheless, the order of magnitude of the results obtained gives a starting point for comparison.

Exhibit 7 provides a summary of total incentive per worker for two projects which are common for the IDA New Industry Program. This corresponds to projects 1 and 2 of exhibit 6.6. Project 1 is at the smaller end of those commonly funded by the IDA and project 2 is at the larger end. We have a number of different projects within the parameters of these two extremes, varying number of jobs, profitability, asset to sales ratios, fixed asset to working capital ratios and assets per job. The results usually fall within the range represented by the cases displayed in Exhibit 6.7.

From this comparison, one can see that Ireland is always the most competitive. For the large project, its package is comparable to Northern Ireland, though substantially larger than for other countries. For the smaller project, Ireland is considerably larger than all other countries. The Irish package is particularly strong for companies who are highly profitable and of medium capital intensity.

Since Scotland in particular appears to be competitive in many cases with Ireland, we have done a second comparison of grant packages between Ireland and Scotland using average grant rates rather than the higher grant rates used for our first comparison.

In the first comparison we assumed grant rates of 22% for Scottish regional aids plus 25% for grants given under Section 7 and 8 of The Industry Act of 1972 for a total grant of 47%. In fact, the average regional grant given in Scotland is about 18%. The average grant given to companies receiving Section 8 loans is 13% and for those receiving Section 7 loans the average grant is 10% (Exhibit 6.8). In addition, only a small amount of the foreign companies receiving regional grants are eligible for any Section 7 or 8 grant. If those not qualifying were included, the total averages would even be lower than these figures. Assuming that a company receives an average regional grant plus an average Section 8 grant, a total grant of 31% would result rather than the 47% used in our first calculation.

In the first comparison, we used a grant rate of 55% for Ireland. The average grant rate for 1979 was 45% with a number of companies particularly in the engineering sectors receiving grants of 55% or over. For 1980, the IDA annual report indicates that the grant to asset ratio declined to 33%. From computer printouts of assets and grants listed on a project by project basis presented to us in March of 1980 by the IDA, we found a ratio of 36%. This discrepancy probably results from adjustments to the data base made between March and the publishing of the IDA report in June. The distribution of grants and assets for 1980 is highly skewed by two projects which have very high projected assets and very low grant/asset ratios. If these projects are not included, the ratio goes up from 36% to 42.3%. In any event, the metals and engineering sector still shows many projects with grants in the 50%-60% range during 1980. Twenty-eight projects were approved at a rate greater than 45% of fixed assets in 1980 for mechanical and electronics industries alone (Exhibit 6.9).

If we compare the average Irish incentive package (45% grants to assets in 1979 and 33% grants to assets reported by the IDA in 1980) with those of Scotland (18% regional + 13% Section 8), the Irish package is more generous than the Scottish package by an even wider rate than the comparisons shown earlier for maximum packages. We have made numerous calculations for a variety of projects with characteristics which are common for the New Industry Program and have found the Irish package to be 20-50% more attractive, on average, than the Scottish package in almost all cases. (Exhibit 6.10)

Though crudely done, these comparisons show that Ireland on average provides a substantially higher incentive package than other countries for attracting foreign firms. It would be incorrect to assert that this holds for all types of projects, however.

Exhibit 6.1 shows comparisons of maximum incentives for projects with different financial characteristics than normally sought by Ireland under the New Industry Program. Project 3 is a small industry with investment, and Project 4 is a highly capital intensive project. The value of the Irish incentives is close to that of Northern Ireland for

*Again it should be emphasized that the most attractive features of the Irish package come after 5 years and are therefore not included in this analysis. The depreciation advantages given by other countries are used up by then, and Ireland's low tax is still in effect.
the small industry and less competitive than Northern Ireland, Scotland and Spain for the capital intensive project, regardless of profitability levels.

Overall, the Irish package favors profitable projects of medium capital intensity, and these account for almost all of the projects sought by Ireland. When projects are too capital intensive, the smaller size of the Irish economy makes Ireland unable to compete. Projects such as Dow Corning in Wales or Hoffmann La Roche in Scotland, reputed to cost 100,000 pounds per job, would be very difficult for Ireland. The Irish package also loses competitiveness for very labor-intensive projects due to the employment grants offered in Northern Ireland. This disadvantage decreases as the profitability of the project improves.

Comparisons of the sort we are making, are highly complex and uncertain. On any given project, any country may place a bid higher than that of Ireland if the project is singled out as crucial to that country's development. Also, incentive packages can change yearly. Finally, calculations of competitive financing packages are highly complex as assumptions must be made about investor return criteria and how to weigh one type of aid against another. Nevertheless, we believe that for the large bulk of projects for which Ireland competes, its incentive package is considerably more generous than that of other countries even when valued on a 5-year return basis which underestimates the value of Ireland's tax incentives.

IRELAND'S MARKET SHARE

A second piece of evidence suggesting that Irish incentives may be higher than necessary is the proportion of mobile greenfield projects won by Ireland compared to other European countries. It is extremely difficult to measure Irish market share for mobile investment in Europe. Many investments are merely additions to existing operations. Other investments such as those in petrochemicals are not sought after nor are they appropriate for Ireland. Still, other investments are resource related. A market share analysis is also made more complex by acquisitions and mergers.

To make a comparison we chose those small regions and countries in Europe most often mentioned by multinational companies we interviewed as potential alternate locations to Ireland. We counted their newly established greenfield projects versus those set up in Ireland. All of these entities—Northern Ireland, Scotland, Wales and Belgium—actively recruit foreign investment. Within this group, Ireland attracted 80% of the new mobile projects (those without company facilities already in the country) during 1978 and 1979. In absolute terms, Ireland won 185 new projects compared to 21 for Wales, the next largest competitor (Exhibit 6.12).

No doubt this successful record is in part attributable to the marketing efforts of the IDA and the increasing relative attractiveness of Ireland as an industrial location. Nevertheless, in most businesses, if a company has an 80% market share and gives the largest discounts, it is usually appropriate to consider "testing the water" by raising prices (in this case, reducing grants).

THE NEWLY INDUSTRIALIZING TAX HAVENS

A third piece of circumstantial evidence comes from comparing Ireland's incentive package with those of the other two industrializing "tax havens," Singapore and Puerto Rico. Singapore in fact does not offer an unconditional low tax status as does Ireland. The normal tax rate is 40%. Foreign companies can receive a so-called "Pioneer Status" where a zero tax on profits is granted for 5 to 10 years. The granting of this status depends upon the merit of the project, i.e., investment rate, skill and technology levels, and on whether the products are already being manufactured locally. For firms not receiving this status, export profit tax relief and investment tax credits are available on a selected basis.

The Singapore government does not provide any capital grants for foreign companies. It will provide loans or take reimbursable equity on selected "high technology" projects. In the case of loans, the interest rate is favorable though it does not represent a major subsidy. The government will also selectively provide research and development grants.

Puerto Rico also has no unconditional tax exemption. Tax rates of 10% are employed for 5 years, rising to 25% in the following five years and to 35% for years 11 through 15. The first $100,000 of profit is fully tax exempt, however. Extensions of the 10-year rate may also be granted. Puerto Rico also has a 10% tollgate charge for repatriated profits, though this can be reduced if 50% of profits are reinvested in selected projects.

Puerto Rico gives no capital grants. Loans are available for fixed assets and working capital from government institutions, though usually with little or no interest subsidy. The government will provide training grants and, in some depressed regions, employment subsidies, but these are relatively small.

Thus, Ireland is the only one of the three industrializing "tax havens" which has an unconditionally low tax and the only one which has an elaborate scheme of capital incentives (not to mention tax-based leasing).
THE COST OF ATTRACTING FOREIGN FIRMS TO IRELAND

During the course of our study, we interviewed almost 100 multinational companies. Most had operations in Ireland and all of them had considered Ireland as an investment location. We also talked to officials from other development agencies. Interview answers to hypothetical questions such as "would you have invested in Ireland if capital grants were not available," can never be taken with certainty. Nevertheless, the distinct impression left by these interviews is that Ireland may be offering more than is necessary in many cases, to attract foreign-owned firms to the country.

Though one would not expect individual foreign companies to admit that they would have come to Ireland even with fewer incentives, a number of the companies interviewed did in fact indicate that the tax incentive and Section 84 or the leasing program would have been sufficient motivation for coming to Ireland. Capital grants were described as "extra icing on the cake," or "great but not necessary." The Irish package was often described in terms which made clear that it was overly generous.

The foregoing is not a thorough case on which to assert with complete certainty that too much is being offered, but we feel it is sufficient evidence to cause serious concern.

SUMMARY

The cost of Ireland's industrial policy has more than doubled over the past decade. However, the benefits derived from industrial development are significant. Ireland has embarked upon an ambitious program to create employment and raise income levels and this must involve heavy resource investments to have a chance of success. We urge the Irish nation to spend as much on investment for industry as it can afford.

The more crucial concerns we have do not relate to overall level of investment, but rather to the patterning of that investment. In this chapter we have expressed the belief that the Irish government could spend less to attract foreign industry to Ireland. In our recommendations we suggest a reallocation of Irish resources toward indigenous industry and in particular toward Irish owned traded businesses. Any savings gained from paying less to foreign firms could be well used in Indigenous industry development.

Though the direct cost of creating jobs in indigenous industry has been almost double that for foreign-owned industry, we don't believe that budgets should be cut in this area. Rather, we believe that funds must be spent more wisely in this area.

In chapter 8 we will discuss why indigenous industry programs have not succeeded well enough and why funds spent have not produced desired results.
CHAPTER 7
RESOURCE ALLOCATION

The essence of strategy implementation is the allocation of resources among competing priorities in line with predetermined goals. We have expressed agreement with the goals of Irish industrial policy. Several questions must be raised, however, about the allocation of resources to meet those goals. These questions relate to resource allocation between foreign and indigenous projects, traded and non-traded projects and industries in short or over supply.

Despite a philosophy dedicated to indigenous industry development, resource approval ratios between foreign-owned and indigenous industry have remained the same over the last decade and actual funds paid to indigenous firms has increased only slightly.

Over the nine years 1971-1979, the IDA has approved almost one and a half billion pounds of grants (1980 pounds) excluding capital expenditures, tax based leasing and Section 84 loans. Indigenous companies have accounted for around a third of these grant approvals or a total of 553 million pounds. This share has not changed significantly over the period. The indigenous share of grant approvals was in fact higher in the early 70s when Irish industry was preparing for open trade with the EEC. The last year with available data – 1979 saw a decrease in share from 1978 for total grants awarded to indigenous companies (Exhibit 7.1).

Indigenous companies' share of employment approvals accounted for 37% or 73,500 of total approved jobs for the same ten-year period. This share has increased slightly in recent years, although the 1979 level of 39% does not represent a significant jump compared to the early and mid-1970s. The pattern of IDA grant allocation between.

foreign and Irish companies has not varied dramatically over the last ten years, although the total amount of grants approved has increased almost five fold.

More significant than the lack of a proportional rise in indigenous grant approvals is the fact that the actual level of grant payments to indigenous projects has hardly increased in real terms over the decade despite an over three fold increase in grant approvals. Actual payments to indigenous companies have increased from 23 million pounds in 1970 to 30 million in 1979 (Exhibit 7.2). The last two years for which data are available (78-79) have shown lower payments than in the two previous years (76-77). Allowing for a one-year lag between approvals and payments, the ratio of actual payments to approvals has fallen from a high of 74% in 1973 to 60% in 1979. This reflects a combination of factors, among them the shift in program emphasis. Re-equipment grants are typically needed and paid very quickly, and applications tend to underestimate the urgency of cash outflows. New Industry and especially Small Industry grants applications are, on the other hand, generally inflated and a number of projects never get off the ground, are initiated at a much later date, or never grow to projected size.

The relative importance of each incentive programme in terms of total payments shows the historical importance of the re-equipment (43%) and the New Industry Programmes (42%) and the relatively minor share of Small Industry (11%), (Exhibit 7.3). The trend in the share of total payments of each of these programmes followed the changing trend in grant approvals, with a time lag. In the last period (77-79) re-equipment still represented 37% of total payments, New Industry 45% and Small Industry only 18% (Exhibit 7.4). The sectoral allocation of payments within each programme is almost identical to the pattern of approvals (Exhibit 7.5). The food sector has received nearly one hundred million pounds, a third of the total payments to indigenous industry. The next most important sectors have been metals and engineering (46 million, 16%) and cement-glass-concrete (37 million, 13%).

Overall, statements on Irish industrial strategy have emphasized indigenous resource and manufacturing based industry. Yet government resources committed and actually spent do not reflect this goal. The funds approved for indigenous industry represent only about 1/3 of the total, a proportion which has not increased over the decade. Actual funds paid to indigenous industry over the decade has increased.

A two-year lag shows a similar trend. A reasonable average for indigenous industry is a one-year lag since re-equipment and small industry grants are very often paid the same year; whereas industry grants typically have a two-year lag.
only slightly in real terms despite the significant real increases in IDA budgets.

Subsidies to non-traded businesses have been too high a proportion of total IDA grants. Serious question exists as to the necessity and efficiency of these grants.

The subsidizing of non-traded businesses has taken place both under the re-equipment grant scheme and also the New Industry and Small Industry programs.

Since its introduction in 1970, and until 1979, the re-equipment grant scheme has funded 3,531 projects. Two hundred and fifty seven million pounds of grants have been approved (in 1980 pounds), with 80% going to indigenous companies and 20% to long-established foreign companies (mostly British firms which had been established in Ireland before free trade).

Re-equipment grants were designed primarily to assist indigenous companies who faced new international competition when the economy opened up in the 1970s. The largest payments in this program have gone to meat and dairy plants which together accounted for 20% of total payments between 1970 and 1979. Many of the slaughter houses or dairy plants did not meet health standards imposed by the EEC. Since these businesses are capital intensive, grant requirements to overcome these deficiencies and to reach competitive scale have been expensive.*

As we saw in previous chapters, Irish meat and dairy facilities now compare favorably in terms of scale with those of the other EEC members, and large grant investments should not be necessary in the future.

Businesses in textiles and clothing were also re-equipped to better meet international competition. Some, like one carpet company (1.7 million pounds paid), have restructured in complex factor cost businesses while others in textiles and clothing which have received 200,000 to 400,000 pounds each are still subject to the inevitable competition from low wage-rate countries. The total amount of grants paid to textiles and clothing was relatively small (11% of the total) compared to the magnitude of the task that had and still has to be accomplished.

The most questionable feature of re-equipment grants is the very high proportion of payments allocated to non-traded businesses which were not directly affected by the entry of new competitors. Companies in baking, bottling, animal feed, cement, concrete, wooden doors and plastics conversion compete mostly against other domestic firms. Even though they had to invest in more modern equipment, it is questionable whether government funds should be used to maintain inefficient competitors, rather than letting free market mechanisms rationalize the industry when overall value added or export losses for the country are not at stake. Other largely non-traded businesses, such as newspapers, corrugated cartons and boxes, motor re-winds, plastic moulding, or van building have been recipients of many grants originally intended to help the country prepare for free trade. Overall, non-traded businesses have represented 46% of total re-equipment grant payments (Exhibit 7.6). We believe that many of these resources could have been better used by businesses contributing to exports or those more directly affected by international competition. We have met several companies - large and small - in non-traded businesses which would have invested even without grants, and many of those in traded businesses to whom we talked could have well used additional financial assistance. Funding trends do seem to be moving away from non-traded businesses, though their share accounted for 40% of the total in 1979 (Exhibit 7.7).

In total, 137 million pounds of re-equipment grants were actually paid (as opposed to approved) to indigenous companies of which the largest amount went to non-traded businesses (76 million) and beef and dairy (28 million). A few large companies, primarily in non-traded goods, received grants that were substantial by Irish standards, such as in 0000 brewing (11 million, cement (9 million), tobacco (3 million), packaging (2 million) and Sugar (2 million). Relatively little in comparison has been allocated to the traditional export industries of Ireland, textiles, clothing or leather.

The New Industry Program was introduced in the early 1950s primarily to encourage foreign investments, while the Small Industry grants introduced in the late 60s were designed mainly for indigenous development.

Since the creation of new industry grants in 1962, 2,712 projects have been approved with 1,941 occurring after 1970, for a total grant commitment of close to one billion pounds (1980 £). Indigenous companies have accounted for 200 million pounds of approvals over the last ten years and for 130 million paid. Since it creation in 1967 and until 1979, the Small Industry Program has approved 3,000 projects for a total grant commitment of 83 million £ (1980 £), of which more than 80% was awarded to indigenous companies. These received actual payments of 34 million £ in the period 1970-1979.

The two programs combined have allocated 72% of their grants to traded businesses and 28% to non-traded businesses (Exhibit 7.8). Despite the goal of encouraging sub-supply spinoffs this kind of operation represented only 23% of total payments versus 77% for finished goods manufacturers. Less than half of these sub-supply projects were

*Most of the major co-ops have each received one to two million (1980) pounds in grants.
traded or compete directly with imports (precision machining, toolmaking, precision plastic moulding). The bottom of Exhibit 7.8 shows the allocation separately for each program. In New Industry payments, 70% of funds have gone to traded finished goods. In Small Industry, however, 41% of funds have gone to non-traded businesses.

A more detailed analysis of New Industry payments (Exhibit 7.9) shows that meat and dairy received 23% of the total, or a third of the traded finished goods businesses. The main Co-ops have all received grants of more than one million 1980 pounds under the New Industry program. This was also the case for the carpet industry. One carpet company received around one and a half million in 1980 pounds to convert its production from sisal to tufted wool carpets, keeping its total workforce constant. The other important beneficiaries besides meat, dairy and textiles have been in fertilizers, where one company received close to 7 million; in shipbuilding, where one company received 4 million; and in glass where one company, received 3 million pounds.

A substantial proportion of Small Industry grants went to non-traded sub-supplies such as general metal forming and welding shops (12%), plastic moulders (6%) or repair and local services (5%) (Exhibit 7.10). Another significant proportion of payments has gone to relatively unskilled businesses in building components, concrete, quarries, and stone (5%), and in wood-working sectors such as joinery and carpentry (4%); and agricultural metal-working such as tanks, slurry spreaders (5%) and low-scale body and container building (5%).

The Small Industry program is intended to spur development of indigenous firms supplying foreign firms in Ireland and firms which will export directly. Despite the threefold increase in approvals over the last two years from mid-1970s levels, these goals are only partially being realized. Of the projects approved with aid totaling over 35,000 £ in metals and engineering, only half went to firms which correspond to this definition for part of their output. Only 17 projects out of a total of 260, expect to export more than half their output, and another 12 expect to export between 25% and 50%, (including sales to Northern Ireland). The other half of the approvals went to firms catering to the local market or to other indigenous firms (Exhibit 7.11).

Overall, with some significant exceptions in food and textiles, a major portion of IDA funding for indigenous industry has gone to non-traded businesses. Though these may on occasion be appropriate targets for government assistance, we do not believe a tight enough screen has been applied to identify and fund only worthy cases.

On occasion, IDA funding has not been discriminating enough, creating oversupply in some industries to the detriment of the Irish economy.
CHAPTER 8

THE METHODS USED TO DEVELOP INDIGENOUS INDUSTRY

We have shown in the previous chapter that the funds spent on indigenous industry development have not reflected the major commitment which has been expressed by successive governments. In this chapter we question some of the means pursued to promote the goal of indigenous industry development.

Despite the dedicated and inspired efforts of the various government agencies involved in developing indigenous industry, the record of jobs created and sustained is not encouraging. Our analysis in this chapter shows that the ratio of sustained jobs to approvals has been only 20% and the record of job gains and losses within most sectors is not significantly better for grant-aided industry than for non-grant-aided industry.

IDA grants approved under the New and Small Industry Programs during 1970-1979 provided a potential of 73,400 jobs at full production. Since the projects approved in 1979 had only begun as of the end of 1979 and some of them were due to begin only in 1980, we have compared projects approved during 1972-1978 and actual job creation during 1973-1979, thereby allowing for a one-year lag. This comparison for New and Small Industry Programs is shown in Exhibit 8.1. Slightly half the jobs approved have actually been created, either by new companies setting up during the 73-79 period or by established companies expanding. The proportion of jobs created is highest for metals and engineering (65%) and lowest for textiles (30%). When subsequent losses of jobs by closure or redundancies at these companies (including ones in existence before grant award) are taken into account, only 20% of job approvals were actually in place at the end of this period. Textiles and clothing companies grant-aided under the New and Small Industry Programs have in fact lost more jobs than they have created. When these two sectors are excluded, the proportion of jobs in place becomes 36% for all other sectors, with the best ratio occurring in metals and engineering (46%).

* A small proportion might be grant-aided by Udaras.
** The same comparison done with a two-year lag gives a similar result.

There is insufficient concern about the structure necessary to make a company or industry competitively successful long-term.

* A small proportion might be grant-aided by Udaras.
This encourages the establishment of firms which are too small to be viable and the mushrooming of staff assistance functions in many public agencies.

The emphasis of many programs which we have described — the IDA Small Industry and Enterprise Development programs, the Shannon Pilot Project, the ICC small company loan effort — has been on the creation or development of new small firms. There is a renewed emphasis in most countries on helping small businesses, and it is true that small firms play a vital role in supplying larger firms and in serving local markets. They can also, in some businesses, contribute to exports. The potential contribution of small firms in larger or more industrialized countries is very different however from that of small firms in Ireland.

First, small firms in skilled sub-supply businesses in other countries tend to grow up around large established firms engaged in trade. The larger firms offer them long-term contracts, working capital pre-payments, and skilled interactions. This infrastructure does not exist in Ireland and the network of sub-suppliers has to be created in a more planned and organized way. This requires a stronger corporate structure than is typically found in small independent firms.

Second, small firms in larger domestic markets can turn to export once they have built economies of scale and financial reserves at home. In Ireland they have to export earlier if they want to reach viability. This requires a level of financial and marketing expertise, not usually available in very small firms.

We have noted the high proportion of non-traded businesses represented by small firms and the difficulties of developing skilled sub-supplies for a new small company.

Despite these factors, most development and support agencies have increasingly concentrated their efforts on small firms. The concept of "hand-holding" during project evaluation, initiated by IDA's small industries division in 1967, was further extended to "after-care" by SFADCO in 1978. In turn, IDA increased its small industry program by doubling the staff in that area. IPC has always concentrated on consulting to small firms, and other organizations such as ICC are setting up or reorganizing special divisions to handle small firms' problems. CTT has created a small industry department and its new regional offices cater mostly to smaller companies. It seems that many government agencies are re-gearing for small or even very small firms (fewer than 30 people, for example). Those very small firms, indeed, constitute a very large population of potential "clients" — about 70% of all indigenous firms — but they represent only around 15% or 20% of total exports and employment (Exhibit 8.7).

The most intensive program yet attempted for the development of small industry is the pilot project undertaken by SFADCO (described in Chapter 5). The service offered by SFADCO is intended to serve as a "one-stop shop" for small industrialists. The results of the project provide an indication of the likely success of policies which emphasise increased state-financed support services for small industry.

Between 1978 and 1980, the SFADCO small industry pilot project approved 345 applications with a potential of 4,421 jobs and fixed asset grants amounting to 9.5 million pounds (in 1980 prices). By the end of 1980, 2.3 million pounds had been paid and 1,038 jobs created, or 37% of all jobs approved during 1978-79 (allowing for a one-year lag). The ratio of jobs created to approvals in the case of the IDA small industry program is about 50%. It seems that job approval levels have declined since the first full year of the pilot project in 1979, and that SFADCO's intense scouring out has reached a saturation point. In 1979, 2,100 jobs were approved, in 1980 1,600 jobs were approved and in 1981 it is estimated there will be 1,500 job approvals.

The SFADCO experiment has produced a similar allocation of projects to that of the IDA Small Industries Division (Exhibit 8.8). Small companies in metals and engineering remain the major beneficiaries of the program, and like IDA grant-aided firms, these firms are rarely able to export or to develop into higher skill sub-supplies. Out of some 20 firms that we visited which had actually begun operations and which were selected by SFADCO as representative of their total population, only one was considering direct exports (small springs for electrical switchgears) and one had developed a relatively high skill toolmaking and precision machining expertise. All the others were concentrating on the smaller run-length end of relatively low-skill products such as corrugated boxes printed for local department stores, steel welding, or barbed wire fences.

The operating costs of an intensive program along the lines of the SFADCO pilot project are obviously much higher than those of the on-going operations carried out nationwide by IDA. Whereas a direct comparison of the cost effectiveness of the programs is not possible, the very different cost levels are illustrative of the magnitude of resources required by each approach. The total expenditure on the pilot project up to 1980 was 3 million pounds (1980 prices) and capital expenditure excluding grants have been almost 9 million (Exhibit 8.9). The IDA Small Industry Division had expenditures of about 1.7 million pounds in 1979 for slightly more than three times as many jobs approved, and 6 million in capital expenditures on buildings.

The SFADCO project has made an important contribution to job creation in the Mid-West. The direction of policy in the pilot project, however, and in most other agency programs for small industry is
toward more intense “hands on” consulting. Though this is a natural result of seeing deficiencies in the abilities of specific entrepreneurs to perform certain functions, it may well be leading Ireland’s industrial effort in an undesirable direction.

We question the general philosophy of intense “hand-holding” of small firms. We doubt that it is an effective long-term means for the development of skills and exports. It has the effect of increasing small firms’ dependence on outside services, instead of stimulating in-house long-term solutions or direct cross-company initiatives. It also has the effect of making the agencies more and more staff intensive. While the IDA uses most of its development budget to provide grants, other agencies such as IIRS, CTT and AnCO use most of their budgets for staff assignments (Exhibit 8.10).

Government agencies are facing a difficult situation. They are asked for more and more “hand-holding”, requiring more staff, from more and more small firms. This costly expansion of public services can end if small firms eventually become large, or build in-house skills or export markets on their own.

We have referred already, however, to the difficulties of achieving these results in Ireland.

Unless questions of necessary company size and appropriate industry structure are confronted directly on a business-by-business basis, high failure rates and an ever more expensive and expensive group of supporting agencies is likely to continue to develop. A major push towards skill development and export competitiveness needs a different pattern of resource allocation, a stronger corporate structure, and the building of in-house capabilities, as opposed to the never-ending provision of consultancy services.

Efforts at creating skilled and traded sub-supply industries are not systematically pursued.

Though the Small Industry and Enterprise Development programs of the IDA have in part been concerned with linkage developments in Irish industry, it is the Project Identification Unit (PIU) which has had primary responsibility for this effort.

It is not easy to gauge the performance of PIU. It is not an operating division of IDA and is not responsible for implementing projects it has conceived. In some cases, the decision as to the structure appropriate for a sub-supply industry is not in its hands. This results in PIU being largely a consultative, advisory organization for other IDA sections. Moreover, it has no responsibility for recommending solutions for industry-wide problems, such as training or marketing.

PIU’s contacts with industry and potential investors are highly informal. For example, until this year there was no system for recording project ideas passed on to large companies. Exhibit 8.11 is a list prepared for this report by PIU detailing some project ideas passed informally to large companies in 1980 and representing some 45% of all project ideas passed out. The majority are projects for import substitution of sheltered products, particularly for the construction industry. This reflects the heavy emphasis by PIU in 1980 on import substitution for construction materials; three of its six executives in 1980 were engaged in this. Of all the projects listed in this exhibit only three are for products intended for sub-supply to overseas firms. Only one of the major Irish manufacturing companies is represented on the list.

Due to its wide advisory role, PIU was unable to provide follow-up details on all project ideas it had generated. Only in cases where it had a significant involvement, i.e., the project would not have been initiated but for its interest, was PIU able to provide us with a full list. There were 18 such projects in 1980 and nine in 1979. Details of these projects are listed in Exhibits 8.12 and 8.13. Seven of the 1980 projects and only one of the 1979 projects were for sub-supplies to foreign firms in Ireland which had previously been imported, or for direct export.

The performance of the Small Industry Programs overall in stimulating sub-supply businesses in skilled and internationally traded areas has not been encouraging. Exhibit 8.13 shows an allocation of IDA grant payments from 1967 to 1979 by the same categories of sub-supplies businesses we used in our description of new Irish indigenous industry. Only £3.7 million in 1980 pounds was allocated to the business category which most needs assistance — high skill, low-logistic costs subsupplies. This represents only 25% of total payments, whereas the high-logistic (non-traded) low-skill category which in many cases could emerge without assistance received 38% of the total. In fact, we noted earlier that some of these businesses, such as in structural steel and low grade plastic moulding, now have overcapacity while imports are still high in the more skilled areas.

Organizationaly, the IDA effort is diffuse. PIU does not have full operational responsibility and interactions with the New Industry division are not sufficiently systematic. Companies are visited to obtain their sub-supply requirement lists, but follow-up is erratic. Opportunities are identified but no group ensures that competitive sub-suppliers can grow over time and become successful.

The emphasis of grant allocations on capital investment assistance provides the crucial leverage required for competitive success to only a few businesses.

Most IDA expenditures are geared towards industrial sites, buildings
and machinery, as well as towards the operations which support these investments. Training and production and process grants represent only 6% of their expenditures and almost no grants have been given for marketing assistance. SFADCO and UDARAS show a similar pattern to IDA in their use of resources (Exhibit 8.14).

Other agencies with programs geared towards technical development, marketing and training are allocated less than a fifth of total government funds to industry*. Three main agencies receive most of this: AnCO, IIRS and CTT. One common feature of these three agencies is that they give very little to companies in the form of grants or loans but rather perform services themselves in their respective charters. These agencies are "staff intensive" when compared to the development agencies.

Our evaluation of the structural problems of Irish indigenous industry has shown that many obstacles to development involve not production facilities but other areas of cost. To illustrate this point, we will review the effects of these incentives mechanisms on the high value-added packaged food businesses.

Manufacturing is the part of ex-factory cost on which most government support has focused for individual projects in the food sector. Capital grants and tax relief on leasing have the effect of lowering the investment cost to the industrial investor. For projects in which no major competitive penalty is incurred by operating in Ireland, these incentives have improved the attractiveness of investing in technologically modern, large-scale factories. This has occurred mainly in primary processing business.

However, the manufacturing facility itself is not the major competitive factor in most packaged food projects. The various cost structures we showed earlier demonstrate that the value-added controlled by an individual processor is typically between 20% and 30% of total cost. Thus a cost disadvantage in the various inputs - raw materials, packaging materials, energy - must be compensated for by a cost advantage 3 to 5 times larger in the value-added, in percentage terms, in order to achieve a competitive cost overall. Furthermore investment-related costs - interest and depreciation - are only a fraction of value-added. Accordingly the leverage of pure financial public support - IDA grants, tax-based leasing, Section 84 interest subsidies - is very limited. It can compensate only for minimal cost disadvantages in the various inputs.

Capital grants cannot, per se, render competitive such operations as onion drying or frozen French fries against competitors who enjoy substantial cost advantages on major inputs (materials and energy).

Unless these penalties can be alleviated in the future, one can hardly justify allocating resources to such projects on the basis of processing alone.

Ireland also lacks sufficient programs for export assistance and overseas marketing and distribution. It has traditionally relied on export tax relief to stimulate exports. This has benefited many foreign companies in Ireland, but has often been of little use to less profitable Irish firms. Other countries in Europe, as well as Japan and the U.S., have made available, a much wider range of assistance to exporters*, particularly in the areas of financing, credit insurance, inflation coverage, marketing grants and co-operative programs, which do not exist in Ireland to as great an extent (Exhibit 8.15). In many countries, specific government or private agencies (often backed by the state) administer support programs not only in the area of marketing assistance, as does CTT, but also in export financing and credit insurance (Exhibit 8.16).

In most European countries, exporters have access to a wide range of guarantees covering political and commercial risks, currency inconvertibility, foreign exchange loss, and shipping risks. In addition, the UK and France introduced in the early 70s a performance bond which is more widely used than the Irish one, and inflation coverage for exporters of capital goods and turnkey contracts. As much as 50% of manufactured goods exports are guaranteed by COFACE in France and by ECGD in the UK. German exports covered by Hermes represent a lower proportion of the total (around 12% or 15%), but German banks are much more active in export financing and very often guarantees can be obtained directly from the lender.

Companies in most European countries can get preferential treatment for export loans, by refinancing their loans from the Central Bank, either at a lower discount rate or outside credit rationing ceilings. This method is used in France, Germany, Belgium, the Netherlands and the UK. Several countries, like France, Germany or Japan, also have government-owned banks which specialize in long-term credit for export and complement the banking system in higher risk situations.

Either directly or through the banking system, interest rates below the market rate are available in most of these countries. This is the case for exports to developing countries, where the subsidy portion can be as high as 6% or 7% in France and the UK. It is also the case for exports to other developed countries outside the EEC, where the subsidy is more in the range of 1% to 2% for Belgium, Holland, and Denmark, and as high as 3% to 5% for France and the UK (medium- and long-term loans).

*This proportion is over-estimated due to the exclusion from Exhibit 20 of tax-based leasing and Section 84 loans.

*Whereas the export schemes operated by other EEC countries are in respect of exports outside EEC they are often in competition with other EEC exports.
Overall, the level of resources offered by government and used by companies in the major European countries in these areas is far greater than in Ireland, even taking into account the relative sizes of the export sector (Exhibit 8.17).

Ireland has very limited programs to assist exporters. A recent CTT survey indicated that only 16% of exporters* use export credit insurance and while some medium-term concessionary loans are available for exporting, they do not compare with those offered in other countries. Demand for a scheme covering foreign exchange loss, particularly useful in large construction projects, has not yet arisen in Ireland. Irish exporters can obtain concessionary (subsidized) finance on medium-term credits (up to 5 years) to finance the export of capital goods. Such finance is excluded from Central Bank credit guidelines for the banking sector and, in this sense, the position here is the same as in Belgium, France, Germany and the other countries listed. The subsidy element on capital goods is roughly equivalent, at present, to 6.5% for Sterling and 14.5% for US Dollars for 5 years credit to developing countries. For 5 years credit to developed countries, the equivalent subsidy rates would be 5.75% and 13.75% respectively. In addition, a new scheme to provide finance at preferential rates for short-term credits (up to 180 days) for non-capital goods has recently been introduced by Irish banks.

We have seen that CTT has quite a broad range of grant incentives in addition to the services it can make directly available to exporters. The grant budget, however, is very small, (one million pounds) and spread over a very large number of applicants, (more than five hundred). Each company therefore receives, on average, 2,000 pounds a year for costs which are eligible for grant aid: travelling, extra salesman, advertising, promotion literature, trade shows and many others. This has only a minor impact on companies, however, and CTT itself sees the grant program as “accompanying” its other program, rather than making a contribution in itself. In fact, applications exceed the budget available by three or four times and many companies that we met, although they are significant exporters and confront obstacles in new markets would not even bother spending the time filling out applications for such a small amount.

To assist companies in foreign markets, other European promotion agencies tend rely more on direct grants and conditional loans. Some of the grant programs available in Europe address specific cost barriers which we identified earlier in this report, such as establishing a salesforce abroad, distribution investments, turnkey contracts and joint initiatives.

To help set up salesforces for exports, the British Department of Trade lends up to 50% of the cost of introduction into new markets and provides a 25% reduction in personal income tax on salesmen’s earnings attributable to these activities (Market Entry Guarantee Schemes).

Investments related to distribution, such as for warehousing and offices, are subsidized by the Belgian Office for Foreign Trade or guaranteed and financed by the French COFACE (outside the EEC in both cases).

Costs of tendering for large turnkey contracts and guarantees for the financing risks associated with them are subsidized by the Dutch Ministry of Economic Affairs and the British Department of Trade (up to 0.5% of total cost). In Denmark, the Export Development Council will cover 45% of direct expenses incurred in preparing bids, with a repayment clause if the bid is awarded.

Many countries encourage firms to share costs and initiate joint export development efforts. This reduces the direct cost to government and promotes a more rational and stronger corporate structure. In the Netherlands, grant assistance of up to 40% of marketing costs is available to groups of at least three firms in “complementary sectors”. The German Foreign Trade Information Office (BFA) generally makes its grants for trade fairs and promotions (up to 100%) conditional on firms grouping together. The Italian Export Promotion Agency gives annual grants to industrial associations for export promotion. The Danish Export Development Council supports groups of companies in the same sector establishing new markets.

These examples are not by any means exhaustive and only illustrate the wide range and different directions taken by the overseas marketing programs of most European countries. Again, the operational efficiency of CTT is not in question and indeed companies hold great respect for the professionalism of its staff. We only wish to emphasize the inadequate level of resources devoted to assisting overseas marketing and the lack of direct financial assistance to companies in this area, relative to the magnitude of the cost barriers Irish exporters must overcome.

Overall, the emphasis on capital grants in total Irish expenditures may be too great. It does not provide an adequate battery of mechanisms to overcome the wide range of investment barriers confronted by potential indigenous exporters.

The Irish private sector associations do not conduct an active enough effort to solve their own problems.
Irish agencies lack a strong network of parallel structures in the private sector. It can almost be said that Irish indigenous industry is sometimes timid in the face of government agencies which are powerful and have gradually taken responsibilities that are performed by industry itself in most other market economies. Too high a proportion of initiatives for industrial development now come from state-sponsored bodies, and not enough counter-initiation or response comes from industry. In part, some of the gaps which we attribute to policies and program definition might also be gaps in risk taking initiative from industry.

For example, industry-sponsored research is non-existent in Ireland, where the IIRS shelters activities which would typically be performed by industry-run specialized institutions in other countries, with funds and expertise provided by companies. In France, more than 30 industry-sponsored institutes are active in various technology areas (Exhibit 8.18). Some, like IFP in oil or CETHI in clothing, have an international reputation and have spawned off new business opportunities. These “centers for collective research” are helped by the state and by a system of levies on company sales as well as by voluntary contributions and fees for services rendered. This is also the case in Germany, where research is very active in some 63 institutes sponsored by 87 industry associations (Exhibit 8.19). These associations are regrouped in a common organization – AIF – which receives a grant aid from the federal government. In Denmark, the ATV is mostly self-financed and works for members within common technology or industry areas (Exhibit 8.20).

Industry associations are less active in Ireland than in other countries in other ways as well.

The Danish Federation of Industries is directly responsible for promoting export activities for its members. The 50 associations which make up the Federation also engage in export services, though their permanent staff is small. The Federation Export Department has 165 people engaged in information and trade policy, but also in direct promotion (Exhibit 8.21). It promotes “exporter clubs” with common businesses or problems, such as exports to the Far East or to OPEC, or in agricultural machinery, fishing or offshore equipment. It induces firms to share salespersons abroad. In 1980, there were 80 trade specialists working for a total of 500 firms in exports. The state finances 60% of their salary and 50% of their traveling expenses. The Federation organizes trade shows and exhibitions. For turnkey projects, they bring firms together to bid collectively on contracts such as hospitals, schools and environmental protection projects.

In other matters such as training or management consulting, industry associations or industry-sponsored service organizations typically perform in other countries the tasks performed in Ireland by specialized state bodies. In Belgium, for example, the Mechanical Engineering Federation, Fabrimetal, assists its members in securing financing, public procurement contracts, and international tenders. It provides advice on patenting, distribution issues and sub-supplies. It organizes technical training in specific skills such as welding, machine tools and plastics. Local Chambers of Commerce in Belgium perform many of the roles that IPC or SFADO Business Advisory Service sections perform.

We do not mean to suggest that private associations are necessarily better or worse than government agencies for performing these various tasks. It is generally true, however, that government action taken along with private sector initiative makes for more effective policy. The relative lack of such initiatives in Ireland creates a greater likelihood that government assistance will not be optimally utilized.

Despite intentions to the contrary, there is relatively little coordinated planning between resource and manufacturing agencies for the development of Ireland’s raw material based industries.

In agricultural-based products and in timber, the policies followed by Irish industrial agencies are still not well co-ordinated.

Competing in agricultural commodities requires a low-cost position, and particularly a low-cost raw material source. The interface between farming and processing influences processing costs downstream, and regularity of supply affects the overall marketing ability of the processor.

All this argues for an integrated approach to food commodities for which present structures are not appropriate. On the research side, agricultural and processing technologies require different programs and different specialists. Financing also is not easily co-ordinated between processors (IDA banks) and farmers (ACC). Politically, farmers and manufacturers are very distinct groups, often with conflicting objectives and governed by different state bodies.

Co-ordinating the various elements is a complex enough problem even when done by one agency. The basic aims of co-ordinating activities are:

- Reducing the overall cost of the final product;
- Ensuring that the final product corresponds to market requirements in terms of quality and timing of supply; and,
- Ensuring that all the elements in the chain receive a fair and stable share of profits.

In Ireland, the interests of dairy farmers and co-ops and slaughterhouses and cattle raisers are often at odds. The IDA has funded projects to create greater processing efficiency, but the farm community has
often not made optimum use of this efficiency. The situation in Ireland can be contrasted with that in Denmark where the managing of the “pig chain” is done in an integrated manner.

Denmark has been very successful in export markets for pork products despite its relatively small size (Exhibit 8.22). It has performed well both in commodity products and in high value-added products. Danish pig producers are relatively small in size and do not have any natural advantage over their competitors. The efficiency of the industry co-operating body plays a significant role in its success.

The most important association in the industry is ESS-FOOD, a voluntary association which represents all pig slaughterhouses both private and cooperative. Producers and processors delegate most of their powers to this organization in areas where collective decisions will influence the profitability of all members of the food chain-producers, processors, and marketers. There is no value to centralized policies, such as in branded high-value-added products, ESS-FOOD members retain their independence.

ESS-FOOD directly handles 55% of Danish pig production and 62% of exports. As such, it is in very close contact with the marketplace both customer requirements and competition. However, its role throughout the chain goes far beyond simply serving as the principal outlet:

- ESS-FOOD sets prices at all levels:
  - the price at which it sells bacon in the UK (this covers 30% of Danish production);
  - the price at which it buys half-carcasses from slaughterhouses;
  - the price at which slaughterhouses buy from producers.
- It damps cyclical price variations to the producers through a price regulation fund and a storage fund.
- It centralizes and finances advanced research covering all aspects of the chain (genetic research, slaughterhouse organization and technology, transport technology).
- It ensures that quality is maintained throughout the chain by setting quality-based price discounts.
- When needed, it regulates supply to the slaughterhouses to avoid underutilization of capacity.
- It undertakes the lead role in restructuring the industry. It was instrumental in the recent concentration of the Danish slaughtering industry.

However, ESS-FOOD’s marketing role is limited to commodity exports where costs are critical and scale is required. Also, though it does regulate both buying and selling prices in many parts of the chain and therefore determines margins, processors’ profits vary with their relative efficiency, leaving competitive incentives in place.

The lack of an integrated approach like Denmark’s is a serious shortcoming of Irish industrial policy. A similar problem exists in the forest industry where the IDA is undertaking significant investments at the processing level without adequate coordination with the policies of other agencies.

While the IDA is investing in new larger-scale and better-equipped sawmills and in a pulp-using board mill, the IIRS has cut its budget for timber development. This limits its ability to perform such functions as:

- Providing a credible testing service that can prove to the timber-using trade that the quality of Irish timber is equivalent to that of foreign countries.
- Developing specific standards to make it easier to use Irish timber in building, e.g., in non-load-bearing frame members.
- Publicizing the merits of timber-frame housing among local authorities.

Also, the procedure for selling cutting rights, which currently discourages larger-scale, more capital-intensive harvesting by offering rights in small blocks, has not adapted to keep pace with the number of new sawmills. And furthermore, payment terms have not been eased by the Forestry Department to reduce the initial cash deficits at new mills.

Better coordination of all these factors might better stimulate industry development with less IDA funds.

From a national point of view, development policies may not be making full use of the foreign-owned firms in Ireland.

The Irish development agencies are experts in attracting firms to Ireland. However, while there is continuing effort to encourage further investment and an upgrading of the skills functions and linkages provided by these foreign firms, we feel this effort lacks thoroughness.

To some extent, a development agency may not be optimally suited to this sort of upgrading activity. Introducing a foreign-owned company to a local supplier is not sufficient to ensure that a long-term relationship is forged. Establishing a technical research center with a company does not ensure that an upgrading of R&D will take place.

Greater success may only be possible through the active structuring of specific ventures, rather than the mere provision of incentives. Currently, the IDA and AnCo have undertaken a joint training venture with Lappie, but this is the only example of such an effort.
CHAPTER 9
CONTROL OF THE INDUSTRIAL POLICY PROCESS

The industrial policy process in Ireland has become extremely complex. A variety of agencies carry out policy under broad charters given by the Dail and their respective Ministers. Policy is generally coherent and co-operation is exceptionally good considering that so many independent agencies with strong leadership are interacting with each other. The following section raises some general concerns we have about the control of this process as it is now conducted.

1. The primary measurement used to judge performance of the development agencies, job approvals, creates implementation distortions.

Irish industrial policy aims to create jobs. As it is now designed, it expends too much energy creating job approvals. The two are not synonymous. Only 30% of the jobs approved in foreign-owned firms between 1970 and 1978 were actually on the ground in 1981. Only 17% of those approved in the mechanical engineering sector were in existence (Exhibit 9.1). Of the 96 thousand jobs approved in this period, only firms representing 77 thousand jobs actually came to Ireland, despite the public announcement of their agreement to come (Exhibit 9.2). Of these 77 thousand potential jobs, only 29 thousand jobs currently exist* (Exhibit 9.3).

*The overall picture for Foreign-owned Firms is roughly as follows

<table>
<thead>
<tr>
<th>Job Approvals (1970-78)</th>
<th>(000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>96</td>
</tr>
<tr>
<td>Losses</td>
<td></td>
</tr>
<tr>
<td>Approvals in projects that did not proceed</td>
<td>19</td>
</tr>
<tr>
<td>Projects not reaching targets</td>
<td>37</td>
</tr>
<tr>
<td>Jobs achieved but subsequently lost</td>
<td>11</td>
</tr>
<tr>
<td><strong>JOBS ON THE GROUND (1981)</strong></td>
<td>29</td>
</tr>
</tbody>
</table>

The figure for projects not reaching targets would include a number of projects which may yet give rise to further job creation. The IDA estimate that the shortfall given for foreign owned companies not reaching targets includes at least 6,000 jobs which are yet to materialize and 11,000 jobs approvals in stages which did not proceed of multistage projects. In those cases, where the numbers employed did not reach their target number of jobs, a decline in employment is treated as cyclical and the total difference between job approvals and jobs on the ground is categorized under "Projects not reaching targets".

Grant payments are not made in respect of projects or stages of projects which do not proceed. Exhibit 9.4 shows the ratio of grant payments to grant approvals by sector for the period 1973-80*. Overall, both employment and payment ratios have been consistently low over time. In 1973-1976, the job creation ratio exceeded the grant payment ratio, while in 1977 and 1978, the payment ratio was higher (Exhibit 9.5).

As we showed earlier, an even greater discrepancy exists for indigenous industry. Sustainable jobs as a percentage of job approvals is only 14%, while grant payments as a percentage of grant approvals has been 40%. The discrepancies are due mainly to company failure and employment losses in surviving companies.

There are three dangers inherent in the gaps between approvals and reality. The first is the difficulty of planning. Job and grant approvals must be discounted in order to be useful for planning purposes. This adds great uncertainty both to future budget needs and to employment projections. Second, expectations are created in the population at large which are not met. Thousands of jobs are announced and hundreds created. This can give rise to high expectations which are then dashed.

The third problem, which exacerbates the first two, is that the anticipation of inflated numbers, as with the anticipation of inflated currency, causes itself further inflation. A number of those in new foreign-owned ventures we interviewed indicated that they had been overly optimistic about projections for employment in Phase 2 or 3 of their projects because it was expected of them. Others said that they indicated 30% or 40% more jobs than they expected because, "The IDA only expects to get a 60% hit rate." Because of this problem, we would not be surprised if the conversion rates of approved to actual employment get worse in the future.

This problem is not unique to Ireland. Exhibit 9.6 shows that the Puerto Rican rate of job creations to job approvals is even worse than in Ireland (not including direct job losses). For this reason, Fomento, the Puerto Rican development agency now requires that companies achieve at least 75%-85% of their job targets within 18 months or they lose some of their tax concessions.

Though we can understand the value of job approval targets, both
politically to a government and motivationally to a development organization, we feel that a more complete system for evaluating the performance of the development agencies should be adopted.

2. The fastest-growing part of government assistance to industry is virtually uncontrolled by government agencies.

Tax expenditures through tax-based leasing, Section 84 of the tax code, and preference share arrangements now represent about 17% of all incentives granted to industry, up from virtually nothing six years ago (Exhibit 9.7).

Currently, the IDA approves maximum leasing levels for companies but does not negotiate actual leases. The government has no direct say in the allocation of Section 84 or preference share loans. In fact, it doesn’t know where these funds are currently going. Exhibit 9.8 is an estimate of the current distribution of these funds among different types of companies. About 50 percent of total tax forgone benefits large Irish companies, mainly co-ops and large groups in sheltered businesses. About 40% goes to foreign-owned companies, and about 10% to small Irish companies.

The uncontrollable nature of these expenditures added to their lack of accountability is of concern to us. They are now too large (greater than CTT, IIRS, NBST and SFADCO budgets together) to remain unaudited.

3. Information systems do not measure achievement of goals.

While the allocation of tax-based government funds has been totally untracked by government, the allocation of funds from the development agencies has been tracked only partially. Data to correlate actual jobs in place and their relative skill levels in individual companies, actual sales and export performance by these companies, and actual payments of government funds to specific companies is not easily available. Over 3,000 hours of manual bookkeeping was required to accomplish the estimates used throughout this report.

It does not seem possible for the government to control intelligently the direction of its industrial policy if it cannot obtain sufficient data, well enough processed to make strategic decisions. This is currently lacking in Ireland.

4. There are dangers in delegating to a development organization the primary responsibility for strategy.

By law, government departments are responsible for determining strategy, and the various development agencies are responsible for implementing it.

The current strategy for Irish industrial development is embodied in a plan formulated by the IDA within a general mandate of job creation. The IDA is a development organization. Though it performs very well as such, there are inherent dangers in making a development organization primarily responsible for strategy formulation. The major thrust of its organization and mandate is as a marketing organization, selling Ireland to foreign companies and selling industrialization to the Irish people. Such an organization must exude optimism and inculcate positive thinking. It may also wish to expand sales by providing greater discounts and more service to the customer. Strategy formulation must include a greater degree of caution, and a disposition toward tighter financial control and long-term goals. Currently, the government bodies who should be responsible for policy-making are often spending time “fire-fighting” and responding to IDA initiatives. They have neither the staff nor the information to formulate strategy, or to oversee the development agencies on an ongoing basis.
CHAPTER 10
NEW DIRECTIONS FOR IRISH INDUSTRIAL POLICY

The shortcomings of Ireland's industrial structure and the practices we have criticized in the previous chapters result from the difficulties of the task at which Ireland labors. Those concerned with Irish industrial strategy have accomplished enormous feats. For a small developing country to industrialize, create net jobs gains and raise real incomes in the difficult and uncertain international economic environment of the past decade is a truly remarkable accomplishment.

The philosophy, approach, institutions and policies associated with Ireland's industrial development are fundamentally sound. The following recommendations are offered as amendments to current Irish industrial policy rather than as a fundamental reshaping of that policy.

BUDGET LEVELS AND RESOURCE ALLOCATION

The level of funds devoted to Irish industrial development should be as high as the Irish people can bear. Such investments, properly spent, will yield substantial benefits to this and future generations in the form of increased opportunities for employment in Ireland and increased living standards. To optimize the use of those invested resources, we recommend the following changes in the allocation of resources within Irish industrial policy:

- A substantial reduction of average grant levels for many foreign owned firms locating in Ireland (with the exception of particularly attractive high-skilled projects).
- A sharp reduction of grants given to indigenous companies in non-traded businesses (with the exception of high-skilled sub-supply industries).
- A substantial increase in funds devoted to the development of indigenous export businesses.

We will now examine each of these recommendations in more detail.
The average capital grants offered to foreign firms establishing factories in Ireland should be substantially reduced. Current levels of incentive should continue to be offered to particularly desirable projects, but the grants to most projects should be severely cut

The Irish Government is cash constrained. It cannot afford to waste resources. We believe that in many cases considerably more incentive is given to foreign firms to invest in Ireland than is necessary. The base level of capital grants should be cut substantially (with no substitute incentives offered) over an established period in relation to fixed assets.

One hundred and five million pounds of grants were committed to foreign-owned firms under the New and Small Industry Programs in 1980. By our calculations in Chapter 6, using methods which underestimate Ireland’s incentives, one-third of this amount could be taken away and still leave Ireland with considerably higher incentives than all other locations (except Northern Ireland which would be slightly better) for the average project which is of interest to Ireland. Naturally, such an average reduction would need to be introduced selectively. Some particularly attractive projects might receive an even higher grant than now. However, the vast majority of projects would receive capital grants at a considerably lower level. Since all of this reduction would be taken from the capital grants, this implies about a 50% reduction in these grants from 1979 levels of 45%. A reduction of this magnitude would leave the average grant to fixed asset ratio at about 22% and would save over 30 million pounds of commitments.

Ireland has a natural competitive advantage in tax incentives vis-a-vis other countries. Because it has a small indigenous industry base, it suffers less than larger countries such as Great Britain would from across-the-board cuts. On the other hand, other countries content with spending less and attracting fewer mobile investments, can bid high and take the most desirable projects, paying a high grant for them and bidding up the base that Ireland offers to all potential projects.

Ireland must respond more selectively by bidding very high on the really attractive projects, and significantly lower on the bulk of potential projects. The grant cuts should be gradually and quietly introduced over time. If too many projects are lost because of them, they can be rescinded. We think, however, there is greater risk in lost funds to Ireland from not trying these cuts than from trying and possibly losing some projects over a short period.

This recommendation does not spring from any negative impressions about the value of foreign-owned firms to the Irish economy. Rather, it comes from the feeling that Irish development agencies are not always striking the best deal possible with many of these firms. Many will naturally fear that such budget cuts will cause a loss of many potential jobs, an unacceptable result in a time of severe unemployment. We do not believe that this will be the result. Further, as we shall discuss later, we feel that these funds could better be used for indigenous industry development and will in the long run, create more defensible and higher income jobs if used in this way.

A strategy such as this requires clear guidelines to determine which projects merit particularly high grants, and which ones should receive little or no grant.

In order to achieve defensible employment which can promote a continuing increase in income levels, projects with the following characteristics (in descending order) should be valued highly:

- Projects which will locate functions which are the key to the competitive success of the company in Ireland. It is important to remember that these key functions differ for different types of businesses. In some cases, optimal scale and technology manufacturing is sufficient. In other cases, significant marketing or research and development will be crucial. The mere presence of activities classified as R&D or marketing does not demonstrate the importance of a facility. “Company R&D” can cover engineering work on a new design for the switch which turns the machine on or off for the European markets, or it can involve system architecture. The former would do little to root the company in Ireland.
- Stand-alone projects which can survive without significant reliance on the parent company.
- Projects which form a significant market for potential sub-supply linkages, particularly those in potentially traded businesses and in businesses requiring high-skilled labor.
- Projects with a real commitment to skilled white-collar or blue-collar employment.
- Projects which can substitute for imports where there is no possibility for Irish firms to enter the business.

Projects not offering clear evidence of these characteristics may still be encouraged to come to Ireland, but we question whether in this stage of Ireland’s development, significant incentives should be given to them.

To accomplish these goals requires knowing what a given industry can actually offer to Ireland as a small industrializing country. Successful small-country enterprises often participate in small, high-skilled international business segments, as we showed earlier. We question the policy of attracting projects which are in the center of “large economic power competition” unless they provide a substantial market for skilled,
tradeable sub-supply, or a training ground for unique skills with direct application elsewhere in the economy.

A fabrication plant for memory chips, for example, provides little sub-supply linkage, few of the key engineering design skills which drive the business, and no stand-alone potential. It is also highly risky and expensive since technology advances and capital intensity are increasing rapidly and many large companies and governments are targeting the business.

This can be contrasted with the operations of Analog or Measurex, which operate in highly specialized segments and offer stand-alone capability in the case of Analog, sub-supply potential in the case of Measurex, and high skills in both cases.

The projects most likely to yield direct benefit to Ireland are those high-skilled businesses where relatively small companies can achieve international competitive dominance, and those which provide markets for sub-supplies which have these characteristics.

Though it is not possible to classify whole sectors of industry as desirable or undesirable, one area which contains many businesses with the desired characteristics mentioned above and which has not developed in Ireland to the extent that it should, is the capital goods industries.

In particular, small run length machine tools, industrial machinery, and specialised components for such machinery would prove attractive. Mechanically based capital goods industries to serve the speciality plastics, electronics, laser and robotics industries could be of special interest as well as more traditional equipment.

The capital goods industries have been the cornerstone of development in many successful industrialized countries, particularly small ones such as Sweden, Belgium, Denmark, and Switzerland. Because these industries are highly segmented, it is possible for small- to medium-sized companies in small home markets to participate successfully. These businesses are undergoing significant changes as electronic, laser, ultrasonic and composite materials technologies are applied to their products. There are many barriers to entry to these industries, which is precisely why they do not exist to any great extent in developing countries and why they support high incomes. But the changes now taking place could give an opportunity to Ireland, as many U.S., Japanese and German firms in particular may be looking for new locations outside of their home countries.

There are many barriers for foreign-owned machinery companies wishing to locate in Ireland, including logistics, skill levels and sub-supply of sufficient quality. It is necessary to attract machine, sub-assembly and whole-plant producers to the country to provide the demand for indigenous firm development. Therefore, incentives to offset these barriers should be developed. For example, if a firm must incur a penalty for training Irish skilled laborers, the IDA could offer to pay for penalties associated with basing skilled workers in Ireland until the Irish workers were fully trained. If a company suffered penalties from having to bring high precision components from the continent, the IDA could subsidize the freight until an Irish supplier could be made competitive.

Continuing high grant levels for projects with the desirable characteristics we have described, while cutting grants substantially for other projects, will yield employment results which are as good as is currently achieved, for less money. This recommendation does not imply a criticism of the IDA. On the contrary, it is our faith in the overseas marketing capability of the IDA which makes us confident of this recommendation.

Ireland has conducted an extremely successful program to attract foreign-owned companies to the country. We have little to add to the way in which Ireland’s marketing operations vis-a-vis foreign firms are conducted. We simply believe that Ireland has reached the stage where it can now cut the discount it gives to many foreign-owned firms locating in the country.

As a general principle, capital grants and tax-based lending should not be directed towards non-traded businesses, except in cases of high-skilled sub-supply.

A large number of indigenous projects funded by development agencies have been in non-traded businesses. In many cases, investment would have occurred without government funds. In other cases, market forces would have allocated funds in a more efficient manner, improving industry structure. When Irish value-added is not threatened by imports, grants should not be necessary to create business opportunities. The only justification for granting non-traded businesses is in cases of particularly acute regional disparities within Ireland.

The distinction between traded and non-traded businesses is one of degree which varies country by country and over time. In the current state of Irish industrial development, businesses like computer cabinetry, plastic injection moulding for health care products or precision castings which are usually not traded in advanced countries, are still imported. Irish grant giving agencies should constantly monitor the list of businesses in the “grey area” which move from being non-traded to traded (new competition from abroad) or vice versa (import substitution). This has been the intention of the “sensitive sectors” list that the IDA has kept, although this list should be put together more systematically for sub-supply businesses and disseminated through all
agencies with grant authority.

The burden of proof that a business is traded should fall on the company applying for a grant. The IDA should develop a simple framework (market share, origin of competitors, cost structure with relative importance of scale and logistics). To evaluate the contentions put forward by the companies.

In addition to being unnecessary, grants to non-traded businesses can create a "businessmen's dole" mentality. All companies may come to expect a grant for any investments. The lack of a grant may even become a stigma indicating that a company or project is not worthy.

The justification for government assistance to industry is to compensate for or overcome cost penalties for investment in one region versus another, or in Ireland versus another competing country. When Sean Lemass introduced the first subsidies for industrial development with the creation of AN FORAS TIONSCAL for the West of Ireland, he defined clearly the purpose of such incentive measures. "Our aim should be if possible, to give the industrial firms which undertake the establishment of factories in these underdeveloped areas such advantages that they will be able to meet competition from other firms in the same business located in the East on more or less equal terms... The scheme in the bill is therefore based upon the prior assessment of the (competitive) disadvantages attached to any particular site".

This same principle should be at the root of general subsidies granted to Irish firms today. Offsetting cost penalties against foreign competitors or encouraging investment in one region in Ireland versus another should be the guiding motive for subsidies. It is hard to see how subsidy of most projects in non-traded industries conforms to this principle, particularly in non-designated areas.

The implementation of this recommendation would release a substantial amount of resources. In Chapter 7 it was shown that about 56% and 28% of grants under the IDA reequipment program and New and Small Industries program, respectively, went to non-traded businesses in the period 1970-79. Many of these expenditures would have met our criteria for grant assistance by being high-skilled sub-supply business. If even half of the subsidies were removed under this recommendation, however, the savings in 1980 would have been about 9.0 million pounds in respect of projects approved in that year.

A greater proportion of total government resources should be committed to promoting indigenous industry in traded businesses. Savings made from the previously recommended budget cuts should be redirected to this effort.

This goal has been part of every Irish industrial plan written over the past fifteen years. Yet, as we have shown, the proportion of funds committed to indigenous industry development is not significantly higher than it was a decade ago. Ireland faces a dilemma. Creating and sustaining jobs in indigenous firms is far more difficult and expensive than doing so in foreign-owned firms. Despite this, we question whether the Irish economy can achieve the income goals to which it aspires with a traded industry structure based primarily on foreign-owned companies.

No country has succeeded in developing high levels of industrial income without developing a strong indigenous sector. This is particularly true for small countries: Sweden, Denmark, Holland, Austria, Switzerland and Finland all have strong home-based exporting companies. Even Belgium, which has relied more heavily on foreign-owned companies than others, still has a group of strong indigenous companies in traded businesses. Because it had an already skilled workforce in the post-World-War II period, and because of its favorable port logistics and central location in Europe and the shortage of labor in neighboring Germany, Belgium was able to capitalize on foreign investment. It was the development of indigenous sub-suppliers and exporters, however, that ensured its income and exports. This has contributed to the attraction of a higher-skilled foreign-owned sector as well.

Small countries or regions such as Ireland, Scotland, Singapore and Puerto Rico which have made efforts to attract foreign-owned companies have succeeded in creating sustainable employment and exports from this strategy. However, they have been able to advance significantly beyond this stage to higher income-generating projects in only a few cases.

This limitation results from economic disincentives for certain types of offshore investment which will continue and will hinder attempts by local promotional agencies to encourage more sophisticated projects. Key business functions will continue to be located close to home or in major markets.

Key research and development, marketing and applications engineering activities will continue to be located in centers which are close to home, in countries with large markets, or where skills are comparable to or better than those at home. For financial or other reasons, some companies will be induced to locate these functions in Ireland, but these will continue to be exceptions. The activities of foreign-owned companies in Ireland can be enhanced and can be used to spawn indigenous efforts, but they will not in themselves directly provide the industrial activities needed for rapidly rising incomes.

A goal of raising the proportion of funds allocated to indigenous export or skilled sub-supply firms from less than 40% over the past 10 years to 50% by 1985 and 75% by 1990, should be made explicit.
The means needed to attain this goal will greatly exceed the scope of the current programs conducted by Ireland's industrial policy institutions to assist small firms. A much higher proportion of funds should be used to encourage large firms to reinforce their export positions, expand in new markets or start new businesses with trade potential. Systematic development plans should be drawn up with each large Irish indigenous firm to tap a special "development fund" set aside within the IDA for that purpose.

The following section will detail some specific recommendations for how to utilize these increased resources to better promote the development of a successful indigenous exporting sector.

THE DEVELOPMENT OF INDIGENOUS INDUSTRY

Perhaps the greatest need for Ireland's industrial policy in the 1980s is to better manage the development of indigenous industry, both manufacturing and raw material based. In general, not enough attention has been paid to the necessary strength and structure required for a firm to succeed competitively in the international marketplace once it has been created. Nor has policy appropriately distinguished between non-traded businesses, many of which are best served by very small companies, and traded businesses usually requiring medium- (50-1,000 people) or large-sized companies (over 1,000 people) for success. Finally, the larger, stronger Irish companies have not been encouraged to create successful export businesses. The following recommendations address these issues.

The Development effort aimed toward new indigenous industry must be reorganized to emphasize the building of structurally strong Irish companies rather than strong agencies to assist weak companies.

The encouragement of small company promotion and provision of elaborate "hand-holding" by IDA, SFADCO, CTT, IIRS, IPC, NBST, Innovation Centers, etc., will not in our view succeed in creating new, strong, exporting and skilled sub-supplier companies. A more structural approach is necessary, focusing on building competence within companies and making sure they can meet all competitive challenges. Such an effort is a multistep process. Rather than merely identifying supply opportunities and trying to interest entrepreneurs in serving them by providing funds for capital and training, and offering continuing advisory services, a development agency should do the following:

- Identify and establish a corporate shell which will ensure financial and managerial backing to the new company. Depending on the project, this might involve forming a holding company or private interests funded by individuals, banks, building societies or life insurance companies to take an equity interest in the project; funding a large indigenous industrial company to support the project; using the facilities of a National Enterprise Agency or Public Company to undertake the project; or funding foreign entrepreneurs or joint venture partners for the project.

Once sufficient financial and managerial backing is assured, devise a package of incentives geared toward developing a competitive business in the long term. This might include incentives as varied as subsidies to foreign companies for purchasing a locally produced product shortly after production begins; a subsidy to offset competitive price differentials for the buyer; the Irish company improves its competitive cost position; funding of trips to home bases of foreign purchasers; securing foreign technology licenses or paying inducement salaries for foreign skilled personnel to come to Ireland to assist in early stages of business development.

Perform in cooperation with the companies intensive international competitive analyses to determine the requirements for success in a given business in areas of organization, resources and scale and to seek out technology licenses or managerial assistance. During its reindustrialization after World War II, it was common for the Japanese government to sponsor missions to various countries to help new businessmen start up during their first years. These missions were successful because they were highly focused. Those attending had the targeted goal of developing a specific business area. The business and government leaders planned together what was needed to become competitively successful and then sought the help they needed to implement the plans in that business. Korean industry and government have also been using this technique recently.

Call upon the expertise of CTT, IIRS and other agencies, but only in early stages. The goal must be to transfer their capabilities to the company itself.

Encourage the rationalization of companies both to achieve appropriate scale and to present a clear picture to foreign buyers of where Ireland is putting its resources. Grants should often be conditional on inter-firm cooperation or grouping. This has been started by CTT in one of two instances and is quite efficient in other small countries like Denmark.
This type of effort can only be undertaken in a selected number of instances. It is a "hands on" approach, but one which stresses the building of fewer larger companies with strong internal capability. It implies fewer company creations and a greater selectivity of businesses which receive backing. This approach will initially make job creation more expensive, but it will result in more success, significantly reducing the job losses so evident in recent new indigenous firms.

We do not propose this as a substitute for the development of small industries and the encouragement of new entrepreneurs, but rather as a supplement in those cases where the business opportunity is large and chances for success are great.

To accomplish this proposal, the IDA should refocus its organization toward a more developmental role and better integrate its various services. A full "indigenous development" division might be established that would reuniti the activities of new industry indigenous projects staff, Enterprise Development, PIU and Small industry. This division would have the prime responsibility to foster skilled sub-supply businesses and exporting companies. PIU staff and data bank would be more useful if managed directly by an operating division with budget powers.

Small firm projects need not be handled by a specific agency. The building of structurally strong firms and the need to foster linkages with foreign firms argues for the IDA to keep this small industry development as part of an integrated indigenous development charter. The success of SFADCO in developing good and trusting relationships with small companies in the Mid-West suggests that strong regional offices with some of the intensive "hand-holding" functions carried on by SFADCO could be used to maintain the best of SFADCO's experience at a lower cost.

Other agencies such as CTT and IIRS should become less staff intensive and as we shall argue later, receive substantially augmented budgets for grants instead.

The Government should develop and utilize a series of "carrots and sticks" to encourage greater participation by large indigenous companies and by the indigenous financial community in traded and skilled sub-supply businesses in Ireland.

Accompanying this last proposal is the requirement for more involvement from large companies and the financial sector in the development of indigenous export industries. Ireland's indigenous industry will not develop at a fast enough pace without greater involvement of large companies in traded or skilled sub-supply industries. Though many of these companies participate in price-regulated industries, they are extremely profitable in their base businesses.

They have also received grants to invest in local non-traded businesses. Their risk-return relationships currently dictate investment abroad or in additional local non-traded businesses. The Irish government's industrial policy must alter these relationships in order to encourage other investments which conform more to national needs.

In other countries, governments when dispensing funds to private companies will negotiate quid pro quo in the form of nationally desirable investments. In Ireland, the fund is given freely. While in general we favor "carrots-to-sticks" as inducement, in Ireland freely-given carrots represents the status quo. To the extent possible, the semi-automatic nature of project approvals for large indigenous non-traded businesses should be eliminated for these projects, but increased for export or skilled sub-supply ventures. It might also be appropriate to tie Prices Commission rulings to the investment conduct of companies in this respect. What has been done so far suggests that the Prices Commission can exert its leverage effectively as shown in a few recent negotiations.

We are not suggesting that government dictate investment decisions in large Irish companies. Markets must dictate investment decisions. We are suggesting a more active dialogue between government policymakers (not only the development agencies) and large companies about investment plans, and mechanisms for the government to fiscally favor certain types of investment over others.

The form that this dialogue should take, whether it is called "planning agreements" as in the UK's unsuccessful attempts or "growth conventions" as in the more successful French experience, or "administrative guidance" as in the highly successful Japanese effort is not crucial. What is required, however, is a non-biased exchange of information, and intentions in an atmosphere of trust, a scrupulous loyalty to commitments and the setting of realistic goals.

The grants available for indigenous industry should address specific cost penalties and should be directed to the long-term resolution of these penalties.

The capital grant is overused in Ireland. It has the advantage of being easy to administer, limited in time and clearly not of an ongoing nature, but it has the disadvantage of being hard to control and, except in a few cases, does not address the key competitive cost problems faced by many indigenous Irish companies. The fact that the only way to reduce the cost of capital and therefore increase return on net assets in Ireland is to invest in fixed tangible assets, distorts the allocation of resources towards capital intensive businesses and away from know-
Arise intensive businesses. A proper definition of investment is any expenditure whose impact is felt beyond one year rather than as part of ongoing operations. For many companies, the large share of investment is not in equipment and plant but in areas normally reported as expenses on income statements rather than investments on balance sheets such as product or process technology, overseas marketing, skill development, application engineering, etc. Similarly, many cost penalties which Irish companies suffer are related to investments which need to be made in infrastructure. An additional battery of potential grants should be introduced which will more specifically address these investments and cost disadvantages. This will allow greater effectiveness and efficiency in Irish industrial policy.

Some of the types of grants which might be offered include ones related to:

- **Logistics and Infrastructure**
  - Transportation grants for domestic products as well as imports, conditional on a “linkage” development plan.

- **R&D**
  - Grants for particularly risky research
  - Grants for prototype development and market introduction of new products
  - Testing and certification grants

- **Linkages**
  - Incentives for technology licenses
  - End-user grants to encourage purchase of local sub-suppliers with limited time phase-outs
  - Prototype and field test grants to producers and users

- **Overseas Marketing**
  - Travel grants for visits to foreign purchasers
  - Increased assistance for export financing and insurance in selected cases
  - Grants for establishing overseas distribution facilities
  - Grants to build working capital abroad
  - Grants for initial marketing investments associated with entry into new markets

- **Skill**
  - Higher training grant rates for skilled employment (150%-200%)
  - Tooling grants for new products or adaptations

EEC rules from upon grants for ongoing operating expenses and on subsidies directed only to indigenous but not foreign-owned companies. The foregoing recommendation, if administered correctly, should not violate either of these precepts. Many examples exist in the EEC of incentives for “income statement investments” (as opposed to investments in plant and equipment), and the cost penalties we wish to address are temporary and related to Ireland’s relatively underdeveloped infrastructure. Nor are we proposing to set aside a category of grants to be used only by indigenous industry, though, as in other EEC countries, specific programs that address cost penalties can in fact benefit indigenous companies over others.

Although our charter didn’t include a legal examination we would observe that schemes of this type exist in most other EEC member countries. End user grants, for example, have been recently used in France to encourage the introduction of robotics and “flexible workshops”. Testing and prototype grants are actively used in Belgium, Holland and Germany. Travel grants are in operation under various forms in Italy, the UK and Denmark. In fact some of these grants could simply be the extension of existing schemes at CTT (export) IIRS (testing) or AnCO (tooling, training). Most of them can be associated with the promotion of R&D, training or regional development (as in the case of transportation) which are all supported by the EEC Commission. Regarding investments abroad (in warehouses, working capital) and assistance for export financing and insurance, some of the schemes could be limited to extra EEC trade and take the form of bank assistance and loan guarantee rather than direct grant. A closer examination of GATT rules and OECD guidelines should, however, be conducted.

These grants should be administered by existing agencies according to their area of competence: CTT for overseas marketing, IIRS for testing, AnCO for training, IDA for tooling, and prototypes, and the NBST for general R&D, technology licenses, and new product user grants. Among these efforts, those directed at marketing (CTT) and R&D (NBST and IIRS) are the ones which need the greatest increments in grant budget.

The administration of a more selective grant system is of course a major difficulty. Objections are always raised to such a system to the effect that civil servants cannot pick “winners” and “losers” and that selectivity gives rise to all kinds of quangos, arbitrary decisions. To avoid these drawbacks; we would propose that each grant giving agency states publicly very clearly how it intends to help offset the cost penalties and encourage the investments its charter covers” (e.g., CTT for overseas marketing) and that applying companies prove that they actually suffer from that specific penalty or need to make that “income statement” investment to be competitive.

Consideration should be given to further use of loan, loan guarantee, redeemable equity and participative loans, for providing incentives.
Ireland is relatively unique among nations in not having developed these mechanisms (beyond tax-based lending) as part of its incentive package. The reason given has been the difficulty and expense of establishing and administering such programs when compared with simple grants. We believe a fresh look should be taken towards using these measures in lieu of capital grants in certain instances.

Loan guarantees particularly would have the advantage of reducing cash outlays for the state and inducing banks to cooperate in financing industrial development. Similarly, financial instruments are used in other countries which promote risky investment without significant cash outlays from the state.

The French Government has introduced in the past three years a form of reimbursable equity which is half way between debt and equity. The banking system as well as the treasury can in this way bring fresh cash to a growing company without it being considered as equity in a control sense. It is, however, considered as permanent capital by the Central Bank and as such can be leveraged by regular debt. These "participative loans" are reimbursable after a period of franchise of several years and bear an interest paid out of profits only. This instrument therefore does not increase the debt burden of the company in case of down-turns or unprofitable ventures and still brings fresh money for growth projects.

The Swedish government's "Industrifonden" provides loans for particularly risky investments which are paid back if success is achieved from the investment. In other countries, such as Singapore, this type of subsidy involves the taking of temporary equity positions.

Programs such as these could be used to encourage the participation of large indigenous companies or financial institutions in projects which are in the national interest, or in lieu of capital grants for foreign-owned firms locating in Ireland.

These programs can be complex but also highly effective and efficient, we recommend that Irish government officials more seriously consider developing such instruments for use in Ireland.

Better advantage should be sought from foreign companies operating in Ireland to spur indigenous industry development.

Currently, the IDA relies on foreign companies to produce projects to "deepen" their investments in Ireland. Encouragement is given to them to do so in the form of suggestion and incentive.

We believe a more productive model exists in the Lapple training project and in several projects in Singapore which are jointly sponsored between foreign companies (and in two cases foreign governments) and Singaporean agencies. These projects provide extensive incentives for foreign companies to use their resources to help develop indigenous skills and businesses. In Singapore, the German government is co-sponsoring a project for the machine tool industry and the French government for the electronics industry. The IDA should, either by itself or through private or public companies in Ireland, try to structure such ventures more directly.

The IDA has established an excellent rapport with many foreign companies who have located in Ireland. They could make better use of these connections. For example, if the IDA played a longer and more developmental role with certain new sub-supply ventures, it should be able to persuade computer company purchasers and test engineers to work with Irish suppliers in the United States until product design and production methods were fully competitive with those of U.S. suppliers. The IDA could help make the contacts as well as provide funding for the exercise.

Similarly, the IDA could encourage Japanese companies to send training teams to Ireland on license or through joint venture to upgrade Irish skills in process engineering for certain businesses.

The important missing elements are the structural entities in Ireland which could work as business partners to foreign companies, and a structural perspective from the IDA in designing a longer-term program of incentives for the ventures. A separate section within IDA to coordinate and fund such developmental efforts including linkages with foreign firms should be considered.

New joint efforts should be undertaken to oversee the development of Ireland's resource-based industries.

Large sums have been misspent on processing facilities for agricultural goods because proper coordination with primary producers did not take place. The same pattern may now be occurring in the forest industry, though recent plans show some hope for a more integrated approach.

Because we have not studied the natural resource area directly, we cannot propose the form such a coordinated effort should take, but we are certain that a great opportunity will continue to be lost if nothing is done.

Ireland already has a large number of state and semi-state agencies. We hesitate to call for the creation of another one. Nevertheless, we do not believe that Ireland's agricultural and timber resources will be used to their fullest benefit unless an integrated approach is taken.

Ireland's industry associations should play a more direct role in
assisting the development of their industries.

Ireland is a small country with very small firms by comparison with competitors. Certain functions within almost all internationally-traded businesses require some scale to be achieved at competitive cost. Particularly in areas of product and process design, and in various aspects of overseas advertising, marketing and distribution, industry associations in other countries often play a crucial role, they provide a forum for companies to come together, define their problems, and cooperate in solving these problems.

Ireland has a very active Confederation of Industries which is very effective in the roles it currently performs. There is every reason to believe that it could effectively expand its range of activities. We suggest that it do so.

Principal areas where this might be accomplished are in coordinating technical centers in Ireland and marketing efforts in selected foreign countries within selected industries. Government assistance for these efforts can be sought, but this assistance will be all the more effective if it occurs in conjunction with coordinated industry initiatives. We suggest that the CII and the Department of Industry jointly organize visits by some leading industrialists to other countries where industry association sponsored activities are successful, to investigate ideas for similar developments in Ireland. This might include Holland, Germany, France and Japan for technical information and research, and Denmark, Japan and Germany for marketing and export.

THE CONTROL OF IRISH INDUSTRIAL POLICY

Ireland’s industrial policy is implemented by a group of strong, capably staffed agencies. There are a few areas where we believe that overall control of the process can be improved, however. These relate to information systems and goal measurement and to the control of tax expenditures.

Better Means are Necessary to Measure the Progress of Ireland’s Industrial Policy

It is common in a consultants’ report to suggest an improvement in data sources, much as a truck drivers’ group will often call for an improved road network. Nevertheless, in Ireland, there is clearly a need for better measurement systems for industrial policy.

*An “Irish image” could be effectively promoted in this way for a number of natural commodities (butter, beef, cheese) or branded products (tweed, drinks) as it has been done by some other countries (Danish butter, Dutch cheese, Greek wine).
These programs have evolved from tax loopholes rather than from careful planning. If they are to continue, they must be brought under better control so as to conform to the overall thrust of Irish industrial policy.

The Government departments should reassume a more active policy role; sufficient data must be developed by appropriate agencies for this to happen.

The separation of implementing boards from policy-making departments has been very successful in Ireland. We would not wish to recommend anything which would impede the flexibility and quick response times of the boards as they now function.

However, better policy oversight is necessary so that responsible government departments can more forcefully set policy direction. Implementing boards should play a role in setting and evaluating the policies which govern their activities, but a competent higher authority should have the primary role.

To accomplish these dual goals of keeping the boards flexible and non-bureaucratic, and yet providing appropriate oversight, we recommend active post-reviews. We do not wish to increase pre-reviews such as those for new projects to which grants are to be awarded. In fact, we would advocate reducing this review process. An active post-review process, however, would allow government to more clearly monitor and change the course of policy implementation.

DIRECTIONS FOR FUTURE POLICY

The recommendations made in this chapter are necessarily general. They are designed to point out strategic directions rather than to be specific blueprints for change. We reserve more detailed explanations for discussion with members of specific jurisdictional bodies.

Overall, we are positively impressed with Irish industrial policy goals and implementation. The changes we recommend in resource allocation, in programs for indigenous industry development and in the control of Irish industry policy are designed to improve an already excellent effort. We hope our critique and proposals will be understood in this light.