

Lecture to Cork Scientific Council by Liam Connellan

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Director General

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TECHNOLOGY IN IRISH INDUSTRY

Since 1960 the output of Irish industry has grown by over 6% per annum, thus vindicating the policy of successive governments to provide incentives for the development of industry. Home industry was encouraged to adapt, and incentives were provided to encourage exports. Foreign industry was encouraged to set up with minimal restrictions. The first year of membership of the EEC brought an acceleration of this growth rate to probably 11% stimulated by higher home demand due to prosperous agriculture and buoyant exports. Unemployment dropped, the labour force increased. About £150 million was invested in 1973 in the expansion of industry.

The Oil Shortage :

The Middle East war of 5 October has placed question marks as to whether this rate of expansion can continue. Firstly, a decline in the growth rate is now predicted in the economies of our major trading partners, as a result of which there is likely to be lower total export demand. Secondly, shortage of oil supplies may jeopardise the possibility of industry maintaining the current momentum of growth. In view of these difficulties now facing industry it is not easy to understand the action of the Minister for Labour in announcing an additional holiday -

thereby reducing annual production by almost $\frac{1}{2}\%$. This was done without consultation with industry, and with less than one month's notice,

It is just possible that Irish industry might be able to hold its rate of growth even with the current rate of forecast reduction in oil supplies. Since Ireland accounts for less than 1% of manufactured products within the E.C. it may be possible, with strenuous effort, to retain our market penetration even when the growth rate of the total market declines. In order to do this, the marketing effort of industry must be greatly intensified, and industry must be provided with sufficient oil to do the job.

Industry uses oil for three major purposes :

- a) Raw material, and processing
- b) Transport of raw materials and finished goods
- c) Heating

It is obvious that any reduction in the requirements for raw material, or processing, will have a direct affect on production levels. Whereas some economies may be obtainable in transport, the reduction in fuel requirements must not be such that it is impossible to obtain raw materials and deliver finished goods. Finally, the reduction expected from industry for space heating should certainly be no greater than that required from the average

member of the community. Achievement of these aims requires both accurate estimation and tight allocation of scarce supplies. This, however, must be done if industry is to have any chance of attaining its achievable growth target next year.

Industrial Structure :

It is now an appropriate time to take a fresh look at how industry is likely to develop during the rest of this decade. Since 1960 the fast growing sectors have been chemicals, synthetic textiles, engineering and food. What are the implications of expensive and scarce raw materials on the development of each of these sectors?

Growth areas must be identified, not alone so that the implications for raw material supply and energy usage can be examined, but also that education, training and research effort can be allocated to these sectors. A coordinated approach to the development of knowledge, skills, and technology will ensure that the best use is made of our limited resources, and the maximum growth achieved.

Constraints to Growth : The main constraints to industrial growth are, or are likely to be :

- Shortage of capital to maintain both competitiveness and a 12% - 14% growth. It is estimated that the capital needs of industry in 1974 to achieve this

growth rate will be £225m compared to about £150 m. in 1973.

- Shortage of some types of skilled labour, particularly female.
- Not enough major export trading companies. A new incentive package is necessary to stimulate the formation of this type of company on a scale large enough to provide a professional and specialist service to small and medium sized firms in market research, marketing testing, promotion and sales.
- New product development. This is closely linked to market research, and was identified by the COIP Report as a major shortcoming.
- Raw material shortages.

Role of Science and Technology :

Science and technology have a major role to play in

- product development, linked to market research, which will ensure high value products in relatively low volume production.

- providing the essential research and development back up, particularly for the growth sectors.
- assisting industry to economise in the use of existing energy through improving thermal efficiency and insulation techniques.

Much of our science and technology input has come from foreign companies. These companies have brought experience, technology and the benefit of the research and development effort abroad. Most of the teething troubles inherent in product development have already been overcome before these companies set up in Ireland. The Irish experience since 1960 has vindicated the policy of attracting foreign enterprise. Many firms are now well into their second and third phase of development, each of which is progressively more sophisticated, and they are usually managed by Irish managers who are motivated to intensify the manufacturing activity. As the depth of manufacturing activity increases, so too does the linkage with other firms and institutions in Ireland. At the same time, the multinational company provides the most efficient means found to date for the transfer of technology across national boundaries.

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On the other hand, many existing firms are now buying technology abroad, either through licensing arrangements or joint ventures with foreign companies. Recent years have also marked the beginning of a healthy trend in the opposite direction.

Conclusion :

Irish industry is facing a difficult period. It is better equipped to do so than at any time in the past. It must be given priority in the allocation of fuel for production and transport. It needs all the help it can get from technologists to improve the efficiency with which fuel is used. It must be allowed to retain capital to maintain the momentum of expansion. Finally, its greatest challenge will be to increase its share in foreign markets with declining growth rates.
