

# The C.I.O. Industrial Survey

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The industrial survey which is being undertaken by the Committee on Industrial Organisation is of an unusually wide scope, for in this survey all the major industrial sectors in Ireland are being subject to detailed study over a short space of time. No academic study with which I am acquainted has attempted such a large field, nor do any very close parallels spring to mind in the area of government initiated action. Because of the complexity and unprecedented character of this investigation it raises many interesting problems, particularly for an economist who, like myself, has worked on part of the CIO project. And at a time when 24 reports are nearing completion, it would seem useful to discuss some general points about the whole survey.

The following paper is divided into three parts: first, I shall outline summarily the methods of work and the results of the survey teams employed on the project; secondly, I shall devote some space to consideration of the project on academic grounds, and finally I shall deal with some more practical consideration.

## 1 THE CIO PROJECT

In summarising the CIO project I shall be brief because much of the information will be already familiar to this audience and also because the CIO will shortly be publishing a comprehensive synthesis of the individual industry reports.

The terms of reference of the Committee on Industrial Organisation are

“To make a critical appraisal of the measures that may have to be taken to adapt Irish industry to conditions of more intensive competition in home and export markets, to undertake an examination of the difficulties which may be created for particular industries and to formulate positive measures of adjustment and adaptation”

The way in which this task has been carried out has been chiefly by a series of detailed studies of particular industries, but as well some short interim reports of a policy nature have been published on particular topics such as joint export marketing or industrial grants

The detailed industry investigations have been made by survey teams, generally of two or three members, specially appointed by the CIO and comprising officers of the Department of Industry and Commerce and economists (drawn from within or outside the Public Service) While there has been some overlap in the membership of the teams (e.g. Motor Vehicle Assembly and Furniture or Paper and Paper Products) most of the reports have been prepared by different groups of people

At present 22 reports have been published or almost completed on a wide range of industries from Iron and Steel Manufactures to Confectionery and Mantles and Gowns<sup>1</sup> The number employed in the industries covered by these reports is over 83,000 (including 3,000 outside piece-workers) or 52.8% of total employment in manufacturing industry 1960<sup>2</sup> It can be seen, then, that a significantly large proportion of Irish industry has been subject to detailed investigation and the results of these investigations must therefore carry considerable weight

Before setting out the main results of these investigations, however, something must be said about the ways in which the industrial information was gathered, since upon this depends the significance of the results

The main source of information was a long and fairly comprehensive questionnaire designed with the co-operation of the industry concerned and sent, in all except a few cases, to all the known firms in the industry (Sometimes with a minimum employment figure of 10) The response to this questionnaire was generally good although rather slow The average % return in terms of numbers of firms was 76% with a range of from 27% to 100% In terms of employment or value of gross output the response rate would be much higher since it was in general only the smaller and less important firms which failed to reply The survey teams followed up the questionnaire by visits to a majority of firms This enabled questions to be checked and gaps in the questionnaires to be filled in and also enabled the members of the teams to gain a first-hand impression of the attitudes of management The first draft of the team's report when complete was circulated to all the firms concerned, giving possibilities for further discussion and comment At this, as at all stages in the process, co-operation from firms was generally good

As well as the information thus acquired, the survey teams used available government statistics and were given much useful information by *Córas Tráchtála* Trade unions, government departments and other interested bodies were consulted and on occasion the teams visited other countries for further information

Despite this generally favourable picture, there were some difficulties through incomplete questionnaire answers, and in no industry was a technical adviser appointed although every team attempted to get the

<sup>1</sup> See appendix for complete list of 22 industries

<sup>2</sup> The figure for total industrial employment 1960 is taken from the CSO publication, *Economic Statistics issued prior to the Budget 1963*

industry to agree to this. The lack of technical advice was in many cases a severe handicap to the teams, the members of which had to attempt fully to understand and grasp the significance of many technical and technological problems in the course of their work. In some cases this disadvantage was lessened by the appointment of industry representatives as Full or Associate Members of the survey teams.

The material gained from the questionnaire and other sources of information was used by the teams in two ways: first, it enabled them to give a description of the present situation in each industry—this generally relates to 1960 although in a few later reports 1961 is the year taken. Secondly, in conjunction with some hypotheses about future conditions with regard to tariffs, home demand, etc., the information and managerial opinions contained in the questionnaires were used by the teams to build up a picture of the state of the industry in 1970. From this the teams could then formulate the “positive measures of adjustment and adaptation” referred to in the CIO’s terms of reference.

In summarising the material contained in the reports I shall, therefore, give a brief description first of the present situation in the 22 industries as revealed by the teams’ reports, second, of the possible situation in 1970 and then of the adaptation measures recommended.

Industry structures in the 22 industries surveyed were found to be widely varied—numbers of firms range from 3 (Pottery, China and Earthenware) to 180 (Printing). The relative predominance of small firms, measured by employment, and the distribution sizes of firm in the industries considered is similar to that reported by Mr. Linehan in a paper to this Society.<sup>3</sup> Some degree of foreign ownership and control often exists and in 5 industries and one industry sector, the major part of production measured by value of gross output or employment is under foreign control. There is a high degree of reliance on imported raw materials for the production process and where home-produced raw materials are available they are in most cases higher priced than similar imported goods. The quality has also sometimes been criticised. There are also reports of manufacturers’ criticisms of transport facilities and charges.

Labour relations are, except in a few cases, good and there have been only a few strikes. Recruitment difficulties arise in most of the industries. Chief problems have been with female labour in the Dublin area (but also elsewhere). But there is also some difficulty in management, technical and skilled grades. Training is generally inferior to that provided in Britain and the EEC countries and if it were improved the level of labour productivity would be increased. There is considerable room for improvement in the use of modern managerial techniques in the industries surveyed.

Buildings and equipment are, in a majority of cases, somewhat old and unsuitable. The type of machinery in use, even when new, is generally not suited to modern mass production techniques (e.g. Footwear, Wireless and Television, Iron and Steel) and production runs are in most cases

<sup>3</sup> T. P. Linehan, “The Structure of Irish Industry”, *Journal of the Statistical and Social Inquiry Society of Ireland*, 1961-2.

short Production is, except in Fertilisers and Leather, highly diversified and, as a result of all these factors, costs of production are usually relatively high in comparison with those of Britain and the EEC countries

Production is organised in this way largely because the fairly complete degree of protection of the small home market encourages Irish producers to satisfy as much home demand as possible. In the industries surveyed the most usual tariff rate is 75% full and 50% preferential (these figures relate to the situation before January 1963). In some industries the existence of minimum specific duties raises effective protection on some goods to well over 100%. As a result of concentration on this captive home market, exports form a large part of production only for a few of the 22 industries—and generally only few firms in any industry are responsible for these exports. Of the 22 industries surveyed, only 7 have exports greater than 20% of gross output by value. These are

Confectionery (including Chocolate Crumb)	51.5%
Leather	slightly over 50
Gowns	31
Paper	25.4
Electrical Equipment	23.4
Shirts	23
Footwear	22

(The figures listed relate to 1960)

It is apparent from the work of the survey teams that there are considerable difficulties in increasing the level of exports.

Turning now to the possible situation in 1970, some difficulties arise in presenting a synthesis of the conclusions of the 22 reports since not all teams appear to have used the same assumptions in making their predictions. The one common assumption is that there will be free trade in 1970—usually considered within the context of the EEC with explicit reference to the common external tariff and its effects. But apart from this, some teams appear to have done little more than summarise the rather vague opinions of manufacturers in the industry without making any explicit and precise assumptions at all. Some have apparently considered that home demand would remain constant during this period, while others have done considerable analysis using the government's 50% growth rate and utilising income elasticities<sup>4</sup> as well as price elasticities in calculating total home demand and possible import substitution in 1970. Most teams have given a range of possibilities depending on whether or not effective adaptation measures are undertaken by the industry. As a result of these divergencies in method, one finds some quantified estimates of possible production and employment as well as others expressed in language of considerable vagueness.

Although I have made an attempt to reduce these various predictions to a common base and to quantify them, the results thus achieved are subject to a number of reservations and I will therefore merely sketch

<sup>4</sup> Dr C. Leser's calculations on income elasticities were kindly made available to the teams.

the main patterns emerging—using language of some vagueness myself

In all industries except one, some losses of production and employment would be expected with free trade in 1970 if no adaptation measures were taken. But with effective adaptation, some increases in production and employment in total may be expected although individual industries such as Motor Vehicle Assembly and in lesser degree Cotton and perhaps Furniture, Pottery, China and Earthenware, and Steel will still suffer. It should be emphasised that “effective adaptation” will for many industries involve radical re-organisation of production and a great increase in export sales.

But it is more convenient to review all adaptation proposals as a whole.

In all the industries surveyed some form of Adaptation Council comprising members of the industry is recommended along the lines suggested in the CIO Third Interim Report. The scope for joint action by firms through the Adaptation Council varies considerably. In those industries where foreign control is significant there are severe limitations to the possibilities of joint action. And in some other cases technical considerations will limit joint activity—such as in bulk buying of raw materials which is impossible, for example, in the handcraft tailoring sector of the Men’s Outerwear industry because of the need for variety.

Despite such limitations, however, the adaptation measures generally proposed will, if brought into effect, radically change the whole organisational character of private enterprise industry in Ireland. Instead of the traditional encouragement of competition among firms, co-operation on a massive scale is recommended. As well as for raw materials buying (11 industries), co-operation in order to rationalise production and increase specialisation is proposed (20 industries). As a concomitant of this, a degree of amalgamation of firms is suggested, if the firms themselves agree (9 industries). Also co-operation is recommended in training (11 industries), in improving design (8 industries) and in the development of export markets through measures such as market surveys, advertising and the use of agents (20 industries).

It can be seen from the scope of activities envisaged for the Adaptation Councils that these bodies would not have merely a limited life in organising short-run adaptation towards free trade conditions, but would become, if effective, a permanent and integral part of the industrial organisation of the private sector. It appears to be envisaged by the CIO, however, that the degree of co-operation suggested would not inhibit brisk competition in areas not covered by joint action.

Co-operation is not the only mode of adaptation proposed. It is emphasised throughout by the survey teams that success in the future depends largely on the initiative and resource of the individual entrepreneur and, whatever the possibilities for joint action, adaptation will only be effective if made so by the individual businessman. In this context it is worth noting that some, although not all, of the teams made estimates, after discussion with firms, of the probable cost of investment necessary to carry adaptation measures into effect. Much of this is in order to achieve the modern lower-cost production without which essential export and

home markets would be lost. The overall figure which I calculated for the 15 industries where estimates were made is £16-£18 million over the period 1960-70. Only a proportion of this total is expected to become available from within the industry.

The summary thus given is, of necessity, too brief and over-simplified for accuracy, but it is to be hoped that it has provided enough basis for the comment which forms the rest of the paper and to which I now turn.

## 2 ACADEMIC COMMENT

The rather pretentious title of this section of the paper has been chosen in order to make clear the exact relevance and significance of the following remarks. It may be argued that, since the CIO project was not conceived as an academic piece of work, it is irrelevant and even invalid to comment upon it from this point of view. But it is the fate of the economist and economic statistician to spend much of his time adapting for his use material collected by other people for other purposes and the above argument, if accepted, would virtually prevent any work in applied economics. Also, the academic economist taking part in a project such as that of the CIO will naturally be interested in a professional way in the details of the project.

The CIO industrial survey is of interest to the economist on two grounds. First of all, any addition to the as yet inadequate body of information on industrial organisation and behaviour is to be welcomed, this is especially true when over 20 industry surveys are published in the space of a few years. Secondly, the recommendations as to the future organisation of Irish industry are of significance for any economist concerned with the welfare implications of theories of the firm. I will take these two aspects in turn.

First, then, the information contained in the reports—the methods by which this was obtained have already been described. From a cursory study of other industrial surveys already made, it becomes clear that the method chosen by the CIO is not perhaps the usual one. Academic studies of industrial organisation, although very heterogeneous in character, appear to fall roughly into two groups—those concerned with testing one or a few hypotheses over a wide range of firms and industries and those devoted to a study in depth of one firm or industry. Illustrative of the former is, for example, the study of the investment decision by Meyer and Kuh,<sup>5</sup> or the attempt by Eiteman and Guthrie<sup>6</sup> to discover the businessman's idea of the shape of his average cost curve. Examples of the latter are the British Monopolies Commission Reports<sup>7</sup> and studies such as that by Blair<sup>8</sup> of the Pacific Coast Petroleum Industry. For the first type of study a brief questionnaire is the normal method of eliciting information and for the second prolonged study by one or more expert observers is generally undertaken. The CIO has, however, conducted the second type

<sup>5</sup> *The Investment Decision: an Empirical Study*, 1957.

<sup>6</sup> "The Shape of the Average Cost Curve", *American Economic Review*, 1952.

<sup>7</sup> A good example is the *Report on the Supply of Chemical Fertilisers*, 1959.

<sup>8</sup> J. S. Blair, *The Economics of the Pacific Coast Petroleum Industry*, 1945.

of inquiry with the tools more commonly used for the first Reasons of time—to be discussed in the last section of the paper—explain this choice of method, but nonetheless it does appear to raise some disadvantages

In consumer questionnaires it is accepted that the response rate and accuracy of response will rapidly fall off as the length and complexity of the questionnaire increases One would assume that the same would be true of an industrial questionnaire, and anyone who has seen a CIO questionnaire of about 20 double foolscap size pages will agree that it is indeed a daunting document However, the hard work of the survey teams in following up the questionnaires and assisting in their completion has to some extent obviated this particular difficulty

Another disadvantage of the questionnaire approach is that the precise questions asked and the form of the questions will to some extent mould and influence the answers given <sup>9</sup> Here the sheer size of the questionnaire was perhaps an advantage since so many questions on so many aspects of the firm's work were asked that the teams can hardly be accused of limiting information by only asking some questions But this does not remove the above disadvantage completely On such a topic as obstacles to the development of more export trade, it is patently obvious that many firms have accepted with gratitude the eight obstacles suggested in the question, and it is therefore difficult to assess the precise weight which should be given to these answers On this point again the work of the survey teams in studying their industries and critically assessing the questionnaire replies has been invaluable But the absence of technical advisers and also the comparatively small number of people engaged in the work have made it difficult for all information to be checked

Almost as important as the collection of information is its presentation in a clear and comprehensible form And, although each report seems satisfactory in this regard, problems arise when an attempt to summarise the total information is made It is then found that such a basic piece of information as value of gross output appears in different places in different reports and not at all in some Again, while the basic statistics of most reports refer to 1960, a few refer to 1961, thus producing comparability problems Since the project was planned as a whole, a greater degree of standardisation from the very beginning would have been an advantage As already mentioned a similar, although more acute, problem arises with respect to the assumptions accepted for future predictions

The other aspect of the CIO project which I wish to consider is the general tenor of the recommendations and their relationship with the welfare conclusions of theories of the firm It appears to me that the main emphasis of the survey teams' recommendations is the encouragement of co-operation among the firms in each industry in order to lead to greater efficiency It is difficult to justify such an approach in terms of the orthodox perfect and imperfect competition theories of the firm These theories make it apparent that, with certain rather restrictive assumptions, free atomistic competition will lead to the maximum economic efficiency while any collusive activity will tend to the reverse

<sup>9</sup> This point is made by C A Moser, p 214, *Survey Methods in Social Investigation*

The influence of these theories has been considerable in practical policy making partly because of the coincidence of their conclusions with certain political attitudes but also through the intellectual attraction of what appeared to be a logically sound construction of satisfying generality. With the time lag which appears to exist between the development of a theory and its acceptance by the politically-active public, we therefore find the above theoretical ideas, for example, as the basis for British legislation or restrictive practices as recently as 1956. It might be noted in passing that most of the recommendations of the CIO survey teams would be illegal under British law.<sup>10</sup>

These theories are not, however, nearly as satisfactory on logical or empirical grounds as some economists appear to continue to believe. The work of G. B. Richardson<sup>11</sup> on the perfect knowledge assumption of perfect competition and that of Lipsey and Lancaster<sup>12</sup> (and Chamberlin<sup>13</sup> himself) on the inadequacy of perfect competition as an unattainable ideal have together demolished any logical basis for the retention of these theories as policy ideals. Added to this, the static nature of the equilibrium analysis and the lack of attention to cost differences caused by differences in scale of production, give one good empirical grounds—especially in the Irish context—for abandoning this approach to the theory of the firm completely.

Given this theoretical situation, it is refreshing to find that, in Ireland, the official attitudes to industrial organisation are less hidebound by out-of-date theories than are those of many other countries.

But although the adherence of public policy to unsatisfactory theories is injurious, the alternative of abandoning a theoretical approach altogether will not necessarily be an improvement. Here the fault lies with the theoretical economists who have failed to provide any theories of sufficient generality and acceptability to replace what remains the orthodox theory of the firm. This lack of any theoretical framework is, I think, apparent in some of the recommendations of the CIO teams where the full implications of their suggestions do not always appear to have been followed through thoroughly. This, however, is a matter for discussion in the last section of the paper to which I shall now turn.

### 3 PRACTICAL CONSIDERATIONS

In this section I shall make a dichotomy similar to that of the previous section, i.e. I shall first consider some aspects of the information-gathering process and then, following on from the above argument, I shall give more consideration to the survey teams' recommendations.

I argued in the previous section that, judged on purely academic grounds, the questionnaire was not necessarily the best method of collecting the type of information required by the survey teams. But, if the object of

<sup>10</sup> But these recommendations are permissible under Irish law (1953 Restrictive Trade Practices Act, Second Schedule) and under E.E.C. law (Article 85 (3)).

<sup>11</sup> *Information and Investment*, 1960.

<sup>12</sup> "General Theory of the Second Best", *Review of Economic Studies*, 1956-7.

<sup>13</sup> "Product Heterogeneity and Public Policy", *American Economic Review*, 1950.



gathering the information is in order to reach policy conclusions and put these into effect, too academic an approach will be useless. For, by the time that thorough information has been collected, it will be of merely historical significance since the economy will have changed so much as to make any conclusions inapplicable. This consideration is very relevant to the Irish economy which is developing so rapidly at the moment. Thus the CIO had to balance the benefit of gaining really accurate and thorough information against the time which research would take—and to do all this within a budget constraint. In the circumstances its choice of method, although inevitably a compromise, seems to have gained a maximum of advantage from both thoroughness and speed with the given possibilities. Some of the reports are admittedly now three years out of date and one does find some weaknesses in, for example, comparative cost information but the reports are still proving of great practical value.

So far the assembling of industrial information has been considered as one of the main purposes of the CIO questionnaires. But, although it has not been explicitly stated, it is clear that the questionnaire has been considered as having a dual purpose. Besides the pure information-gaining aspects, it has been intended to have a direct impact on the businessman. The questions, then, are not asked solely for the purpose of getting answers but also to encourage the businessman himself to start asking more questions and to assess his own position more critically. Again, the completed reports will be read with interest by the firms concerned and may well encourage a greater appreciation of the problems facing the industry as a whole and a greater realisation of the meaning of the industry group. It could, on analogous grounds, be argued also that the attempts to make predictions for 1970 might encourage a rather longer-term outlook on the part of businessmen.

The attitude of firms is, of course, of vital importance for the implementation of the survey teams' recommendations. This point is made by the team studying the Shirt industry who, while advocating co-operative measures, point out the difficulties involved because of the highly-competitive attitude of individual entrepreneurs in the industry. Many of the teams, however, seem not to have considered in detail exactly how an Adaptation Council was to work in practice. As we have seen, there is little help to be gained from economic theory on this subject and one feels that the CIO and the survey teams have, on being faced with this vacuum, seized upon an idea which can fairly easily be given *institutional* reality although it is less easy to see significant economic reality arising from it. Indeed it is hard to find in the CIO literature much economic discussion of co-operative action and its effects in private industry.

Thus it has been suggested by Professor Ryan<sup>14</sup> that co-operation in various areas such as is recommended by the CIO teams is quite compatible with effective competition in other areas. But there is some limited evidence from British sources<sup>15</sup> to show that in practice any reasonable degree of

<sup>14</sup> "The Need for Structural Change in Irish Industry", *Irish Banking Review*, March 1961.

<sup>15</sup> I am considering here the evidence and argument presented before the Restrictive Trade Practices Court. This is perhaps not strictly comparable since most of the cases before this Court have concerned primarily price-fixing agreements but even so the insight into voluntary co-operative behaviour is of some significance.

competition will tend towards a breakdown of effective co-operation since businessmen will become more vulnerable to competitive risks and will prefer to remain independent of competing businessmen in all areas

Again, if we accept that the profit motive is still significant in leading to the development of efficient firms, it is questionable if a co-operative organisation will allow this motive the fullest scope. Although, as the CIO teams point out, co-operation will lead to advantages for all firms, there may be times when the individual firm could gain a higher profit by acting independently—for example by a favourable sudden offer on the raw materials market unavailable to the other members of the organisation. This type of occasion has in the past often led to the breakdown of a voluntary co-operative association of firms. Conversely, if such an organisation does survive the above-mentioned strains, this may be at the expense of individual initiative and with some stagnation.

But these arguments are perhaps not so relevant in Ireland. For with the systematic reduction of tariffs, Irish industry, however it is organised internally, will face increasing competition from abroad in both home and export markets and the types of stagnation appearing in the British situation are unlikely to arise here.

It is perhaps more useful and realistic, then, to view the Adaptation Councils within a broadly competitive system, the difference between this and the earlier traditional attitude being a realisation of the significance of economies of scale. For if, as the teams report, the competitive industrial sector built up within Ireland's tariff walls is of too small a scale to be efficient in the modern technological setting, the obvious answer is to build up larger and more efficient productive units, to break down the tariff barriers and encourage the development of a competitive pattern similar to the earlier one but on a larger, efficient and international scale. But one effect of putting Irish industry into this wider setting is that exports and international trends over which we have little control now become of major importance and this factor, which cannot be over-emphasised, might have received more attention from some teams.

Looked at from this general viewpoint, the logic of the adaptation measures proposed becomes clearer and we may commend the CIO approach as a bold and imaginative one and wait for time to show the degree of its success.

## APPENDIX

Industries for which CIO reports are now completed

Cotton, Linen and Rayon  
 Leather Footwear  
 Motor Vehicle Assembly  
 Paper and Paperboard  
 Fertilisers  
 Wireless, Television and Communications  
 Shirts

Miscellaneous Clothing  
 Mantles and Gowns  
 Chocolate and Sugar Confectionery and Chocolate Crumb  
 Iron and Steel Manufactures  
 Hosiery and Knitwear  
 Chemicals  
 Pottery, China and Earthenware  
 Electrical Equipment and Apparatus  
 Woollen and Worsted (not yet published)  
 Printing  
 Women's and Girls' Readymade Clothing  
 Paper Products  
 Men's and Boys' Outerwear Clothing (not yet published)  
 Furniture (not yet published)  
 Leather (not yet published)

## DISCUSSION

In seconding the vote of thanks, *Mr MacLiam* said that attention had hitherto been concentrated chiefly on the individual CIO reports but that, now that the series of reports was approaching completion, it was becoming possible to draw certain overall conclusions. Miss Brock's work was valuable in this connection. While not dissenting from Miss Brock's summary of the findings of the various Industry reports on such matters as the level of labour productivity, the efficiency and suitability of buildings and equipment and so on, he thought that the summary might give rise to a somewhat over-gloomy picture if the following points were not borne in mind: (1) While equipment etc. was admittedly in many cases unsatisfactory, there were also many firms where equipment was of the most up-to-date character, (2) The overall position had improved considerably in the years since the surveys were made. In this connection, the capital expenditure involved in cases for which Special Grants and Loans had already been approved totalled some £18 million. This was in addition to many cases which had been refused for Grant or Loan purposes and cases currently under examination, (3) The CIO Survey reports tended, understandably and properly, to compare conditions as they found them with the ideal, but it should not be forgotten that our competitor countries abroad had their own share of ill-equipped or inefficient industry. *Mr MacLiam* mentioned some further instances of the type of adaptation being undertaken by Irish industry, and gave some details of the work of the 16 industry Adaptation Councils which had been established to date. A very great deal remained to be done, but the progress so far achieved gave reasonable expectation that Irish industry as a whole would be in a position to face up to free trade conditions by the end of the decade.

*Mr James McSweeney*: Miss Brock's informative paper is a valuable contribution to the literature of Irish economics. The fundamental issue is that of securing a higher rate of economic growth. Any theory of

economic growth suited to Irish conditions must consider the full exploitation of natural resources. Amongst the theories of economic growth are the development of selected sectors, foreign capital, education, improved technical skill and knowledge, mechanisation of agriculture. Economists must also advert to the psychological factor in economic growth. Industrialists must be animated with the desire for economic advancement, so that the agents of production are used to the best possible advantage. This stimulus can only come from sufficient incentives. Marketing of products is the great problem confronting Irish industrialists. Improved marketing techniques are essential if expanding markets are to be obtained. Market potential needs to be assessed and accurate information and forecasting are of the utmost importance in determining future economic policy. In view of the limitations of the small home market, it is all the more necessary to seek outlets abroad. Perhaps the Department of Industry and Commerce may wish to consider the implications of the establishment of a Marketing Division to facilitate and co-ordinate the sale of Irish goods abroad. With the increasing complexities of production, and economic activities, it is becoming necessary to initiate some degree of economic planning. Miss Brock stated that £16 to £18 millions were required for the re-adaptation and re-organisation of fifteen industries. Therefore credit facilities ought to be adapted to meet the needs of such a capital outlay. This credit should be at the right price. Co-ordination of industrial activity ought to be promoted. Research is required in all aspects of industry and perhaps the Federation of Irish Industries and similar bodies would consider the employment of Research Officers, whose findings could be implemented throughout the industrial sector.

*Mr Arnold Marsh* expressed satisfaction at the general position having changed so much since 1960, and he hoped that now that we were nearly half way to 1970 there might be a new summing up of the situation from which we were about to start for the Second Plan for Economic Development.

As for competition or co-operation, there would need to be both. Competition between Irish firms doing business of exactly the same type might give way to individual firms specialising so that the industry as a whole might be able to compete with outside firms, and also to co-operate internally. This development was being complicated by the tendency of outside firms to take over Irish ones. Co-operation between individual firms under protection might have had bad effects, but co-operation in a whole industry on a national basis might under free trade both save it from extinction and advance its prosperity. There were cases already in which the competence and profitability of Irish branches of British firms, for example, were so satisfactory that they were successfully competing with their mother firms abroad, as well as co-operating with fellow-Irish firms.

*Mr L. Barry* Although the teams' reports were based on Ireland's

entry into the EEC in the near future the observations in them were, in general, valid in freer-trade conditions, whether or not we joined the EEC

Dr C Leser's "income elasticities" were not as useful to the teams as was suggested because most of them covered broader sectors than those embraced by the survey reports

The effect on employment of adopting (or not adopting) the CIO recommendations seemed to deserve more extended comment. The human question of "jobs" must be very much in mind in any full review of this industrial survey

The estimate of the cost of investment needed to carry adaptation measures into effect (£16-£18 millions for 15 industries) was probably the weakest figure in the paper. Survey teams were almost entirely dependent on the estimates of management, who did not conceal that there was a great deal of guesswork in this. Moreover, in the atmosphere of uncertainty (regarding EEC) in which the surveys were carried out, there was no clear picture of the pattern of adaptation measures which should be kept in mind in estimating the capital expenditure thought necessary. The writer of the paper was apparently alive to these limitations

The questionnaire length, referred to in the paper and also by some speakers, could probably have been avoided in large measure if more use were made of the information available from State Departments, e.g. regarding company registration, and in particular the Census of Industrial Production information available from the CSO. That included details of gross output, materials used, wages, salaries, stocks, etc., not merely for one or two years but for a series of years. However, one set of information afforded a check on the other

In his view the recommendations of the CIO and of the Survey Teams were not the most important part of the work. More useful was the collation and publication of factual information regarding the various industries, and very useful in an indirect way was the stirring up of interest in the whole matter among the industrialists themselves, and the sympathetic discussion with many firms of their problems and prospects.

Particularly difficult problems arose regarding the dismantling of tariff and licensing protection where certain industries manufactured or processed articles used as raw materials in subsequent manufacturing in the State.

The aggregate employment given by the industrial groups surveyed would represent an even higher percentage than shown of employment in manufacturing industry if there were taken from the latter the many groups consisting of only one or two firms (and also the single firms), comprising certain industries and regarding which information could not be published without infringing confidentiality