

THE SWEDISH INSTITUTE FOR INDUSTRIAL RESEARCH

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THE Swedish Institute for Industrial Research was founded in February, 1939, by the Federation of Swedish Industries and the Swedish Employers' Association. Later on contact was also established with the General Export Association of Sweden. Although employed by industry through the medium of its founders, the Institute is under no obligation to these organisations, for, within the ramifications of the research programme laid down, it works quite independently according to strict scientific standards.

It is very difficult for the individual firm to follow the broader economic and social developments in national life. Yet at the same time, and because of current economic and political trends, it is becoming increasingly important for industry to have a knowledge of these changes. It is the task of the Institute, first, to study, from an industrial point of view, the economic and special framework inside which industry works, and secondly to undertake such economic research as will promote industrial development.

There are mainly three different kinds of investigations undertaken by the Institute. The most important part of its work concerns the structure of industry. Investigations relating to the textile, footwear and forest industries are now in progress. These studies are based partly on official statistics, partly on material gathered direct from the firms by questionnaires or by other means. As a rule three different aspects of an industry are studied. First is established the production capacity for various goods, compared with actual demand. Then an analysis is made of the distribution of production between different goods and producers and the degree of specialisation applied by the individual producer. Finally, the structure of the distribution network is studied.

These investigations aim at giving the industrialist a clearer picture of his industry's position and they make it possible for him to organise his production in a more efficient way. But they also form the basis for schemes of rationalisation for the industry as a whole—structural rationalisation as it is termed. These studies can thus be made a starting point for such varied measures as a reconstruction of an industry's distributive machine or a higher degree of specialisation of production by individual firms. A recent example of this form of internal co-operation is to be found in the shoe industry. There a special committee has been set up, whose task it is to investigate the means of eliminating seasonal variations in employment. The committee is basing its recommendations on the results of the Institute's study of the structure of the shoe industry.

The second kind of studies that the Institute undertakes concerns problems common to all manufacturing

industry. One of these has recently been completed and is embodied in a report on the housing conditions of industrial workers. Swedish industry is not as a rule concentrated in a few districts but scattered all over Sweden in small towns or other communities. This in turn has meant that a single undertaking established in such a place and often dominating its economic life has had to be responsible for its own workers' accommodation. Formerly this was done in a more direct way, by the firm's building houses and letting them to their employees. The firm often charged a lower rent than was justified by costs, so that in reality a hidden subsidy arose.

The report first of all gives an account of measures taken by the industries up to now in order to improve their workers' housing conditions. Next it points to various possible lines of policy for industry as regards housing. Finally the report discusses some technical problems connected with the question of how to build cheaper and better houses for industrial workers.

Another example of this type of investigation is the series of studies of conditions in the northern half of Sweden that the Institute has published. Because of the rather one-sided industrial development and sparse population of this area very special problems have to be grappled with here. One of the main aims of these studies is to show the way to a more balanced industrial activity and a more efficient use of latent production facilities.

One of the Norrland investigations concerns the raw material problem of the wood industries. The report, when ready, may be expected to be of importance also to the forest industry in other parts of the country, primarily in the province of Värmland. The need for this investigation arose out of the fact that the capacity of the forest industries has over a number of years been too great in relation to the continuous yield of the Swedish forests. Up to now this discrepancy between industrial capacity and long-term timber supply has not caused any reduction in output as it has been possible to draw upon reserves of virgin forests. In order to make possible a frictionless adjustment to the new conditions the investigation aims at giving a picture of the quantitative balance between the annual forest yields and the existing or planned capacity of the various industries using wood as the principal raw material. The discovery of means to bring about an even higher quality and, possibly, also a quantitative increase in the raw material supply are additional objects of the enquiry. For this purpose the feasibility of uniting small forest properties into larger groups to secure more rational forestry is examined.

The rationalisation of lumbering and of timber transport, to take two examples, would of course do a great deal to strengthen our position in post-war

competition. These problems have accordingly been made the subject of enquiry.

As the prerequisites for future quantitative expansion in the forest industries are—as stated above—rather limited, the question of further processing of the material has assumed a more pressing importance. Such a development would mean that a larger part of future Swedish exports of forest products than before would consist of fully manufactured goods of various kinds, as for instance paper instead of pulp, prefabricated houses and joinery instead of boards and battens. In this connection there are also problems of research, both fundamental and technical. Under the auspices of the Institute and, lately, of a Government Research Committee, a good deal of work on these and associated questions has been accomplished. Special attention has been given to the problems of how to utilise waste in the forest industries.

The textile industry has also been the subject of close study, the results of which will soon be published. The conclusions arrived at during the investigation are likely to focus interest on the distribution problems, which seem to be even more complicated in this industry than in many others. It has been laid down for instance that even if the industry were to succeed by rationalisation to lower its production costs by as much as 20 per cent., retail prices, owing to the high cost of distribution, would only decline by 5 per cent. In general there is evidence at the moment in Sweden as well as in Great Britain and even more in the U.S.A., of a tendency among industrialists to give more attention to the distribution side. This tendency is also clearly perceptible in the investigations recently begun at the Institute.

A constant succession of investigations is proceeding at the Institute into different aspects and problems of small businesses and handicrafts. Such an enquiry, completed in 1943, made a general survey of this important field of enterprise and analysed the magnitude of individual firms. It is probably not generally realised that almost one-half of all the workers in Swedish industry are employed in undertakings with less than fifty employees. Lately the study of problems relating to small businesses has been placed in the hands of a Government Committee. That the work already done in this field by the Institute is recognised is shown by the fact that one of the secretaries of the Institute has been appointed a member of the Committee.

Of other long-term studies, in which the Institute is engaged, should be mentioned an enquiry into the productivity of Swedish industry and another into the future supply of industrial labour. Because of the expected stagnation in the growth of population, Swedish economy as a whole will soon have to face the problems of a labour shortage and the second of these studies essays a forecast of the changing composition of the working population and discusses the effects of this on industrial progress.

The third kind of research engaged in by the Institute takes the form of continuous analysis of domestic and international economic development. Here the trends of industrial output and employment in Sweden are closely watched and within the general framework

some special studies are pursued. One of these is a yearly survey of investments made by the industries during the preceding year and their investment plans for the succeeding twelve-month. Another study has for its subject the profit policies of industrial companies in respect of dividends, consolidation, etc. This study has recently been widened to include an analysis of the composition of the gross revenue of industrial corporations. In other words, it is an attempt to calculate how much goes to the employees in the form of wages and salaries, to the state in the form of taxes, to shareholders in the form of dividends, etc. In its wider scope this study is a good example of the modern Swedish industrialist's recognition of the demand for fuller information about industry's financial structure.

The Institute also has a special department for studying current economic trends in other countries, international currency and trade problems, etc. Through this department the Institute keeps in close contact with similar organisations abroad and with the Swedish legations in the principal countries. From time to time the Institute also sends abroad members of its staff to study some special problem.

Co-ordination of the work of the Institute falls to its permanent staff. For special investigations scientists, industrialists, civil servants and so on, are called in. When undertaking particularly extensive studies special advisory committees are set up to supervise the work. The members of such committees, in the case of industrial enquiries, are representatives of the industry concerned, of industry in general, of the administration, etc. In this way the Institute tries to bridge the gap between theoretical thinking and practical application and to pool the knowledge of the exponents of both. The question to be investigated is thoroughly discussed between the research staff of the Institute and the advisory committee, so that the final report has the benefit of counsel from many competent persons.

Notwithstanding its comparatively short existence the Institute has been able in large measure to consolidate its position as the agency to examine the economic problems of industry. Thus, to an increasing extent questions concerning economic, social and relevant aspects of industry and production are referred to the Institute by the business and industrial community. The Government also has on several occasions asked the Institute's opinion on various proposals affecting industry. At times the Institute has carried out investigations of industrial problems in direct collaboration with Government authorities.

One such investigation was that concerned with the probable developments in industry and employment during the early post-war years, which was carried out by the Institute in conjunction with the Government Employment Commission. At a very early stage the Institute considered it to be of importance to get a clear view of the magnitude and character of the problems facing Swedish industry during the transition period. The Institute set up a special post-war department with the object of preparing a report on the general employment situation at the end of the war. In the spring of 1945 the plans had advanced so far that contact could be made with the authorities, who expressed great interest in the project. The final report

of the investigation, which was published at the beginning of 1944, was the starting point for the work taken in hand by the subsequent Government Commission for Post-war Planning.

The Institute is, of course, in constant touch with all Swedish private and state organisations concerned with economic problems. The Director of the Institute

is the economic expert on the Government Commission for Post-war Planning, a member of the Committee on Post-war Agricultural Policy and also member of the Norrland Committee. An important step is now about to be taken: the Institute is setting up a special department for contact work and co-operation with corresponding institutions abroad.

L. M. ERICSSON AT HOME

A Tour round the Swedish Telephone Industry's Headquarters

ONE of the most outstanding architectural accomplishments in Sweden for many years is without doubt the new offices and works of the L. M. Ericsson Telephone Company at Midsommarkraesen near Stockholm. The buildings were erected before the war began, though not fully equipped and taken into use until the autumn of 1940. Hence they are not, like so many industrial plants completed in Sweden during the war, built underground; instead, their white frontages and multiple rows of skylights would have made an excellent target for enemy bombers if Sweden had been attacked.

The beginnings of the present world-embracing concern, whose home is now these magnificent buildings, were laid in 1876—the year in which Alexander Graham Bell invented the telephone—by Lars Magnus

chief engineer, Hans Thorell, the choice of site and plans for new premises fit for an undertaking of high standing and with such ramifications as L. M. Ericsson. Midsommarkraesen, a south-western suburb of Stockholm, where a site was finally decided on, lies high and on solid rock; a great amount of blasting had consequently to be done before building operations could begin.

The plans of the buildings had to provide for the co-ordination of all manufacturing operations in what was undertaken into an efficient whole, a task which posed innumerable difficult problems, yet work on the site was begun in the spring of 1938 and the building was roofed over before the end of that year. In April, 1940, some departments of the works were transferred to their new quarters and the entire plant was in full



Night view of the L. M. Ericsson Works from the post-office

Ericsson, a mechanic who then started a little machine shop on a lease in shed off a side street in the centre of Stockholm. That small enterprise grew with the progress of telecommunications, and as it grew it had to scatter its productive activities over several separate blocks of buildings in a congested part of the city where further expansion or modernisation was out of the question.

By 1926 the accommodation problem had become acute, and a prominent architect, Mr. Ture Wennerholm, was called in to confer with the Company's

production by November of that year.

The magnitude of the enterprise is perhaps most easily realised if seen from the south-eastern corner. Nowhere more than four stories high, the blocks holding the administrative offices, laboratories, drawing offices, precision engineering shops—everything in fact, except the heavy machine shops—extend some 730 feet to the east and 300 feet to the south and provide a total floor area of 700,000 superficial feet. The heavy machine shops beyond are on two floors, one being partly below ground level owing to the configuration