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SALARIED EMPLOYEES
AND THE
INDUSTRIAL TRANSFORMATION

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SKÖLDUNGAGATAN 2 STOCKHOLM Ö SWEDEN

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The increase in the number of salaried employees and their status in relation to other social groups are questions which have attracted considerable interest during recent years. This interest has certainly not been expressed only by the labor market organizations themselves: the political parties have paid increasing attention to the problems of salaried employees, and in public debate as well as in industry journals and the trades union press these problems have more and more become the centre of interest. It seemed natural to The Industrial Institute for Economic and Social Research (Industriens Utredningsinstitut, IUI) and to The League for Social and Economic Studies (Studieförbundet Näringsliv och Samhälle, SNS) to assist in the procurement of data that might throw some light upon the emergence and significance of this situation.

The two organizations have jointly sponsored a research project aiming at the illustration and analysis of the causes of the considerable increase in the number of salaried employees and white collar workers in industry. As a result of this study a book was published in the Swedish language at the end of 1953. As this investigation has aroused considerable interest among our friends abroad, it has been decided to publish in pamphlet form a summary account of the project in English.

The investigation is largely based on statistical data compiled by members of the local chapters of SNS. These members were able to secure the necessary cooperation from several principal firms in assembling this basic information. The analysis and write-up of these data into a final report has been the responsibility of Mr. Höök of the IUI secretariat. In this work, too, valuable suggestions were submitted in the course of the discussions carried on in the SNS chapters.

The investigation here briefly accounted for was directed primarily at the "quantitative" aspects of the problem studied. SNS has also carried out a research project aimed at the "qualitative" aspects, i.e., the sociological

study of the attitudes towards company, work, unionism, community and political problems of modern white collar employees. A short account of this study by Dr. Edmund Dahlström, "Management, Unions and Society, A Study of Salaried Employee Attitudes" has been previously published in SNS series of English memoranda.

This summary is published separately by the two institutions in their respective series of English memoranda.

Stockholm, July 15, 1955

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Director, SNS

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SALARIED EMPLOYEES AND THE INDUSTRIAL TRANSFORMATION

During the 20-year period 1930—50 the number of salaried employees in Sweden approximately doubled (rising from 425,000 to 835,000). Since at the same time the total population engaged in occupations did not increase by more than about 8 percent, the salaried employees' proportion of this population rose very substantially — from 15 to 27 percent. This development has attracted considerable attention and has given rise in various circles to numerous speculations both as to the causes and as to the social and political consequences of this expansion. The purpose of the investigation, a summary of which is given here, has been to try to procure material on which to form a clearer idea of the factors and the circumstances that have brought about this increase in the number of salaried employees. For technical reasons, however, the inquiry has been confined to industry alone.

Certain figures regarding industry can be quoted from official statistics which throw light on the development as a whole. In 1950 there were nearly 150,000 salaried employees in industry. Of these, the main sub-group (approx. 69,000) consisted of office personnel and office messengers. In addition only the technical operating staffs (28,000) and the works foremen (32,000) groups reached relatively large numbers.

During the 1930s and the 1940s the number of salaried employees in industry approximately trebled. At the same time the workers also showed a substantial increase, but even so the number of salaried employees per 1000 workers doubled. As the following table shows, most of this increase took place during the 1940s. The table also illustrates how the development differed substantially in different branches, and shows that the number of salaried employees per 1000 workers varies widely from one branch to another.

The present inquiry was intended to supplement the general survey of the development obtainable from official statistics and to give a concrete picture of the circumstances that have influenced the development. More specifically, the purpose was to attempt to describe in detail some industrial companies' staffs of salaried employees during the period 1935—50 and in

Industrial Group	1929 per 1000 workers	1939 per 1000 workers	% Increase 1929—39	1949 per 1000 workers	% Increase 1939—49
Ore mining & metal industry..	135	165	22	248	50
Quarrying industry.....	56	81	45	131	62
Timber industry	57	73	28	119	63
Paper & printing industry.....	105	149	42	203	36
Food industry	133	165	24	224	36
Textile & clothing industry....	90	114	27	159	39
Leather, hair & rubber goods in- dustry	110	128	16	186	45
Chemical-technical industry	165	249	51	400	61
Power, lighting & waterworks..	362	405	12	415	2
All industry combined	110	139	26	212	54

each individual case to indicate and analyse those factors which may serve to explain changes in the size and composition of the staff, with special attention paid to the question of how the work has been organized in those firms and what functions have undergone any change or been created during the period.

With such a programme the inquiry necessarily had to be limited to a small number of enterprises. Through local groups of businessmen, belonging to SNS (The Industrial League for Social and Economic Studies), detailed particulars as to the size and composition of the administrative personnel in each department within 12 different companies were collected for each year during the period 1935—50. The companies were so selected as to represent as far as possible different branches of industry and size groups. See table on page 5.

Which employees were to be included in the "salaried employees" group had been laid down in special instructions in which different official positions were listed in detail. This list was based on the grouping of salaried employees in industry used by the Swedish Employers Confederation in 1950. This method of grouping was to be applied throughout the entire period under investigation. Each company taking part in the inquiry drew up a list of the

Industrial Group	Number of companies	Number of workers 1950	% Increase per 100 workers for each company 1935—49/50
Metalworking industries	3	101—200	42, 45, 61
	1	201—500	78
	1	501—1000	71
	2	more than 1000	67, 140
Quarrying industry	2	501—1000	52, 182
Paper & printing industry	1	201—500	12
Food industry	1	more than 1000	158
Textile & clothing industry	1	more than 1000	163

salaried employees who had been in its service during the different years. To these lists were attached a description of the work entrusted to the individual employees, of the changes effected in that work and of the probable causes underlying the creation or abolition of each post. Further, a general survey was given of each company showing its sphere of activities and productive structure, the organization of sales, the development of its production and productivity and any other information that might serve to throw light on the development of the administrative personnel. All this material was subsequently compiled centrally. For this purpose the personnel of these companies were divided up according to a uniform scheme which was mainly concerned with those functions — control of quality, planning etc. — performed in an industry. The particular reasons given to explain the changes that had occurred in the number of persons within each group were obtained. Obviously such a method of investigation is bound to involve considerable elements of uncertainty. Since the inquiry covered a 15-year period a definite account as to what tasks had led, for instance, to the employment of an additional worker could not be expected. In compiling the data, however, it was possible to a certain extent by drawing comparisons between

different companies to gauge the value and tenability of various arguments.

The picture of the trends of development gained from the data supplied by the different companies reveals many individual dissimilarities in the specific fields of activity owing, among other things, to the wide differences in the nature of the production and the size of the enterprises under investigation. However, these peculiarities are never of such significance or of such a nature as to detract from the feeling that the development in the companies concerned reveals in both origin and course quite a deep-rooted affinity. In the following pages certain persistent and common features and tendencies in the development of the personnel of the different companies are summarized.

THE INDUSTRIAL TRANSFORMATION AND ITS CONSEQUENCES

The material data derived from the present inquiry would seem to justify the thesis that by far the greatest proportion ($2/3$ — $4/5$) of the increase in the number of salaried employees during the period dealt with may be attributed to the process of development which the companies concerned have undergone and which is here described as industrial transformation. This term covers both the reorganization of the methods of production (very extensive in most cases) and the changes in the manufacturing programme which accompanied the introduction of new products and new qualities of manufactured articles. As a result, the tasks that have to be performed in the companies have undergone constant change and renewal. New tasks have come into being in the fields of research and design, and planning and calculating have acquired increased importance. Side by side with this trend, purchasing and selling techniques have been revised, and, further, the development has entailed profound changes not least in the field of personnel welfare. This transformation is, of course, by no means a phenomenon of recent times but has constituted an organic feature of the entire process of industrialization. Similarly, the repercussions which this development has had on the personnel are nothing new. But the effect has been particularly striking in recent decades. Owing to the number of innovations that have been made in the organizational and technical fields since World War I a great deal has come to be expected of the

different groups of salaried employees. This applied, among other things, to the closer association which grew up during the inter-war period between industrial activities and systematic scientific research in the technical field. This development was very largely based on experiences gained during World War I, though it did not become very widespread until well into the inter-war period. Although there was no question of conducting any intensive basic research except at main research institutions or in the laboratories of a few large companies, most firms, even small ones, have nevertheless been gradually influenced by this development.

Another factor in the industrial revolution that has set its mark on the period here under discussion is the transition, inspired by America, from a more or less artisan type of manufacture to production in long series, known as continuous mass production.

The influence on personnel conditions exercised by these two tendencies has been very considerable and has affected most of the departments of a company. One outstanding feature of the companies here investigated is the rapid increase in the personnel engaged in collecting and applying on behalf of the company new results obtained from research work in different fields. In the case of some companies the increase among these staff groups has represented, on an estimate, 10—20 percent of the total growth of the salaried personnel. In the first place, this rise is attributable in some cases to the fact that special *laboratories* have been set up or, in some companies, considerably expanded. Here we found personnel engaged in seeking methods of industrially exploiting new advances made in the chemical and technical fields. In those companies in which this form of activity has acquired a permanent organization a relatively extremely rapid increase in the groups of salaried employees is observable. In the second place, here are the salaried employees with more regular jobs, e. g., those which consist of checking under laboratory conditions the company's production and of testing the quality of the raw materials.

Other and perhaps more recent evidence of the growing importance of scientific research to industrial activity is the establishment in certain companies of *literature service*. This has found expression in the increased employment of special library personnel and, what is perhaps more important still, in an extension of the tasks entrusted to personnel in laboratories, developmental and designing departments whose job is to keep constantly in touch with any literature that may have an important bearing on the company's development programme.

Closely akin in its purpose to the forms of activity under discussion here are *time and motion studies*. The departments responsible for these functions were, in general, already organized by the beginning of the period under investigation. It is evident, however, that during this period there has been a considerable shift of emphasis in the direction taken by this work in most of the companies concerned. Formerly the main task was to arrive at standards for the establishment of piece-rates. Gradually, however, the purpose of this organization has been extended more and more so as to embrace work study and work simplification.

From these bodies whose task it is to get hold of ideas for new methods of production and new practices it may be convenient to pass on to those departments whose aim is to bring such innovations as far as to the operating stage. In this area are personnel groups which, both absolutely and relatively, have had a very important bearing on the rapid increase in the number of salaried employees. In the companies examined the efforts at rationalization and expansion have been associated throughout with a substantial increase in the number of designing and drawing offices, standardization and other similar departments, and also in the overall central planning and co-ordinating organizations. Mass production has presupposed and entailed an ever-rising effort in the design of machinery and tools to serve new purposes. All designs must be drawn with greater precision and in greater detail. A far-reaching standardization of products, uniformity in regard to thread systems, tolerances etc. have become absolutely essential. Moreover, there has arisen at the same time an ever greater need for centralized co-ordination and planning.

The last-mentioned type of function — *the planning factor* — has become a matter of ever-growing importance even in the operating sector as the companies have gradually achieved a higher degree of rationalization. In earlier stages of production the workers had a sufficiently sound knowledge of the manufacturing process to be made personally responsible for a good deal of the planning. Now, however, different kinds of planning personnel are in charge of planning, which among other things, takes the form of operational lists, parts lists etc. Apart from this, the need for accurate planning has also become greater owing to the fact that, since production capital has become more expensive, it has become increasingly important to utilize it effectively. The same explanation applies in part to the growth of the functions of the supervisory personnel. A further factor that has exercised some influence in this regard is that the more highly complicated machinery

in use today has given rise to an increased need for instruction and for foremen to follow closely the ever-changing processes of production. In the old days gang foremen and shop foremen were also responsible for a large number of other functions besides the above-mentioned jobs. As a result of the direct supervisory jobs' having acquired greater importance, it has been found expedient in a number of companies to pass certain other functions on to special personnel. Thus various forms of *reporting* to other departments in the company have gradually passed almost entirely into the hands of time-recorders and office clerks.

Moreover, the division of functions in this way has been necessitated by the growing demand in almost every part of an enterprise for information and, not least, current statistical data. This development must in the first place be viewed in the light of the general and industrial expansion. The introduction of new articles and new methods must be based not merely on technical planning but in equal measure on the careful *calculation* of costs and earnings. Such calculations require that consumption figures and prices of all factors of production be accounted for in considerable detail. It is true that a large number of enterprises have previously been satisfied with rather general calculations in these respects. But as the process of production has become gradually more involved and difficult to survey while at the same time keen competition has made it essential to seek ways of reducing costs for each individual process in the production, new and more accurate methods have come into use.

In the body of material collected these tendencies have been manifested in a very strong relative increase in personnel engaged in accounting and statistical departments and also in those groups of office clerks who are responsible for the reporting of figures received from different parts of the companies. In addition, certain new central functions have been created for the same reason. Thus, in the large-scale enterprises in particular there has developed an urgent need to try with the aid of statistically trained personnel to co-ordinate and achieve uniformity in the statistical reporting systems. It should be emphasized, however, that in this case it has often been a question of rationalizing the work, since the companies have desired by employing additional personnel to take advantage of the progress that has been made both in statistical theory and in the execution of the statistical work (e. g., by introducing the punch-card system). This has opened up the way for simplifying and cutting down the work of collecting and compiling the figures. At the same time, however, statistical reporting has been under-

going almost constant expansion and improvement, so that the net result has mostly been an increase in statistical personnel.

Some attention should also be paid in this connection to the activities of the purchasing, supplying and storage departments. The growing importance which the planning factor has acquired in a modern industrial enterprise has naturally been accompanied by a more thorough system of controlling and accounting for the raw materials and products lying in supply and storage depots. Another way by which the repercussions of the introduction of new manufacturing methods and new products have reached these departments has been via the laboratories. As has been mentioned above, the intensified demands for uniformity and high quality in the raw materials necessitated by a transition to mass production have had a marked effect on the work of laboratory control. But this activity can hardly undergo expansion without affecting the burden of work in those parts of the company — that is to say, the purchasing and supply departments — which provide its working materials or which in the course of their work have to pay attention to the results of laboratory control. In this case the statistical department may have to represent an additional link in the chain of functions now under discussion. Since a reorganization on the operating side is nowadays frequently preceded by more or less extensive cost calculations, the purchasing department is also certain to be given an increased burden of work by having to supply price data etc.

As to the selling departments, a similar “chain reaction” may be adduced. Before an enterprise takes up the manufacture of any new product it often makes a more or less exhaustive attempt to gauge the prospects of introducing it on the market. If these calculations result in a favourable decision there follows the no less arduous task of launching and selling the new product.

THE REQUIREMENTS OF PERSONNEL WELFARE

In the preceding pages we have indicated the approximate limits set for that portion of the growth of the administrative staff which seems to be attributable to the industrial transformation ($2/3-4/5$). When it comes to explaining the rest of the increase, we are primarily concerned with two groups of explanations. First, we may mention those diverse circumstances that have led up to a reinforcement of the organizations engaged in personnel

welfare work in the broadest sense, and, secondly, we might recall those specific causes of an expansion of the salaried employees which arose during the war and postwar years. To the latter group of "explanations" we may add for simplicity's sake such factors as the liability to render information and statements of account on an increased scale to national and local governmental authorities and to other organizations in industrial and business life. To which of these two groups the greater importance is to be attached it is difficult to judge, but the opinion may be expressed that the increase in measures taken on behalf of personnel welfare has been of somewhat greater significance.

The establishment of a far-reaching system of personnel welfare was a new and characteristic feature of most of the companies investigated during the period under discussion here. Quite apart from the motives underlying this development, however, we may distinguish certain lines which it eventually followed.

Without attempting to classify the different types of measures in order of their relative importance, we may first mention those which have contributed to *raising the standard* of the personnel. It has been a quite common practice for companies to build dining-rooms, which have subsequently been run by the companies themselves — often with substantial subsidies. In the field of hygiene, considerable improvement in equipment has been made throughout, e. g., by building lavatories and shower rooms etc. In this connection the companies' housing policy also comes into the picture. The forms which this policy has taken has varied quite considerably, from the building of dwellings administered by the company to a purely estate-agency business, with variants between the two extremes such as allowing the use of building sites and "self-building" grants in varying forms. In companies with a large female staff, day-homes and kindergartens have represented another important branch within this field of activity.

In regard to another section of personnel welfare work, viz., the increased opportunities made available for occupational training in the companies and the various efforts made to reduce the risks of accident in the course of production, we find there too an important factor that tends to raise the standard. Perhaps, however, the main point about the activities carried on in these fields is that they very largely aim at making *a better and a more proper use of the labour force*. Apart from the broadened scale of prophylactic work performed in cases of accident, the possibilities of rapidly giving injured persons expert first aid have also been greatly improved due to the fact that

a medically trained staff has in a number of instances been attached to the companies. As a matter of fact the work of this staff is seldom confined to taking charge of and tending cases of occupational injury. It frequently embraces the general care of the sick and looking after the health of the staff, and occasionally even of that of the employees' dependants.

All the personnel welfare measures so far discussed here also serve to help create job satisfaction among the workers and a greater feeling of solidarity with the company. However, the purpose of other functions performed by the personnel departments is to achieve the same effect by a more direct approach. This applies, for instance, in large measure to the house organs which were initiated in some companies during the period of investigation. Closely associated with this are the efforts to encourage the spare-time activities and hobbies that are carried on in a number of companies in the form of athletic and bridge clubs or art and study circles. Sometimes the contributions made in this sphere have gone as far as laying out sports grounds and providing recreational and holiday homes.

Lastly, the increased burden of work imposed on the personnel departments since 1946 by the activities of Joint Consulting Committees in the form of continuous information, special inquiries following upon committee discussions and specific reports in connection with recommendations submitted to it is of quite a specific character.

THE REPERCUSSIONS OF THE EMERGENCY PERIOD

Finally, there is the increase in personnel caused by the special circumstances of the war and the postwar years. Owing to the excessive mobility of labour and the high degree of absenteeism, an extra burden of work fell alike upon the foremen in different sectors of production and upon the personnel departments and pay-offices. The purchasing departments felt acutely the shortage of raw materials and supplies, and the protracted delivery dates caused additional trouble. Thus far the experiences have been quite similar in the companies investigated. But when we come to the sales departments the picture is no longer so uniform. Some companies have found, in spite of there having been a seller's market, that the job of selling their products has become more burdensome than before partly owing to the fact that in view of their customers' constantly recurring inquiries and special

requirements they have had to seek every possible means of meeting day-to-day needs by effecting partial deliveries. In other companies the slackening of the effort to effect sales was observable, and judging from the market conditions this could have been expected. In one respect, however, the companies' reports on developments within the sales departments are unanimous. All agree as to the increased work involved in trying to do export business during the postwar year — primarily because of trade and payment regulations.

This last observation brings us to the question of the repercussions on the expansion of the companies' personnel due to various measures taken by the authorities and sundry organizations. Considering the sharp total increase in the administrative personnel, this effect cannot be said to have been very marked. That such importance should nevertheless have so frequently been attached in public discussion on this subject to the measures of control may doubtless be largely explained by the fact that the extra work with which we are here concerned fell in large measure upon the shoulders of highly qualified personnel in supervisory positions. This has obviously been the case in regard to price control, building controls etc. The situation is apparently somewhat different in the case of statistical reporting. The number of blanks and forms has undeniably increased enormously during the past ten years. Upon receiving, as has frequently happened, inquiries which could not be answered in a routine way, and when particulars in more or less the same terms but differing from one another in some minor, sometimes highly insignificant, points are requested at short intervals from different quarters, the companies have naturally been somewhat irritated. Moreover they have in many cases been unable to appreciate the worthwhileness of the questions put to them. In view of such circumstances, no doubt their liability to render statements of account in all their various aspects was felt to be more of a burden than might be expected from the actual figures relating to the growth of the staff in those parts of the companies that were affected.

It should perhaps be possible to indicate fairly exactly the effect which the introduction of the pay-as-you-earn-tax system has had on the growth of personnel. In fact, some companies have been able to state definitely that one, two or three extra persons have had to be engaged in order to look after that item. In other companies no increase in the number of salaried employees can be attributed to that cause. This is due to the fact that the service on behalf of the employees which the introduction of this method of collecting

income tax implies had already been very largely performed by those companies' personnel offices.

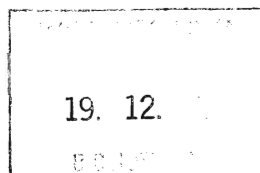
THE GOOD BUSINESS CONDITIONS AND THE GROWTH OF PERSONNEL

It was stated in the introduction that the growth of administrative personnel had been somewhat more rapid during recent decades, particularly in the 1940s. When it comes to finding an explanation for this more rapid rate of increase it may be pointed out that the highly ramified personnel welfare work, which has only been instituted in recent times, has required the services of quite a large staff. Further, it was stated earlier that certain new tendencies in the modernization of industrial and commercial life, e. g., the greater importance attached nowadays to the companies' research and developmental work, may have contributed to a rise in the proportion of salaried employees. Actually, however, this represents no essential change from earlier evolutionary tendencies. Rather, it is probably a matter of greater significance that the economic conditions leading up to rapid industrial progress have been comparatively very favourable. Thus, throughout the entire period covered by the investigation Sweden enjoyed a veritable boom, and this has had considerable influence on the development of the proportion between administrative personnel and the workers. It is a well-known fact that substantial company profits and the external economic conditions during the wartime and postwar years contributed towards forcing the pace of investment and rationalization schemes, and this extension of activities in industry has necessitated an expansion of both the managerial and the clerical staff engaged in developmental and design work.

Statements in public discussion maintaining that this increase in administration personnel has proceeded too rapidly are frequently based on a more or less vague idea that the work of salaried employees is less "productive" than that of other groups of workers. An argument of this kind is often countered by reference to the rise in productivity that has taken place in parallel with the revolution in methods of production and with the increase in the number of salaried employees. We have shown in this account how the introduction of new methods and new goods along various lines have led to and indeed demanded increased efforts in those spheres of activity in which the administrative personnel has been engaged. Since there appears

to be no divergence of views as to the ultimate aim of this part of industrial activities — briefly expressed by the term “increased productivity” — it may be thought that the arguments about a too rapid growth of administrative personnel were adequately countered. However, the problem is not so easily solved. The fact that a certain expansion of personnel has produced certain results in the form of higher production does not imply that the same results could not have been achieved with a smaller staff of workers. There has been no possibility whatsoever of judging whether the manpower, especially the administrative personnel in the companies investigated, has been used in the most efficient manner.

From a somewhat more limited view, however, the results of the inquiry may warrant certain reflections. It is quite clear that in regard to the functions of the administrative personnel industrial companies have not as yet set about seeking ways of simplifying and rationalizing the work as methodically as in regard to the workers, though important steps in this direction have been taken in some enterprises. As an expression of these endeavours may be cited the acquisition of all kinds of office machines, punch-card systems etc. This tendency seems, moreover, to have grown in strength during the period, and several circumstances seem to indicate that it will become even stronger in the future. One argument in favour of this view is that administrative personnel is so numerous that as an item of costs it can no longer be regarded as a factor of minor importance in the companies' calculations. While administrative personnel is on the way to attaining a position that in these respects is more on a par with that of the workers, any further expansion of their functions with a view to releasing manpower by rationalizing the processes of production will be more and more strictly scrutinized. On such grounds it may perhaps be said that further expansion of administrative personnel will probably have to face severe tests of justification.



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