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Lars Nabseth



**Slower Rise in Productivity:
Serious Problem or
Temporary Phenomenon?**

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Lars Nabseth:
Slower Rise in Productivity: Serious Problem or Temporary Phenomenon?

It is scarcely controversial to point out that 1971 was an unusually bad year for Swedish industry and for the Swedish economy as a whole. This holds true whether we compare Sweden's performance with that of other countries the same year or with Sweden's own achievements in the earlier postwar period. For manufacturing industry, it appears that 1972 will also be a poor year in terms of volume and profits—barring a sudden international economic upturn. The forecasts contained in the preliminary national budget released in January, which in fact should be taken with several large grains of salt, point to a rise in industrial volume of only 2%, which is well under the average for the 1960's and also below the average growth projections the official Long-Term Forecast (published in 1970) made for this decade. Naturally, one must exercise caution in drawing far-reaching conclusions from the record of only a year or two. We know from the Long-Term Forecasts made during the 1960's that the first years in every five-year period covered in all these forecasts so far drawn up in this country were disappointing, and that the last two years in every five-year period saw sharp recoveries and rapid growth. This was true both for the 1960—65 period and for the 1965—70 period. If this pattern should repeat itself, 1974 and 1975 would be the "golden years" of this first half of the 1970's.

But it is possible to argue that, as regards industry, these golden years may not materialize. Or, to adopt an even more cautious tone appropriate to such uncertain matters, let us say it is worth discussing in detail some features of the current industrial picture which distinguishes it

from the 1960's and especially from the first half of that decade.

Space does not permit us to present a comprehensive survey of the economic history of the 1960's. However, we must touch on that subject briefly with the aid of a modest amount of statistical material. We know that productivity in Swedish industry rose very rapidly during the first as well as the second half of the 1960's, amounting to roughly 7%—8% per man-hour per year. During the first half of the decade this was combined with a sharp increase in industrial production and with an addition to the workforce of about 75 000 persons. During the second half the increase in production was more moderate and the number of persons employed was approximately unchanged, if the year 1970 is included.

What has now happened is that the rise in productivity has, according to available data, amounted to hardly more than 4%—5% per man-hour per year for 1970 and 1971. In contrast to the optimistic view expressed in the national budget, I find it difficult to believe that the pace will increase this year either; I believe we will remain on this approximate level of increase—a rather low one in comparison with the 1960's. The main reason for this belief is the slow increase in production, which does not create the best possible conditions for improvements in efficiency.

One can logically ask what forces enabled us to compare so well internationally in productivity increases during the 1960's, and also what forces now seem to have brought us back to the 1950's in this respect. Incidentally, it must be pointed out that the Swedish Central Bureau of Statistics has recently revised upward the figures for the 1950's, resulting in an average increase in productivity for that decade of some 1% a year above

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earlier reported figures. A sizable gap still remains between the average increases recorded during the 1950's and those of the 1960's, but if this type of productivity improvement at the Central Bureau of Statistics should continue in the 1970's, it could be catastrophic for all us economists who have become accustomed to giving reasons for the variations. At times, one has the impression, in working with our economic statistics, of having left the real world for a kind of statistical moon-
scape of craters and statistical gravel.

But let us turn from these gloomy observations and use the material that is available. There may be many reasons for the record of the 1960's. One is the reduction of customs duties, particularly within the EFTA framework; available research points to a positive correlation between rapid increases in imports and productivity increases. This is the same type of relationship which was noted between industries exposed to competition and protected industries in a Swedish economic report prepared by economists representing labor and management, known as the EFO report.¹

Another and less widely discussed factor is the sharp increase in capital investment that took place in Swedish industry between 1958 and 1961. Investments in buildings and machinery rose by some 50 % in this period. Admittedly, it has become fashionable among economists to downgrade the importance of investments in physical capital in the growth of production and productivity. But a substantial portion of the investments for expansion that took place in Swedish industry at this time seem to have provided a base for an aggressive exploitation by company managements

¹ Edgren—Faxén—Odhner, "Lönebildning och samhälls-ekonomi". Report from a group of experts appointed by the Swedish Employers' Confederation, the Confederation of Swedish Trade Unions and the Swedish Central Organization of Salaried Employees. Stockholm 1968.

of the opportunities presented by trade liberalization and the economic boom periods. This statement is all the stronger if we (1) note that much technological development is linked to investment and thus calls for new buildings and machines and (2) consider the sometimes discussed "learning effect." Simply stated, this effect means that each unit of a complicated product—e.g., an airplane or a ship—is less costly to produce than the immediately preceding unit. There are some famous "learning" curves of this type, notably in airplane manufacturing in the U.S. But this effect need not be confined to the company investing in new technology but can also be transmitted to other companies. This transmission of learning especially if there is a lively exchange of experiences and a mobility of qualified people, can be quite significant. However, this assumes that a high rate of investment in new technology creates a solid base for efficiency-promoting "learning investments" in other companies during succeeding years. In other words, this means that the social return on some investments can be clearly higher than the private return. This relationship perhaps held true for part of the investment boom that took place around the beginning of the 1960's.

Following this investment boom, capital investments leveled off in 1961 and remained largely unchanged until 1969. This was partly because of the additional production capacity that had resulted from the expansion and partly because of a gradual worsening of profitability in Swedish industry during the 1960's. Studies have shown that profitability (that is, return on capital) in Swedish industry declined continuously during the 1960's up to 1968. Gross profit as a percentage of sales also was clearly lower in the 1960's than in the 1950's. Moreover, the financial situation of companies, in terms of liquidity and ability to finance investments through internally generated earnings steadily worsened. At the same time, it

seems likely that the increased squeeze on profitability meant labor-saving investments became increasingly more important than investments for expansion. The composition of the labor force in industry during the latter half of the 1960's, and perhaps also the wave of mergers that took place, tend to confirm this. We know that structural changes in industry occurred very rapidly during the 1960's, not least during the second half of the decade. For example, we can mention that the number of plants with more than 200 workers in industry declined by more than 20 %, or by about 120 units, between 1965 and 1969. This apparently means that obsolescence of capital resources in industry was large and that much of the new investment that was made was aimed at replacing worn-out and obsolete fixed assets. Studies made at our institute show that the share of replacement investments in gross investments in industry climbed sharply during the postwar era and especially during the second half of the 1960's.

The conclusion of these observations is evidently that the volume of capital in manufacturing industry toward the end of the 1960's did not rise sufficiently rapidly to support continued rapid expansion in production and productivity in industry during the 1970's. Since Sweden is a country which lives, to an unusually great degree, on industrial manufacturing, it is obvious that growth within that sector must support the continuing increases in imports, continuing expansion of the public sector, continuing shortening of the work week, and continuing emphasis on environmental care foreseen for the 1970's. In other words, we needed, and we still need, a new investment boom of the type we experienced in the 1958—61 period. In fact, the experts who prepared the 1970 Long-Term Forecast were conscious of this when they asserted that industrial investments should climb rapidly during the early years of the 1970's, and

that manufacturing industry's share of total investments should increase.

What occurred around the beginning of this decade? Between 1968 and 1971 there was an upswing in manufacturing capital investments, but this was a rise of only 20 %, which compares with a 50 % jump in the 1958—61 period. If we adopt this approach to the problem neither the capacity situation of industry nor the technological modernity of fixed capital is such that we can expect the same rapid development we had during the first half of the 1960's. Nor does the capacity and profit situation in industry give any reason to believe that we will, during 1972, to any great extent catch up with the investments we should have made earlier.

One can wonder whether, in today's climate of a completely different and easier monetary policy, it is controversial to assert that the extremely tight monetary policy applied in 1970 appears to have been something of a misfortune. It helped to brake the industrial investment boom which was just developing after the capacity ceiling had been reached in 1969. Available evidence indicates that total capital investments were cut by about 5 %, and that it was primarily smaller and middle-sized companies which were affected. In addition, however, the tight money policies may have frightened many companies from borrowing in a situation where, as is the case today, money is in fact available. We do not know whether a tight money policy will soon be re-imposed. When the question of capital investments is brought up, the authorities frequently offer as a consolation the fact that the level of investment per employed person in Sweden is still among the highest in the world. Personally, I find this a small consolation indeed, since it ignores half of the situation. To be sure, our use of capital per employee is on a scale with which few countries can compare. This is an obvious consequence of the large volume of capital we have available and it is of great help

in allowing Swedish industry to pay the highest wages in Europe. But it can only do that when the machines are rolling and the buildings are in use. Obviously, the key point is the relationship between new additions of capital and obsolescence of fixed assets.

To put the matter quite bluntly, we may ask whether the difficulty of launching a boom in industry is a sign that our cost and wage level is too high relative to that of other countries—even after the recent currency adjustments. We never really experienced real balance in our international payments during the second half of the 1960's and there can be no doubt that, in 1971, we were catching a bit what I have previously called "the English sickness". At present, we seem to have difficulty reconciling the two goals—internal and external balance in our economy—a phenomenon which the British suffered from during nearly the entire decade of the 1960's and from which they still have not completely recovered. The question is how seriously infected we are by this disease. In order to answer this question we perhaps need more basic data than is at present available.

One important set of basic data might be a comparison between the expansion of Swedish industry in Sweden and the expansion of Swedish-owned industry abroad. Has the horse found the well he normally drinks from so brackish that he feels impelled to seek out more hospitable wells? In order to answer this and related questions, we at the Industrial Institute for Economic and Social Research, with the help of funds from the Swedish Employers' Confederation, the Federation of Swedish Industries, Swedish Bankers' Association and General Export Association of Sweden, have been carrying out a study of the operations of Swedish industry abroad. Some of the first results from this study will be given here. These results are in a sense preliminary, though we do not anticipate that any large changes will appear when the data is further refined. The material is, indeed, now virtually complete as regards Swedish-majority-owned manufacturing subsidiaries abroad. However, a number of manufacturing companies in which Swedish interests hold sizable minority positions are not covered. It must be further pointed out that only **manufacturing** companies are included in the data given here; sales companies are not covered,

Table 1. Industrial employment and sales in Sweden and in foreign manufacturing subsidiaries of Swedish Companies 1965—1970

Preliminary figures

	1965	1970	Change 1965-1970 %
Swedish industry abroad			
Number of employees	146 600	182 400	24
Sales Kr.m.*	8 470	15 980	89
Total assets Kr.m.*	7 840	17 830	127
Industry in Sweden			
Number of employees	988 500	988 460	0
Sales Kr.m.*	76 750	110 930	45

* Current prices

though material on such companies has also been collected. A similar study was carried out some years ago, focusing on the 1960—65 period, at the initiative of the Swedish Employers' Confederation, the General Export Association of Sweden and the Federation of Swedish Industries. This study showed that both employment and sales in Swedish-owned foreign manufacturing subsidiaries climbed rapidly during the first half of the 1960's. At the same time employment in industry at home, as noted earlier, rose considerably during the first half of the 1960's, even though the rise was not nearly so steep as it was abroad.

According to our study, using the definitions we developed, employment in foreign manufacturing subsidiaries came to 150 000 persons in 1965, while about 990 000 persons were employed in industry at home. Table 1 shows the changes that took place in the 1965—70 period. The table also shows corresponding changes in industry in Sweden. The number of employees in foreign manufacturing subsidiaries apparently rose by roughly 35 000 persons, or about 25 %. In Sweden, there was no increase in the number of persons employed during that period. As for

sales, the increase abroad came to about 90 %, or about double the rate of increase in Sweden, while the total value of assets abroad rose by some 125 %. It must be noted that these asset values are based on exchange rates in effect in, respectively, 1965 and 1970. Some of the figures have thus been affected by devaluations and revaluations. Furthermore, the figures are also influenced by inflationary tendencies in various countries. If prices rose more rapidly in countries where there are Swedish subsidiaries than they did in Sweden, this fact affects the validity of our comparisons. However, it is not likely that such considerations seriously affect our assertion that the expansion of production abroad was more rapid than in Sweden.

Employment as well as sales have thus risen faster in the foreign manufacturing subsidiaries than in Sweden. This is a continuation of the tendencies which appeared as early as the first half of the 1960's. Moreover, it is worth noting that the increase in employment in the foreign subsidiaries, calculated in percentage terms, was about twice as rapid during the first half of the 1960's as during the second. The absolute number

Table 2. Foreign manufacturing subsidiaries of Swedish Companies, distribution by region

Region	Assets			Number of employees			Sales		
	1970		Increase 1965— 1970	1970		Increase 1965— 1970	1970		In- crease 1965— 1970
	Kr.m.	share %		1 000	share %		Kr.m.	share %	
EEC	9 090	51	141	83	46	21	8 150	51	108
EFTA	3 570	20	155	42	23	37	3 460	22	110
of which Scandinavia	(1 490)	(8)	(163)	(18)	(10)	(65)	(1 700)	(11)	(136)
North America	2 150	12	63	12	7	-16	1 850	12	22
Latin America	1 970	11	228	22	12	78	1 400	9	144
Other countries	1 050	6	40	23	12	15	1 120	7	38
Total	17 830	100	127	182	100	24	15 980	100	89

of employees also rose somewhat more rapidly during the first half.

Table 2 shows the distribution by regions of assets, employees and sales, and changes between 1965 and 1970. We see that the EEC area accounts for about 50 % of the foreign subsidiaries' employment and sales. EFTA has a share amounting to about 20 %, of which the Scandinavian countries account for nearly half. Other regions account for slightly more than 10 % of sales, employment and assets. If we look at the changes that took place between 1965 and 1970 it is evident that the most rapid expansion took place in Scandinavia and in Latin America. The growth in subsidiaries in EEC countries was slower than the average with regard to number of employees and faster with regard to sales. This perhaps surprisingly slow expansion was connected with developments within a couple of large foreign subsidiaries. If these companies are eliminated, growth in EEC countries was considerably more rapidly than the average. As for North America, the increase in sales was very moderate, while employment in fact dropped by a few thousand persons. This

was because a few Swedish subsidiaries were sold during the period.

Table 3 shows the distribution of assets, employees and sales by industries. The table shows that the engineering industry accounts for about 75 % of the operations of foreign manufacturing subsidiaries. A further breakdown of this category could not be carried out at this point, but will be done in the future. Foreign subsidiaries of Swedish iron and metals industry normally operate in the fabricated metals industry and have therefore been included in the engineering industry. If we look at the percentage changes by industries, the growth of the clothing industry has obviously been the most rapid. However, this sector still accounts for only a small portion of Swedish foreign subsidiaries' total production. The forest industries have also shown a strong increase in foreign operations. For the engineering industry, the changes have been approximately the same as for industry as a whole, which is scarcely surprising in view of the large share of the latter accounted for by the former. If we compare developments in various industries abroad with corresponding changes in Sweden,

Table 3. Swedish industrial companies' manufacturing subsidiaries abroad, distribution by industry

Industry	Assets			Number of employees			Sales		
	1970		Increase 1965- 1970	1970		Increase 1965- 1970	1970		In- crease 1965- 1970
	Kr.m.	share %		1 000	share %		Kr.m.	share %	
Clothing	70	0.4	597	3	2	448	100	0.6	422
Forest products (including paper)	1 710	10	245	12	6	110	1 270	8	212
Chemical and rubber	1 230	7	43	24	13	1	1 340	78	82
Engineering	14 070	79	125	135	74	20	12 430	78	82
Other industry	750	4	248	8	5	104	840	5	277
Total	17 830	100	127	182	100	24	15 980	100	89

we find that industries which expanded most rapidly in other countries are among those which have had the least growth of employment at home. Obviously, this is particularly true of the clothing industry.

It is evident that our material can lead to various conclusions in addition to those we have space to discuss here. And in fact, we at the Institute intend to bring out sometime this year a more comprehensive presentation of such data as country and industry breakdowns, and later to publish analyses of this material. However, we can even now make some observations which are relevant to earlier viewpoints on the climate for capital investment in Sweden and which may help stimulate the continuing public discussion on this subject.

First, in making comparisons between developments in Sweden and abroad, differences in overall growth rates must be kept in mind. In countries where growth is more rapid than it is in Sweden, it should not be surprising that subsidiaries in these countries also grow more rapidly than companies at home. For example, we know that we had a very slow total growth of the labor force in this country during the second half of the 1960's, which has naturally also influenced the development of employment within industry.

Second, we must emphasize the interconnections between Swedish exports and direct investment abroad. Increased exports often are impossible without accompanying increased direct investment. In other words, there is a mutual dependency between exports and direct investment abroad. We know from earlier studies that exports from Swedish parent companies to manufacturing subsidiaries are significant and we will soon be able to report on developments in this area during the 1965—70 period. Moreover, it should be pointed out that direct investments abroad often stimulate

Swedish exports of capital equipment of various kinds.

Third, we can point to a frequently discussed problem: to what extent is manufacturing abroad an alternative to manufacturing in Sweden? Very often, the alternative to Swedish production abroad is not production in Sweden, but production by an entrepreneur from another country who perceives an existing market opportunity. By foregoing foreign production in such cases, we risk both the loss of exports to foreign subsidiaries as well as eventual remittances of profits. In addition, foreign production permits spreading research and development costs on larger volume production, which increase Swedish industry's competitive strength on both export and domestic markets.

In this connection, it can be of interest to mention a theory, well known among economists as the "product cycle"-theory, which up to now has been applied primarily to American conditions. But it can also be said to be relevant to our situation. According to this theory, one way that countries with a high wage level—à la Sweden—can justify this level is by developing new products that other countries with lower wage levels cannot manufacture, either because of lack of technological know-how or because of patent protection or the like. When such products eventually become more widespread and suitable for mass production, it then becomes profitable to locate manufacturing in countries with lower wage levels. This occurs often at the initiative of the parent company, but in some cases it can also occur through new or expanded activities on the part of foreign competitors. In this way, an international division of manufacturing production is brought about for various products. In the U.S., this applies to TV sets and to some extent to automobiles. But in order to completely justify a high wage level a country must constantly be

generating new products which provide a basis for profitable capital investment. Has Sweden become an example of a high-wage country where this stream of profitable new products is drying up? Or, alternatively, has the capacity of other countries to produce complicated products risen in relation to our own, meaning that the lead we once enjoyed in some areas has shrunk? The truth is perhaps that both these phenomena are occurring simultaneously. In any case, it is rather ominous that research spending in industry appears to have dropped, according to available statistics, between 1967 and 1969. This indicates a hard-pressed cost situation for companies, when they no longer dare or can increase their investments in their future. Another interesting and also perhaps ominous sign is the decline which has occurred the past two years in merger activity within industry, following a steady rise during the 1960's. Many observers feel that there are still a large number of companies whose owners would like to sell out. Are these owners continuing to live mentally with a price level for their products carried over from the 1960's, which it is no longer possible to maintain in practice because of the profit squeeze?

Apparently, we need to get a real investment upswing in industry underway if the calculations of the Long-Term Forecast are to be realized. Unfortunately, the manner in which our relationship to the EEC has been resolved does not seem to provide much basis, in terms of **profitability** as well as psychology, for such an upswing. If industrial production rises this year in line with the projections, it must then rise in the

1973—75 period by an average of 7 % annually in order for the calculations of the Long-Term Forecast to hold true. Today, many observers do not believe such a performance to be possible, even though past experience admonishes us to exercise caution in such dogmatic pronouncements.

In conclusion, it can naturally be said that if the rate of increase in production and productivity in Swedish industry during the 1970's turns out to resemble more the 1950's than the 1960's, that need not be a great misfortune for our economy. Neither need it be any catastrophe if Swedish industry one day becomes unable to pay Europe's highest wages. But, in order that grave social problems—permanently high unemployment and other phenomena—be avoided, it is necessary that the decision-makers in our society observe events and adapt themselves in time to the prevailing conditions, e.g., regarding demands for wage increases, an expanded public sector, and the rate of achieving an improved environment. The old economic thesis holding that we all live under the cold star of scarcity does not seem to have become obsolete while we have been proceeding along the road to the post-industrial society. Instead, qualities which previously were characterized in the textbooks as without economic significance—such as fresh water and clean air—have now acquired a value, and not only for those who thirst in the desert or for the submarine crew on the ocean floor. The rural proverb in our country which urges us to "adapt our mouth to the size of our lunch basket" would still seem to apply in the age of computers and nuclear reactors.

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