

3 CONCENTRATION, EXIT, ENTRY AND RECONSTRUCTION OF SWEDISH MANUFACTURING

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Economic growth involves a constant reorganization of the business sector. Old, non-profitable companies are competed away from the market and resources are moved to the more efficient producers. New firms enter and older companies either adjust or die away.

Productivity growth at all levels comes about through institutional reconfiguration in response to the ongoing market process (Eliasson 1986). What is needed is a continuous creation of new technological and commercial solutions to production and marketing problems, exits of outmoded institutions, and maintenance in the diversity of economic structure. Innovative “activity” and entry cannot be treated as an exogenous force. It is an integrated part of the market process.

This paper focuses on the changing structure of Swedish industry and the role of entry and exit during the 20th century. Two main questions are addressed; what are the implications of (1) the trend towards increasing concentration and (2) the rate and quantity of innovative entry in the Swedish manufacturing sector during the last two decades. More specifically, is increased concentration good or bad for competitive vitality from a domestic base? How well does the entry and exit process of the Swedish economy work?

1. Today's Large Companies

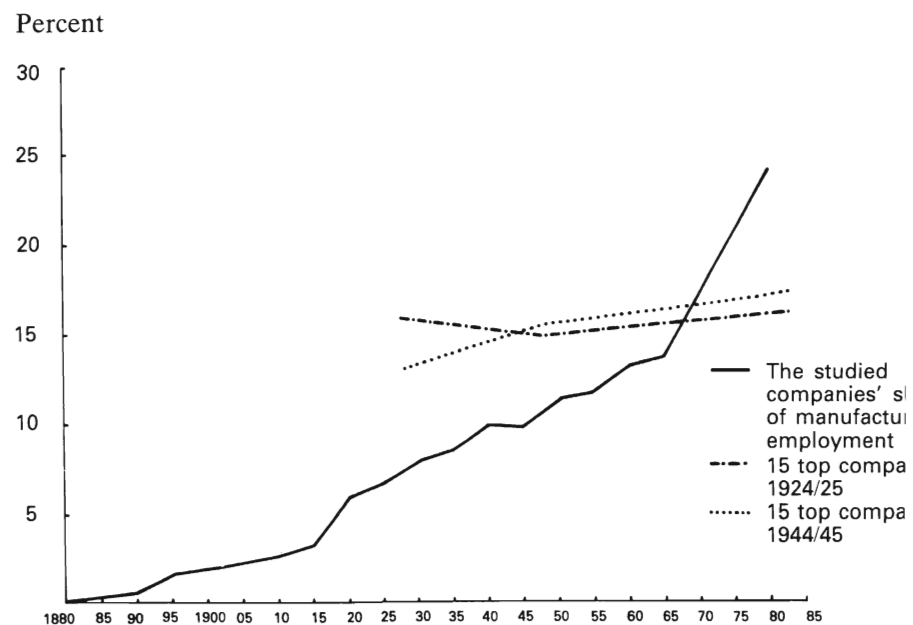
With few exceptions, today's largest Swedish companies are old, international, and operating in the engineering sector. I have studied the growth of the ten largest Swedish companies, ranked by number of employees abroad. The companies included in the sample would be very much the same, however, if I had chosen them according to other criteria. Due to availability of data, I use the number of employees as a measure of size and growth for these firms.

Figure 1 shows that the share of the 10 largest companies in total Swedish

manufacturing employment has increased steadily from approximately 0.5 percent in 1880 to 7.8 percent in 1930 and 25.5 percent in 1983. The growth rate was rather steady until the mid 1960s when it suddenly increased, mostly due to an intensified rate of acquisitions and mergers. Thus, these companies have achieved a considerably faster growth than the average manufacturing firm, especially during the 1970s when total manufacturing employment decreased.

Concentration in Swedish industry is higher than in most countries. If we look first at value added in total manufacturing, the share of the ten largest Swedish companies is nearly twice as high as that in Denmark, Finland, and Norway (Oxelheim 1984). Table 1 shows that a similar pattern characterizes employment. With the exception of Switzerland and the Netherlands, the degree of concentration – as we measure it – is more than twice as high in Sweden than in the other studied countries. Part of the explanation is the small size of domestic markets in Sweden, the Netherlands and Switzerland. Under these conditions, concentration may be needed in order to compete effectively in international markets. But since the other Nordic countries do

Figure 1 *The studied companies' share of total Swedish manufacturing employment 1880–1983*



Source: IUI.

not exhibit similar degrees of concentration, despite small domestic markets, more is needed to explain the large size of Swedish firms and the concentration of production in Sweden.

One important question is whether the high concentration in Sweden means special problems regarding production inefficiencies. Looking only at domestic competition, the high concentration ratio suggests a problem, but if the perspective is broadened and international markets taken into account, the picture changes. The large Swedish companies are in most cases not large compared to their international competitors, and market competition is intense in Sweden as well as abroad. At the individual plant level, Hjalmarsson (1977) shows that the welfare effects of increased economies of scale (following mergers and a higher concentration ratio) are in most cases higher than the corresponding costs. According to this rather simple model (strictly limited to homogeneous goods), the net allocative effect of mergers is positive.

2. A Structural Shift in Industry

The growth of the ten largest firms can be compared to the growth of other company groups to illustrate a structural shift in Swedish industry. Figure 1 displays employment growth in the ten largest firms of today, as well as in the 15 largest companies of 1924/25 and in the 15 largest companies of 1944/45. As can be seen, the employment share of the largest companies in 1924/25 fell from 16 percent in 1925 to 12 percent in 1945 but then increased again to 16 percent. The share of the 1944/45 top companies rose from 12 percent in 1925 to 16 percent in 1945 and 19 percent in 1983. In both cases the growth has been considerably lower than that of today's top companies. One explanation is that the sample from 1924/25 and 1944/45 includes a larger number of slowly growing raw material based companies.

Table 1 *The share of employment in the largest corporations compared to total manufacturing employment 1983*

	Percent									
	Sweden	USA ^a	Great Britain ^b	Italy	Japan	France	Germany	Canada	Switzerland	Netherlands ^b
5 largest	21.6	7.9	10.6	13.6	3.4	11.5	10.8	11.8	53.7	35.4
10 largest	36.2	11.2	16.8	15.3	5.2	17.1	16.5	16.7	73.2	
20 largest	46.4	15.3	25.5		7.2		21.6			
40 largest	57.0	21.4								

^a 1984.

^b Shell and Unilever excluded

Source: Fortune, Annual Reports, EEC Statistics.

Of the top 15 companies in 1924/25, 10 could be classified as raw material based companies. In 1944/45 the number had decreased to 7 and in 1983 to 5. Furthermore, the raw material based companies that remain among the largest are all on the lower part of the list. Instead, the engineering companies have grown rapidly. In 1924/25 engineering firms were ranked as no. 1, 5, 10 and 13; in 1944/45 as 1, 3-5, 12 and 13; and in 1983 as 1-6, 8-9, 11 and 13. This highlights the transformation of Swedish industry from companies based on raw material resources to knowledge intensive production.

There are several explanations for the rapid growth of the large companies;

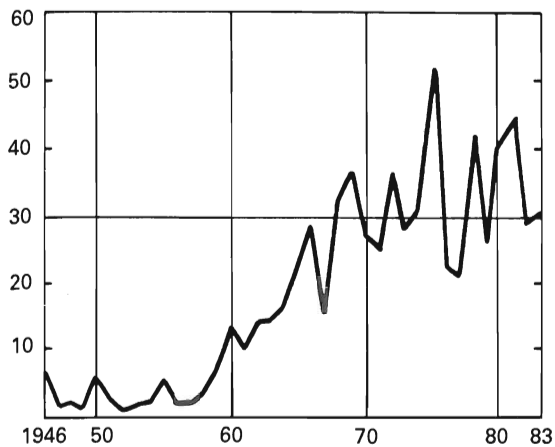
- early internationalization and operations within internationally expanding sectors or niches
- concentration on knowledge intensive and relatively price inelastic products
- continuous restructuring of internal organization – including mergers and acquisitions – to upgrade performance
- high investment in R&D
- high investment in marketing.

One important aspect of growth, which is easily forgotten when looking at aggregate figures, is that many of the companies at one point or another have been in serious trouble. Today's top companies survived these difficult periods, while others – perhaps with similar characteristics – have been forced to exit or have been taken over by other firms. Which companies survive depends critically on management and owner skills, but good luck also plays a role. For this reason it is virtually impossible to forecast the future developments of individual companies.

3. Mergers and Acquisitions

As noted above, external growth through mergers and acquisitions of other companies became increasingly important in Sweden during the 1970s (Figure 2). Data on internal and external growth in the 10 studied companies (in Sweden and internationally) is presented in Table 2. Between 1946 and 1968 these companies increased their employment by 150 000 persons, of which 41 000 in acquired companies. The picture is rather similar for the period 1968-75. Total employment rose by approximately 148 000, of which 52 000 was from acquired companies. Between 1975-1983 total employment in these companies decreased by 7 500 employees, despite an increase of 74 000 employees in acquired companies. Thus, the “internal” employment decreased by 81 000 persons.

Figure 2 *Number of employees in acquired companies in Sweden 1946-83*



Source: Örtengren (1985).

Table 2 *Internal and external employment growth 1946-83 in the 10 studied companies*

	Number of employees in end year	Internal employment growth	External employment growth through acquisitions	Total
All ten companies				
1946-68	283	109	41	150
1969-75	431	96	52	148
1976-83	423	-81	74	-7
1946-83	423	124	167	290

Source: IUI.

Why has this increase in acquisitions taken place? Among the most important explanations are:

- acquisitions are fast and inexpensive ways of acquiring knowledge in strategic corporate fields
- acquisitions are fast and inexpensive ways of acquiring marketing channels
- economic developments during the 70s provided a large supply of potential acquisitions, due to decreased profitability and inadequate financing.

4. Entry

The restructuring of the manufacturing sector involves entry, exit and reorganisation of existing firms. Entry in the restructuring process of Swedish industry will be discussed below. At first glance, the entry process may appear insignificant, since so many of today's largest companies were founded in the 19th century. For example, only one of Sweden's 25 largest exporters was established after World War II.

Nevertheless, I claim that new entrants play two important roles. First, as developers of new products and ideas which expose the existing firms to intensified competition; second as potential acquisitions for larger companies, which provide important complements to the knowledge base of these firms.

Entry is in most cases defined as the establishment of firms, new to the specific market as well as to the business sector in total. In some cases the definition of entry in a specific industry may also include companies previously active in other industrial sectors. However, even in these cases only new juridical organizations or new plants are normally included in the notion of entry.

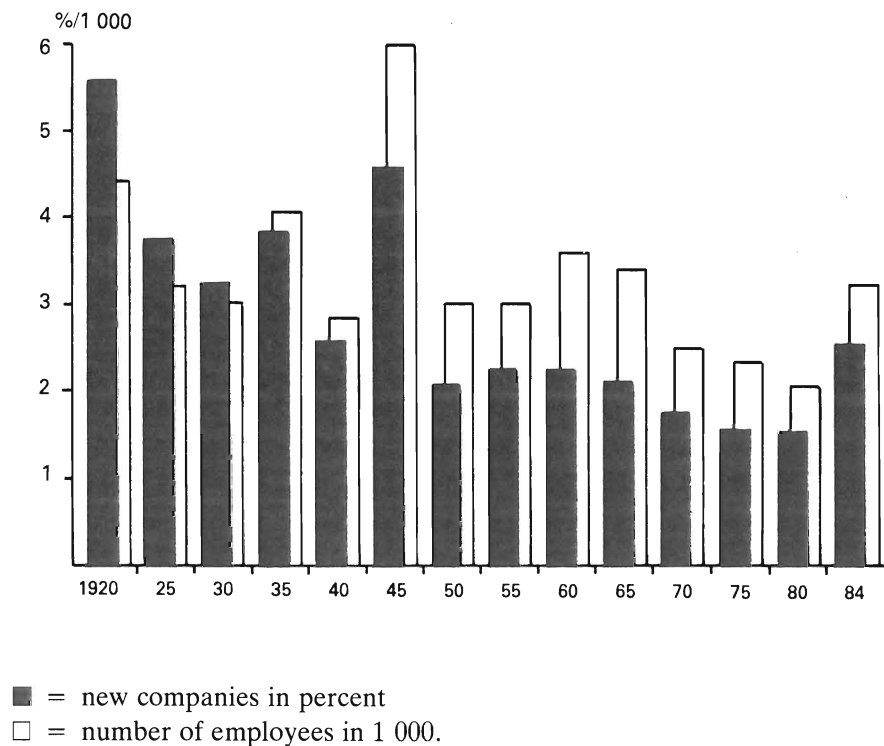
Innovations, reorganization of production, marketing and R&D and entry can to some extent be seen as substitutes for each other (see further Lindberg and Pousette in this volume). The restructuring of the manufacturing sector can be achieved either through new firms or through changes in the old ones. As shown in Eliasson-Granstrand (1981) the system for financing different kinds of investments plays a major role in explaining the actual outcome. Innovations and reorganization of existing firms seem to account for a major part of total Swedish "innovative entry" (Eliasson 1986).

According to Granstrand (1986) much of the innovative entry and exit processes occurs at a very low level of aggregation – notably at product levels – and goes on in markets as well as within firms. Of all major innovations in Sweden in the postwar period, more than 80 percent occurred in existing firms and only 20 percent in new companies. Thus, the process of entry and exit is much more intensive on the product market, than on the "market for companies".

Studies on *new firm entry* (Dahmén 1950; Du Rietz 1985) show that there was a large amount of new establishments of firms up to the first world war. The period 1919 to 1939 was also characterized by a large number of newly established firms (Figure 3). This level was maintained immediately after the war, but fell by almost 50 percent after 1950.

The rate of new firm entry fell further after 1960. After 1975, and especially since 1980, new firm entry seems to have increased once again. In 1984 the total number of entering, manufacturing firms was approximately 2 200 – 3 600 with some 3 500 employees. The total number of newly estab-

Figure 3 *New firms in percent of total stock and new employment in new manufacturing companies in thousand persons*



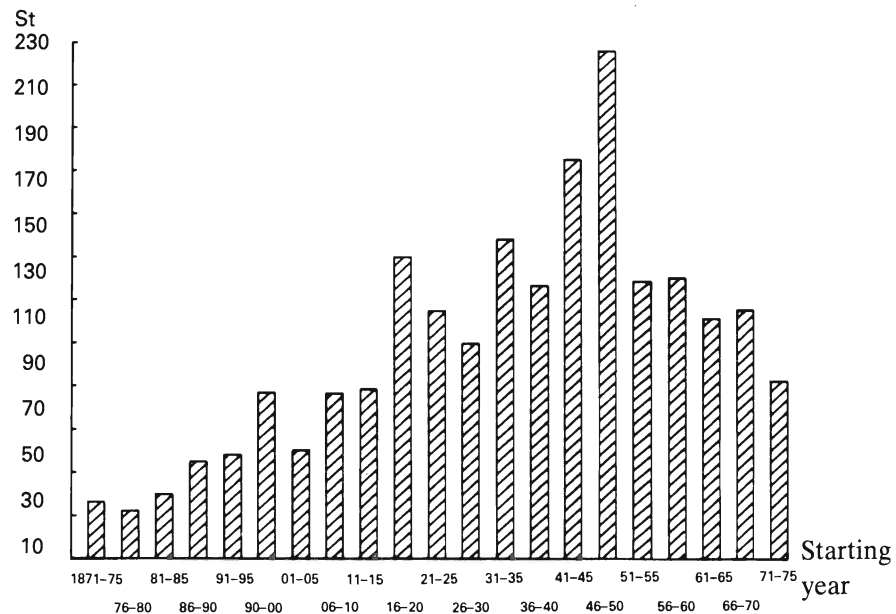
Source: Du Rietz (1985).

lished firms was about 15 000 – 20 000 in 1984. This indicates that a large majority of the new companies are operating in the service sectors.

A similar picture is obtained if we study the age of the manufacturing companies operating today.¹ The results (Figure 4) show that the existing stock of companies – in terms of starting year – is rather evenly distributed between 1916/20 to 1966/70 with 1941/45 and 1946/50 as absolute peak years. Notice also the large relative increases 1896/1900, 1916/20, 1931/35, 1941/45 and 1946/50 and the large decreases 1901/05 and 1951/55. The low number of companies started in the 1970s is due partly to the decreased number of entries, partly to the fact that a company in most cases is not (detected and) included in the list before it has reached a certain size (age). The number of young companies is therefore underestimated.

¹ According to the "Industrial Calendar" – a list of all major manufacturing companies.

Figure 4 Existing manufacturing companies 1982/83 distributed according to starting year



Source: IUI.

So far, we have presented data regarding the number of new firms entering the market each year. The next question is whether these companies will be able to grow and become the large companies of tomorrow.

Studies of small, newly established companies in Sweden have shown that very few, if any, of these companies will ever grow to become really large. Furthermore, the fastest growing small firms are in most cases acquired by larger business groups. Takeovers are in most cases the result of a strained financial position in the small company, following fast expansion.

We have analyzed the growth of a sample of firms in the engineering and chemical sectors established between 1954-58. As is shown in Table 3, the companies which managed to survive as independent firms doubled their employment between 1958 and 1982, but the employment in the sample as a whole was almost exactly the same in 1982 as in 1958. Employment grew until 1969, after which time the increase in acquisitions and bankruptcies led to a rather fast decrease. Lack of information makes it impossible to separate acquisitions from bankruptcies.

Similar findings on the development of entrants can be found in a study by Reitberger-Utterback (1982) on technology intensive small companies. Their conclusion is that very few companies have managed to grow both rapidly and steadily for a long time. The successful firms are “the exceptions which prove the rule”. Newly established technology intensive firms should be seen as potential acquisitions for the existing large firms, which often take over a small company when fast growth demands large financial resources. It is unusual that new entrants manage to become independent, medium sized or large companies. Therefore, the importance of the smaller companies is underestimated if the effects of acquisition are not taken into account.

Another study at IUI supporting these results has shown that out of 115 companies existing as independent firms in 1920, only 94 survived until 1925, 79 until 1941, and 35 until 1970 (Jagrén 1986). By 1981 the number had dropped to 21. The total number of employees increased from 27 000 in 1925 to 128 000 in 1980. However, total growth can be explained almost completely by the growth of two companies in the sample. The remaining 19 firms have grown very slowly, if at all.

In this respect, Sweden seems to differ from U.S. and Great Britain. For example, Birch (1979) has concluded that companies with less than 20 employees during 1969-76 accounted for more than 60 percent of total growth in business sector employment within the U.S.

Table 3 *Employment in small firm sample 1958-82*

	Employment			
	1958	1964	1969	1982
Companies existing 1958-82	1 525	2 310	2 768	3 204
Companies existing 1958-69	943	1 504	1 792	
Companies existing 1958-64	407	509		
Companies existing 1958	270			
Total employment	3 145	4 323	4 560	3 204

Source: IUI.

5. Exit

Regarding *exit* we see in Sweden a continuous decrease in the number of small firms and plants, and in the number of firms and plants within the raw material based sectors like mining, steel, wood-products and shipbuilding. In 1955 there were approximately 16 300 establishments within the manufac-

turing sector, in 1982 the number had decreased to 9 500.¹ Establishments with less than 50 employees account for almost 90 percent of the total decrease.

Industrial transformation slowed down during the 1970s, following a huge government subsidy program designed to rescue a number of companies within the steel, paper and pulp and shipbuilding sectors (Carlsson et al. 1981). This policy was reversed in 1982.

Size in itself seems to be a protection against exit. Of the top companies from 1924/25 only 4 have exited and disappeared as independent companies; of the 1944/45 sample, only 2 have disappeared. Larger financial resources mean a larger capacity to absorb sudden losses and business cycle downturns. Moreover, size often implies both product and market diversification and risk spreading. The company can transfer capital from stagnating to expanding areas, and sheer size may also give it a greater influence on general technological and market development. Size is also closely connected to the existence of different economies of scale. The most important economies of scale are to be found traditionally in the different production processes. Today, however, economies of scale in R&D, marketing and in the financial areas seem to be rapidly increasing (Eliasson 1986). For example, a certain size is needed to finance the huge R&D and marketing investments needed for maintaining the competitive edge.

Thus, an important factor behind the observed stability among the largest Swedish companies, is their investments in R&D and marketing, i.e., in activities aiming to change the existing orientation and organization of the company. The same can be argued regarding the many company takeovers. Stability at the top requires instability within the company.

6. Conclusions

(i) A high degree of concentration is necessary for long-run survival of advanced companies in a small open economy. One cannot use U.S. criteria of concentration in evaluating Sweden. The Swedish economy is dominated by a few old and large companies. Through continuous internal restructuring, and large investments in R&D and marketing, these companies have managed to maintain their position.

(ii) Entry is most commonly defined as entry of new firms. However, there are other important aspects of innovative entry such as new products, reorganisation towards more marketing and product development. These

¹ The number of working units corresponds closely to the number of plants and varies according to the number of companies. A company, however, may exist of several plants.

other aspects dominate the Swedish reality of innovative entry. However, “pure” entry has increased in importance during the last few years.

The Swedish economy is characterized by a very limited growth in new firms. Very few new companies manage to grow large and to remain independent. Instead, acquisitions occur early in the growth stage. As a rule, only a few companies out of several hundred account for growth in output of the whole group. This makes the economy vulnerable to decreasing rates of innovative entry in a broad sense.

(iii) The rate of exit in the economy has been high during the postwar period, apart from a period during the mid 1970s when large government subsidies kept a number of endangered companies in the market. The exit process has mainly affected small and medium sized firms; large firms appear relatively immune.

The restructuring of the Swedish economy is to a large extent taking place *within* the large companies – through take-overs, marketing and R&D – instead of those being competed away by new entrants in the market. This solution to the restructuring process seems to be different from that in many other industrial countries and makes the economy dependent on the competitive edge of a rather limited number of large firms.¹ Ongoing studies at IUI (see p. 211 – The role of owners in a historical perspective) focus on the role that owners play during the restructuring phases and aim at measuring the long run productivity and profitability effects of internal and external restructuring.

¹ It resembles the approach of Williamson (1975) who proposes – on analytical grounds – that it is preferable from an efficiency point of view to have a system with an innovative take-over mechanism from small to large companies in later stages of the innovation (entry) process.

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