

Keskusteluaiheita Discussion papers

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PROFITABILITY AND INDUSTRIAL
INVESTMENT IN FINLAND:
SOME EMPIRICAL NOTES ON FACTORS
RELATED TO FUTURE INVESTMENT
AND ECONOMIC POLICY*

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1. INTRODUCTION

Since the early seventies there has been a lot of discussion of the long-run profitability development in western countries. In several studies¹⁾ attempts have been made to find out whether there has been a declining trend in profit rates or in the share of profits in the total factor income. These studies have come to somewhat conflicting conclusions about the existing trends and thus about the possible changes in the efficiency of resource allocation.

The discussion about profitability was accelerated during the recession of the 1970's, when in most industrialized countries the weakness of investment became a major concern of economic policy aimed at sustaining economic recovery. It was argued on several occasions that during the years of recession profitability in industry fell in many countries well below the level that would have been expected from the past trends, which, in turn, may have important implications for future investment and economic growth. In the sectoral studies it has been found that the divergence of profit rates between industrial sectors has increased in the last few years reflecting the current and future structural problems of the economies. Also the variation of profitability between firms seems to have changed and possibly the determinants of this

1) See for example Nordhaus (1974), Feldstein and Summers (1977), Ball (1978), Lovell (1978), Hill (1979) and Bergström-Södersten (1979).

variation have changed too, thereby putting new requirements on both the research on profitability and economic policy planning. It must be born in mind that an industry or a branch of industry is not a decision unit and that economic policy actions on the sector or the branch level are not always well-founded.

From the point of view of future investment performance and structural change the key questions connected with profitability could be put for example as follows: what kind of role does the development of profits play as a determinant of investment activity; to what extent does the increased uncertainty affect the risk premiums and expected profits, or what would be the profitability level required in future in order to reach the previous investment levels; what structural implications has the reduced willingness to undertake large capital-intensive investments with a high risk factor.

It is obvious that the investment problems will mainly concern the basic industries, where capacity is usually increased in large increments and often at the expense of short-run profitability. It is also obvious that the decreased stability of profits and lack of business confidence (compared with the 60's and early 70's) mean that past levels of aggregate investment demand will be achieved only with a profitability level higher than in the 1960's and early 1970's¹⁾.

1) Cf. Nordhaus (1974). In this respect the situation could be compared with the period after the Depression of the 30's.

In the following we will present a brief descriptive analysis of the profitability and investment development of the Finnish industry and of its most important branches referring to problems common to small open economies. We will also provide a short description of stability movements in profitability and make some international comparisons of profitability performance in order to clarify present situation and give background for assessing the future course of Finnish industry.

2. PROFITABILITY IN OPEN AND SHELTERED BRANCHES OF INDUSTRY

According to most profitability indicators there has been no clear long-run trend in profits in Finnish industry (mining, manufacturing and energy supply) contrary to many other industrialized OECD-countries. When comparing the competitive and non-competitive sectors of industry, substantial differences can be shown in profitability behaviour in the two groups concerned (Chart 1). The course of development in profitability of the group of sheltered or non-competitive (food, beverage, tobacco, printing and publishing, and energy) branches¹⁾ has been quite stable with a slight downward trend during the period under consideration (1955-78), whereas the fluctuations in profits of the open branches have been quite strong. Also the timing of movements in profits has been different in these two sectors. The impulses coming via exports thus cause substantial differences in profitability and in the distribution of income within industry, both of which play an important role in the cyclical dynamics of a small open economy and put special requirements on industrial policy in the short as well as long run. The importance of export performance from the point of view of profitability and investment activity can be illustrated by Chart 2, which shows the clear connection between profitability and fluctuations in exports and investment in the

1) These branches account for about 30 % of total industrial production in Finland.

Chart 1. Profitability in open and sheltered branches of industry, 1954-78

Gross profit share

$$GPS_1 = \frac{VA-WL}{VA}$$

$$GPS_2 = \frac{VA-WL}{QP}$$

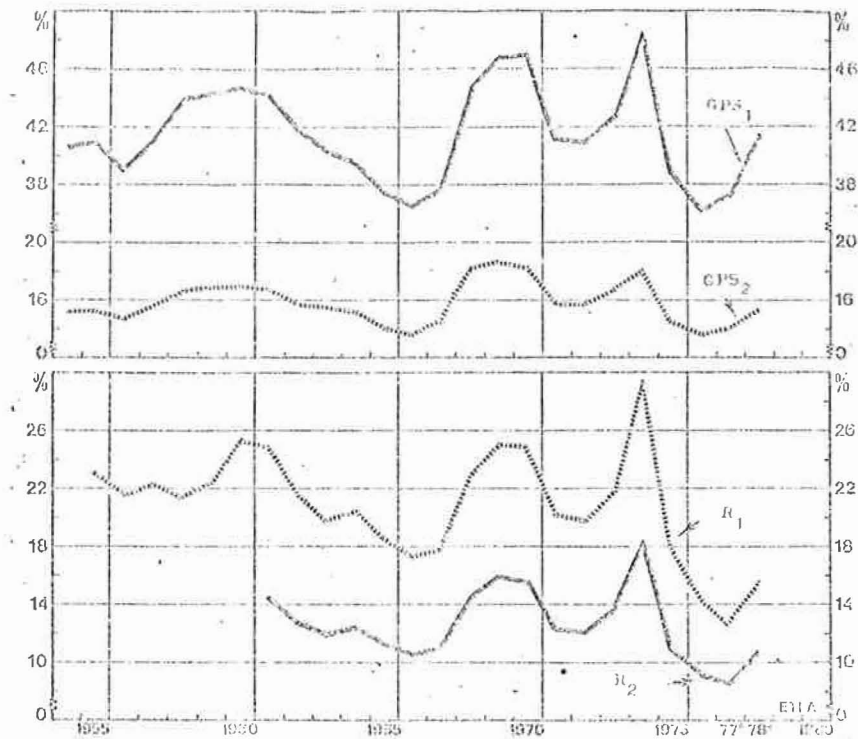
Gross rate of return

$$R_1 = \frac{VA-WL}{C_{t-1}}$$

$$R_2 = \frac{VA-WL}{(C+IN+FA)_{t-1}}$$

VA= Value added
 WL= Total labour costs
 C= Fixed capital
 IN= Inventories
 FA= Financial Assets
 QP= Value of gross production

OPEN BRANCHES



SHELTERED BRANCHES

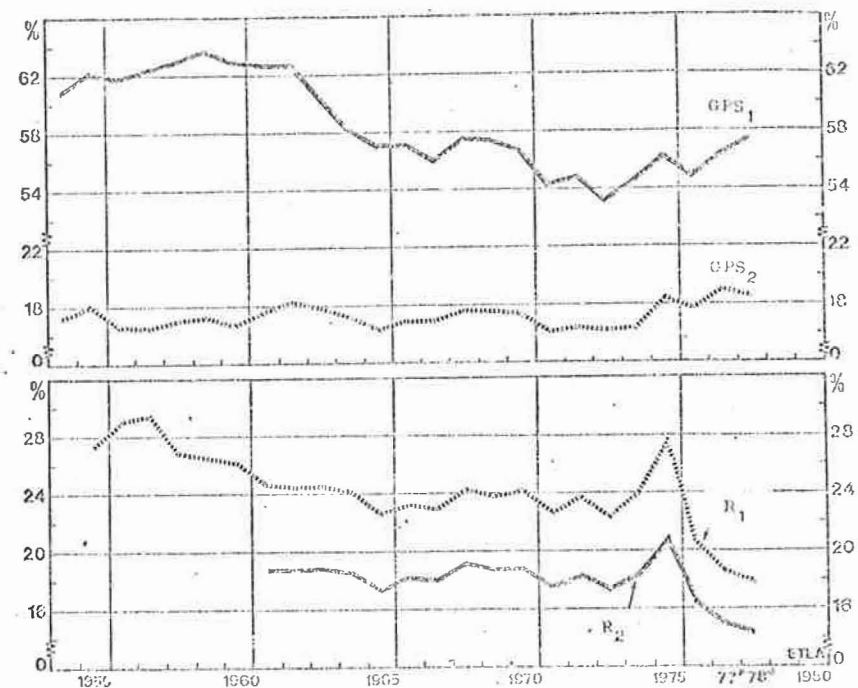
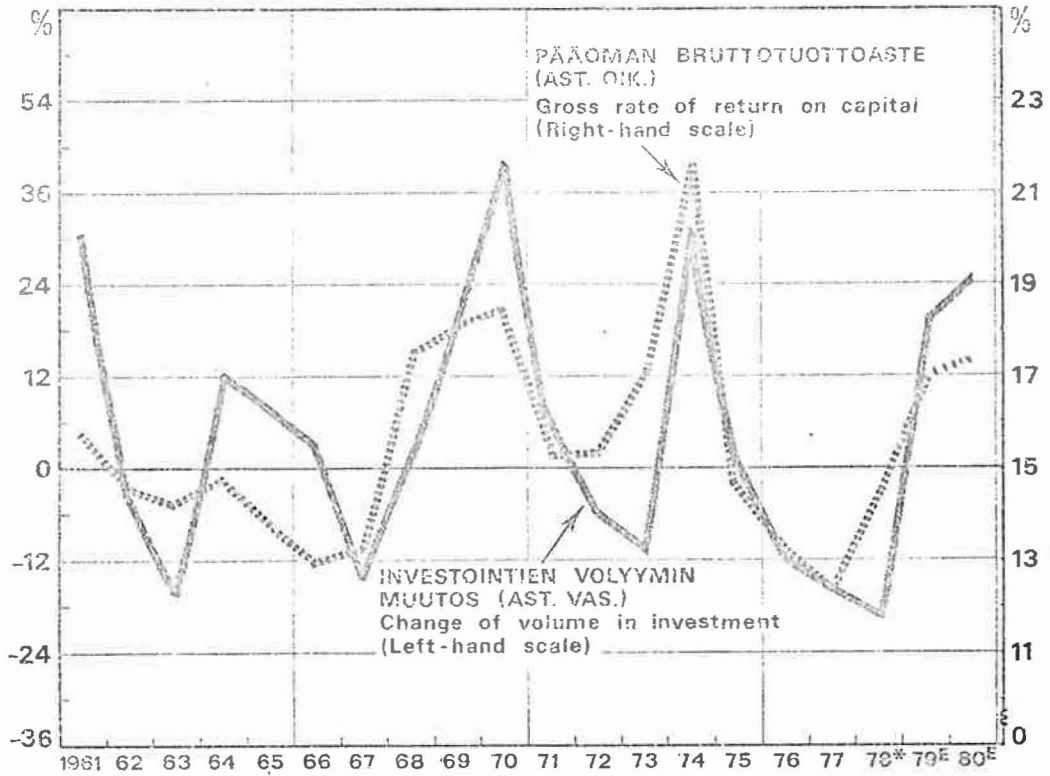
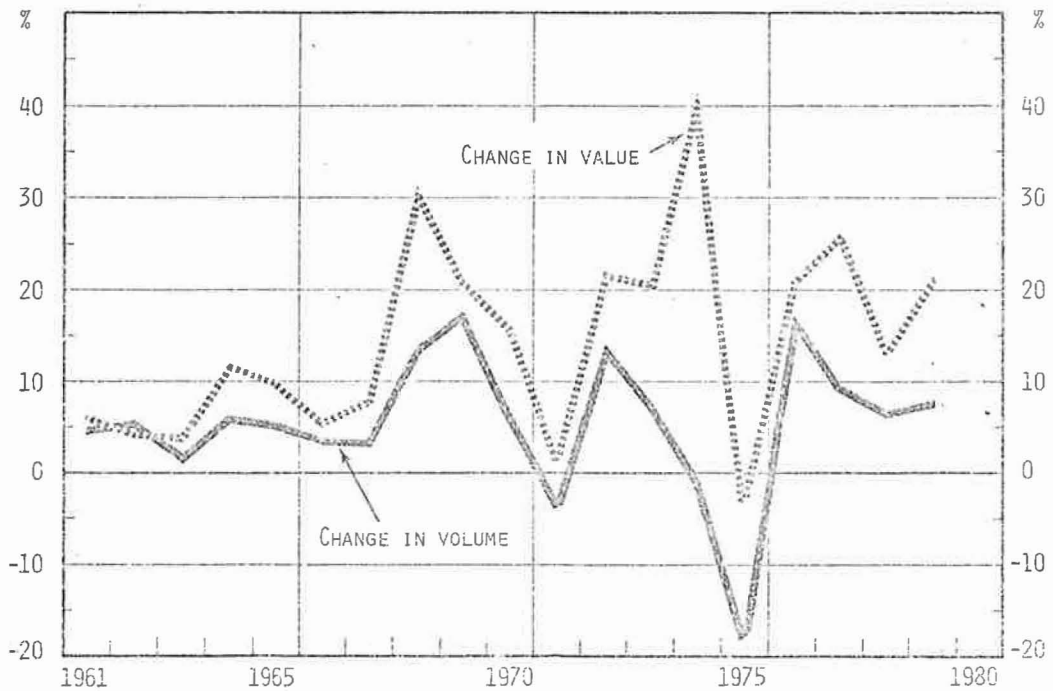


Chart 2. Profitability in industry and changes of industrial investment and commodity exports, 1961-80



Changes of commodity exports



Finnish industry. It can be stated on the basis of the experience of the past few years in Finland that sufficient and relatively stable competitiveness, measured here as profitability of industry, to a large extent regulates investment, and thus domestic demand in its entirety.

3. SOME REMARKS ON PROFITABILITY DEVELOPMENT BY BRANCHES

To get a more detailed picture about profitability behaviour of industry and the structural problems associated therewith, a short description of profits by branches is presented in this section. When looking at the course of development of profitability in the different branches, a declining trend can be detected in food, beverage and tobacco manufacturing, and in footwear and clothing industries (see Chart 3). In other branches no statistically significant trends are to be found. The comparison of stability of profits in various branches reveals that the fluctuations in profit shares as well as in rates of return have been strongest in the forest industries, in which the share of exports of total production is about 80 %. It was the forest industry, the contribution of which to the decline in profitability of Finnish industry during the recession of 1970's was very remarkable; not less than 60 % of the decline in gross profit share of the total industry in 1975-76 was attributed to forest industries while the share of these industries of the total industrial production was only about one fifth. This means that, taking into account the weakening demand prospects as well as the increasing competition in international markets, the forest industry will undergo substantial structural changes in the 1980's. The products of forest industries accounts for about 40 % of Finland's total exports, which means that the role of these industries is of great importance to the external balance of the economy.

As far as other branches are concerned no such big problems or need for urgent restructuring can be seen in the medium-term as eg. in Sweden - provided that general price competitiveness can be maintained. Eg. the shipyards and manufacturing of machinery have done relatively well - when compared internationally - mainly due to specialization and exports to the Soviet Union. Also the textile, footwear and clothing industry has expanded its production, and especially exports, quite rapidly during the last 10-15 years in contrast to most industrialized OECD-countries. The declining profitability trend, however, indicates that these branches have to intensively carry on the development of products which do not compete with those of developing countries. In the steel industry the advantage of Finnish producers has been the relatively modern production capacity compared to many other countries.

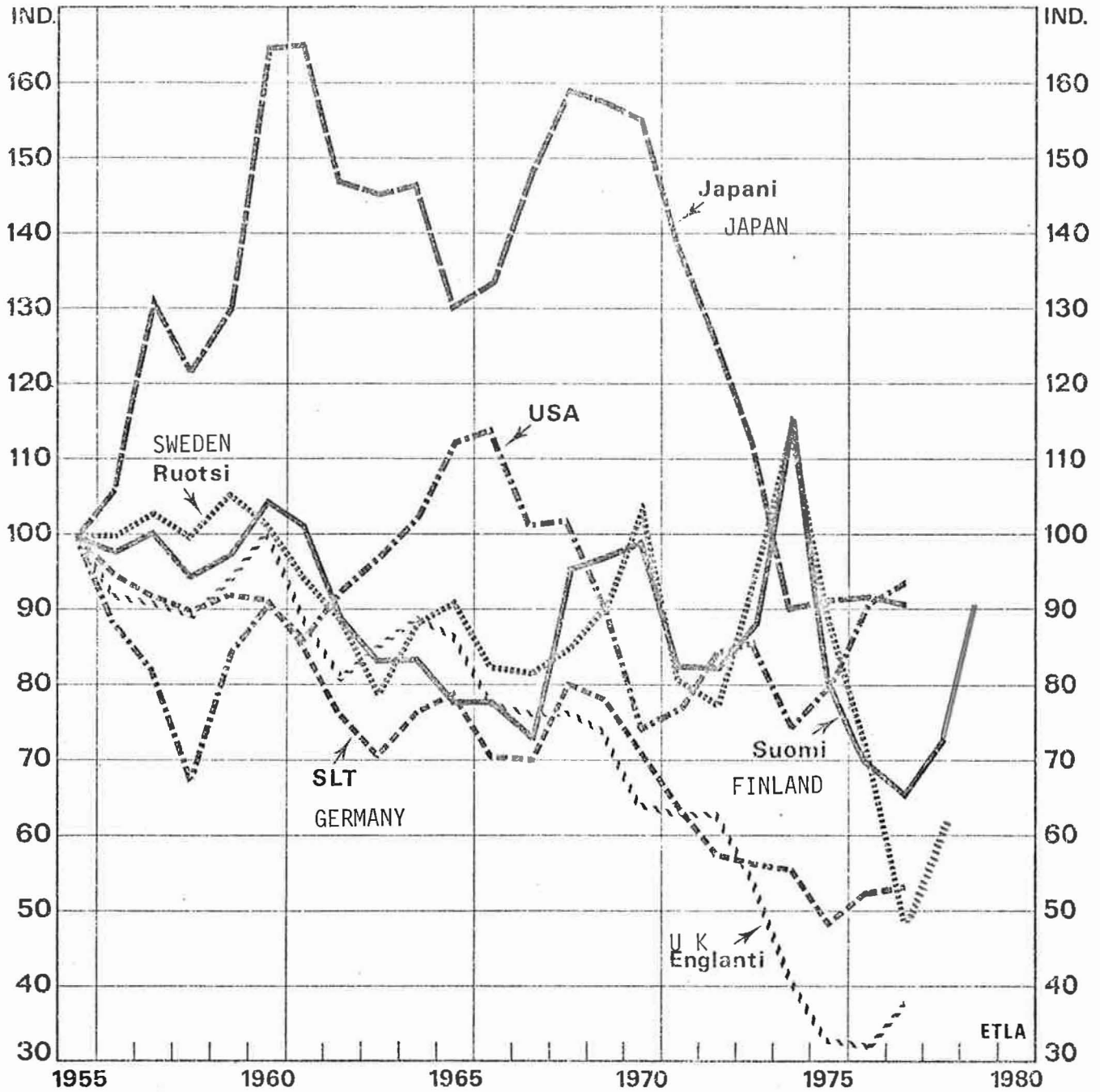
4. INTERNATIONAL COMPARISONS

The international comparison of profitability performance in the level of total manufacturing is done in Chart 4. A falling trend in profit rates - according to the indicators used here - can be shown, eg., in the UK and Germany. The development of the 1970s also shows quite big differences between countries included in the Chart. As a result of the commodity boom in 1973-74 the profitability of Finnish and Swedish manufacturing improved remarkably but declined sharply thereafter in 1975-77, at the same time as the downward movement of profits in most OECD-countries appears to have stopped.

The developments in Finland and Sweden are worth of further comparison. The pattern of profitability behaviour in manufacturing was quite similar up to 1975-76, which is mainly attributed to the similarities in the structures of Swedish and Finnish exports. The differences, which emerged in 1977-78 can, in turn, at least to some extent, be attributed to different industrial policy adopted in the two countries concerned. The subsidies policy was not used in Finland to as great an extent as in Sweden, which undoubtedly was reflected in the profitability differences of 1976-77. The short-run employment implications of these policy differences have, of course, been quite unfavourable to Finland.

The relatively rapid improvement in the profitability of Finnish manufacturing in 1978 and especially in 1979 coincides

Chart 4. Gross rate of return in manufacturing in selected OECD-countries, 1955-77 (1955=100)



Sources: Hill(1979)

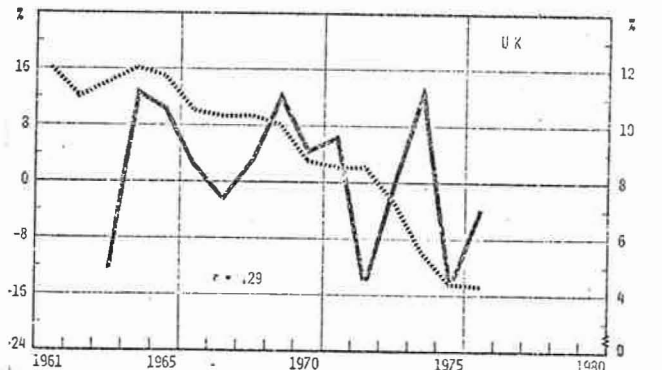
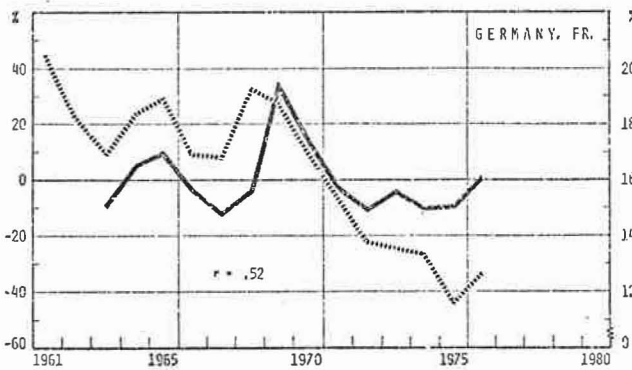
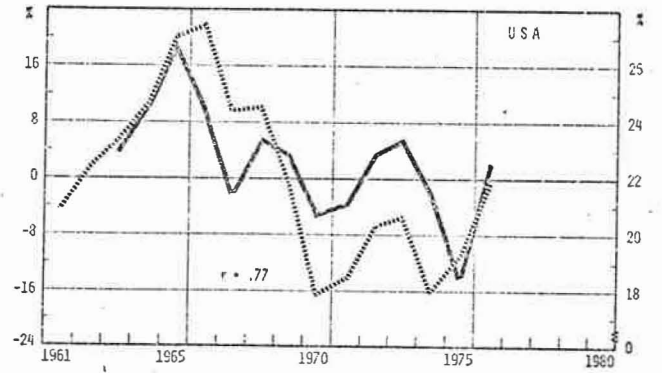
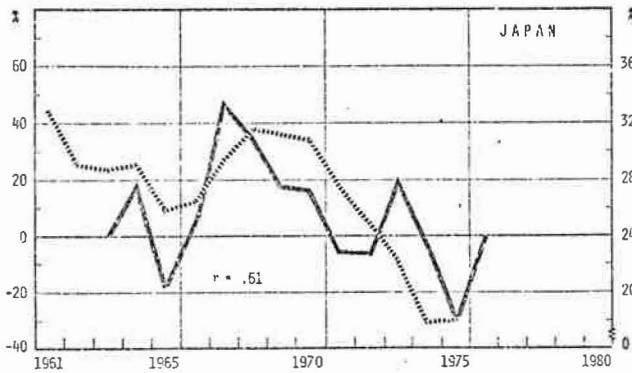
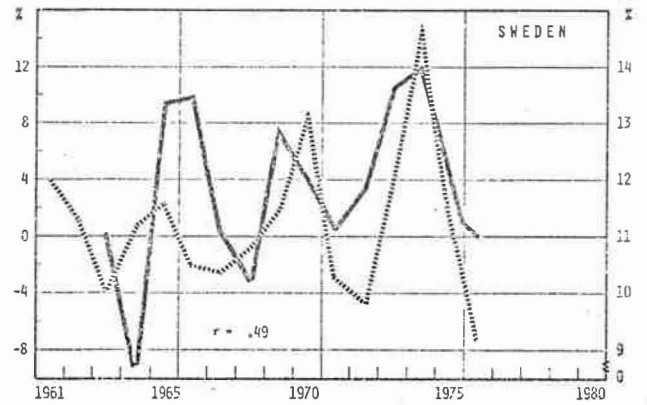
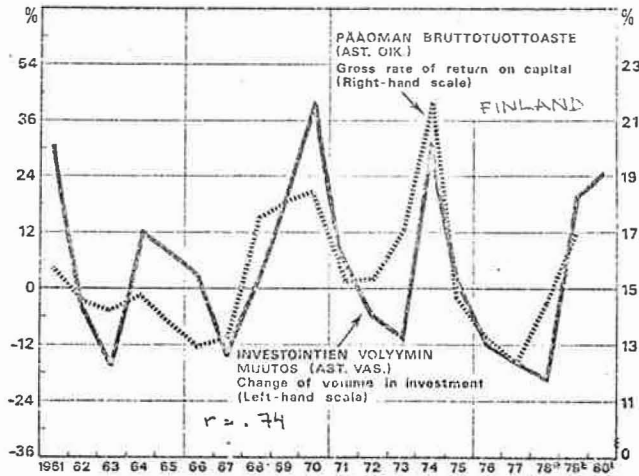
Ylä-Anttila-Heikkilä (1980)

with a period of rather stable unit cost development as well as the devaluation of the Finnish mark and a growing export demand.

As stated above the interdependency of profitability and changes in investment activity has been quite strong in Finnish industry. In this respect comparisons to selected OECD-countries are made in Chart 5. There are certain differences between countries, but it seems that, as well as in Finland, quite strong connections between profit rates and fluctuations of investment can be found in USA and Japan. The time-series used are rather short and insufficient for detailed analysis, but they obviously give some indication of the dynamics between profits and investment behaviour.

Chart 5. Profitability and investment of manufacturing in selected OECD-countries, 1961-76

— Change in volume of investment (left-hand scale)
 - - - Gross rate of return on capital (right-hand scale)



Sources: Hill(1979), OECD-statistics and Ylä-Anttila-Heikkilä(1980)

5. STABILITY OF PROFIT RATES

As was stated earlier, the instability of profits and profit rates seems to have increased in the 70s. The course of development in the Finnish industry is illustrated in Table 1. The variations of profit rates have been quite strong, as can be expected, in the open branches of industry, especially in the forest industries.

In the 1970s the fluctuations of profitability have substantially increased in every branch presented in the table. If this is reflected as an increasing uncertainty in the decision-making regarding investments, the pattern of investment behaviour may be considerably changed in the near future.

From the point of view of economic policy measures it is important to note that the dispersion of profits within industries is very large and this dispersion has varied considerably in the 1970s. As an example of variation of profit rates between firms Chart 6 is presented, which shows the development of the net rate of return in 1971-78 in the Finnish and Swedish forest industries by companies. It can be seen that looking at the average only would obviously lead to somewhat different conclusions than taking into consideration also the distribution of profitability and changes in it. It should, however, be kept in mind that the cross-sectional analysis of profitability is much more complicated than the analysis of time-series.

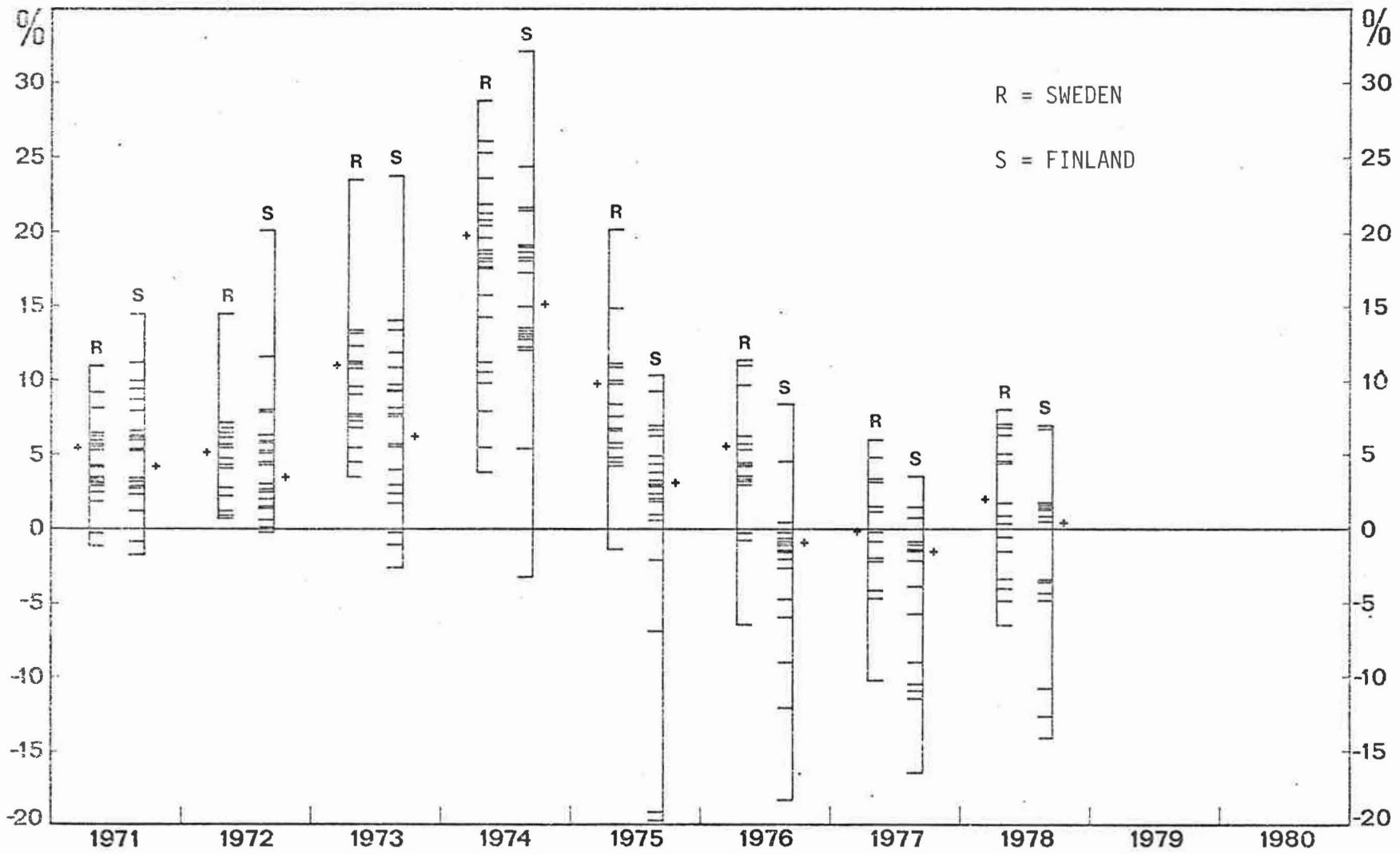
Table 1. Stability of profit rates¹⁾ in the Finnish industry, 1960-78

	Coefficient of variation (%)		
	1960-78	1960-69	1970-78
Total industry	15.9	9.7	21.1
Sheltered branches	10.4	4.9	13.7
Open branches	20.7	14.1	27.3
Forest industry	36.3	26.7	47.3
Metal and engineering	18.5	16.8	21.3
Food, beverage, tobacco	9.1	5.5	10.6
Textile	22.9	14.3	25.5
Footwear and clothing	22.7	12.8	28.4

1) Gross rate of return.

Source: Ylä-Anttila - Heikkilä (1980).

Chart 6. Net rate of return in Finnish and Swedish forest industry by firms, 1971-78



Source: Ylä-Anttila(1978 and 1979)

6. CONCLUDING REMARKS

The preceding presentation has given some indication of the importance of profitability as a determinant of investment activity and economic growth. If profits are too low and the variations of profitability are large there is little incentive to invest and/or there are problems in getting sufficient financing. On the other hand high or excess profits may lead to inefficiency and on the aggregate level through high savings ratios to a shortage of total demand in the economy.

The investigation of the profitability development in the Finnish industry showed that the profits have varied in the 1960's and early 70's more or less in accordance with the general cyclical development. The fall of profits during the recession of 70's was greater than before in the period under consideration. This course of development corresponds to that of most OECD-countries, although the timing of profit fluctuations has been quite different. In 1978 and 1979 the profitability of the Finnish industry improved relatively rapidly and it is likely that in the near future the weak financial structure, especially in manufacturing, will bring about more difficulties than the inadequate profitability. The rapid growth of all industrial branches in Finland has been one reason, why the problems of weak financial position have not emerged until now.

From the point of view of the industrial adjustment policy the following up of profitability by sectors or by branches seems to be a useful means for identifying and forecasting structural problems and changes. But as far as economic policy measures are concerned it is important to analyse also the distribution of profitability within the branches and factors affecting profitability differences between individual firms.

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