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EXPERIENCES FROM GROWTH AND TRANSFORMATION IN THE POST-WAR PERIOD

- THE COUNTRY STUDY FOR FINLAND*

* A paper written for the OECD conference on "The Transition to a Market Economy in Central and Eeastern Europe" in Paris on 28th-30th November, 1990.

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ABSTRACT: This paper discusses problems related to growth and technological transformation in Finland in the post-war period. Some areas where the Central and Eastern European countries might benefit from the Finnish experience are given.

KEY WORDS: Post-war adjustment, productivity, spill-over effects, restructing of firms, stabilization policies.

EXPERIENCES FROM GROWTH AND TRANSFORMATION IN THE POST-WAR PERIOD - THE COUNTRY PAPER FOR FINLAND*

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INTRODUCTION

After the Second World War Finland was a country where a large part of the population was still dependent on agriculture. The share of industry in value added was about 30 % and GDP per capita slightly higher than in the European OECD countries on the average. The war reparations payments and the problem of resettling the population from the lost territory put heavy burdens on the population during the post-war adjustment period. However, since those times the economic performance of the economy in relation to other European countries has been good. Recent statistics on per capita income put her on the level of other Nordic countries, which is clearly higher than the average Western European level. In the following we try to summarize some of the reasons for the relatively favourable developments. When trying to draw lessons from these experiences, it is, of course, extremely important to remember the particular historical and institutional setting, which certainly has been different from that prevailing in the Central and Eastern European economies today.

Finland is a small open economy and extensive participation in international trade has been seen as an essential factor for raising living standards in the country.[1)] From the standpoint of a small economy it is important to stress also the dynamic aspects of participation in the international division of labour. Trade and international contacts also allow Finns and Finnish firms to follow technological and scientific developments in other countries more generally.

Rapid growth has often led to macro economic stabilization problems. The inflation rate has been higher and fluctuations in output larger than the European average. Balance of payments difficulties are also well known. In what follows, we will summarize difficulties encountered when trying to protect a small economy by macroeconomic demand management and exchange rate policies from international price and growth disturbances.

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1) Finland joined the IMF and IBRD in 1948, GATT in 1949, EFTA in 1961 and made a free trade agreement with the EC in 1973. In addition to the main markets in the Western Europe, Finland has also tried to develope trade relations with the former socialist countries. She has in the post-war period been an important western supplier in the Soviet market. Her share of the OECD imports to the Soviet Union in 1989 about 10 %. This represented close to 15 % of total Finnish exports. Trade with smaller CMEA countries has been very small.

The Central and Eastern European economies today face huge investment requirements. For financing of high investments, not only political and economic stability, but also profitability of firms and thus wage restraint are necessary. It is not clear, what kind of labour market institutions will be emerge. The state has in these countries represented the employer interests as well as controlled the trade unions. In connection with the stabilization problems, we shall discuss the Finnish experience of the "centralized" wage agreements.

The word "welfare state" raises mixed feelings among economists today. Some Eastern European economists (perhaps as a reaction to "command economy") seem to want to go to a "pure" market economy with very little state intervention. Some have as their ideal the welfare state, but they may not yet have got acquinted with its problems. Experiences from and discussion of the "great experiment" of the welfare state are something valuable, which the Nordic countries, including Finland, can offer to economists in other countries. We comment the role of the public sector in the growth and transformation process below.

Fast growth of output is usually associated with rapid growth of productivity. We argue that in addition to efficient diffusion of technology, continuous restructing of firms and a high level of intangible investments have been necessary prerequisites for the successful catching up process in the Finnish economy.

EXPERIENCES FROM THE POST-WAR ADJUSTMENT

Conversion of the tightly controlled war economy to a more or less regulated market economy was a long and difficult process. Some of the problems were similar to those facing the Eastern and Central European economies today: shortages and rationing of practically all commodities (including food), wage and price controls, persistent inflationary tendencies, centralized control of foreign trade, and planned allocation of many resources which left little room for price signals. Finland also faced the problem of resettling about 11 % of her population coming from the territory lost in the war. According to burdens imposed by the peace treaty she also had to pay war reparations, which in the years 1945-51 annually came up to about 2-6 % of the GDP and about 7-16 % of total state expenditure, which are very high figures.[1)] Particular difficulties were created by the fact that three quarters of the war reparqtions - which were to a large extent reparations out of current production - consisted of machinery and equipment, vessels and cables and only one quarter consisted of traditional forest industry products.[2)] On the other hand, this directed more resources to the metal and engineering industry than would otherwise have been the case, which enhanced the structural change in industry.

Due to the continuity of the pre-war institutions and accumulated physical and human capital the country had, after all, a relatively good starting point compared with many other European countries. Foreign trade developed particularly favourably because the demand for timber and paper in the main export markets grew rapidly during the reconstruction period in Europe. The pre-war output level of 1938 was reached in 1946. Many regulations and rationing schemes were lifted by the early 50s. The Finnish markka became convertible in 1957. This was accompanied by a large devaluation and extensive tariff reductions. The adjustment strategy was thus first to stabilize the domestic market, then deregulate foreign trade and only later liberalize international capital flows (some restrictions remain even today).

After the liberalization of international capital movements and the end of credit-rationing in the 80s, there are still many areas of government intervention. Sectors like agriculture (one of the most protected in the OECD area), food processing, transportation, some financial services, and inward foreign investments have regulations, which deviate from the general industrial policy line of increasing the role of market forces.[3)]

The basic difference between the situation prevailing in the former socialist countries today and the situation in the post-war Finland is, of course, the continuity of institutional infrastructure. The basic institutions like the democratic constitution, property rights, tax system, social security, financial markets (though undeveloped) which are necessary to the functioning of a market economy, were there. Even if some institutions also changed (e.g. new laws were passed), the

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1) See Suviranta in Jutikkala (1967).

2) See Pihkala (1982).

3) See OECD (1990).

adjustment process was basically that of returning to the pre-war institutions, which had been only temporarily modified or abandoned during the war. The "rules of the game" in the war economy were different from those of the peace time economy, but citizens and firms knew also the "old game" and it was easy to start to play it again. Of course, there were also some problems with political and social stability, but compared with those facing the policy makers in Eastern and Central Europe today, they were small. Adjustment was also made easier by some intangible factors, e.g., national cohesion after the lost war which, however, left the Finns independent with the will to participate in the reconstruction.

The task of creating the institutions and stabilizing the economy at the same time is more difficult than just stabilizing the economy. Successful stabilization requires not only that old laws are replaced by new ones. Economic agents must also understand and accept the new institutions and government programmes. They also need some time to learn new behavioural patterns (and to unlearn the old ones).

EXPERIENCES FROM GROWTH AND TRANSFORMATION

Financing the high investment rate

The rapid growth in Finland can to some extent be explained by a high investment ratio and accumulation of the physical capital stock. Particularly industrial investments have been on a higher level than in the OECD-countries on average. Ratio of investments to value added in manufacturing has been in recent decades roughly 5 per cent units higher than in the OECD area on the average.

Part of the investment has also been financed by borrowing from abroad. The strategy based on foreign borrowing was generally accepted in the 1950s and 1960s but when the foreign debt in relation to GDP rose over 20 % in the 1970s, this policy line was changed. The recent increase in the foreign debt to GDP ratio is due to unexpectedly rapid growth of domestic demand, not so much a conscious debt strategy.

Economic growth and efficiency require financial institutions and financial intermediation, although the bulk of the business sector investment is normally financed from retained earnings. External sources of finance are particularly important for new firms and in phases of accelerated investment activity. Owing to the low real interest rates (up to the 80s) and thin stock markets, Finnish firms have traditionally financed a large proportion of their investments by bank loans.

During the post-war years the financial markets in the Western market economies, including Finland, were tightly regulated and the interest rates kept at a fairly low level partly by means of administrative control of their formation. In an ex post evaluation, this kind of investment supporting policies probably did not lead to "too high" capital investment, as the capital needs were very substantial indeed in this period. In the "early" stages of a market economy, where the Eastern European countries are at present, this kind of bias towards favouring investment may again be worth considering.

The problem remains, of course, whether investment suppoting policies are possible with the present institutional arrangements. A major problem may be the possible unwillingness of the households to save at these fairly unfavourable terms. In the Finnish case this could be eliminated by the fact that the households also were able to save by amortizing their loans so that on average over their (housing) investment-saving cycle their rate of return was satisfactory (see on this Alho (1980)). Another important question with control of the lending rates is, of course, free international capital flows, which were not common before the 80s in many Western European countries. If free capital flows are allowed in Eastern and Central European countries during the transition period, it might be easier to let the financial markets function freely, but lower the effective cost of finance to the firms by means of tax policies.

The relative role of the two major financial institutions, equity market (direct financing), and bank market and other financial intermediaries (indirect financing) seems to vary a lot between countries. As can be seen from table 1, the sum of these stocks of financial liabilities in relation to GDP is fairly constant. The two marked differences are the UK and Japan which are large international financial centers. The stage of development seems to be in no straight-forward way linked to the relative roles of the equity and bank markets in channeling of the funds in an economy. Finland and Germany are clearly dominated by the bank market and rapidly growing countries like Spain and Korea have already quite extensive stock markets.

Table 1. The market value of equity shares and bank loans in relation to GDP, per cent, in selected countries.*

Country	Shares	Bank loans	Sum
USA	57	45	102
UK	100	115	215
Japan	156	123	279
Germany	27	86	114
Sweden	61	52	113
Finland	25	75	100
Spain	65	71	136
Korea	76	60	136

* The capitalization of the share market in the country concerned at the end of 1989 (FIBV) in relation to GDP and the corresponding ratio of claims to private sector of the deposit money banks (International Financial Statistics).

Because of difficulties in creating effectively working stock markets, also the Central and Eastern European countries may resort to extensive bank financing. Banks and other financial institutions (e.g. insurance companies and pension funds) may also play an important role as institutional owners and offer an instrument in privatization of the state companies.

Productivity increases have been important

Economic growth rates in the former socialist countries were high during the reconstruction period of the 50s and 60s. During this period so-called extensive growth (of using more labour and capital inputs) was typical in both Western and Eastern Europe. Since the 70s growth rates have slowed down more in the East than in the West, regardless of the high investment rates in the East. Labour productivity increases have been small and capital productivity has fallen.[1)] The countries in the West have succeeded much better in entering the period of intensive growth.

1) See ECE (1990).

With the ambitious growth targets the role of potential increases in productivity and in efficiency (e.g. lower energy intensity) in the Central and Eastern countries will be crucial. A large part of the increase in output in these countries should in the 90s thus come from the increase in total factor productivity. This residual reflects effects which often are related to systemic factors: changing quality of inputs (e.g. education and motivation), technical change, economies of scale, reallocation of resources, better organizational skills and social innovations, etc., which make it possible to produce more with the "same input basket".

Since the 1970s growth in the Finnish manufacturing industry has been been almost exclusively based on growth in total factor productivity, which has also been faster than in Finland's most important competitor countries. In 1961-74 the growth contribution of total factor productivity was about 50 per cent, whereas in the post 1975 period it has been close to 100 % on average. The apparent growth in the ratio of output to labour input, i.e. labour productivity, has been to a large extent due to both the increase in capital intensity and total factor productivity.

Rapid increase in intangible investment[1)]

What have been the reasons for rapid productivity increases? First, there is some evidence that Finland has successfully and rapidly adopted new technologies from abroad.[2)] Second, with the accumulation of technological capacity and the shrinking "technology gap" between Finland and the countries of the "technological frontier", it has also become evident that more resources to indigenous development of technology are needed. One could expect that the role of technological diffusion in the decades to come will be very important in the Eastern European countries. Some kind of "technology policies" are also required for the transformation.

R & D expenditures have increased rapidly in Finland since the beginning of the 1970s at the same time as traditional fixed investment

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1) See Vartia & Vuori (1987).

2) See Ray (1988).

has decreased or increased only slowly. A marked change in the investment structure has thus taken place during the past ten years in favour of R & D investment. The effects of R & D on productivity are discussed e.g. in Wyatt (1983), Vuori (1986) and Ylä-Anttila (1986). Results suggest that the return on R & D investment has been high.

The R & D expenditure of industrial companies in 1989 corresponded to around 20 per cent of fixed investment. Also other forms of intangible investments, i.e. education of employees and long-run marketing expenditures, are becoming increasingly important. For example, for the ten largest manufacturing companies these investments amounted in the end of the 80s to about two thirds of their research expenditures. Intangible investments by large firms constitute more than half of the amount that is spent on fixed investment and acquisitions of firms.

Who is responsible for technological transformation?

Innovativeness and decisions related e.g. to acquisition of new technology have traditionally been primarily dependent on the initiative of individual Finnish firms and even individual persons. This kind of behaviour has not been typical in Eastern European countries because of lack of incentives (or even disincentives to change and risk taking).

There is a tendency for certain activities to be contentrated in certain groups of firms, especially the largest companies.[1)] Thus e.g. in 1987 the ten biggest Finnish manufacturing companies, which produced 40 % of total manufacturing output, accounted for a clearly larger proportion of foreign trade and R & D activities, namely for 43 per cent of manufacturing exports and 55 % of the R & D expenditures of the manufacturing sector.

Restructing of the firms

In a dynamic market economy old companies grow and change or die away, new firms are established and grow or are taken over by other firms.

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1) Large companies in a small country may become a problem for competitive markets. The general approach in Finland has been to allow growth of firms but to sanction foreign competition.

This restructuring is an important element in economic growth; especially innovative entry and efficient exit are of great importance in circumstances where major adjustments are needed.[1)] Locking in resources in certain industries or organizations stops the growth in the long run. There is much evidence that the restructuring process has been hindered in the Central and Eastern European economies.[2)]

There has been a surge of mergers and acquisitions throughout the 1980s and, consequently, the role of large, often multinational companies has been increasing. But, on the other hand, the number of new entries has been increasing rapidly and, in addition, there has been a clear tendency to decentralize activities among the large industrial companies.[3)] Compared, for example, to the other Nordic countries the number of new entries in manufacturing in Finland has been high. Part of the newly established companies have formed a basis for external growth of large companies evidenced by an increasing number of takeovers and mergers (see Vuori and Ylä-Anttila 1987).

The internationalization of industrial firms during the last 10-20 years has been one of the most important factors behind the restructuring and changed operations of the Finnish manufacturing sector. Firms' strategies to specialize in narrow market segments has inevitably led to globalization of activities. Today, more than one fifth of the total number of employees of Finnish manufacturing companies are in foreign subsidiaries.

The past couple of decades have also witnessed a rapid expansion of producer services: Industrial companies have externalized an increasing number of activities previously carried out inside the firm in order to increase efficiency. Internalizing of some activities (e.g., some financial services) has taken place, too, but to a lesser degree. The firms are constantly considering the 'make or buy' decision leading to restructuring of existing organizations.

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1) See Eliasson et al.(1990).

2) See, e.g., Kornai (Jahnsson), Kornai (1990), ECE (1990).

3) See ETLA et al. (1990) and Ylä-Anttila and Lovio (1990).

So, one of the major tendencies causing changes in business structure in Finland and in most other industrial market economies has been that of vertical disintegration. The importance of this phenomenon varies, of course, across industries: in some basic industries (basic metals, chemicals, etc.) vertical integration might even have increased, but in engineering and in most consumer goods industries the disintegrating tendencies have been visible. Consequently, remembering also the high rate of new entries, the average plant and company sizes have been declining especially in these industries.

Role of the public sector

While there has been wide agreement about the importance of promoting growth and technological transformation, the public sector in this context has mainly played a supportive role, so as to create favourable conditions for the industrial firms. The public sector has done this e.g. by organizing general education and keeping it at a high level and by taking care of the transport and communication system. The advanced level of social policy and health services should also be mentioned. The social security system includes extensive health and pension insurance schemes (see Table 2).

Table 2. Government final consumption expenditure by purpose, in percentage of GDP.

	1950	1960	1970	1980	1985	1989*
Public administration	3.4	3.0	3.8	3.0	3.0	2.9
Education	2.9	4.0	4.8	4.9	5.0	5.0
Health services	1.7	2.2	3.6	3.9	4.6	4.4
Social security and welfare	1.1	1.1	1.3	2.3	3.0	3.2
Other	2.5	2.3	2.4	4.1	4.6	4.3
Total	11.6	12.6	15.7	18.1	20.2	19.8

Sources: Economic surveys of the Ministry of Finance, Statistical Yearbooks of Finland, ETLA estimates.

The role of state-owned companies has been historically important in the development of the basic or heavy industries in their early phases (particularly the interwar period). Here the private sector was not sufficiently involved because of i.a. the magnitude of the required capital inputs and a high degree of risk. These industries include the basic metal industry, the chemical industries, and to some extent the forest industries. In 1989 the value added produced by 12 state-owned industrial companies represented some 20 per cent of value added in total industry (including mining and energy production), and their personnel about 14 % of total industry personnel. These figures reflect the higher than average capital intensity of the state-owned companies. In some periods the state-owned companies have tried to promote the general goals of regional and employment policy, but less so in recent years. In recent years some of the state-owned firms have also been (partially) privatisized.

Some government-funded research institutes and advanced educational institutions serving the needs of industry (particularly the Institute of Technology with its close-knit relations with industry) have played an important part in the transfer of foreign technical sciences and technology to Finland. However, more significant measures to establish an explicit framework for public technology policy were not taken until the late 1970s. This can be seen in the technology policy programmes of the government and in the start of operation of the Technology Development Centre (TEKES) in 1983. Establishment of TEKES has a meant slight change in the traditional non-selective approach, since it has also tried to find particular areas where R & D activities in Finland could be concentrated. Public financing of research and development has primarily been directed towards universities and research institutes. In 1989 the public sector accounted for 40 per cent of R & D financing in Finland, but for less than 10 per cent of the manufacturing industry's R & D expenditure.

The public sector is engaged not only in production of services, but it also organises extensive transfer payments.[1)] Originally the social policies were intended to take care of the less fortunate, but the areas and extension of transfers has been rapidly increased. If middle-income groups want to be beneficiaries of social policies they, of course, also have to be payers. In recent tax reforms some of the problems created by increased tax level and progressive taxation have been dealt with. The general target has been to decrease marginal taxes and widen the tax base. Also problems like inefficiency of the continuously expanding public sector (e.g. automatic reimbursement of municipalities from central government) and negative side effects related to liberal pension and emloyment schemes have received increased attention. There is also a growing feeling that high taxation and some social policies will come under pressure with increasing integration in Europe (the competition of the states by their institutions).

Spill-over effects from the raw material based sectors

Eastern European countries (particularly the Soviet Union) have significant raw material resources which with more efficient production and domestic use can provide urgently needed export earnings. In a recent paper Norman (1990) points out for reasons why not only the Soviet Union but also other Central and Eastern European countries may become important exporters of raw materials and agricultural products. If, e.g., heavy industry is not internationally competitive (also enviromental reasons may require this) the energy use in these countries would decline. If the Soviet Union could reduce its heavy energy intensity closer to Western European levels, it could become a major exporter of oil.

The Finnish experience may be useful in understanding the potential (long-term) spill-over effects of the raw material based sectors. There are, in particular, two raw-material based sectors which have experienced important technological development combined with large spill-over and multiplier effects on closely related sectors. These are the forest and the mining sectors.

Exports of forest-based products accounted for about 70 per cent of total exports at the beginning of this century. This trade was important in making possible increasing imports of e.g. machinery and equipment. The expansion of the forest industries offered a large number of new job opportunities in logging, floating and in the sawmills. A large part of forests were owned by small farmers, who benefitted from selling timber, as well as from incomes from selling their products to workers.

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1) See Growth Policies in a Nordic Perspective (1987).

The production of domestic machinery for the forest industry developed gradually, and technology was transferred to Finland not only in the form of imported machinery but also by means of sending persons abroad to complete their studies and for being trained in factories. Not many technological innovations were made in Finland, but because of a high level of education new methods could be quickly adopted and adapted to suit local needs. In the 1930s, most of the machinery and equipment for the new sawmills and papermills were produced at home and the mills were designed by Finnish engineers.[1)]

Since that time, the Finnish engineering industry has developed into one of the leading suppliers in the world of machinery and equipment for the forest industries. While the share of forest industry products in total exports has declined, the forest sector has managed to create production and exports in the related areas. The Finnish forest "complex" also includes, e.g., production of harvesting machinery and pollution abatement equipment, and consultancy firms.

EXPERIENCES FROM STABILIZATION POLICIES

Experiences from demand management policies

Though there have been rapid changes in the structure of exports since the Second World War, the share of various forest products in Finnish exports is still large. World trade in these products has typically experienced larger volume and price changes than other industrial products and this has made the economy sensitive to fluctuations in world trade.

In an open economy the external equilibrium has essentially limited the possibilities of compensating for adverse foreign disturbances by demand management policies.[2)] If domestic demand had been increased, the attainment of a better employment situation has happened at the cost of the current account equilibrium.

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1) See Raumolin (1985).

2) Together with the Finnish tendency to maintain a balanced budget, see Pekkarinen et al. (1984).

When fiscal policy has been expansive, it has relied on a supply-side strategy: The policies (using the margin for expansion set by the external constraint) have aimed at strenghtening profits and investments in the open sector of the economy rather than at stimulating private consumption or public demand. The short-run macro-effects of increases in various demand components are similar. However, stimulation of investment not only raises the short-run demand (the Keynesian investment multiplier) but also increases productivity and the potential long-run output and thus helps to solve some of the structural problems when investment projects mature.

Exchange rate policies

After the Bretton Woods system the Finnish markka has been fixed against a (trade weighted) basket of currencies, except for short periods in the early 1970s. The average inflation rate of the country has clearly exceeded that in the competing countries and there were notable devaluations during the second half of the 1940s, in 1957, 1967, 1977-78 and 1982. Particularly the 1957 and 1967 devaluations were aimed at increasing the profitability and investments in the open sector and thus were also part of the policies for export led growth.[1)]

Except during the Korean boom, export and import prices in foreign currencies (i.e., export and import prices deflated by the exchange rate index) stayed more or less constant during the 1950s and the 1960s. During the 1970s they almost tripled, but Finland did not use exchange rate policy to reduce imported inflation. A particular difficulty in Finland has been the divergent price movements in various sectors. Had exchange rate policy been used to deal with rapid increases in the volatile forest product prices, this would have meant serious problems in other sectors.

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1) Most of Finland's foreign trade is denominated in foreign currencies. That is why the export prices in agreements negotiated before exchange rate changes hold in the short run immediately following the exchange rate change. According to Vartia & Salmi (1981) renegotiated export prices in Finnish currency have been adjusted upwards by about 75-80 % of the amount of the devaluation. In other words, only a rather small part of the exchange rate changes are passed on into lower foreign currency prices, and devaluations have been used as an opportunity to restore profit margins, which before the devaluations have usually reached lower than "normal" levels.

The control of capital movements and the regulated financial system provided the central bank with considerable monetary autonomy up to the early 80s. With free capital movements and disappearance of credit rationing this autonomy has almost completely been lost. The 80s witnessed also a change in the attitude toward using a devaluation as an instrument of improving the competitive position. The currency has been allowed to appreciate and even formally revalued twice.

One reason for the change in the exchange rate policy regime has been the belief that exchange rate accomodation is gradually built into expectations, which makes the continuation of this kind of policy difficult. In any case one experience from the Finnish devaluations is that one also needs other measures (e.g. tight monetary policy and incomes policy restraint) to make devaluations "successful" even in the short and medium run.

It is still too early to assess whether the recent shift to the "hard currency regime" will be permanent. Present competitiveness problems and the current account deficit will lead to (politically difficult) deflation or a devaluation or a little of both.

Incomes policies

The Finnish labour market is characterized by a small number of unions, high participation rates in unions and "centralized" wage agreements typical also of other Nordic countries.[1)] Central agreements between confederations of trade unions and confederations of employers' associations typically act as a common guideline for the subsequent more specific agreements between individual industry unions and employer associations. The results of union level agreements then set guidelines for individual firms. The "centralized" system also forms a network, where detailed information on past and future (expected) wages, prices, income shares and other relevant variables are discussed and common ideas for the negotiations are prepared.[2)]

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1) The wage and price controls during the war and the difficulties in the labour market after the war were historical reasons for the development.

2) Accurate and reliable statistics are necessary not only for a proper functioning of labour markets, but for a market economy generally. This area in the former socialist countries, as we all know, is a sad story.

It has been sometimes possible to reduce the inflation rate rapidly by incomes policies. These successful experiences are from situations where the unemployment rate has been high.[1)] On the other hand, it has not been possible to manage the wage developments and inflation rate by incomes policies alone. In "overheated" situations the negotiated wages and at least wage drift will increase rapidly. Incomes policies thus have to be supported by other economic policies, e.g. the demand management and exchange rate policies.[2)]

The high wage drift and the unexpected changes in relative wages of the 70s led to increasing wage-wage linkages. So-called earnings development clauses guaranteed automatic wage increases to compensate for unexpected wage drift enjoyed by manufacturing workers. These guarantees in conjunction with the move towards general wage increases defined in terms of percentage increases, have implied a tendency towards preservation of existing relative wages.

The Finnish experience also shows that there is a tendency for the centralized negotiations to lead to extensive incomes policy where also the government gets involved. The government, e.g., "purchased" index points in the pre-1968 era of wage indexation, and introduced reforms with respect to social policies, such as the child allowance system in the early 1950s and the compulsory insurance scheme for employment-related pensions in the 1960s. Since the mid-1970s, the tax schedules have been adjusted annually, although the adjustments have not been formally linked to actual inflation. This has provided the government with an opportunity to offer tax reductions in exchange for moderate wage agreements.

The above experiences have led to conclusions that it will be more and more difficult to manage the "centralized wage packages" at the national

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1) Thus e.g. the 1967 devaluation was accompanied by a cancellation of an index adjustment in wages and the 1977 devaluation by a postponement of negotiated wage increases.

2) For a detailed analysis of the experiences from centralized wage formation in Finland (and other Nordic countries), see Eriksson, Suvanto & Vartia (1990). See also Pekkarinen, Pohjola & Rowthorn (1990).

level in the future. Decentralized wage determination would also correspond to the increased requirement for flexibility of firms, and new working time arrangements. The credibility of the centralized agreements has also been undermined by the fact that some unions have not participated in the centralized agreements in order to get increases in excess of the centrally agreed guidelines. Even if there is wide concensus on the problems of centralized bargaining, the view is also prevalent that this kind of institutional set-up can function relatively well under certain circumstances. If the central European countries follow this line, there is certainly much to learn from the experience of the Nordic countries.

CONCLUSIONS

Only part of the strong post-war growth performance in Finland can be explained by the high investment rate and increase in labour input. Particularly since the 70s "extensive growth" turned to more "intensive growth", i.e. a larger share of growth can be attributed to an increase in total factor productivity, which reflects technical change, higher R & D investments, investments in human capital, better organized skills, social innovations, etc. Productivity growth is an area where past performance in the former socialist countries has been particularly poor and an area where the effects of changing institutions should show up.

In a small country the diffusion of technology from abroad has been very important. Many firms benefitted from the technology gap, which existed between Finland and advanced industrialized countries after the war. For a small country a properly functioning diffusion network is always extremely important. Even if the country were on the "technology frontier" with some products, developments in related fields require constant follow-up.

Continuous restructing of firms is an important element of a market economy. According to Finnish experience, particularly two technology related mechanisms seem to have been at work during the past 10-20 years influencing the size distribution of industrial firms. One is what was called "vertical disintegration" and the second is a growing number of new business starts. The international restructing race has also forced firms to internationalize. When looking at the developments in the Eastern European economies during the same period, just the opposite seems to have been the case. Vertical integration has always been one of the central features of these economies. Efficient feeder industries or subcontracting activities are lacking. The traditional mass production systems and the organizational structures that evolved with it have been challenged by flexible production systems and related organizational innovations in most Western countries.

The role of the public sector in the Finnish transformation has been to create general favourable conditions and institutions for the economy, e.g. by assuming responsibilities in the educational, health, transportation and social security sectors. On the other hand, most decisions related to investments and technological transformation have been made at the microeconomic level in Finnish firms. Most of us would accept the view that the marginal value of many public projects in the early phases of the welfare state was high. With increasing resources tied to basically the same programs the marginal value of the projects tends to diminish. It seems also clear that it is not necessary for the state to itself engage in production of everything. It can control e.g. health services or construction of infrastructure by making contracts with private producers. The basic problem is thus that of finding some kind of proper balance between the private and public sectors.

The Finnish experiences from the macro-stabilization policies show that in an open economy it is difficult to use domestic demand management to counter foreign demand shocks. Fiscal policies have thus had a supply-side flavour. Experiences from exchange rate policies show that devaluations easily lead to higher inflationary expectations if there are not offsetting contractionary periods. Finland and other Nordic countries have much experience on the "centralized" wage agreements. In the transition period some Central and Eastern European economies may also follow some kind of corporatist model, particularly if nation-wide unions and employers confederation emerge. The Finnish experience shows that this kind of set-up can function relatively well under certain circumstances. On the other hand, several resons were given, why it has become more and more difficult to "hold together" extensive incomes policy packages.

Finally it should be remembered, that many of the prerequisites for good economic performance in the past four decades were already built into the socio-economic and technological conditions, which prevailed in Finland already before the war. The continuity of institutions necessary for functioning of the market economy and the accumulated physical and human capital gave Finland good starting points compared with Eastern and Central European economies. The idea of returning to the "old rules of the game" was essential in the post-war adjustment. Returning back to the old rules after five years of a war economy is easier than after 40-50 years or even 70 years. However, it is certainly useful to try to make a bridge to some of the old institutions typical to market economies, that prevailed in Eastern and Central Europe before the socialist experiment.

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