

Growth and Structural Change of the Finnish Economy, 1860-1980

A Development Theoretical Approach

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In this paper the long-run development of the Finnish Economy is analyzed, utilizing two well-known theoretical frameworks: Lewis's "dualistic" model, and Chenery's "patterns of growth" approach. The actual development partly seems to follow the route envisaged by Lewis, in that the restructuring of the economy, due to mobilization of surplus rural labour, could take place at constant or slowly rising real wages. After the war the rate of increase in wages has been high, however, despite a continuing surplus of labour. The structure of the Finnish economy seems, by and large, to have followed that of the average economy. The notable exception here is the primary sector, which has been much larger than the average. The importance of the forest sector is one reason for that, and so is the evident "rural bias" in the Finnish economic policy. Towards the end of the period a convergence of the Finnish and "normal" figures seems to occur.

I. Introduction

During the last few years there has been a vivid discussion about structural adjustment problems concerning both the necessity of such changes taking place in a changing world and the problems they may cause. Although these discussions have mainly focused on short run problems, emphasizing the importance of either adaptability to a changing external environment, that is "international competitiveness" in a wide sense of the word, or adjustment to domestic policies (for a survey, see Edwards & Wijnbergen, 1989), there are also forces of a more secular nature connecting economic growth, industrial structure, and income distribution etc.

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These factors also relate to the external environment of the economy, having to do with e.g. the changing international division of labour.

Finland was a relatively backward, primarily agricultural country as recently as in the 1950s, particularly as compared to her Scandinavian neighbours. After that time the changes, both in income level and in the structure of the economy have been very rapid. The purpose of this paper is to analyze this process of growth combined with structural change within the framework of two distinct, but related research programs. These are the "dualistic" approach, attributable to, above all, Arthur Lewis and the school relating growth and structural change, primarily associated with Hollis Chenery. The period analyzed is 1860-1980. This starting point was chosen not only because of availability of data, but also because Finland's development towards a modern economy began at about that time.¹ Finland was then part of the poor periphery of Europe, with a sparse population living from subsistence agriculture. It has also been emphasized that the social and cultural preconditions were not too advantageous in the early 19th century, because of a lack of a clear national identity (Ray, 1988). (Finland was part of Sweden up to 1809 and after that a grand duchy under the Russian empire until 1917. During this period the country preserved its "Nordic" character, however, the Swedish institutions remaining in force in spite of the Russian rule.)

The broad, long-run changes in the industrial structure have been dealt with by, above all, students of development economics and economic history rather than by mainstream economists. The research has had a clear empirical emphasis, aiming at the extraction of "stylized facts," that is invariant patterns of development in different countries. The actual *explanations* of the processes involved have typically been rather incomplete, loose and hypothetical. Moreover, the inductive character of the research has been obvious.

The seminal contributions in the research on the growth-development nexus were published about 1940 by Alan Fisher (1939) and Colin Clark (1940). These authors were the first to use the distinction between the "primary," "secondary" and "tertiary" sectors, a taxonomy that is still widely used. The object for research was the sectoral shifts in the composition of the labour force. The work was predominantly empirical but did have some theoretical underpinnings, such as the "Engel curves" (the

¹ Finland was a grand duchy of Russia between 1809 and 1917. In the period 1855-1881, the reign of Czar Alexander II, several reforms liberalizing the economic system were undertaken, such as a currency reform — Finland got a currency of her own — and more or less abolishing the custom duties between Finland and Russia (Ray 1988, p. 39).

share of foodstuffs in consumption tends to diminish along with an increasing income level) and sectoral productivity differentials. Today the work of Clark and Fisher is most interesting as starting points for several research traditions, which will be drawn upon here when the long run sectoral development of the Finnish economy is considered.

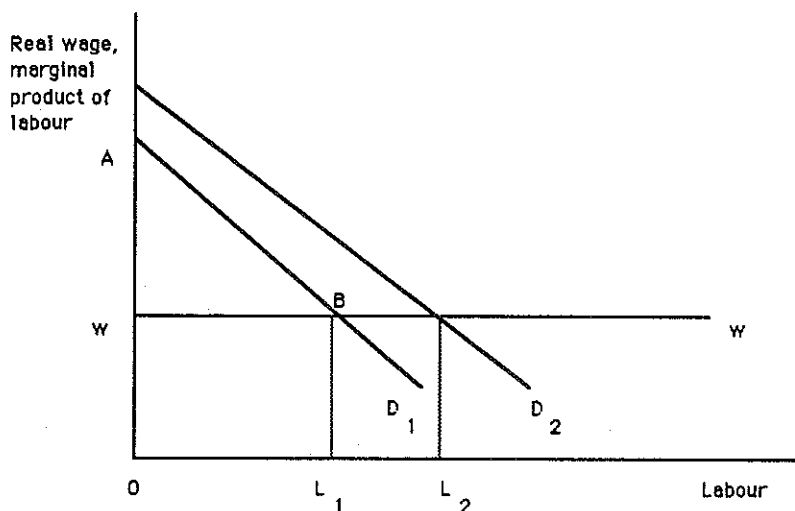
II. The Dualistic Approach

One line of work concerning the relation between economic growth, capital accumulation, and structural change starts out from the idea of the *dualistic* economy. The economy is conceived as consisting of a primitive, tradition-bound subsistence sector and a "modern" sector. The pioneer of this "research programme" was Arthur Lewis (1954) who construed a two-sector model for explaining the transition from a primitive agricultural economy to a modern industrialized one. Lewis' model, now a standard feature of any textbook in development economics, was subsequently developed and modified by other authors, particularly John Fei and Gustav Ranis (e.g., 1964). The basic idea remains, however. In the traditional sector the marginal product of labour is assumed to be approximately zero, and labour can thus be transferred to other sectors of the economy without a loss of agricultural output. The income level in the traditional sector is determined by custom (since the "wage" rate cannot reasonably be equal to the MPL). The consequence of this set-up is, however, that the modern sector can have all the labour it wants at a wage level marginally higher than that in the traditional sector. The supply of labour is, thus, infinitely elastic at the prevailing wage level.

Lewis model concentrates on what will happen in the modern sector. Figure 1 highlights the argument, illustrating the labour market, and indirectly, the growth of the modern sector. The demand curve (identical with the marginal productivity curve) for labour is originally D_1 . The optimal quantity of labour is L_1 and the total production the area $OABL_1$. Now, the model is dynamized by assuming that all capital incomes (wAB) are invested into new real capital. This in turn increases the marginal productivity of capital, the demand curve for labour shifts out and the demand for labour increases to L_2 . This process is supposed to continue until the excess supply of labour is used up and the wage level begins to rise. The system ends up in a neoclassical type of general equilibrium.

The Lewis model has been criticized as an inadequate description of the development process for several reasons (see e.g., Toye, 1987, pp. 30-31, Todaro, 1988, pp. 210-211). In spite of its simplicity this model still captures essential traits of the long-run restructuring and growth of

Figure 1
Lewis' Model of Dualistic Development



the developed countries of today, a restructuring that took place relatively late in Finland and went on well into the 1970s. The restructuring took, however, different forms at different times. A rapid growth of the rural population in the late 19th century caused a surplus of labour, consisting mainly of landless rural workers and tenant farmers (Haavisto & Kokko 1989). This was the social class that made up most of the migration flow to urban areas (and foreign countries). After the first world war also the landowners were affected to a greater extent. An increasing population, further exacerbated by the Carelian refugees after the World War II, small farm units and low productivity created a "push effect" simultaneously as the industry and service sectors expanded and demanded more labour. Towards the end of this process the demand for manual labour in *forestry* decreased strongly due to mechanization. Since forest work traditionally had offered the small farmers additional income and employment during the winter months, this development contributed to the "push" away from the primary sector. (It is, of course, misleading to regard the Finnish agricultural sector as a subsistence sector during the latest phases of development. Although the average labour productivity increased, because of increasing capital intensity, the *marginal* productivity remained low, however. This means that additional labour input could not contribute much to production.)

Interesting enough, Mickwitz (1987), evidently independently from Lewis, interprets the Finnish experience much in accordance with the Lewis model in his article on structural change and unemployment: "The changing technology in the agricultural sector at first rendered an increasing part of the labour force in that sector superfluous. Hence, we have a push effect here. Simultaneously a growing and labour intensive industry absorbed the major part of this labour surplus, which in turn amounted to a "pull effect." Personally I am inclined to believe that the push effect was the stronger of the two. That is why the expansion of industry did not lead to too strong wage increase which would have hampered growth? As late as between 1960 and 1970 the share of the population dependent on agriculture fell from 31.7% to 17.6%, or in absolute numbers, about 600,000 individuals. These figures decreased further from 1970 to 1980 to 9.2% or 370,000 individuals (Mickwitz, 1987). Although difficult to show conclusively one factor behind the large employment share of agriculture until quite recently, was probably one of political economy, and related to the leading role of the Agrarian Union as a political party (Haavisto & Kokko, 1989).

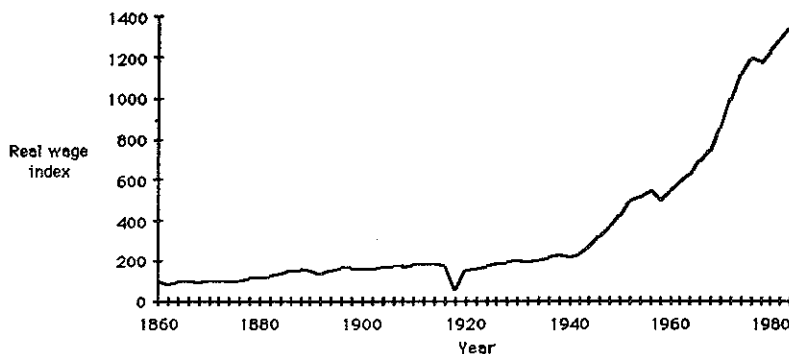
The causal relations have certainly been more complicated than what the simple Lewis model suggests. As some of its critics have noted it is not consistent even with crude facts that the modern sector attracts labour only at a rate consistent with its own expansions. One of the most important problems of economic development has, as a matter of fact, been the inability of the industry to absorb the labour left without productive employment when the old social structures disappeared (cf. Comélieau, 1985). Also in the case of Finland the push effect has been too strong for permitting the resulting excess labour to be fully absorbed by the urban sector. This rejection was caused perhaps primarily by the increasing average productivity in agriculture together with a slow increase in the demand for foodstuffs. From time to time emigration has been a security vent. This does not mean, however, that the emigrants have always originated from the pool of concealed unemployment in the countryside. In fact, considering post-war emigration, a sizable part of them have been industrial workers which in turn were replaced by former rural labour (cf. Blomster, 1983, p. 31). Quantitatively, postwar emigration was important only in the 1960s. The emigration to America at the turn of the century was, however, much more important both absolutely and relatively (Hjerpe, 1989, p. 96).

Another point made by the critics of Lewis' model was the fact that industry has tended to adopt more and more capital intensive technology with a limiting effect on its role as employer as a consequence. During the process the general income level has risen, however, which has permitted

the expansion of the public sector and private demand for services where the income elasticity is high. The labour intensive service sector has gradually taken over the role as the main absorber of an increasing labour supply (cf. Mickwitz, 1987).

A major point by Lewis was the assumption of an unchanged real wage level during the period of transition. Looking at the Finnish figures in that light reveals that the real wages approximately doubled from 1860 up to the second world war. This means a rather modest annual rate of increase, about 1% per annum, see figure 2. The rate of increase after the war has been much faster, about 3.5% p.a. A reasonable interpretation

Figure 2
Real Wage Index, 1860-1984



here would be that the development complies approximately with Lewis' assumption in the former period. The increase that in fact took place may be explained by bottlenecks in the availability of skilled and clerical labour. The latter period rather gives the impression that the economy has reached the positively sloped portion of its labour supply curve. A more thorough analysis of the explanations for this is beyond the scope of this paper. Even a superficial glance at the labour market indicates, however, that the case is more complicated than that.

The problem is that the excess supply of labour during most of this period was still considerable. The increasing income level in the agricultural sector, due to deliberate policy measures, the competition from foreign labour markets,² and possibly the increasing leverage of the trade unions after the war³ are the most plausible explanations. Another

explanation can be an increasingly heterogenous demand for labour: in spite of a continuous excess supply of labour in general the shortage of more skilled labour has been cronical.

Over the whole process the relative importance of the agricultural sector has been shrinking, as shown below, figure 3. The rate of capital accumulation again has been on the rise as figure 4 demonstrates. This is

Figure 3
Relative Employment Share (%) of Primary Sector

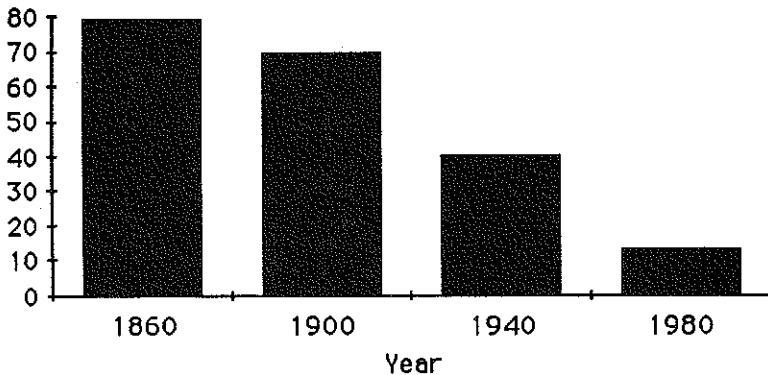
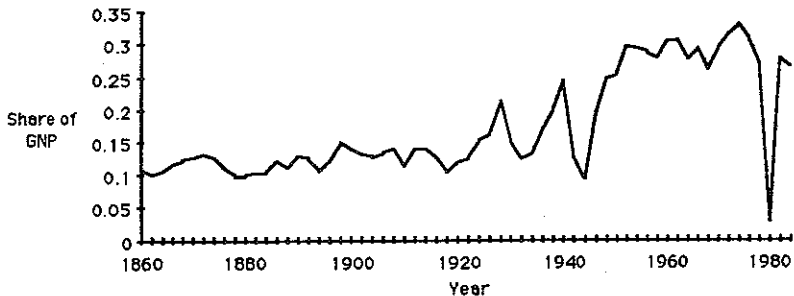


Figure 4
The Relative Share of Investments in GNP



² There is a free labour market comprising the five Nordic countries, Finland, Denmark, Iceland, Norway, and Sweden, established after the war.

³ This argument is not quite convincing. It is easy to conceive that unions can influence the *nominal* wages, as well as *relative* wages between different industries or occupations. That does not necessarily mean that they can influence the *general* level of real wages, however.

most likely due to the small absolute value of the modern sector in the early days of development in spite of this sector developing rapidly. Gradually a larger part of the economy, and finally also the primary sector, is encompassed by the modern technology. In Finland, the rate of capital accumulation was rather modest as compared to other countries at corresponding income levels. (This conclusion was drawn using the material in Chenery & Syrquin (1975) and Hjerppe (1989).) During the last few decades there has been a reversal, the Finnish investment-GNP ratio being on an internationally very high level (see World Development Report, various issues and Hjerppe (1989 Table Appendix)). If we use ratio as an indicator of the development level the "take-off" (according to the terminology of Rostow (1960)) happened in the 1920s from which time investment, with few exceptions, comprised 15% or more of GNP, the figure used by Rostow to identify the take-off stage (cf. also Lewis (1954) who expresses similar ideas). In the light of Lewis' model there should be a negative relation between the investment-GNP ratio and the change of the production share of agriculture. Although we cannot assume such a relation to hold very strictly on a year-to-year basis we do obtain a reasonably significant (on the 10% level) negative relation between the two variables. Of course, the high investment-GNP ratio may be both a reason for and a consequence of the rapid structural change that has taken place in Finland since the last war (cf. Haavisto & Kokko, 1989).

III. Growth and Patterns of Development

A very influential school of thought in development economics, studying the growth patterns from a structural perspective has its origins in the work of the Nobel prize laureate Simon Kuznets (e.g., 1966), subsequently followed by Hollis Chenery and his colleagues in the World Bank and at Harvard University. While Kuznets, due to the lack of data at the time, concentrated his work on developed countries, Chenery and his associates have been able to use data also from developing countries. Utilizing pooled time-series and cross-section data they have made empirical generalizations of the relations between economies growth and the structure of the economy (see Chenery & Syrquin, 1975, Syrquin & Chenery 1989, and Syrquin 1988). The study of Hjerppe (1989) providing much of the data material for this paper can be regarded as an example of this research tradition as well. The characteristic feature of this "research programme" is its inductive nature. The aim is at extracting generalizations out of comprehensive empirical studies, rather than forming hypotheses from the theory, which is then confronted with reality. The role of economic theory has been one of an analytical device *ex post fac-*

tum, that is it has been used for explaining possible reasons for the patterns emerging out of the empirical work.

The work within the "growth with structural change" paradigm conveys a picture of the economic development which is much richer, albeit also theoretically looser than the one based on a simple relation between capital accumulation and economic growth or Lewis' two-sector model. Accumulation of physical and human capital is also in this paradigm necessary for the development of an economy but additionally a thorough restructuring of production, demand, foreign trade and resource utilization takes place. Furthermore, several social and demographic variables are involved, such as urbanization, nativity and mortality, educational opportunities etc. Although they aim at inducing a general development pattern, Chenery *et al.* distinguish between small and large economies, and among the former, economies with a primary and industrial orientation, respectively. Particularly for the small economies interaction with the surrounding world is important. What they did not find was any clear distinction between today's developed economies and the developing countries but "that the changes in structure that accompany economic growth are a transition from a low-income agrarian economy to an industrial urban economy with substantially higher income" (Syrquin & Chenery 1989).

When we consider the overall growth of production, the average rate in Finland for the period 1860-1985 was 3.2%. Before the World War II the corresponding rate was somewhat lower, 2.8%, while it was about 3.8% after the war. In spite of cyclical variations the GNP-level has grown fairly steadily, the only clear exceptions, not surprisingly, being the two world wars. Today's developed countries, in fact, all reveal very similar growth rates in the long run. These growth rates are, however, very high as a historical phenomenon over a secular perspective (Hjerppe 1989, p. 41).

Figure 5 gives a general picture of the development of the crude production structure in Finland between 1860 and 1980, compared to Chenery's and Syrquin's result for the "typical economy."⁴ Chenery's income levels, 200, 300, 400, 500, 800, 1,000 and 1,500 dollars (at 1964 prices) correspond approximately to the Finnish income levels of 1860, 1889, 1906, 1924, 1938, 1951, and 1961.

⁴ Figure 5 is based on calculations for an economy somewhat bigger than Finland (Chenery & Syrquin, 1975, pp. 20-21). The general tendency in these results is not, however, sensitive to the size or orientation of the economy.

Urbanization and migration is here, as for Lewis, typical consequences of disequilibria stemming from productivity increases and changes in the demand structure (cf. Chenery 1988, p. 201). A glance at the structure of employment reveals a pattern very similar to that of figure 5. The relative employment share of the primary sector is, not unexpectedly, larger than the corresponding share of production, whilst the opposite holds for the industry and service sectors. A change in occupation usually implies a change of location, too, that is migration flows.

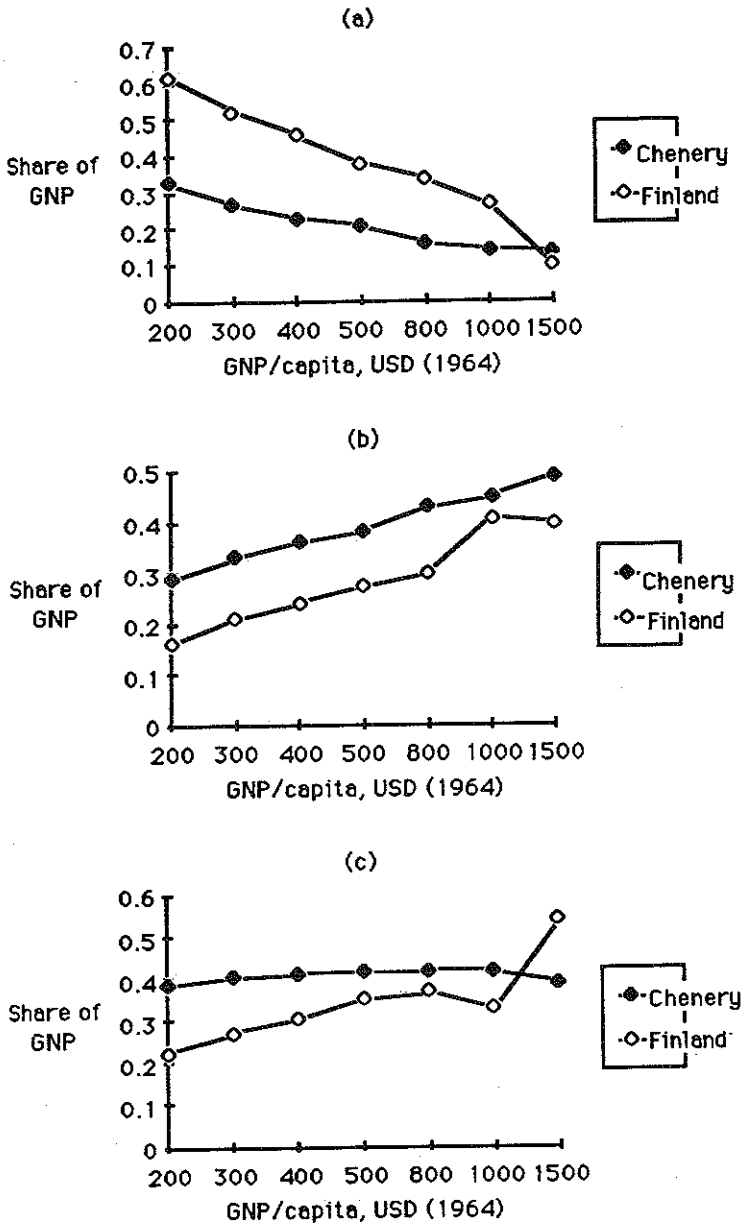
A comparison between the "typical" economy in Chenery & Syrquin (1975) and Finland the large relative size of the Finnish primary sector stands out very clearly. As the income level grows the relative production and employment shares tend to converge towards the "normal." One natural explanation for the untypical structure of the Finnish economy is, of course, the unique importance of the forestry sector. Also in other cases exceptionally endowments of natural resources seem to have delayed industrialization (Chenery & Syrquin 1975, pp. 89-101). (Furthermore the industrialization that did take place was to a very great extent based on wood processing as well.) In the case of Finland the low degree of mechanization in forestry, up to the 1960s, is an important factor behind the high employment share of the primary sector. On the other hand, most of the wood processing industry is very capital intensive, which, considering the weight of this industry in the Finnish secondary sector, helps explain this industry's low employment share.

The other apparent explanation to the relatively large size of the primary sector is no doubt the political aspect (Haavisto & Kokko 1989). The economic policy in Finland has had a permanent "rural bias," even up to this day, caused by a quest for self-sufficiency in foodstuffs combined with the strategic position of the rural-based political movements.

Turning to the demand side now, the typical trait is the decrease in the consumption of foodstuffs ("Engel's law") which facilitates the relative expansion of other types of consumption, investment, and public sector demand. A crude division of aggregate domestic demand into private and public consumption, capital formation and a residual (equal to the change in inventories plus an error term) for the case of Finland is shown in figure 6. Over the whole period the total share of private consumption has been decreasing, in compliance with the result of Chenery & Syrquin. The share is, however, larger in Finland than in the "normal economy," up to the last few decades. Thus we can, once more, see a tendency for the figures to converge as the level of income increases. A closer look shows that the decrease in the share of consumption was not monotonous. As a matter of fact, it had a *positive* trend up till the early

Figure 5

The Relative Share in GNP in the Primary (a),
Secondary (b), and Tertiary (c) Sectors

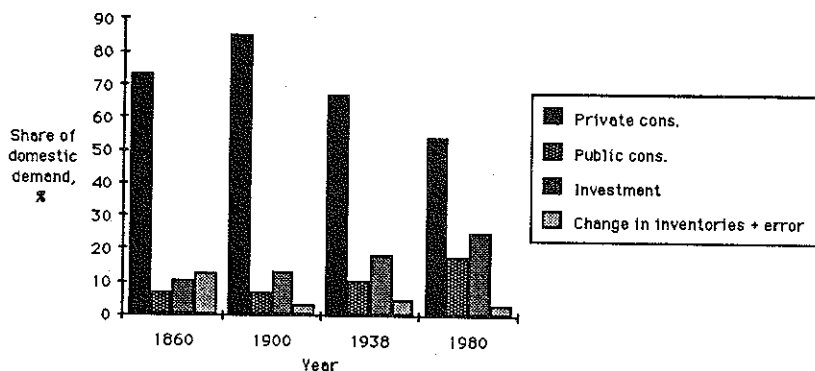


1920s.⁵ We should interpret these figures with caution, however, due to the somewhat dubious quality of the statistical data for the early part of the period. As figure 6 suggests, the size of the error term (including inventory investment) is sometimes considerable. The shares of investment and public consumption have been on the increase, not unexpectedly. For the latter component the figures reveal, however, a rather slow rate of increase before independence, in spite of the fact that the activity of the public sector increased quite significantly. An important reason for this is apparently the salaries of civil servants which lagged behind the general development, which again can be explained by recognizing that the share of lower rank employees with low salaries was increasing, keeping down the average (cf. Hjerppe 1989, p. 124).

A disaggregated picture of the private consumption for the whole period, 1860-1980, is more difficult to obtain. In Finland different household budget studies have been made during the whole period of independence, albeit with different intervals and somewhat different sampling methods and classifications. Taken together, these investigations give, in spite of their weaknesses, a general picture of the development of the private consumption structure. The results are summarized in table 1.

During the last 60 years the consumption share of foodstuffs (including beverage and tobacco) has decreased from more than 50% to

Figure 6
The Structure of Domestic Demand, 1860-1980



⁵ The peak was in fact reached during the Finnish civil war, 1917-1918, but the figures here are not of course comparable to those of peace time.

Table 1
THE STRUCTURE OF PRIVATE CONSUMPTION, 1920-1981, %

	1920-21	1955-56	1981
Food, beverages, tobacco	55.50	41.01	25.1
Clothing and footwear	12.88	14.84	6.6
Housing	13.43	10.30	15.9
Fuel and power	4.34	4.45	4
Household equipment and services	3.23	5.56	5.8
Medical care etc.	3.24	6.07	2.1
Other	7.38	17.75	40.5
Total	100.00	100.00	100.00

about half of that table. This has happened in spite of the fact that the cost of processing and transport must have increased very considerably during this period. In comparison with Chenery's and Syrquin's "normal economy" the share of foodstuffs is very high, however, in spite of the fact that beverages and tobacco are excluded from the latter figures.⁶ This is probably a reflection of the very high relative food prices in Finland in combination with low price elasticity of demand. The share of clothing and footwear has decreased as well, housing being the only "necessity item" the share of which has remained rather stable. (In the latter case the quality of the "goods" has changed considerably, however. The average size of dwellings has increased considerably as well). If we add the shares of all "necessary items" (food etc., clothing, housing, and fuel and power) in private consumption we find that their total share was about 86% in 1920-21, 71% in 1958-59 but only 52% in 1981. The residual category, "other," reflecting mainly expenditure for leisure and recreation, has expanded very significantly, being now more than 40% of private consumption.

The transformation from an agricultural to an industrial and service oriented economy is typically accompanied by structural changes in foreign trade as well. On a low level of development exports are usually dominated by primary goods while imports again has a large content of consumer and capital goods. Along with the increase in the GNP an increasing share of manufactures can, as a rule, be seen in exports while in

⁶ This does not change the general picture, however: the share of beverages and tobacco in the whole group has been only 10 odd per cent.

imports the emphasis is gradually moving towards raw materials. Typical for the developed market economy is also a large share of intra-industry trade. In the generalized figures of Chenery and Syrquin (1975, p. 20-21) the changes in the shares of exports and imports are rather small, although the trend is significantly positive (*ibid.*, pp. 38-39), and heterogenous across countries during the process of development. The absolute size of the GNP seems to be a much more important determinant of the export and import shares, a fact which traditional theories of international trade fail to explain (Syrquin 1989, p. 232). Since the object for international trade is mainly goods rather than services, the relevant base for comparison might be the production of goods. In that case we can see a clear positive trend for the relation between exports or imports, and production (Hjerppe 1988, p. 151-153).

Of course the very fact that a country has relations with the outer world exerts pressure on the structure of the economy which tends to adapt to its changing comparative advantages. In the case of Finland, the proximity of the large Russian markets was an important determinant for the volume of foreign trade both during the grand duchy period and again, after World War II. As far as the *structure* of trade is concerned the Russian trade was important during both periods for the diversification of Finnish exports (and production structure). While the traditional products, particularly those of the forest industry and agriculture, dominated on the Western markets, "new" items were important for the Russian market, such as metal and textile products (Hjerppe 1989, p. 160). When one analyzes the development of Finland's foreign trade it is very important to realize that drastic institutional changes have been an intrinsic part of the process: The comparatively free trade with Russia before World War I, followed by the complete closure of that market after the war, the demands of the reparation payments after World War II, the liberalization of Western trade from the 50s on, combined with the bilateral trade with the USSR etc. Finland became a member of EFTA (European Free Trade Association) in 1961 and signed a free trade agreement with the EEC (European Economic Community) in 1973.

In the literature on development economics the role of foreign trade as an "engine of development" is often discussed. It is naturally rather meaningless to try and assess whether the exports or the imports is the more important factor in this context. Elementary trade theory tells us that the significance of trade is related to the fact that every economy is allowed to specialize in producing goods in which it has a comparative advantage. The dominating view today is that the so-called export-oriented strategy is preferable to the "import-substituting" one (see e.g. Høgen-dorn 1987, p. 13). A discussion at length of this issue is beyond the scope

of this article. For a critical discussion, see e.g. Colman & Nixon (1986, pp. 309-312). In the case of Finland the industrialization "strategy" (it has seldom been formulated very explicitly, e.g. Haavisto & Kokko 1989) can, with some qualifications, be seen as a variant of the export-oriented model. It differs from many of its modern counterparts, e.g. the South-East Asian NICs, (Blomqvist 1990) in the sense that it was firmly based on domestic natural resources, however. In that there are clear similarities to the other Scandinavian countries, in spite that Finland lagged behind the rest of Scandinavia until the very recent years (cf. Haavisto & Kokko 1989). The export-oriented policy was not a pure one either. Non-forest based industry and, above all agriculture, was rather protected between the world wars, particularly in the 30s, and again, after World War II (cf. Haavisto & Kokko 1989⁷). A gradual liberalization has occurred after the mid 1950s.

The fundamental prerequisites for foreign trade to be an "engine of development" are working transport and communication facilities and an institutional framework (regulations etc.) providing sufficient incentives. These preconditions became fulfilled towards the end of the nineteenth century. Transport by land, rail, and sea had become faster and more efficient. At about the same time the communication devices, such as the telegraph and the telephone were developed. A general liberalization of the economic climate was helpful here.

As mentioned above, the trade patterns of different countries seem rather heterogenous, although some common traits can be found (cf. Chenery & Syrquin 1975, p. 40). An important explanatory variable is the natural resource endowment (ibid., p. 68). In the case of Finland the ample availability of high-class raw material for the wood processing industry has been the reason for the dependence of this country on her exports of relatively unprocessed goods. (In fact this is partly true even today, although the forest products exported today are somewhat more sophisticated than they used to be.) On a general level the results of Chenery and Syrquin hold for Finland, too: The export share of primary products decreases and that of manufactured products increase over time (cf. Syrquin 1988, p. 234). Table 2 provides a picture of the Finnish development from 1860 on.

To begin with, unprocessed agricultural and forestry products dominated, having about one third of the total exports. Gradually the

⁷ Haavisto and Kokko (1989) argue in favour of the import-substitution hypothesis. While their analysis is convincing in itself, the export-oriented forest industry has been such a dominating "engine of growth" in Finland that this author would prefer the label "export-oriented."

Table 2
THE STRUCTURE OF EXPORTS, 1860-1980, %

	1860	1900	1938	1980
Agriculture	26.8	17.8	10.1	1.7
Forestry	7.7	11.0	9.0	0.6
Wood processing	29.5	57.8	73.0	44.5
Textile, apparel etc.	5.6	3.9	1.0	7.8
Metal industry	14.2	4.8	3.7	28.6
Other industry	12.2	4.6	3.2	16.2
Other products	4.0	0.1	0.0	0.6
Total	100	100	100	100

wood processing industry took over while its internal structure changed in the direction of more processed products. Sawn timber was replaced by pulp, which was replaced by paper of increasingly refined quality as the "leading" sector. (Timber was the most important item well into the 1950s, however (Hjerppe 1989, p. 79).) For the period after the last war the expansion of the metal industry is the most spectacular feature of the Finnish export development. One reason for this was, in fact, the war indemnity payments (in kind) to the Soviet Union during the period 1948-1952, which virtually forced the country to develop a metal industry. This was done, to a considerable extent, by government-owned firms. Also the metal industry has been subject to very significant changes in its internal structure, from basic, heavy industry towards more sophisticated manufactured products and electronics. The unprocessed primary products which as late as on the verge of World War II comprised about one fifth of total exports, play a quite insignificant role today.

Turning to imports now, the only quite clear trend development since 1860 is the diminishing role of consumption goods, from 37% in 1860 to 13% in 1980. This feature is in accordance with Chenery's and Syrquin's results, being a consequence of an increasing degree of diversification and sophistication of the domestic industrial production. The typical pattern is that the imports of "light" consumer goods is the group first replaced, or qualitatively modified by domestic products. As far as capital goods are concerned small countries typically go on importing them to a greater extent than large countries do (Syrquin 1988, p. 234). It is difficult to see a clear trend for the share of investment goods in the case of Finland. Also for raw materials the share has been remarkably stable.

IV. Concluding Remarks

Both theoretical and empirical work on the growth-structural change nexus is usually characterized by abstracting from the *problems* that such changes may cause. One reason for this is perhaps the long time perspective which renders *individual* consequences (which, by and large, are the ones arousing popular discontent and which politicians act upon) insignificant. In such a case a redistribution of incomes may, for instance, be a consequence of the structural transformation but will not be an evident cause of conflicts, which corresponding redistributions most certainly are in the short run.

In a piece of work that concentrates on structural transformation and an analysis of its causes and consequences one may expect the changes occurred actually to be more dramatic than what in fact seems to have been the case. The long-run picture conveyed is, as a matter of fact, one of gradual and smooth changes (cf. Hjerppe, 1989, p. 19). The structural adjustment problems that can be noted in the short perspective seem relatively trivial. In all analysis of long-run developments there is, however, one aspect that tends to be neglected, namely the role of quality changes and new products in the process. Even if the reason for this deplorable fact is obvious — neither traditional economic theory nor empirical method is very good at capturing this aspect — the net effect is that one tends to underestimate the change that actually has taken place. Furthermore, a major “engine of growth” is thereby also ignored.

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