

The Labour Force - Future Supply and Demand

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Employment in Finland was unstable in the 1960's. Disturbances were caused by, among other things, business fluctuation, a change in the industrial structure, and the arrival of the large age groups on the labour market. There was such a change, however, in the development of the population in the 1960's that this change can be expected to affect the relation between the supply and demand of labour in the 1970's.

In the 1950's the nation's birth rate still neared 20 per 1000 and mortality was in a decline. But in 1970 the birth rate was only 14 per 1000 and mortality is now on the rise. In 1969 and 1970 natural population growth (about 20 000) no longer sufficed in compensating for net emigration; instead the population has decreased in size. Retrogressive population development will eventually affect the size of the labour supply. In this article we will examine the anticipated development of the supply and demand of labour in the period between 1970—85.

Migration within the Nordic countries is unrestricted. This unrestricted mobility is based on a joint Scandinavian labour market agreement made in 1954. As shown in Table 1, emigration grew quite strongly in the late 1960's. Sweden was the main country of destination. Total net emigration to Sweden in the 1960's was about 150 000 people, the overwhelming majority of whom were young and able-bodied.

In the 1960's an error caused by deficient emigration statistics gradually developed in the Finnish population statistics and in the Labour Force Sample Survey based on these statistics. The errors caused by deficient emigration have been corrected as far as possible. The corrected population figure at the end of 1970 has been estimated in the population and labour forecasts of the Central Statistical Office which were completed in the summer of 1971. The labour supply at the end of 1970 corresponding to this corrected population figure has been estimated in the forecast to be 2 099 000 persons. Table 2 shows the development and forecasts of the population aged 15 and over and the *labour supply* in the form of a migration alternative. The forecast shows that the 5-year growth of the population aged 15 and over will drop in the 1980's to under one-tenth of what it was in the early 1960's, when the large age groups came of working-age.

Table 1. Migration.

Year	From Finland to Sweden	From Sweden to Finland	Other countries	Net Total
1961	— 12 800	3 700	— 800	— 9 900
1962	— 9 700	4 200	— 600	— 9 100
1963	— 10 300	4 000	— 600	— 6 900
1964	— 19 200	3 800	— 1 200	— 16 600
1965	— 21 800	4 500	— 1 100	— 18 400
1966	— 16 500	6 400	— 1 300	— 11 400
1967	— 10 500	6 100	— 1 900	— 6 300
1968	— 17 200	6 100	— 3 500	— 14 500
1969	— 38 600	6 000	— 3 900	— 36 500
1970	— 43 000	11 000	— 10 000	— 42 000

The labor participation rates for both men and women is predicted to continue to decline in all age groups; most strongly, however, in the youngest age groups.

According to the migration alternative presented in the table, the labour supply will decrease in the 1970's and 1980's. If emigration continues at the assumed rate, it would mean the loss to our country of almost 100 000 persons belonging to the labour force. According to the self-sufficiency alternative (net migration = 0) the labour supply would remain at its present level. During 1971 emigration has clearly decreased, which indicates that the assumed emigration amounts are probably too large.

Two alternative forecasts have been prepared on the *labour demand*. The basic material used in the forecasts are the gross national product at factor costs at 1964 prices, and the labour input calculated in man

Table 2. The population 15 years and over and the labour force supply at year end.

Year	Working-age population in thousands		Labour force supply in thousands	
		change		change
1950	2 821			
1955	2 953	+ 132		
1960	3 107	+ 154		
1965	3 351	+ 244		
1970	3 484	+ 133	2 099	
1975 ¹	3 565	+ 81	2 061	— 38
1980	3 647	+ 82	2 032	— 29
1985	3 676	+ 29	2 000	— 32

¹ Source: Population and labour force forecast (1971:10) of the Central Statistical Office.

years (Central Statistical Office's time series for the years 1950—1970). The development of productivity has been defined by an input/output-ratio of which the effect of the change in labour input on production has been eliminated. The average growth of the GNP was 4.5 per cent in 1950—59 and 4.9 per cent in 1960—69. The respective figures for the average growth of productivity were 3.4 and 3.9 per cent.

The *trend alternative* for on the labour demand was calculated mechanically by assuming that the growth of the GNP and productivity will remain at the 1960-level, in which case their average ratio will remain unchanged. The trend alternative means that the absolute values of production and productivity will accelerate in the same proportion and that the average yearly growth of the labour demand will be 0.5 per cent. Development in the more industrialized countries of Western Europe proves, however, that production ratios are not static. On the contrary, the average growth of productivity shows a tendency to near the average growth of production. It is probable that this kind of trend in development will take place in Finland. Acceleration in the growth of productivity is already evident when compared with the 1950 and 1960 time series. In addition, Figures 1 and 2 show that the growth of the labour input as an accelerator of the development of production in the 1960's is of less importance than in the 1950's, which results in an increase in the significance of production growth.

For example, in 1962—70 the difference between the average percentage growths of production and productivity was only 0.4 per cent, with the respective figures being 4.5 per cent and 4.1 per cent. This means that the deepening factors of production has been stronger than their widening, and it can be assumed on the basis of the experience of other countries

Figure 1. GNP- and productivity cycle based growth curves.

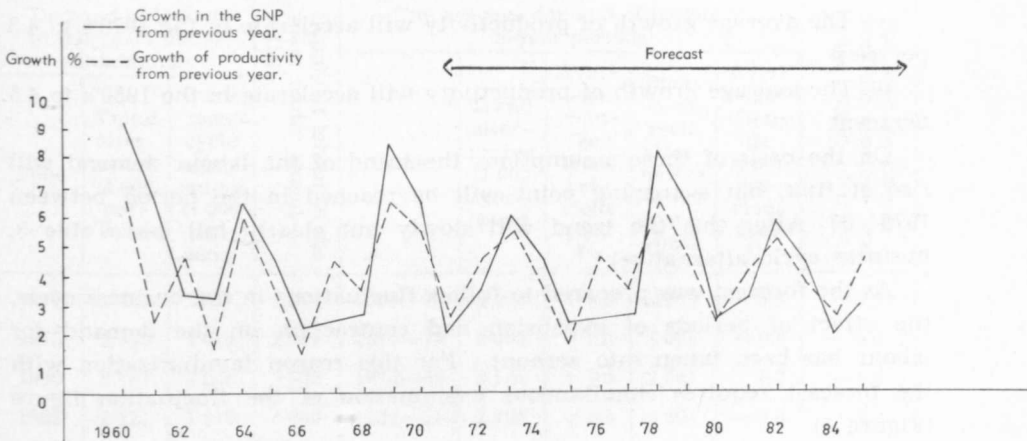
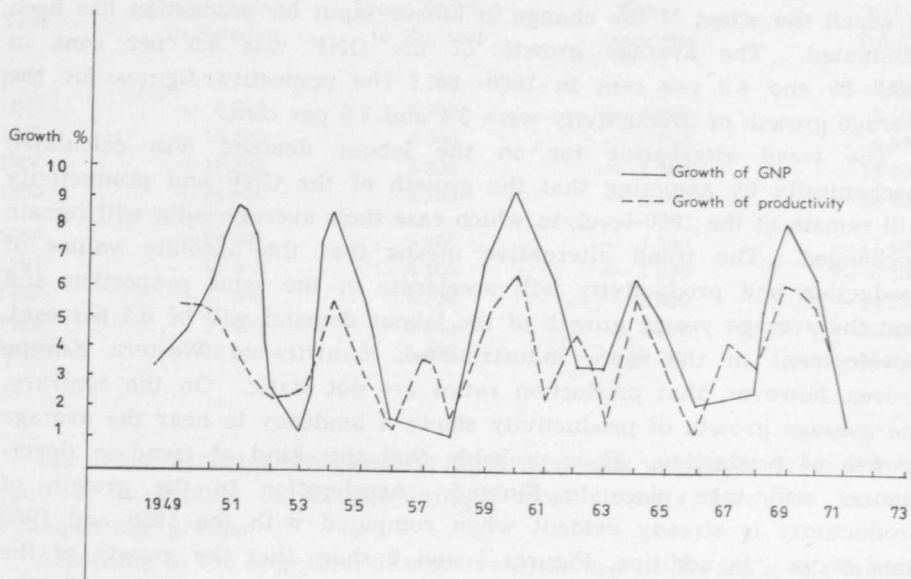


Figure 2. Growth of GNP and productivity in Finland in the years 1949—71.



that this development will continue for at least the next two decades, although the growth of productivity is expected to slow down already at the end of the 1980's.

The other forecast for labour demand — the *business cycle alternative* — has been formulated so that it will follow extrapolated cyclical fluctuation. It is based the following assumptions:

- The average growth of the GNP will slow down in the 1970's to 4.5 per cent
- The average growth of the GNP will slow down in the 1980's to 4.0 per cent
- The average growth of productivity will accelerate in the 1970's to 4.3 per cent
- The average growth of productivity will accelerate in the 1980's to 4.5 per cent

On the basis of these assumptions the trend of the labour demand will rise at first, but a turning point will be reached in the period between 1978—83. After this the trend will slowly but clearly fall (see Table 3, business cycle alternative).

As the forecast was prepared to follow fluctuations in the business cycle, the effect of periods of expansion and contraction on the demand for labour has been taken into account. For this reason familiarization with the forecast requires simultaneous examination of the fluctuation figure (Figure 1).

Table 3 shows the predicted labour supply and demand in the years examined (1970, 1975, 1980 and 1985) and the average yearly demand in the periods between in order to clarify the effect of business fluctuation. The initial year, 1970, was a boom year in Finland, and the total labour supply and demand, disregarding frictional unemployment, were temporarily in approximate balance on the aggregative level.

In summary the following can be said about the development of the labour supply and demand:

The decline in population growth, the drop in labour participation rates, and emigration will *decrease the supply of labour* in the period between 1970—85.

Two forecasts based on different assumptions of development have been prepared on the demand for labour. According to the linear trend development forecast there will be a labour shortage already in the next few years. The trend forecast has been presented mainly to demonstrate how commonly used mechanical extrapolation based on the assumption of unchanging development may lead to exaggerated figures.

The other forecast, which follows cyclical fluctuation, makes the assumption that changes will occur in the form of a retardation in the average growth of production and an acceleration in the average growth of productivity in the next twenty years, so that the average growth of productivity will exceed the average growth of production at the end of the 1980's. After this, both will start a slow decline. These assumptions are based on time series observations and on development observed in other more industrialized countries.

According to the business cycle alternative there will be a labour shortage at least in the boom periods of 1973—74 and 1978—80. The devel-

Table 3. Forecasts of the supply and demand of labour.

Demand of labour in the years under examination			Supply of labour in the years under examination	The average demand of labour in 5-year periods					The average change from the previous year in the supply of labour %
Time	Trend alternative (1 000 persons)	Business cycle alternative (1 000 persons)		Time	Trend alternative (1 000 persons)	Average change from previous year %	Business cycle alternative (1 000 persons)	Average change from previous year %	
1970	2 061	2 061	2 099	1965—70	2 073	+ 0.5	2 073	- 0.3	- 0.4
1975	2 113	2 015	2 061	1971—75	2 092	+ 0.5	2 024	- 0.4	- 0.4
1980	2 167	2 038	2 032	1976—80	2 145	+ 0.5	2 001	+ 0.2	- 0.3
1985	2 221	1 970	2 000	1981—85	2 200	+ 0.5	2 004	- 0.6	- 0.3

opment of the labour demand could be figured as a gradually rising curve with an upward-turning bend at the end of the 1970's, after which the curve makes a distinct turn downward. The turning point for demand will thus come about in the period between 1978 and 1983. When examining the forecast model, one should not give all one's attention to the results arrived at; instead they should be seen against the background of basic assumptions.

Disturbance caused by business fluctuation and structural changes will continue to be the worst problems of manpower politics in the 1970's. A comparison of the forecasts for the demand for labour and the supply of labour demonstrates that slackening production caused by a labour shortage will arise especially during periods of expansion. At this time the acceleration of the rationalization of production and an increase in capital intensity on the one hand, and the activation of potential labour reserves on the other, will come into question as complementary alternatives for action. The activation of reserves will center mainly on the labour force in agriculture and in the developing areas as well as on housewives. The participation rate of women in Finland is now already higher than in the other countries of Western Europe (the average participation rate for women in 1970 was 53 per cent). The activation of agricultural reserves is limited again by the fact that at least one half of the labour force is over fifty years of age. Reports on regional labour participation rates show that in the northern and eastern parts of the country there are young people available and eligible for work who could be used in productive activity. In the planning of manpower politics in the 1970's much more thought will have to be given to the possibility of »recruiting» people from the inactive population.

The retrogressive development of the population and the labour force has aroused discussion about it becoming a danger to the continuation of the growth of prosperity. This will happen, if it is assumed that production ratios will remain unchanged, for then the expansion of the economy is primarily dependent on the growth of the supply of labour, which very much resembles the situation described in the Harrod-Domar model. But if it is assumed that there will be changes in the production relationship, and the existence of technical progression is thus made possible, a decline in the supply of labour does not necessarily need to have a reducing effect on prosperity, because economic expansion can continue to be maintained by improving the quality of production factors.

In all economically developed countries the declining rate of participation in labour is evident. It can be seen that an ever decreasing portion of the population is working. In the future we will have to solve two problems: first, how to organize the subsistence of those people who do not participate in productive activity, and second, what are the alternative ways to spend one's time that compensate for work.