

The Development of Housing in Finland up to 2030¹

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Introduction

This article presents the main results of a study that deals with the development of housing in Finland up to the year 2030. Since the elderly generally live alone and the young continue to become independent earlier, there will be more households although the population is diminishing. The growth in the number of households requires an increase in the number of dwellings.

The main purpose of the study was to estimate the housing stock and residential wealth from 1900 to 2030 and assess its effects on the economy in Finland. The housing stock means the number of dwellings. The residential wealth is the real value of the housing stock.

1. Real income, the population and households

During the present century, the level of real income or gross domestic product at fixed prices per person in Finland has increased by an average of 2.6% per year. The level of real income is now ten times greater than 90 years ago. Presently Finland's real income per capita is the twelfth highest in the world.

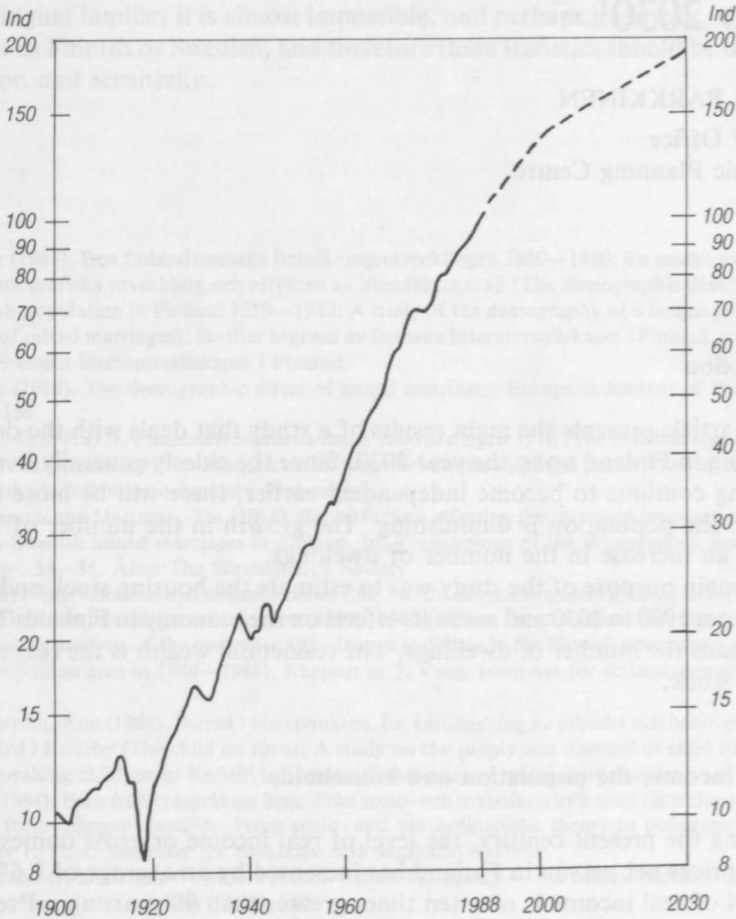
The level of real income is expected to increase to the end of this century at the same rate as average for this century. From the beginning of the next century to the year 2030, a slowing in this increase is expected, since the rate of growth of the productivity of labor in Finland can no longer be much higher than what it is in the other rich countries. In 2030, the real income per person shall be almost twice what it was in 1988 (Figure 1).

At the turn of the next century, the population of Finland shall begin to decrease although life expectancy of the population will increase in the future. Four decades from now, there shall be about a quarter of a million fewer Finns, unless there is a considerable change in the fertility rate or in net immigration. Because of migration, the population will increase in the Helsinki metropolitan region and in other big urban centres, and it will decrease in sparsely populated areas.

In the future, there will be considerably less young people and more elderly people. The number of persons older than 74 years will double over the next four decades (Figure 2).

¹ The article is based on Pekka Parkkinen's study »Asuntovarallisuus vuosina 1900—2030 (Residential wealth from 1900 to 2030). Helsinki: Taloudellinen suunnittelukeskus, 1990.

Figure 1. Gross domestic product volume per capita, 1900 to 2030 (1988 = 100)



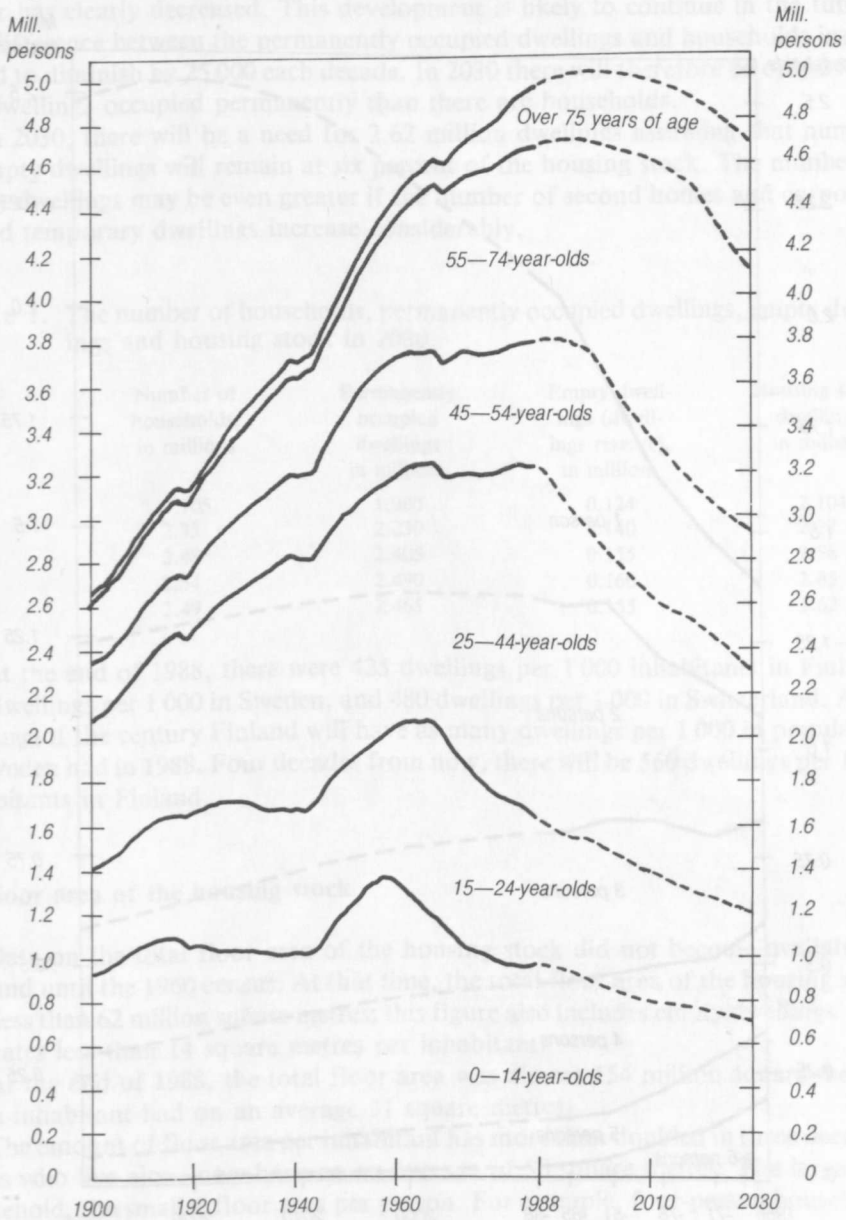
The number of households is, however, a more important factor than the size of the population. At the end of 1988, there were more than 2.1 million households in Finland. Since 1966, the number of households has increased by one and a half times. One half of this increase is due to the decrease in the average size of the households in almost all age groups.

Over the past twenty years, the number of households has increased much faster than the population, since there has been a clear decrease in the average size of the households. A bigger part of young adults and elderly people are establishing their own households. In addition, there has been a clear increase in the number of middle aged people living alone.

With the present rate of increase of households there will be about 2–5 million households by 2030. Five-sixths of the increase in the number of households is due to the decrease in the average size of households.

Over the next four decades, the number of people living alone will increase by 70 percent (Figure 3). In 2030, there will be 1.26 million persons living alone, which is one half of all the households. There will also be a slight increase in the number of two-person households.

Figure 2. Population by age group, 1900 to 2030 (millions)

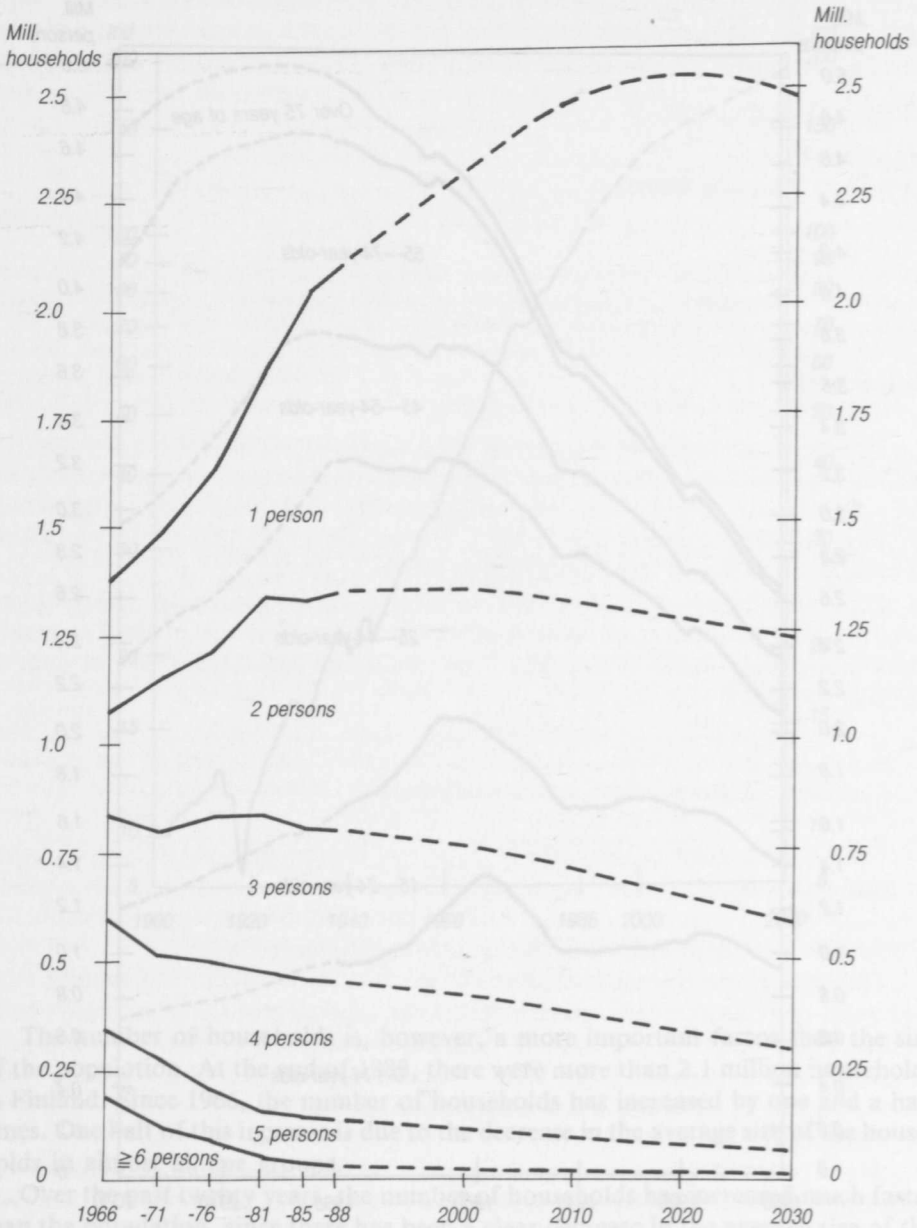


There will be less households consisting of three persons or more. Four decades from now, there shall be one third less children than today, and more people shall live alone. It shall be rarer for young adults to live with their parents, and the alderly shall establish their own households.

2. The number of dwellings up to 2030

In 1900, there were less than half a million dwellings in Finland, and more than two and a half million inhabitants. At that time, the average household had six members.

Figure 3. Households by size, 1966 to 2030 (millions)



There has been a considerable improvement in housing conditions during this century. At the end of 1988, there were more than 2.1 million dwellings, and the population was almost five million. Today, there is an average of 2.3 persons per household in Finland.

There are now the same number of dwellings as there are households. There are about 125 000 dwellings occupied less permanently than there are households. Part of this difference is due to households living as subtenants. In addition, some households live together with other households in the same dwelling and 17 000 households do not have any kind of permanent dwelling.

During the past decades, the number of subtenants and of households living together has clearly decreased. This development is likely to continue in the future. The difference between the permanently occupied dwellings and households is estimated to diminish by 25 000 each decade. In 2030 there will therefore be only 25 000 less dwellings occupied permanently than there are households.

In 2030, there will be a need for 2.62 million dwellings assuming that number of empty dwellings will remain at six percent of the housing stock. The number of empty dwellings may be even greater if the number of second homes and corporate owned temporary dwellings increase considerably.

Table 1. The number of households, permanently occupied dwellings, empty dwellings and housing stock in 2030.

Year	Number of households, in millions	Permanently occupied dwellings in millions	Empty dwellings (dwellings reserve), in millions	Housing stock, dwellings, in millions
1988	2.105	1.980	0.124	2.104
2000	2.33	2.230	0.140	2.37
2010	2.48	2.405	0.155	2.56
2020	2.54	2.490	0.160	2.65
2030	2.49	2.465	0.155	2.62

At the end of 1988, there were 425 dwellings per 1 000 inhabitants in Finland, 468 dwellings per 1 000 in Sweden, and 480 dwellings per 1 000 in Switzerland. After the turn of the century Finland will have as many dwellings per 1 000 in population as Sweden had in 1988. Four decades from now, there will be 560 dwellings per 1 000 inhabitants in Finland.

3. Floor area of the housing stock

Data on the total floor area of the housing stock did not become available in Finland until the 1960 census. At that time, the total floor area of the housing stock was less than 62 million square metres; this figure also includes empty dwellings. This indicates less than 14 square metres per inhabitant.

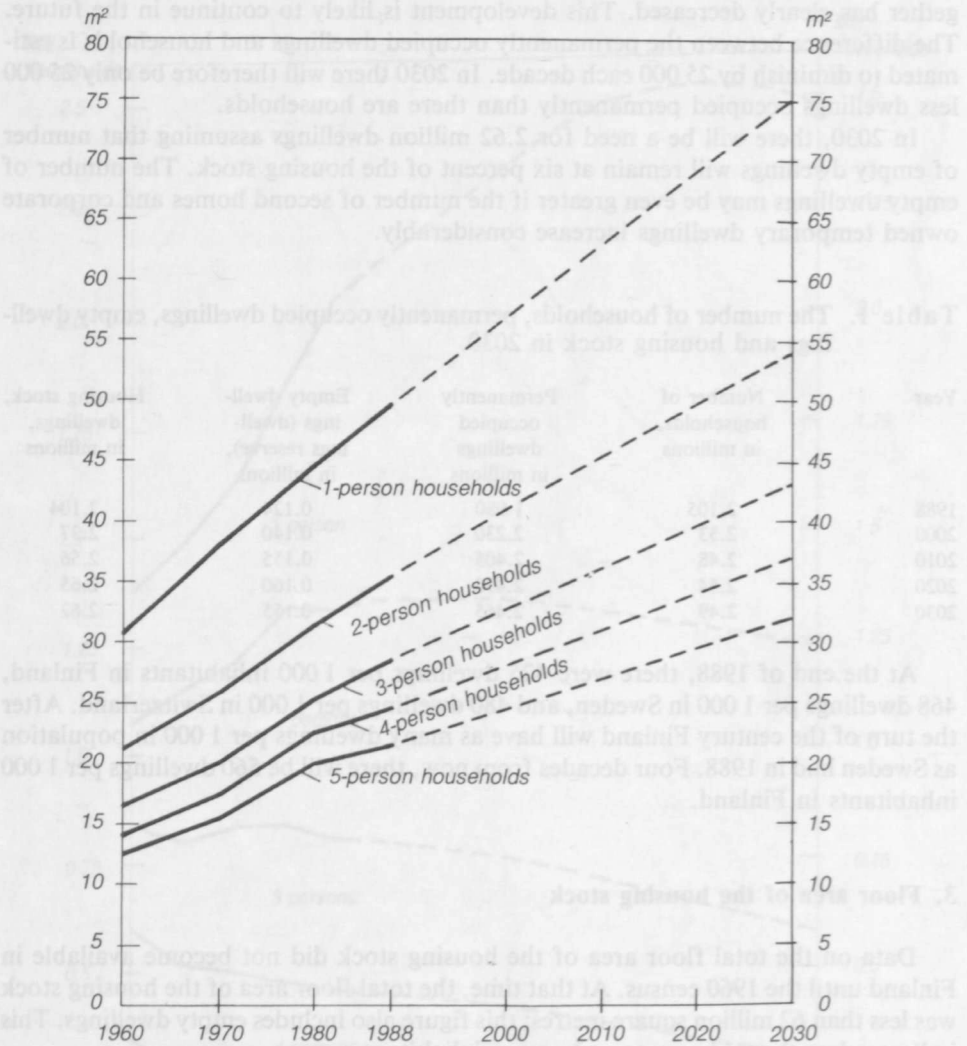
At the end of 1988, the total floor area was almost 154 million square metres. Each inhabitant had on an average 31 square metres.

The amount of floor area per inhabitant has more than doubled in three decades. Finns who live alone now have on an average of 50 square metres. The larger the household, the smaller floor area per person. For example, four-person households have less than 25 square metres per person, and households with at least seven members have only somewhat over 15 square metres per person.

Overcrowded housing is a problem in particular for large households. According to the most recent census, the dwelling was classified as overcrowded if the dwelling was occupied by more than one person per room; in this, the kitchen was counted as a room. Using this criterion, half a million Finns lived in overcrowded dwellings in 1988.

Due to improvement in the standard of living, Finns have obtained more floor area, and less people live in overcrowded dwellings. As recently as in 1960 three million inhabitants lived in overcrowded dwellings.

The overcrowded living is a particular problem for those raising a family, since

Figure 4. Floor area per person by the size of household, 1960 to 2030 (m²)

then the size of the household is the largest and the disposable income per person is rather small. Of households where the head of the family is under 45 years of age, one-tenth lived in overcrowded dwellings; in comparison, only two percent of the households consisting of elderly people lived in overcrowded dwellings.

Those with a low income are more likely to live in overcrowded dwellings. When households are grouped according to disposable income, two-thirds of those in the lowest fifth, but only one-twentieth of those in the top fifth lived in overcrowded dwellings.

The amount of floor area per person in all sizes of households is estimated to increase by one and a half times by the year 2030, if the real income per person doubles. Since the number of small households will undergo a larger increase than large households the total floor area will be 187 million square metres in 2000, and 246 million square metres in 2030.

The total floor area will then increase by 33 million square metres up to 2000, and by over 90 million square metres up to 2030. By far most of this increase can

be explained by the increase in the amount of floor area per person, and only one-eighth can be explained by the increase in the number of households.

At the turn of the century, there will be almost 37 square metres of floor area per person in Finland, and three decades later there will be 52.5 square metres per person (Figure 4); this also includes empty dwellings. At least in Switzerland, Sweden and Denmark the floor area per person is higher than it will be in Finland at the turn of the century. In these countries, the amount of floor area per person has increased also during recent years.

In Finland the quality of housing has improved considerably during the present century. At the turn of this century, only a few percent of dwellings were connected with the sewage and water system, had electricity or other housing amenities. At present, only a few percent of dwellings are not connected to the sewage or water system, do not have indoor toilets, hot water, central heating or washing facilities. If any of these amenities is lacking, the dwelling is classified as sub-standard. Even now, one-fifth of all dwellings are sub-standard.

It is in particular the elderly who suffer from sub-standard housing. As late as 1986, almost one third of households with elderly residents lived in sub-standard dwellings, while this was true for only one-fifth of all the households. One year earlier more than one-third of households in the lowest fifth in respect of income lived in sub-standard dwellings, while this was true for less than one-tenth of those in the top fifth.

In the future, the standard of housing will continue to improve. Both new and renovated dwellings have all the modern amenities, and in general they will be equipped with the most important household appliances. However, it is obvious that the improvement in housing amenities, and in the quality of dwellings in general, can no longer raise the relative quality of housing as rapidly as before, since the major shortcomings in the housing stock in Finland have already been remedied during the past decades.

4. Residential wealth

According to the study of indebtedness and wealth carried out by the Central Statistical Office, at the end of 1987 the average price of owner-occupied dwelling was 332 316 FIM (80 000 USD). This figure is based on the estimate made by the homeowner of the present unencumbered selling price of the house with its land.

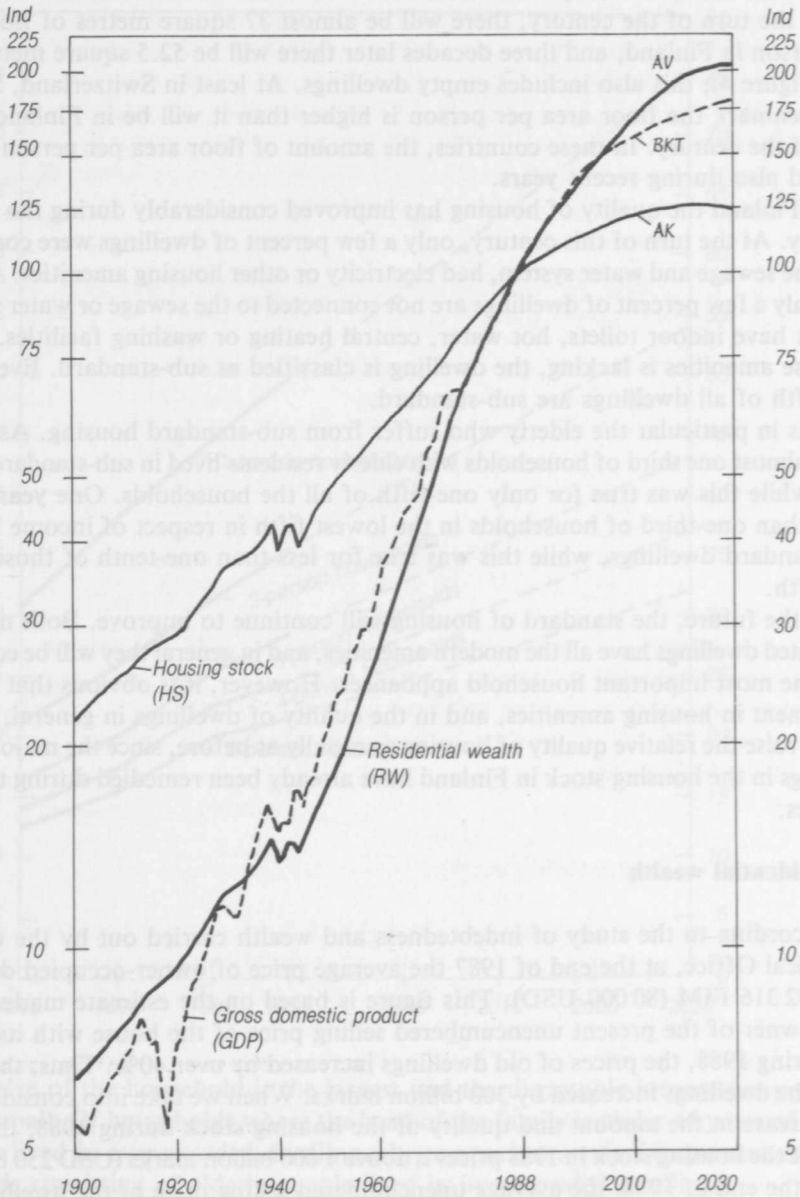
During 1988, the prices of old dwellings increased by over 40%. Thus, the value of all the dwellings increased by 300 billion marks. When we take into consideration the increase in the amount and quality of the housing stock during 1988, the total value of the housing stock in 1988 prices is above 1 000 billion marks (USD 250 billion).

At the end of 1988, the average unencumbered selling price of the dwelling was 485 300 marks (USD 120 000), and the price per square metre was 6 648 marks (USD 1 600). The value of the dwelling stock (the residential wealth) is determined not only by the number of dwellings but also by their size, their level of equipment and their quality in other respects.

During the present century, the value of the housing stock in 1988 prices has increased by a factor of almost 16. At the same time, real income has increased by a factor of 18, when measured on the basis of the volume of the gross domestic product (Figure 5).

At the moment, the residential wealth comprises one third of the total national wealth of Finland. The national wealth consists of the residential wealth, the present value of other real estate and productive plants and equipment, the value of forests

Figure 5. The volume of residential wealth, housing stock and gross domestic product 1900 to 2030 (1988 = 100)



and other natural resources as well as movables. The national wealth gives the selling value of the wealth in the whole country.

Since 1960, the residential wealth at 1988 prices per square meter of the dwelling has increased by an average of 1.4 percent per year. The rate of growth of this value per square metre of housing has slowed, since the improvement in the level of equipment and in general in the quality of dwelling is not proportionately as great as before.

At the end of 1988, the total value of the housing stock was over one thousand billion marks (USD 250 billion). The rate of growth of volume of this total value will to slow down, since the quality of dwelling today is considerably better than

before. The rate of growth of volume of the residential wealth per square metre of dwelling space is estimated to decrease by 0.2 percentage units in each decade.

At the turn of the millennium the volume of the residential wealth will be one third larger than present and in four decades it will double. At the end of 1988, the total value of the housing stock in Finland was 206 000 marks (ca. USD 50 000) per person. Four decades from now, the total value per person shall be twice as large.

The increase in the volume of residential wealth signifies a considerable improvement in housing conditions. The growth in this total value affects the national economy in a number of ways. For example, the ability of households to contract debts increases along with wealth, and the real value of inherited dwellings per heir shall be five times as large four decades from now.

5. The price of the old dwellings and housing subsidies

Statistics for Finland on the price of old dwellings did not become available until 1970. Estimates of the development of the price of old dwellings before 1970 must be made on the basis of the price index for new dwellings, in other words of the price index for housing investment.

From 1970 on, the price of old dwellings has increased almost eight times, and from the beginning of the century it has increased by a factor of 6 000. At the beginning of the century, the real price of the average dwelling was 70% less than what it was at the end of 1988. (The real price here refers to prices deflated by the private consumption price index).

At the end of 1988, the real price of the average dwelling was higher than ever before during this century (Figure 6). There has been considerable changes in this real price. During times of rapid economic growth, the real price of dwellings has increased. The dwelling production namely increases the amount of the housing stock by only a few percent each year, and so a strong increase in demand for dwellings. During times of slow economic growth, there has been a decrease in the real price of dwellings.

The changes in the real price of the housing stock are also affected by changes in the amount of credit extended by financial institutions. The larger the increase in the amount of credit, the greater the demand for dwellings and the greater the increase in the real price of dwellings. For example, a quarter's increase in real prices of the dwelling stock during 1988 is mainly due to the rapid growth in the amount of credit extended by banks.

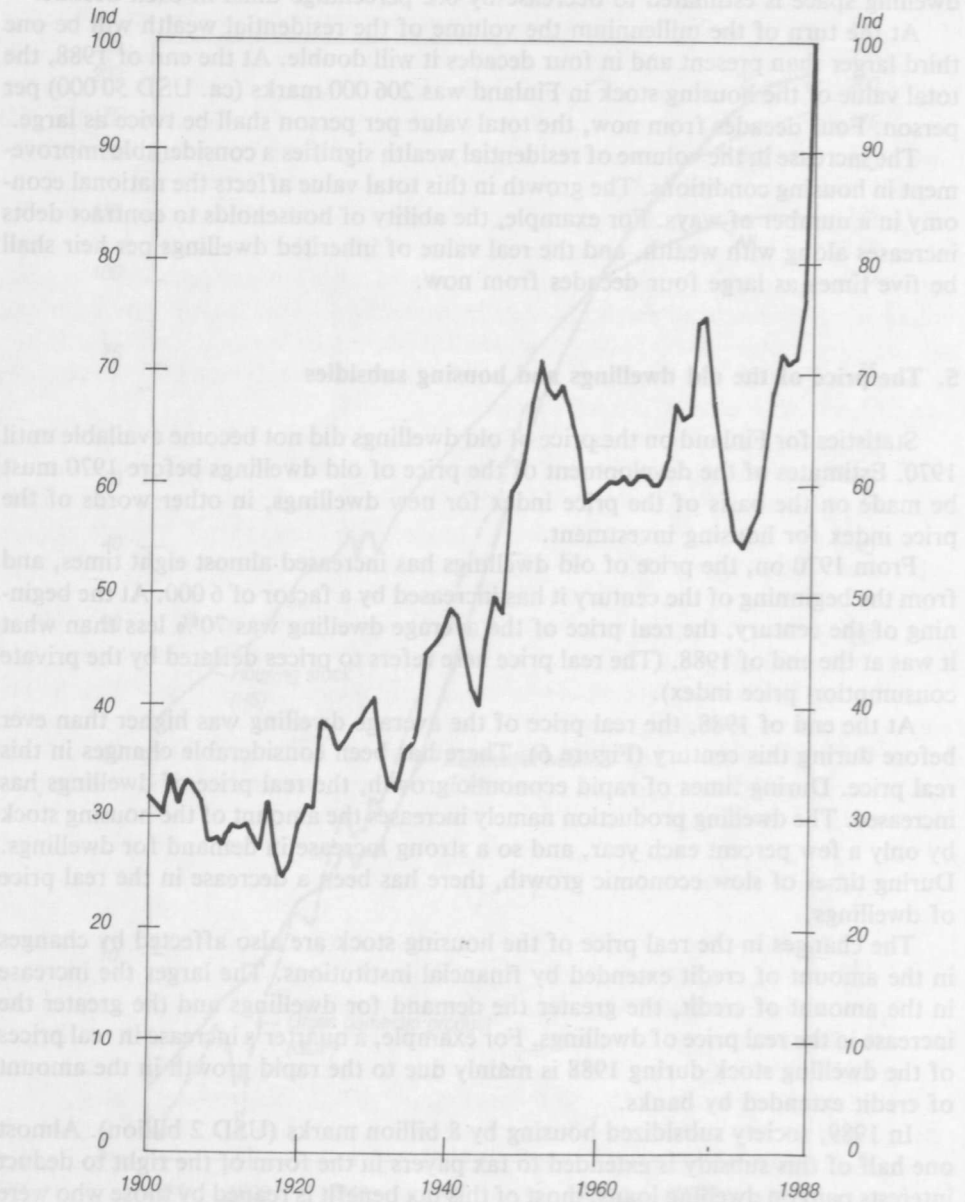
In 1989, society subsidized housing by 8 billion marks (USD 2 billion). Almost one half of this subsidy is extended to tax payers in the form of the right to deduct interests paid on dwelling loans; most of this tax benefit is reaped by those who were better off.

The major part of the total housing subsidy benefits those in owner-occupied dwellings. In order to increase the flexibility of the labor market, it would be appropriate to increase the amount of subsidies extended to those living in rented dwellings and in cooperative dwellings.

6. Decline in the housing stock and completed dwellings

After 1950, each year about one out of every hundred dwellings is taken out of use. The statistics on this decline in the dwelling stock are poor. They are based on

Figure 6. Real housing stock prices, 1900 to 1988 (1988 = 100)



data obtained in the census on the amount of the housing stock and on data on the number of the completed dwellings.

The older the dwelling, the greater the likelihood that it is no longer used as a permanent dwelling. However, the decline among dwellings made of stone is relatively smaller than among wooden dwellings, and in urban areas the decline is smaller than in sparsely populated areas. The reason for the latter phenomenon lies in migration. The sparsely populated areas have lost people by migration, therefore there have many dwellings been changed into summer cottages.

Three alternative estimates have been prepared on the decline of the housing stock. These are based, respectively, on a 1, 2/3 and 1/3 percent annual decline in the housing stock.

If migration remains strong and nothing is done to slow the changing of dwellings into offices, the annual decline may be one percent of the dwelling stock even if considerably fewer people than before live in the sparsely populated areas. At the turn of the millennium, the annual decline would be about 24 000 dwellings. With an increase in the housing stock, the annual decline during the 2020s would be over 26 000 dwellings.

If the annual decline were in future same as in recent years or only 1/3% of the housing stock, so at the turn of the millennium the annual decline would be 8 000 dwellings, and even four decades from now it would be less than 9 000 dwellings.

Figure 7. Dwellings production according to various decline alternatives, 1900 to 2030 (thousands of dwellings)

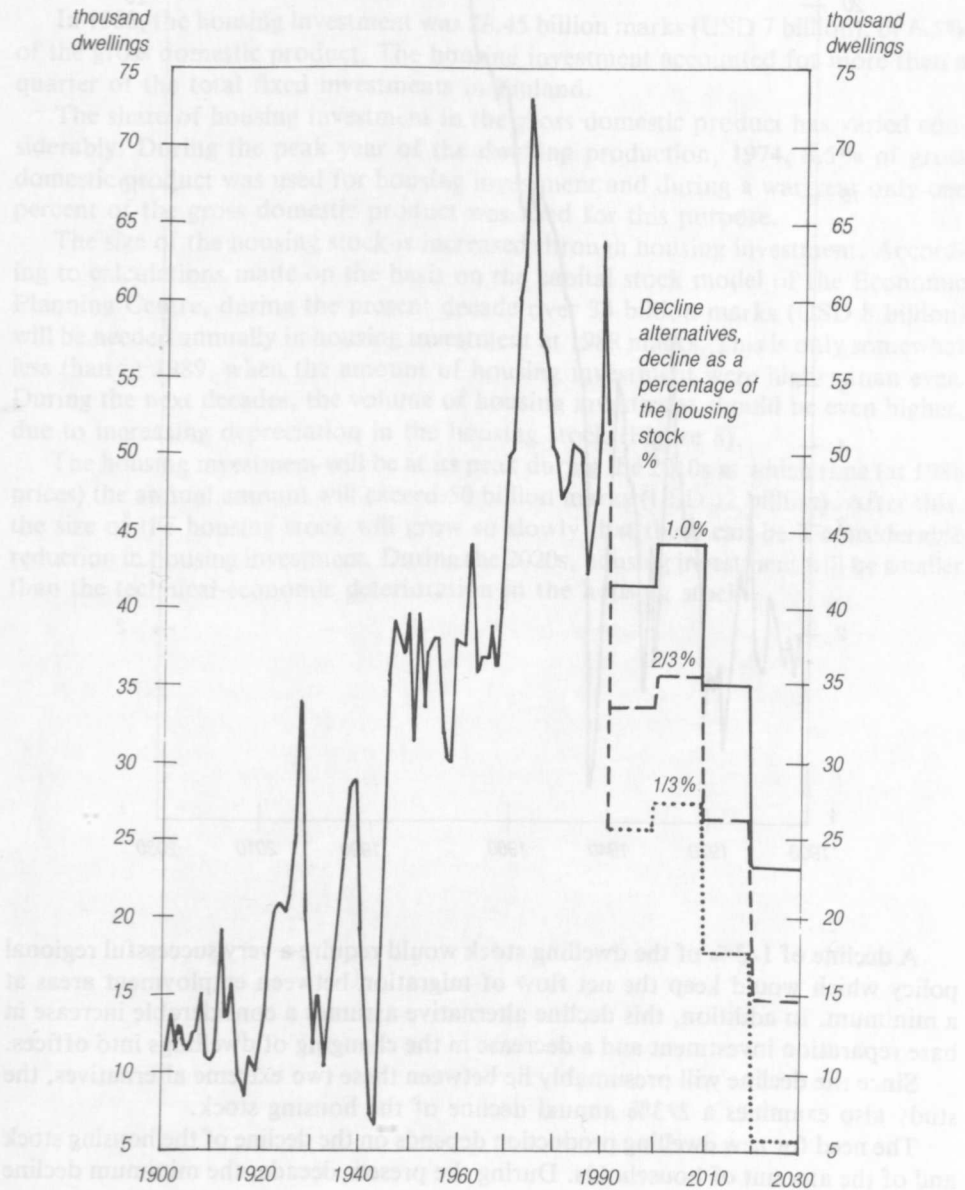
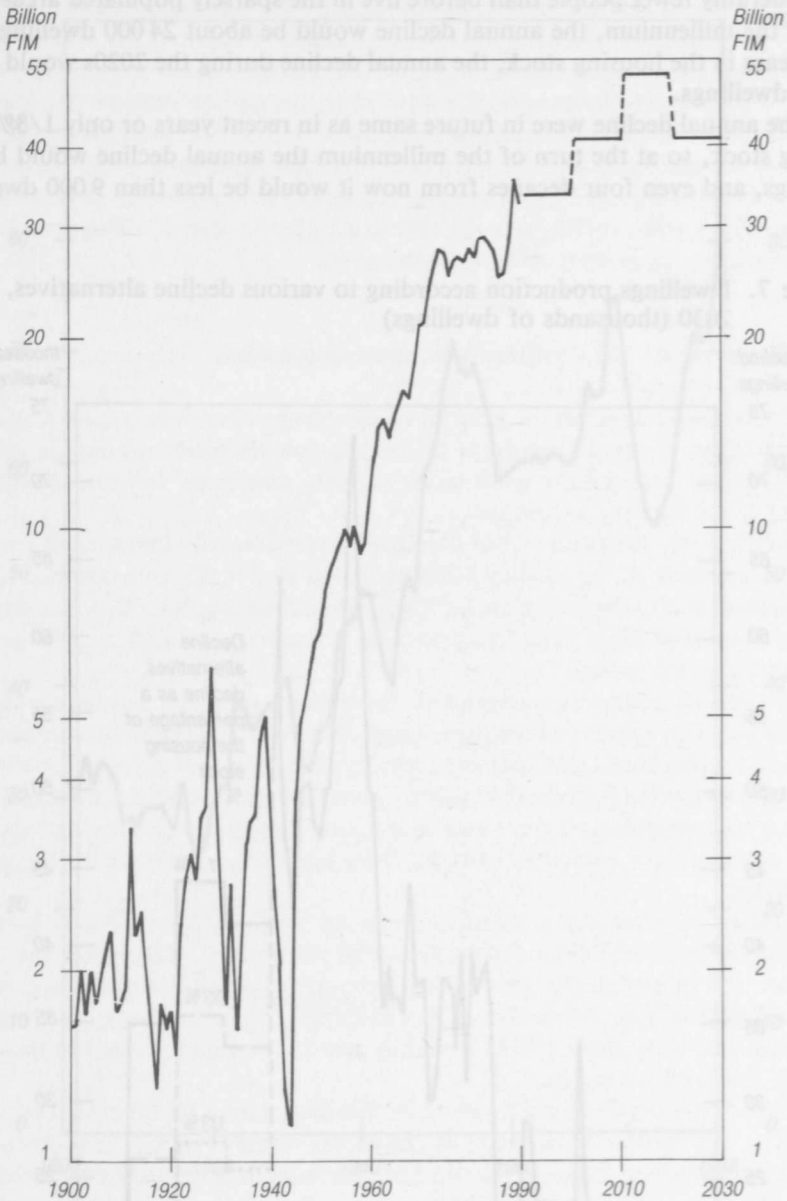


Figure 8. Housing investment according to different decline alternatives at 1988 prices, 1900 to 2030 (billion)



A decline of 1/3% of the dwelling stock would require a very successful regional policy which would keep the net flow of migration between employment areas at a minimum. In addition, this decline alternative assumes a considerable increase in base reparation investment and a decrease in the changing of dwellings into offices.

Since the decline will presumably lie between these two extreme alternatives, the study also examines a 2/3% annual decline of the housing stock.

The need for new dwelling production depends on the decline of the housing stock and of the amount of households. During the present decade, the minimum decline

alternative would require annually almost 26 000 new dwellings every year, and the maximum decline alternative respectively almost 41 000 new dwellings (Figure 7).

The increase in the number of households and the decrease in the number of sub-tenants as well as households living together would mean that during the next decade, the dwelling production should be somewhat larger than what it has been during the present decade; however, during the 2010s, it would already be much less. During the last decade under examination, the annual dwelling production should be from less than between 6 000 and 23 000 dwellings, depending on the decline alternative.

7. Housing investment

In 1988, the housing investment was 28.45 billion marks (USD 7 billion), or 6.5% of the gross domestic product. The housing investment accounted for more than a quarter of the total fixed investments in Finland.

The share of housing investment in the gross domestic product has varied considerably. During the peak year of the dwelling production, 1974, 8.5% of gross domestic product was used for housing investment and during a war year only one percent of the gross domestic product was used for this purpose.

The size of the housing stock is increased through housing investment. According to calculations made on the basis on the capital stock model of the Economic Planning Centre, during the present decade over 33 billion marks (USD 8 billion) will be needed annually in housing investment at 1988 marks. This is only somewhat less than in 1989, when the amount of housing investment were higher than ever. During the next decades, the volume of housing investment should be even higher, due to increasing depreciation in the housing stock (Figure 8).

The housing investment will be at its peak during the 2010s at which time (at 1988 prices) the annual amount will exceed 50 billion marks (USD 12 billion). After this, the size of the housing stock will grow so slowly that there can be a considerable reduction in housing investment. During the 2020s, housing investment will be smaller than the technical-economic deterioration in the housing stock.