

Finland's Declining Fertility

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Speculations and assumptions

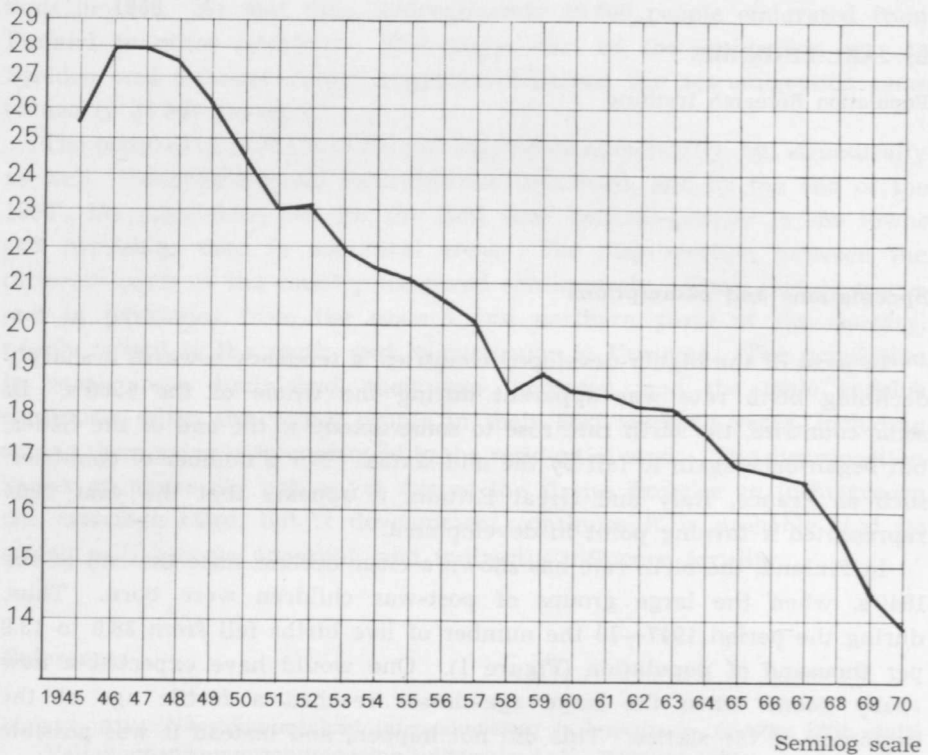
In most of the highly-developed countries, a tendency towards a sharply declining birth rate was apparent during the whole of the 1960's. In some countries, the birth rate rose to some extent at the end of the fifties, but began once again to fall by the mid-sixties. For a number of countries, such as France, Italy and Great Britain, it appears that the year 1964 represented a turning point in development.

In Finland, the birth rate has shown a clear decline since the end of the 1940's, when the large groups of post-war children were born. Thus, during the period 1947—70 the number of live births fell from 28.0 to 13.9 per thousand of population (Figure 1). One would have expected a new »baby boom» when the large age-classes reached a fertile age at the beginning of the sixties. This did not happen, and instead it was possible to discern a continued declining tendency.

A great deal of speculation has been concerned with the reasons for this development, which is directly contrary to previous experience. Probably, these reasons are to be found in several jointly operating circumstances. If one leaves out of account those features of development which have gradually led to an increasingly lower fertility in the industrial countries (cf. Lento, p. 80—105 1956), the following reasons remain as conceivably possessing more or less special relevance in regard to the development in Finland.

1. During the rapid process of urbanisation of the postwar years, the agrarian world of ideas, which had earlier set its stamp upon thought and action among the great majority of Finland's people, yielded ground very quickly to new norms and opinions.
2. Examples and the way of life that characterise the relatively high standard of living in the southern, and comparatively greatly industrialised and urbanised parts of the country, are spreading to »developing areas» in the north and east.
3. The rapid development towards an educated community has led to greater equality between the sexes: the number of career women is rising.

Figure 1. Crude birth rate, number of live births per 1000 mean population in 1945—70.



Sources: Statistical Yearbook of Finland, 1969, Table 34, and Bulletin of Statistics No 1, 1971, Table 2.

4. To a greater extent than with earlier generations, the young are involved in international problems, and hesitate to bring children into a world that in their eyes is insecure.
5. In Finland, family-political income transfers have lagged behind general development in the socio-political area, which has contributed towards the declining incidence of births, in part because of the heavier financial burden entailed by having children, and partly because the attitude towards family formation has thereby been influenced indirectly.
6. The shortage of housing accommodation in the towns, and the difficulties experienced by young people in setting up a home, with the consequence of widespread overcrowding affecting all levels of society, have reduced the desire to have children.
7. Emigration to Sweden during the late 1960's diminished the number of women of fertile age.
8. New, efficient contraceptives have rendered it possible to carry out effective family planning.

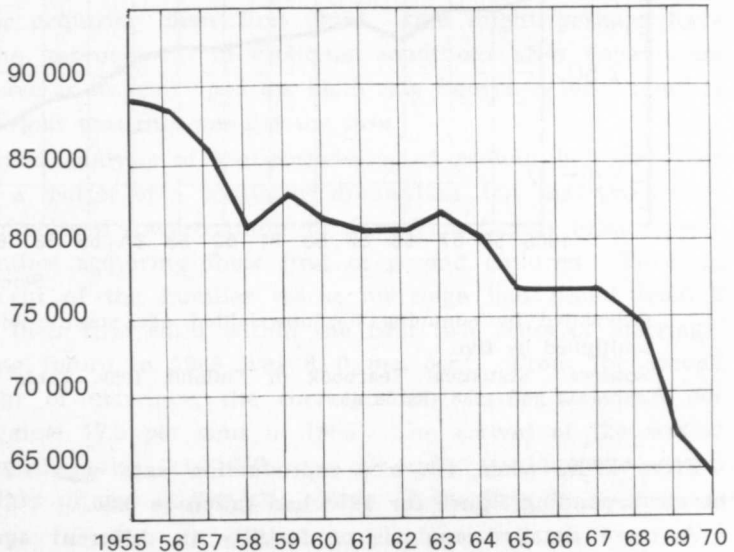
On the other hand, admittedly, it seems to be possible to suppose, as in many other countries, a tendency towards larger families in the higher income classes.

Development

The intention in what follows below is that of trying to bring out the characteristic features of the development of fertility during the 1960's from an aggregative aspect, and, upon the foundation of the available vital statistics, making an attempt to prepare a first clarification of the reasons for the declining birth rate figures. The analysis used in this paper is based mostly on period fertility data.

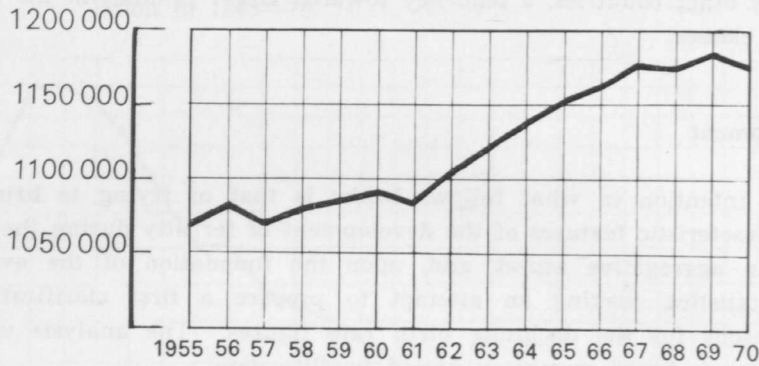
During the early 1960's, the number of live births maintained a rather even level, rising slightly over 80 000. From 1963 until 1970, the number of live births fell from 82 000 to 64 400, which in other words means a decline in absolute births of 22 per cent in seven years (Figure 2). The number of births diminished most markedly during the last three years, 1967—70, or by about 7 per cent annually. At the same time as natality declined, the number of women of fertile years rose year by year. The increase was around 60 000 women, or 11.5 per cent annually. As the increase was attributable to the large number of births in the postwar years, during the 1960's the youngest, fertile age-classes rose

Figure 2.
Number of
live births
in 1955—70.



Sources: Statistical Yearbook of Finland, 1969, Table 34, and Bulletin of Statistics No 1, 1971, Table 2.

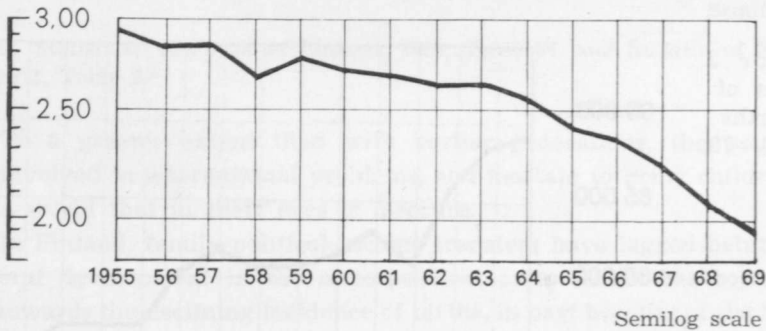
Figure 3. Women aged 15 to 49 years in 1955—69.



Sources: Vital Statistics VI A, 114—119, Table 3, and 120—131, Table 4.

in number (Figure 3). As a consequence of the reduced number of births, and the increased number of women, the number of children per woman of fertile age declined, on the average from 2.71 per woman in 1960 to 1.90 in 1969 (Figure 4).

Figure 4. Average number of live births per woman of childbearing age in 1955—69, by age groups.



Calculated by summing the unweighted age specific birth rates multiplied by five.

Sources: Statistical Yearbook of Finland, 1969, Table 45, 1962, Table 43 and 1956, Table 45.

From 1960, when the net reproduction rate was 1.27 per woman, the corresponding figure for 1970 had fallen to 0.80.

A more detailed analysis of fertility in different age groups from 1955 to 1969 shows that the fertility sank in all ages, with the exception of the very youngest. Thus the development of the *age-specific birth rate* illustrated in Figure 5 indicates that the number of births per woman

sank appreciably in the age groups of 20 years and upwards. From a relative aspect, the decline was greater with advancing age of the women. The exception is to be found in the youngest group. During most of the 1960's, those aged between 15 and 19 exhibited a rising degree of fertility, although this remained at approximately the same level during the last years of the decade. Absolutely, however, the rising degree of fertility in this age group has been of a very small significance.

The birth rate according to length of marriage also displays a clear tendency towards decline (Figure 6). During the first years of marriage, the decline is not particularly evident, although the course of development towards the end of the sixties seems to indicate a clearly declining tendency in all groups. In the second and third to fourth years, fertility has obviously diminished since 1963. In the older duration groups, the decline was very evident.

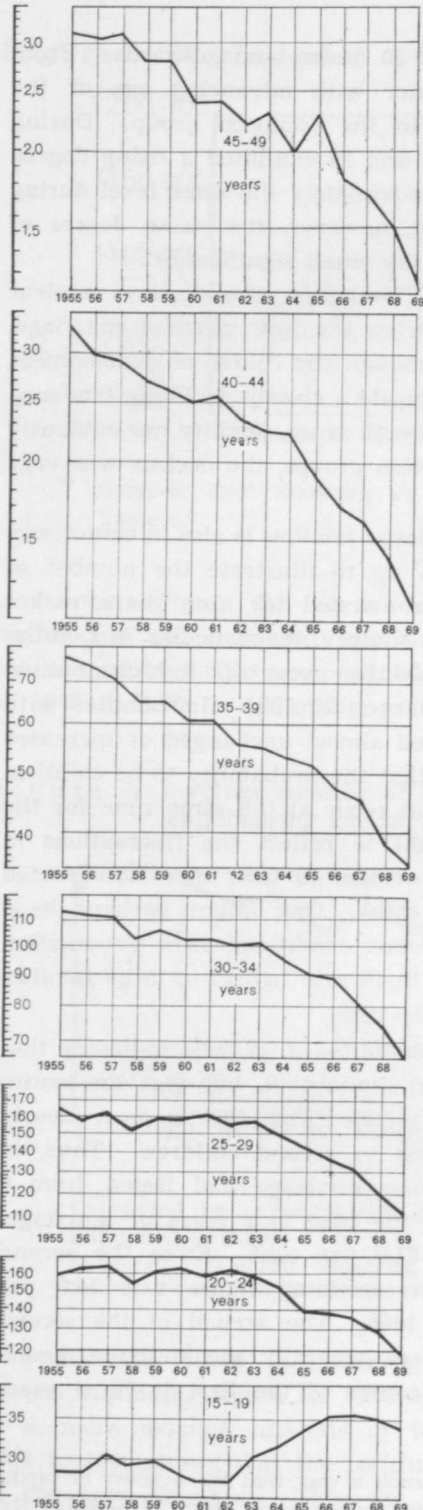
The probability of *growth in different large families* is also in conformity with this observation. Figure 7, drawn up to illustrate the number of children born by women who had been married for nine years, makes it clearly apparent that fertility declined sharply, in particular in families with three or more children.¹ As could be expected, the diminution, given as a percentage, was greater in larger families. In families with one child or none, the birth rate remained almost unchanged or increased somewhat. This could be interpreted so that the probability to be childless shows a declining tendency. Changes that recur at the same time for the different types of family can be thought to reflect the fluctuations in economic conditions within the country, evident in their most accentuated form in families acquiring their first child. One might perhaps have expected that the improvement in economic conditions after devaluation in 1967 would leave an imprint upon the birth rate figures in large families as well. It is obvious that this was not the case.

A more detailed analysis of the probability of growth indicates that it was not only a matter of a consistent diminution, but that the centre of gravity was displaced towards later births. This fact is most clearly apparent in families acquiring their first or second children. Thus, in 1955, 83.5 per cent of the families whose marriage had lasted from 0 to 9 years, had their first child within the first two years of marriage: the corresponding figure in 1968 was 81.0 per cent. From the second to the fifth year of marriage, the corresponding figure was 14.6 per cent in 1960, against 17.0 per cent in 1968. The arrival of the second child is in conformity with this. Whereas generally speaking the second child saw the light of day during the course of the first to third years

¹ The birth rate figure is calculated in such a way that the number of births is put in relation to the number of married women aged from 15 — 49 at the beginning of marriage duration.

Figure 5.

Live births

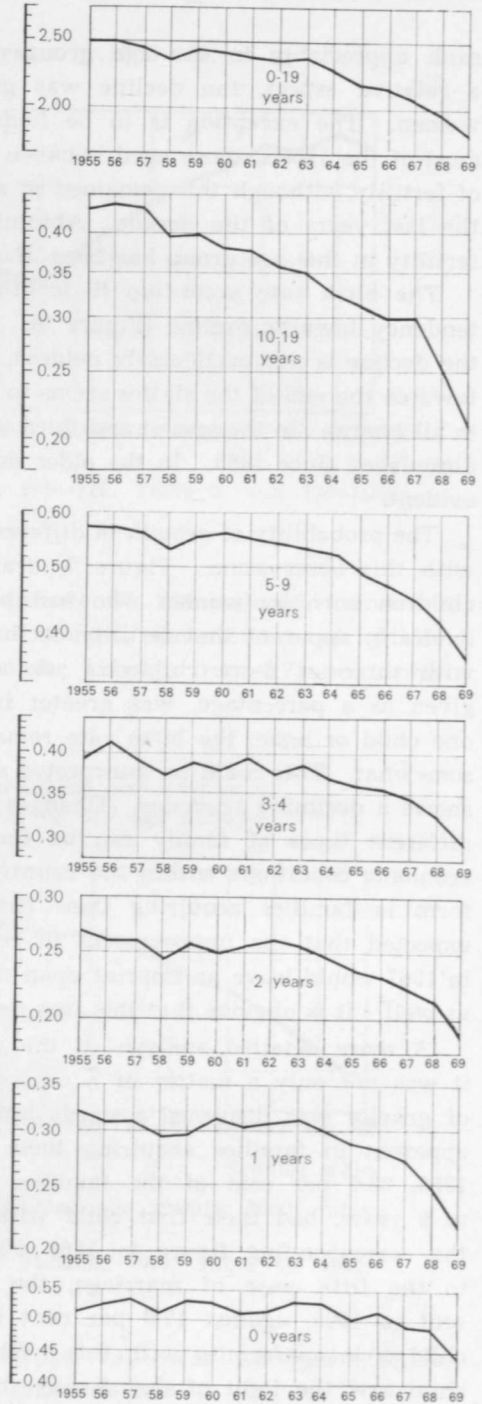


Semilog scale

Sources: Statistical Yearbook of Finland, 1969, Table 45, 1962, Table 43 and 1956, Table 45.

Figure 6.

Live births



Semilog scale

Sources: Vital Statistics VI A 114-119, Tables 10 and 24, 120-131, Tables 12 and 27.

← Figure 5. Age specific birth rate per 1000 women in 1955—69.

← Figure 6. Average number of births per women by duration of marriage, in 1955—69.

The number of live births in Figure 6 is calculated by relating the births by duration of marriage to the average number of women married during the duration in question.

0 years of marriage is

$$\frac{1}{2}(M_x + M_{x-1})$$

1 year of marriage is

$$\frac{1}{2}(M_{x-1} + M_{x-2})$$

2 years of marriage is

$$\frac{1}{2}(M_{x-2} + M_{x-3})$$

3—4 years of marriage is

$$1/4 (M_{x-3} + 2 M_{x-4} + M_{x-5})$$

etc.

where M is the number of marriages and the index the year.

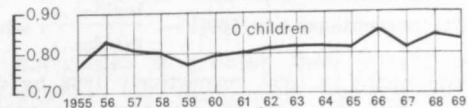
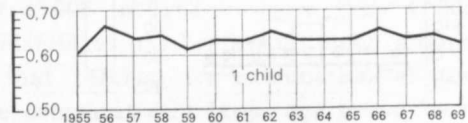
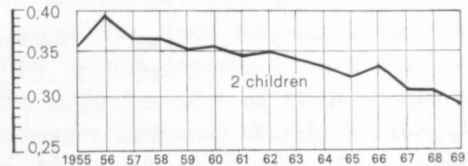
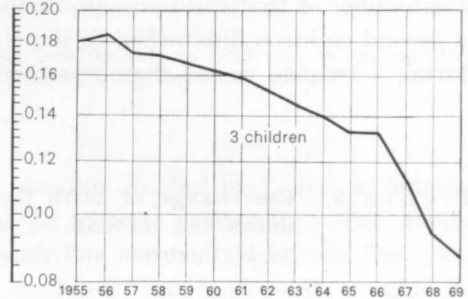
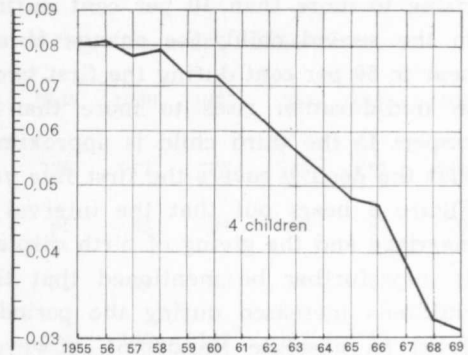
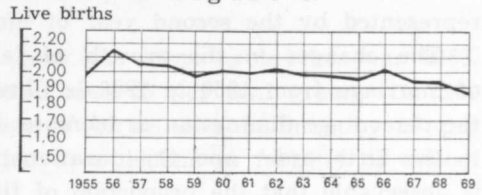
Figure 7. The birth order rate per women married 9 years with 0—4 children in 1955—69.

The parity-specific birth probability in

$$\text{Figure 7 is } \frac{1}{M} \sum_{i=0}^9 B_{ni}$$

where M is the number of marriages at the beginning of the period and B_{ni} is the number of births by the marriage cohort; i stands for the duration of marriage up to confinement and n is the birth order.

Figure 7.



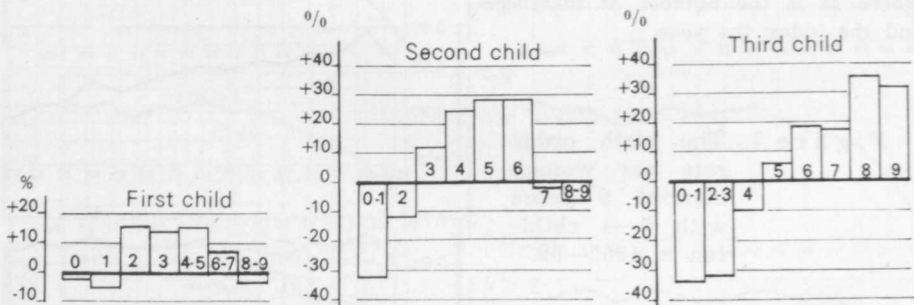
Semilog scale.

Sources: Vital Statistics VI A 114—119, Tables 10 and 24, and 120—131, Tables 12 and 26.

of the marriage in 1955, by the end of the 1960's the clear peak earlier represented by the second year of marriage had been evened out.

The changes in the growth of families in relation to the duration of marriage from 1960 to 1968 is illustrated in Figure 8, which indicates the percentage diminution or increase in the proportion of births according to the birth order and the duration of marriage from 0 to 9 years. It is observable that the proportion of first-borns declined somewhat during the first two years (0—1 year) of the marriage, but exhibits an increase rising to more than 10 per cent during the succeeding years. In regard to the second child, the change is even more apparent: the decline is near to 50 per cent during the first two years of marriage, and the increase in mid-duration rises to more than 20 per cent. The situation with respect to the third child is approximately the same, with the difference that the decline covers the first five years of the marriage. Consequently, Figure 8 bears out that the interval of time between the beginning of marriage and the giving of birth displays a tendency towards prolongation. It may further be mentioned that the proportion of »first and second children» increased during the period 1955—69 from 57 to 74 per cent. From an absolute standpoint, however, practically no change occurred. The number of first children admittedly rose insignificantly, and the number of second children diminished to some extent. Fewer children are acquired during a lengthy period than was the case at the beginning of the sixties.

Figure 8. The change of birth timing from 1960 to 1968. The figure shows the increase or decrease of the proportion of births by birth order and duration of marriage from 0 to 9 years.



The percentages are $100(1 - \frac{b_{68}M_{60-i}}{b_{60}M_{68-i}})$ where b_{60} and b_{68} are the numbers of legitimate births in 1960, respectively 1968 by duration of marriage up to confinement:

M_{60-i} and M_{68-i} are the numbers of marriage; i stands for the duration of marriage up to confinement.

Sources: Vital Statistics VI A 119, Tables 10 and 24, 120, Tables 12 and 27.

Some observations

If the age specific fertility had been the same as in the year 1963, the number of live births would have been 13 per cent greater in 1969 than in 1963. In reality, the number of births had declined by 17 per cent from 1963, which accordingly led to a decline in fertility of almost 27 per cent (Table 1, 3rd line).

Table 1. Changes in birth figures during the years 1963—69.

	1963	1964	1965	1966	1967	1968	1969	1970
Number of live births, in 100's	822	804	779	777	773	736	681	644
Change in number of births (1963 = 100)	100	97	95	95	94	89	83	78
In the form of change of — fertility ¹	100	96	91	89	86	79	73	..
— number of women aged 15—49 ²	100	101	104	106	109	112	113	..

¹ $W_{63}\varphi$, where W_{63} denotes the number of women aged 15—49 in 1963, and φ the age-specific fertility rate during the years 1964—69.

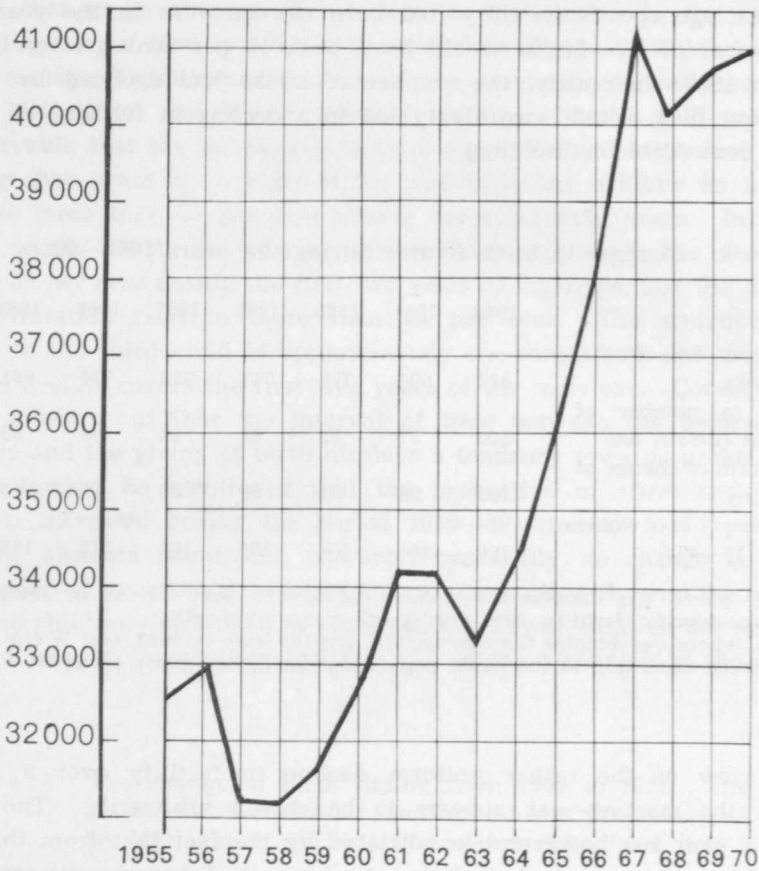
² $W\varphi_{63}$, where φ_{63} denotes the age-specific fertility rate in 1963, and W the number of women according to the mean population during the years 1964—69.

In view of the rather uniform decline in fertility over a lengthy period, the starting-year appears to be chosen arbitrarily. The choice of basic year has however been dictated by the fact that from that year onwards a more marked declining tendency had become discernible in the number of births than had been the case earlier. This applies especially to the age group in which fertility is greatest, those between 20 and 24.

Nonetheless, the decline in fertility is not dependent upon the fall in the frequency of marriages. The large numbers of births annually in the postwar years meant that marriages increased sharply in number after the end of the fifties, and in particular after 1963. In absolute figures, marriages rose from a full 33 000 in 1963 to more than 41 000 in 1967 (Figure 9). The number of marriages has been maintained around this level since 1967. The peak that reached its culmination at the beginning of 1960 resulted from the comparatively large age group born in 1941, between the »Winter War» in 1939—40 and the »Continuation War» in 1941—44.

The increase in the number of marriages is greater than would be assumed from the increase in the number of women of marriageable age, if the nuptiality had been the same as at the beginning of the period under study, or 1963. It is observable from Table 2, which presents

Figure 9. Number of marriages in 1955—70.



Sources: Statistical Yearbook 1969, Table 34.

a more detailed analysis of the changes in the number of marriages, that the number of women aged 15—49 married increased from 1963 to 1969 by 24 per cent. Of this increase, 19 per cent is attributable to a rise in the number of women aged between 15 and 49, and the remainder, in other words 5 per cent, is explicable by an increase in marriage formation, which has risen since the beginning of the sixties, in particular in the very youngest age classes, those of 15 to 19. However, the number of married women between the ages of 15 and 49 was somewhat less at the end of the sixties than at the beginning of the decade (Figure 10). This is explained by the large postwar numbers of births annually which attained the age of fertility at the end of the decade, but began to enter marriageable age at the conclusion of the decade.

Table 2. Change in the number of marriages 1963—69.

	1963	1964	1965	1966	1967	1968	1969
Number of those married for the first time, ages 15—49, in 100's	304	314	332	350	380	371	377
Change in number of marriages	100	103	109	115	125	122	124
In the form of increase in — frequency of marriage ¹	100	100	103	105	110	104	105
— number of women aged 15—49 ²	100	103	106	110	114	118	119

¹ $W_{63}\mu$, where W_{63} denotes the number of women aged 15—49 in 1963, and μ the yearly age-specific marriage rate in 1964—69.

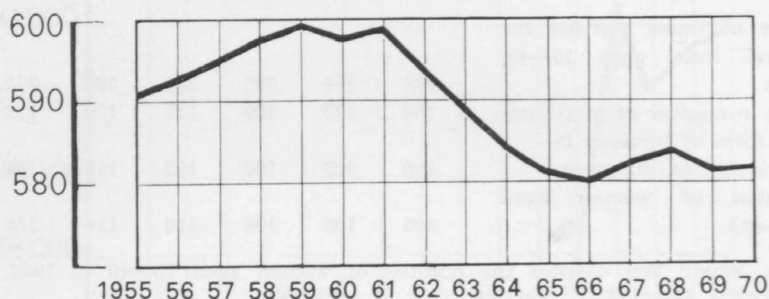
² $W\mu_{63}$, where μ_{63} denotes the age-specific marriage rate in 1963, and W the number of women according to yearly mean population during years 1964—69.

To a decisive extent, the declining fertility is a consequence of the differences in birth frequency between the various parts of the country being greatly evened out during the sixties. Kimmo Mikkola (1971) has calculated the quotient between the number of children under four years of age and the number of women aged between 15 and 44 for the statistical areas of Finland in 1960 and 1969. He found that the difference between the largest and the smallest quotients was 40 per cent in 1960. By 1969, the difference had fallen to a little more than 10 per cent. The birth frequency calculated by this means had declined within all areas, but particularly so in northern Finland, where the decline amounted to 30—35 per cent.² In the southernmost parts of the country, the decline was no more than about 15 per cent.

A calculation of the extent to which the areas exhibiting a declining natality had influenced the decrease in birth frequency during the sixties is of course dependent upon where the line is drawn between areas with a rapid decline and those with a slow one. For example, if a diminution of 20 per cent can be regarded as rapid, it can be established that the fall in fertility in Finland, calculated on the basis of the quotients mentioned above, to almost two thirds, resulted from the sharp decline in births represented by the northern, eastern and central parts of Finland. The areas which show the greatest decline, viz. Lapland, northern Ostrobothnia, Kajaani and north Karelia, where the decline amounted to 30 per cent or more, account for a fourth part of the diminution. The number of births admittedly declined most in the northernmost parts of the country,

² The details for 1960 have been extracted from the census figures, but those for 1969 from the health insurance statistics published by the National Pensions Institute. Regional fertility figures with age differentiation are not available in Finland.

Figure 10. Number of married women per 1000 women aged 15 to 49 years in 1955—70.



Sources: Vital Statistics VI A 114—119, Table 3, and 120—131, Table 4.

but from a total aspect this was of minor significance, as these areas are relatively sparsely inhabited. A comparison between the highest and the lowest general birth rate figures for different provinces in 1960 and 1968 shows that in 1960 the difference was 73 per cent, but in 1968 only 27 per cent. In the year 1960 the highest general birth rate was 25.7 per thousand, and the lowest, 14.8 per thousand. In 1968, the corresponding figures were 18.0 and 14.2 per thousand.

To some degree, the extensive emigration to Sweden has affected the birth frequency, even though to a less extent than one might generally imagine. If there had been no emigration to Sweden at all during the 1960's the number of women of child-bearing age in Finland should have been about 5 per cent greater than it was in fact in 1970.³ Thus, one can calculate that in 1970 about six and perhaps seven per cent more children should have been born than would have been the case if these women had remained in the country. In view of the fact that the emigrants, from a total aspect, comprised less women than men, these figures should more readily be regarded as in excess rather than too small.

³ In 1969, the age distribution of emigrants was as follows (Committee report 1970, 24):

0—14 years	24 per cent
15—19	» 16 » »
20—24	» 31 » »
25—29	» 12 » »
30—35	» 17 » »
	100 » »

During the years 1961—69, approximately 160 000 persons emigrated from Finland, of whom nearly one half were women. About 60 000 emigrants should accordingly have been women of fertile age.

Summary and conclusions

The intention of this article has been that of trying to give a picture of the way in which fertility changed during the 1960's, and where the reasons for the changes are to be sought. Here, it may be established first of all that natality has during a long period of time declined more or less continuously, as in all industrial countries. The course of development, analysed in more detail from 1955, shows that fertility initially declined relatively slowly, and that from the mid-sixties it displayed a sharp diminution, further accentuated during the most recent years. From 1963 to 1970, the number of births fell by almost 22 per cent, which implies that the number of children in 1969 — if the fertility had been the same as that in 1963 — should have amounted to 120 000, instead of 68 000, while the number of women of child-bearing age increased during the whole of the 1960's.

The average number of children per woman exhibits a declining tendency, increasing towards the end of the 1960's in all age groups, with the exception of those of 15—19. A similar tendency can be established if fertility is analysed from the aspects of marriage duration groups or families of different size.

Consequently, the decline in fertility is a phenomenon which appears in all the population groups analysed. This decline was sharply accentuated during the closing years of the 1960's. As far as Finland is concerned, however, there does not seem to exist any special »breaking point» from which fertility should indisputably decline, or even less should be turned from growth to diminution, as was the case in France and other West European countries (Festy 1969). Nevertheless, for some of the groups examined, a certain acceleration in the decline can be noted since 1963, which became further manifested after 1967.

It may also be emphasised that it is not a diminution in marriage formation that has brought about the decline in fertility. From 1963 to 1969, nuptiality in the number of age-specific marriage rate increased by 5 per cent. Furthermore, the relative extensive emigration to Sweden has not yet at least noticeably influenced natality. Against this, it is an incontestable fact that the retrogression is a consequence of fertility declining appreciably in the parts of the country where even at the beginning of the 1960's it amounted to 20 or more births per 1 000 women.

The aim of this article has not been that of making a detailed study of the circumstances that have in highly developed countries led to a decline in fertility in general, but of undertaking no more than an examination of the specific features in Finland as regards development. However, many of the assumptions put forward in the introduction of the article have remained unanswered.

Nonetheless, it may primarily be established that the norms and ideals concerned with family formation that characterise the most urbanised and industrialised parts of the country, southern and south-western Finland, appear to have been accepted throughout the whole country. In part, this originates in a continuing, purposeful levelling out of the differences in standard of living between the different parts of Finland, and in part upon the information effectively distributed by radio and television. Apart from alterations in the people's conceptions and expectations, it may further be noted that a rather extensive migration has been made away from the »developing areas». The young who have moved have since readily adopted the views of life held in their new homes.

Finland's vital statistics do not permit of an analysis of the regional changes in age-specific fertility rates. As a result, it has been impracticable to clarify whether regional differences exist in the development of fertility with respect to age. The crude birth rate does, however, provide an idea that fertility has continued to decline also within the most developed areas of the country.

The extent to which this depends upon such »modern» tendencies as the efforts to achieve equality between the sexes, the rising participation of women in higher education, and the increased engagement of youngsters in international problems, are not answered in any way in the results of this study.

Another unanswered question is that concerned with the extent to which the housing shortage in the towns, particularly in southern Finland, has influenced fertility. It is highly probable, however, that it has at least contributed to the deferment of family formation. The overcrowding and population density general in the towns, characteristic of urban living, and which an increasingly great proportion of Finland's people get to know gradually as the country is urbanised, can be thought of as contributing to a relatively rapid decline in fertility. It is also conceivable that family formation has been affected by the standard of housing not being in conformity with the standard of living of the family otherwise, a fact that in modern times is in many cases a consequence of the opportunities for diversion, activities during leisure hours, and so on, that are offered by the higher standard of living, and can present increasingly successful competition for the family's income. For many, a better standard of housing implies a lengthy period of saving filled with self-denial.

Moreover, the influence exercised by new, effective contraceptives remains unknown. Of course, it is conceivable that to some extent they can have rendered effective the results of family planning in the parts of the country where fertility showed a sharp decline during the sixties. In principle, however, child limitation is not so much a matter of technique

as one of attitudes and opinions, as has been established by many researchers in various contexts.

The aspects outlined above most immediately offer an explanation of why in general fertility has declined in Finland. On the other hand, they do not tell why natality has now reached a level to be ranked with the lowest in Europe. Is the low fertility to be regarded as a sign of a concluding phase in demographic transition in Finland being attained? Is it a consequence of the relatively rapid development in the country towards the post-industrial society, and the more or less unpleasant sequels in the form of a rapid shrinking of farming, difficulties in finding work for people lacking professional training, and so on, that characterise this development? Does the decrease, most marked in the younger age groups, imply that also the total completed fertility will be lower? Following this, only a very profound investigation of the motivation of people's attitudes and expectations can provide a satisfactory answer.

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