The Fertility of Birth Cohorts and Marriage Cohorts in Finland[1]

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1. This study analyses fertility in Finland from many points of view, its level and structure, trends of development and the factors affecting this development. The work is based solely on material collected in connection with the official population statistics, viz., partly the yearly vital statistics, partly a fertility inquiry in connection with the 1970 Population Census.[2] This has naturally limited the scope of the analysis.

The data from the vital statistics are based on total studies and are therefore more reliable than the information obtained from the fertility inquiry that was based on a 10 per cent sample of women born in 1906—1955. The latter material lacks the women who died before the end of 1970. On the other hand, the fertility inquiry includes a distribution of the material by region and by socio-economic and educational level.

The work has taken on largely the character of a cohort study. This method gives some advantages over the customary period analysis, in which the total fertility is obtained as the sum of age-specific fertility rates for women during the same period. The shifts in the fertility for individual years can be interpreted either as a link in a secular change of fertility or it can be explained as occasional displacements in the fertility without any change in the final number of children per women. To settle this question we must follow the fertility of a closed cohort of women throughout their fertile age. Such cohort studies of fertility may concern a birth cohort of women, i.e., women born in a given calendar year. Or we can follow a cohort of marriages contracted during the same calendar year.

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[1] The article is based on the author's book »Trends and Factors of Fertility in Finland.» Commentationes Scientiarum Socialium 7, 1977, Societas Scientiarum Fennica, Helsinki 1977.

[2] The tables and figures prepared from the former material were assigned the symbol a. In a corresponding way the tables and figures prepared from the latter material were assigned the symbol b.

The study based on vital statistics

2. Table a.1 gives age-specific fertility rates and reproduction rates for the years 1866—1974 and Table a.2 total fertility and reproduction rates of 5-year cohorts of women born around 1845/46—1940/41.

Table a.1. Age-specific fertility rates and reproduction rates 1866—1974.

Years	Fertility rates (‰) at age of							Total fertility	Gross reproduction rates	Net reproduction rates
	15—19	20—24	25—29	30—34	35—39	40—44	45—49			
1866—70	13.6	121.8	212.1	216.6	174.3	97.4	17.4	4266	2.084	..
1871—75	18.5	147.5	235.4	249.3	199.4	109.8	19.4	4896	2.388	1.478
1876—80	19.7	151.6	235.9	241.0	206.9	117.8	18.9	4959	2.420	1.490
1881—85	19.7	149.9	228.1	235.3	197.7	119.9	18.8	4847	2.362	1.475
1886—90	18.0	153.6	233.7	237.4	201.9	119.3	20.3	4921	2.400	1.480
1891—95	16.6	155.9	198.9	240.7	186.9	114.7	17.7	4657	2.267	1.454
1896—1900	18.2	159.5	226.3	233.2	194.9	114.0	18.7	4824	2.347	1.507
1901—05	16.3	148.6	228.8	231.5	189.9	111.2	16.2	4712	2.294	1.537
1906—10	17.4	146.9	225.0	223.6	194.9	107.0	16.2	4655	2.263	1.517
1911—15	16.6	133.4	195.2	199.4	170.3	103.2	14.8	4164	2.017	1.383
1916—20	13.6	112.8	167.7	165.6	140.9	83.6	13.2	3487	1.690	1.159
1921—25	14.3	116.4	166.8	154.4	127.3	74.0	11.6	3324	1.611	1.233
1926—30	14.2	104.3	148.2	134.0	106.5	61.3	9.5	2890	1.405	1.076
1931—35	13.6	91.6	123.8	111.2	86.8	46.3	6.8	2400	1.165	0.947
1936—40	15.2	101.7	128.4	106.7	79.2	40.9	5.1	2386	1.161	0.962
1941—45	11.3	105.2	144.9	124.3	88.4	41.8	5.4	2606	1.262	1.048
1946—50	25.7	161.9	189.4	147.5	100.5	43.3	5.0	3366	1.637	1.469
1951—55	27.2	157.6	165.8	125.0	81.0	35.1	3.9	2978	1.452	1.373
1956—60	29.3	161.4	159.6	108.1	67.5	27.5	2.8	2781	1.357	1.301
1961—65	30.7	156.7	156.0	98.8	55.7	22.5	2.2	2613	1.276	1.236
1966—70	34.7	131.9	125.9	76.5	39.7	13.7	1.4	2119	1.035	1.004
1971	29.7	111.3	107.5	58.1	25.2	7.1	0.6	1698	0.833	0.813
1972	28.6	104.3	103.9	53.2	21.9	6.1	0.5	1592	0.771	0.751
1973	26.2	96.5	98.9	51.2	21.7	5.7	0.5	1504	0.728	0.707
1974	27.2	103.9	107.7	56.7	23.0	5.8	0.5	1624	0.796	0.776

A comparison between the reproduction rates thus calculated is seen in Figure a. 1 which was plotted by placing fertility for birth cohorts on the point of the time axis where the cohort is 29.5 years of age. Both curves for the gross reproduction rate are similar in shape: high fertility up to the first decade of the 20th century, then a sharp downturn until the 1930s, a steep climb immediately after World War II and then a steady decrease. The curves differ, however, partly in that the gross reproduction rate calculated from the cohort ferti-

Table a.2. Total fertility and reproduction rates of 5-year cohorts of women.

Cohort born around	Total fertility	Gross reproduction rate	Net reproduction rate
1845/46	(4760) [3]	(2.323) [3]	(1.301) [3]
1850/51	4838	2.360	1.273
1855/56	4764	2.323	1.246
1860/61	4832	2.355	1.232
1865/66	4586	2.233	1.113
1870/71	4715	2.295	1.412
1875/76	4470	2.173	1.349
1880/81	4078	1.980	1.251
1885/86	3597	1.745	1.143
1890/91	3154	1.530	0.997
1895/96	2816	1.367	0.918
1900/01	2576	1.251	0.860
1905/06	2424	1.177	0.843
1910/11	2484	1.207	0.912
1915/16	2592	1.260	0.941
1920/21	2631	1.280	1.036
1925/26	2585	1.258	1.070
1930/31	2440	1.189	1.027
1935/36	(2250) [4]	(1.096) [4]	(0.971) [4]
1940/41	(1974) [4]	(0.962) [4]	(0.869) [4]

lity naturally takes a considerably smoother course, partly since this curve generally runs below the curve for period fertility.

The latter fact is associated with the steady lowering of the average childbearing age of women. For the birth cohorts born around 1845/46 the median age at confinement was nearly 32 and for birth cohorts born in the middle of the 1930s under 26. The decrease was especially sharp in the birth cohorts born in the 1920s when the median age at confinement sank by 2.0 years (Table a.3). The falling median age at confinement is typical of a population undergoing a demographic transition. The falling trend in the age at confinement has apparently ceased for the young birth cohorts that have experienced only a smaller part of their fertile period.

The above-mentioned rule that the curve for cohort fertility has a smoother course than that for period fertility does not necessarily apply to corresponding curves for the net reproduction rate. If mortality varies strongly among the younger age classes this affects essentially the net reproduction rate for birth cohorts.

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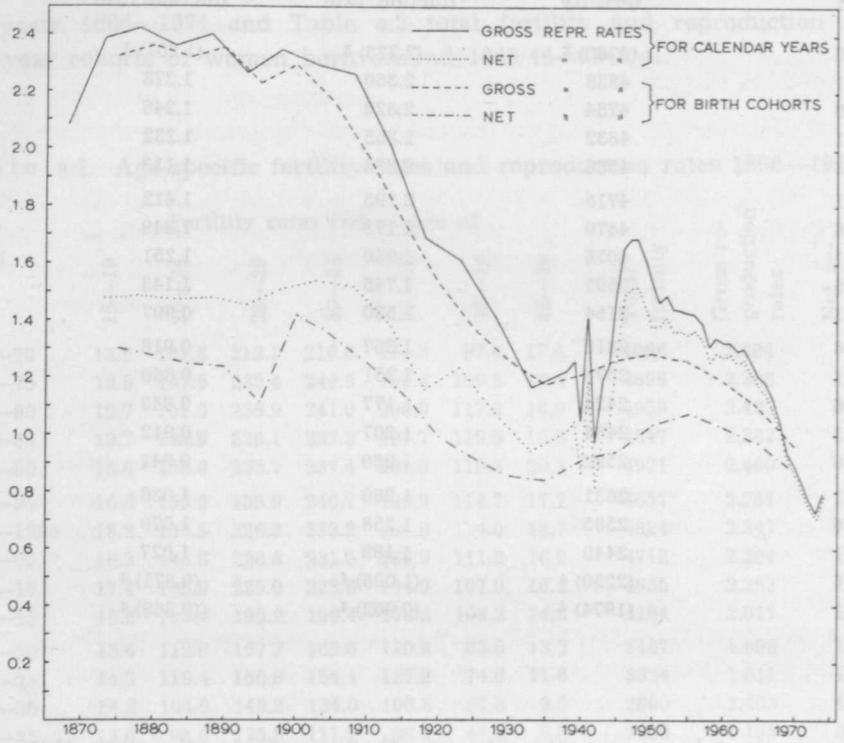
[3] The fertility of the age group 15—19 in 1861—65 is estimated equal to the fertility of the same age group in 1871—80.

[4] Partly estimated.

Figure a.1. Gross and net reproduction rates for calendar years and for birth cohorts of women. (See Tables a.1 and a.2).



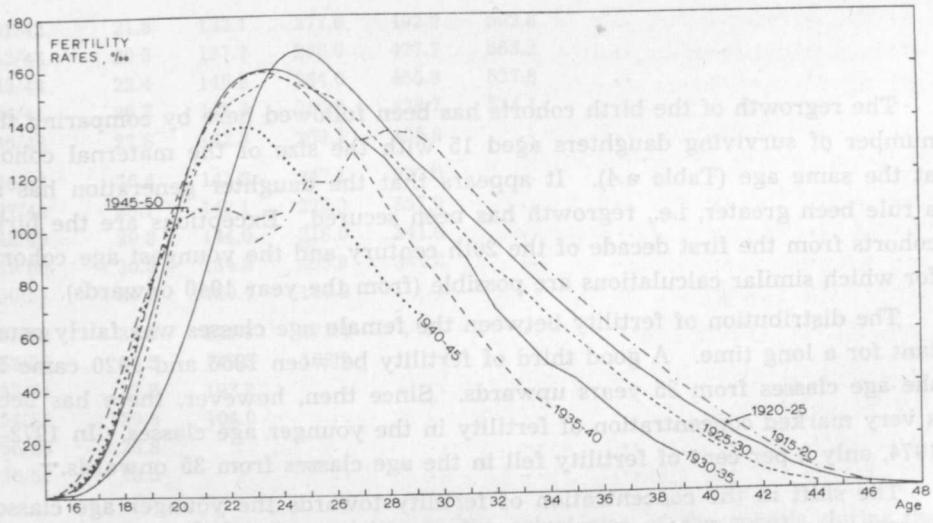
The net reproduction rates obtained by cohort analysis and period analysis differ mutually even more than the gross reproduction rates. When the net reproduction rate is computed in the traditional manner, setting out from age-specific fertility rates for a single calendar year, the influence of mortality is considered by reference to death risks during that year. On the other hand, when the net reproduction rate for a birth cohort is calculated death risks during the different calendar years which the cohort has lived since birth are taken into consideration. As death risks, which are especially high during the first years of life, have been declining steadily, the effect of mortality becomes more pronounced in the calculation of the net reproduction rate for birth cohorts.

With mortality diminishing the net reproduction rate is no ideal measure of the reproductive capacity of a birth cohort. Even if the net reproduction rate is under 1, it may happen that a comparison between the size of the daughter generation and mother generation at a somewhat later age gives values above the limit 1.

Table a.3. Age at confinement (median = M_d and quartiles = Q_1 and Q_3) for birth cohorts of women born 1918/19—1938/39.[5]

Birth year	Q_1	M_d	Q_3
1918/19	25.2	28.9	33.3
1919/20	25.3	28.7	33.1
1920/21	25.1	28.4	32.9
1921/22	24.9	28.2	32.7
1922/23	24.5	27.8	32.1
1923/24	24.3	27.7	32.2
1924/25	23.9	27.4	31.9
1925/26	23.7	27.2	31.8
1926/27	23.5	27.1	31.6
1927/28	23.5	27.0	31.4
1928/29	23.4	26.8	31.3
1929/30	23.3	26.7	31.0
1930/31	23.2	26.5	30.8
1931/32	23.1	26.4	30.6
1932/33	23.0	26.2	30.1
1933/34	22.8	26.0	29.8
1934/35	22.7	25.8	29.5
1935/36	22.7	25.8	29.5
1936/37	22.6	25.6	29.3
1937/38	22.6	25.5	29.1
1938/39	22.5	25.4	28.9

Figure a.2. Age-specific fertility rates for birth cohorts of women born 1915—20, 1920—25 etc. up to 1945—50.



[5] For the birth cohorts from 1932/33 onwards a significant part of the births will occur after 1974. The numbers of births are calculated by extrapolation. Therefore the values of M_d, Q_1 and Q_3 can be uncertain for these birth cohorts.

Table a.4. Survivors at age 15 of birth cohorts of women and of their girls.

Cohorts of women born around	Survivors at 15 out of 1000 born alive (a_t)	Survivors of their girls at 15 out of 1000 born alive (b_t)	$c_t = \frac{b_t}{a_t}$	$c_t \times N_B(t)$ [6]
1845/46	648	702	1.08	(1.41)
1859/51	613	712	1.16	1.48
1855/56	600	724	1.21	1.51
1860/61	585	738	1.26	1.55
1865/66	558	753	1.35	1.50
1870/71	687	769	1.12	1.58
1875/76	692	786	1.13	1.52
1880/81	705	805	1.14	1.43
1885/86	731	825	1.13	1.29
1890/91	725	841	1.16	1.16
1895/96	746	862	1.15	1.06
1900/01	758	881	1.16	1.00
1905/06	781	899	1.15	0.97
1910/11	819	918	1.12	1.02
1915/16	797	935	1.17	1.10
1920/21	852	952	1.12	1.16
1925/26	868	964	1.11	1.19
1930/31	883	973	1.10	1.13
1935/36	893	979	1.09	(1.07)
1940/41	917	(982)	(1.07)	(0.95)
1945/46	939	(984)	(1.05)	..
1950/51	962	..	..	..

The regrowth of the birth cohorts has been followed here by comparing the number of surviving daughters aged 15 with the size of the maternal cohort at the same age (Table a.4). It appears that the daughter generation has as a rule been greater, i.e., regrowth has been secured. Exceptions are the birth cohorts from the first decade of the 20th century and the youngest age cohorts for which similar calculations are possible (from the year 1940 onwards).

The distribution of fertility between the female age classes was fairly constant for a long time. A good third of fertility between 1866 and 1920 came in the age classes from 35 years upwards. Since then, however, there has been a very marked concentration of fertility in the younger age classes. In 1972—1974, only 9 per cent of fertility fell in the age classes from 35 onwards.

The shift in the concentration of fertility towards the younger age classes is seen clearly in Table a.5 (See also Figure a.2.). The three youngest groups

[6] $N_B(t)$ = net reproduction rate of birth cohort of women born around the year t (from Table a.2).

Table a.5. Age-specific fertility rates for birth cohorts of women born 1918/19—1956/57.[7]

Birth year of women	Fertility rates (‰) of women at age of								
	15—17	18—19	20—21	22—24	25—29	30—34	35—39	40—44	45—49
1918/19	6.0	78.7	180.8	342.2	870.7	654.6	373.7	128.5	10.4
1919/20	5.9	77.2	168.2	339.4	962.6	655.1	362.6	121.6	9.9
1920/21	7.1	69.7	146.5	397.1	957.6	625.8	365.0	116.5	7.9
1921/22	7.3	61.1	121.9	467.0	926.7	610.1	327.0	107.0	7.6
1922/23	8.8	46.8	133.7	514.2	878.0	583.1	310.8	100.8	5.9
1923/24	7.9	42.7	165.0	565.2	873.3	578.0	298.1	94.2	4.9
1924/25	5.8	44.5	212.2	557.0	820.1	545.8	283.7	79.5	3.2
1925/26	5.8	57.5	248.8	549.4	820.6	535.1	282.4	74.3	(3.0)
1926/27	5.8	82.5	262.0	517.7	807.4	512.8	264.3	64.7	(2.1)
1927/28	6.6	104.1	265.7	525.7	821.1	522.8	256.9	53.4	(2.6)
1928/29	10.6	115.0	258.2	521.7	810.4	519.7	242.8	45.9	(2.2)
1929/30	14.2	111.9	246.8	523.7	807.0	503.6	222.6	34.2	..
1930/31	16.3	113.9	256.7	531.1	801.0	496.2	206.9	(32)	..
1931/32	18.2	109.3	256.7	530.8	786.4	488.4	180.8	..	..
1932/33	17.6	113.7	256.5	536.9	781.2	464.9	151.6	..	..
1933/34	15.5	119.6	273.8	531.1	789.6	435.6	138.0	..	..
1934/35	19.6	124.7	278.9	537.5	795.5	410.9	123.6	..	..
1935/36	19.7	130.0	283.6	529.5	790.5	389.5	(114)	..	..
1936/37	18.1	135.1	264.3	525.8	745.1	344.1	..	..	..
1937/38	19.2	122.9	272.4	540.0	740.4	321.0	..	..	..
1938/39	20.7	130.9	272.3	532.1	711.7	297.6	..	..	..
1939/40	19.9	126.6	276.8	533.3	675.8	282.4	..	..	..
1940/41	18.3	125.2	264.5	505.0	628.6	..	..	..	..
1941/42	21.6	133.1	277.6	492.2	592.8	..	..	..	..
1942/43	20.5	137.7	268.0	477.7	563.2	..	..	..	..
1943/44	22.4	145.8	264.0	455.8	527.8	..	..	..	..
1944/45	26.3	147.8	255.9	428.7	514.1	..	..	..	..
1945/46	27.8	142.8	259.1	405.8	..	..	..	..	..
1946/47	26.8	143.2	247.1	377.0	..	..	..	..	..
1947/48	26.7	142.1	229.3	357.9	..	..	..	..	..
1948/49	29.8	144.0	218.0	341.6	..	..	..	..	..
1949/50	30.8	134.9	205.8	344.8	..	..	..	..	..
1950/51	31.9	130.4	187.9	..	..	..	..	..	..
1951/52	32.0	121.9	171.4	..	..	..	..	..	..
1952/53	30.5	119.3	168.2	..	..	..	..	..	..
1953/54	27.3	103.2	..	..	..	..	..	..	..
1954/55	29.3	104.0	..	..	..	..	..	..	..
1955/56	26.8	..	..	..	..	..	..	..	..
1956/57	28.5	..	..	..	..	..	..	..	..

[7] Fertility rates calculated in relation to the actual size of the cohorts during the considered calendar year.

show a trend-like increase in fertility which continues for the 15—17 class up to the female cohort born in 1951/52, while the maximum for the 18—19 class is reached at cohort 1944/45, for 20—21 at cohort 1935/36 and for 22—24 at the 1923/24 cohort. The fertility trend has been a declining one since these peak years. The oldest age classes show a steadily falling fertility trend throughout the period covered by Table a.5.

3. The predominant part of nativity in Finland comprises children born in wedlock. The proportion of those born out of wedlock was especially low in 1951—1966, when it was between 4.0 and 4.9 %. The proportion of illegitimate births before and after this period has been slightly higher as appears from the tabulation below.

Years	Illegitimate births, %
1911—20	6.8
1921—30	8.4
1931—40	7.6
1941—50	6.1
1951—60	4.3
1961—70	4.7
1971	5.5
1972	6.7
1973	7.9
1974	9.0

The increase during the 1970s is obviously attributable to the increasingly common practice of cohabiting permanently without marrying, at any rate not during the first years of cohabitation.

Two components govern the number of legitimate births: the proportion of married persons within the different age classes, and the matrimonial fertility. The proportion of married women was remarkably low throughout the pre-World War II years. The trend has been a rising one since the war. The maximum for the youngest age classes was attained around 1965 and for the somewhat older age classes around 1970. The trend has subsequently been a descending one (Table a.6).

Table a.7 gives the matrimonial fertility during individual calendar years for wives of the different age classes. The continued heavy concentration of fertility in the younger age classes emerges very distinctly. While matrimonial fertility in the age class 15—19 was almost equally high in 1974 and 1940/41, it declined in the class 35—39 by no less than 77 % and in the older age classes even more.

The continued concentration of fertility in the younger age classes is manifested clearly also when fertility is distributed into duration classes. While

Table a.6. Percentage of married women at selected ages 1920—74.

End of year	Married women (%) at the age of 18	20	25	30	35	40
1920	2.7	10.8	39.1	55.2	62.2	59.5
1930	3.5	11.5	43.0	60.2	65.7	67.1
1940	3.0	13.5	46.1	61.2	64.8	64.4
1950	6.1	21.8	62.8	74.6	75.3	72.6
1955	6.8	24.8	63.9	76.9	79.4	76.5
1960	7.6	26.3	66.6	77.6	80.4	79.4
1965	8.2	26.7	68.5	80.6	82.3	80.4
1970	7.9	26.6	70.0	81.3	82.3	81.4
1973	6.6	23.7	67.3	79.8	81.8	81.0
1974	5.8	21.6	64.7	78.6	81.8	80.6

Table a.7. Fertility of marriages by age groups 1940/41—1974.

Year	Fertility by age groups of wives 15—19	20—24	25—29	30—34	35—39	40—44	45—49
1940/41	445	337	241	170	117	59	8
1950/51	499	349	240	166	116	52	6
1955	543	356	227	146	97	43	4
1960	494	349	212	127	75	32	3
1965	529	302	195	111	62	22	3
1970	482	241	142	77	36	11	1
1971	456	224	140	69	30	8	0.7
1972	445	212	136	63	26	7	0.6
1973	410	200	130	61	25	7	0.6
1974	435	220	141	67	27	7	0.6

the total fertility has been remarkably constant in the marriages contracted in 1939—1951, fertility in the duration classes from 10 years upwards has decreased steeply.

The same trend emerges in Table a.8 which shows the median and the quartiles for the duration at confinement of the marriages contracted in 1939—1950. For marriages contracted during some war years, primarily 1941 and 1942, the value of the first quartile (Q_1) rose for readily explicable reasons. But the general trend was a falling one. Three-fourths of the births to the marriages contracted in 1939 occurred 8.9 years after the wedding date, but for marriages contracted in 1950 this proportion of births (3/4) occurred 1.5 years earlier, viz., 7.4 years after the wedding date.

Table a.8. Duration of the marriage at confinement, years; median (M_d) and quartiles (Q_1 and Q_3).

Year of parents' entering into matrimony	Years		
	Q_1	M_d	Q_3
1939	1.8	4.9	8.9
1940	1.8	4.9	8.7
1941	2.2	4.8	8.6
1942	2.2	4.6	8.5
1943	1.9	4.2	8.2
1944	1.7	4.0	7.9
1945	1.6	3.9	7.9
1946	1.4	3.7	7.8
1947	1.4	3.8	7.8
1948	1.4	3.7	7.6
1949	1.4	3.7	7.5
1950	(1.4)	(3.7)	(7.4)

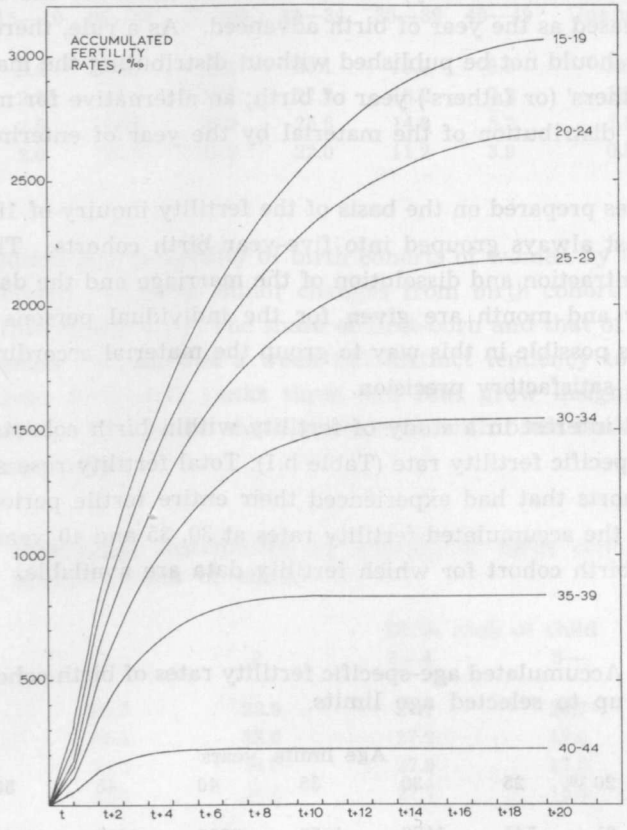
The fertility rates of cohorts of marriages are highly dependent on the age at which the bride enters into matrimony (Figure a.3). The difference in the fertility of women who had married while aged 15—19 and 20—24 is still relatively small, but the relative difference in the fertility of marriage cohorts increases with the age of entry into matrimony (see Table a.9).

The increasing concentration of fertility in the first years of marriage has, however, reduced the effect of age at marriage on fertility. This is true especially of the difference between marriages contracted at under 35.

Table a.9. Index of variations of accumulated fertility rates for cohorts of marriages, grouped by age of wife at entering into matrimony.

Age of bride at entering into matrimony	Index of variations of accumulated fertility rates at the end of the 15th calendar year of the marriage (index of marriages in which the bride was 20—24 years old = 100)		
	Year of the marriage		
	1950	1955	1960
15—19	114.8	111.9	106.8
20—24	100	100	100
25—29	82.4	83.5	88.3
30—34	58.7	57.9	65.0
35—39	30.8	33.0	34.3
40—44	8.9	8.7	10.0

Figure a.3. Accumulated fertility rates of marriage cohorts of 1950—54 at end of different calendar years after the year of marriage (= t).



Fertility rates calculated in relation to the original size of the cohort of marriages. Separate curves for marriages, where the age of the bride was 15—19, 20—24 etc.

The study based on the Fertility inquiry in the 1970 Population Census

4. The Central Statistical Office of Finland has presented results of this inquiry in two publications.[8, 9] The results of the study reported here are intended to complement those two publications. The study was on the fertility of women born in 1906—1955. Of these women, only the birth cohorts 1906—1920

8 Nieminen, M.: *Tutkimus lasten lukumäärästä — Undersökning angående barnantal — Fertility Study in the 1970 Population Census (Provisional Data).* Central Statistical Office of Finland. Tilastotiedotus — Statistisk rapport VL 1972: 5.

9 Central Statistical Office of Finland: *Tutkimus lasten lukumäärästä — Undersökning angående barnantal — Fertility Study.* Väestölaskenta — Folkräkningen — Population Census 1970, Vol. XV S.V.T.-F.O.S. VI C.104. Helsinki 1975.

had completed their entire fertility period at the time of the study (Dec. 31, 1970). There remained for the other birth cohorts at the end of 1970 a part of the anticipated total fertility, a share that was small for the cohorts 1921—1925 but increased as the year of birth advanced. As a rule, therefore, fertility computations should not be published without distributing the material according to the mothers' (or fathers') year of birth; an alternative for marriage fertility may be a distribution of the material by the year of entering into matrimony.

In the tables prepared on the basis of the fertility inquiry of 1970 the material was almost always grouped into five-year birth cohorts. The birth date, the date of contraction and dissolution of the marriage and the date of confinement by year and month are given for the individual persons within these cohorts. It was possible in this way to group the material according to age and duration with satisfactory precision.

Of especial interest in a study of fertility within birth cohorts is the accumulated age-specific fertility rate (Table b.1). Total fertility rose slowly for the four birth cohorts that had experienced their entire fertile period. The same can be said of the accumulated fertility rates at 30, 35 and 40 years, except for the youngest birth cohort for which fertility data are available.

Table b.1. Accumulated age-specific fertility rates of birth cohorts of women up to selected age limits.

Birth cohort of women	Age limits, years							
	20 [10]	25	30	35	40	45	50	Unknown
1906—10	61	541	1176	1757	2255	2459	2478	37
1911—15	58	515	1186	1886	2355	2522	2539	34
1916—20	68	566	1407	2084	2460	2587	2598	31
1921—25	53	731	1611	2190	2504	2601	{2607}	22
1926—30	104	875	1693	2220	2463	..	..	..
1931—35	125	929	1725	2160	..	..	..	..
1936—40	137	955	1681	..	..	..	..	..
1941—45	162	886	..	..	..	..	..	..
1946—50	152	..	..	..	..	..	..	..

The distiribution of fertility between different age groups was compared in birth cohorts with completed cohort fertility (Table b.2). The proportion was a rising one for the age classes 20—24 and 25—29, for the age class 30—34 at first a rising and then a descending one, and for the age classes of 35 and older an uninterruptedly falling one.

[10] 13—19 years

Table b.2. Percentage distribution of fertility of birth cohorts of women by selected age groups.

Birth cohort of women	Age, years 15—19	20—24	25—29	30—34	35—39	40—49	Unknown	Total
1906—10	2.4	19.1	25.2	23.1	19.8	8.9	1.5	100
1911—15	2.3	17.8	26.1	27.2	18.2	7.2	1.3	100
1916—20	2.6	18.9	32.0	25.8	14.3	5.2	1.2	100
1921—25	2.0	25.8	33.5	22.0	11.2	3.9	0.8	100

The distribution of the fertility of birth cohorts of women by the birth rank of the child showed relatively minor changes from birth cohort 1906—1910 to cohort 1921—1925 (Table b.3). The share of first-born and that of children with birth rank number two showed a weak but distinct tendency to increase; the share of children with birth ranks three and four grew insignificantly until cohort 1916—1920, whereas the share of children with birth rank five or more diminished perceptibly.

Table b.3. Percentage distribution of fertility of birth cohorts of women by birth rank of child.

Birth cohort of women	Birth rank of child 1	2	3—4	5—	Total
1906—10	29.3	22.9	27.1	20.7	100
1911—15	30.3	23.6	27.2	19.0	100
1916—20	30.4	24.5	27.9	17.3	100
1921—25	31.2	25.5	27.7	15.5	100

The structure of fertility is revealed in an interesting way in Table b.4 which gives for births of different rank the interval from the previous confinement. Both the median and the quartiles are given as measures of the interval. It is worthy of note that the interval between the first and second child is almost the same as that between the second and third child, etc., until the interval between the fifth and sixth child. It is also notable that these time intervals vary insignificantly for the four birth cohorts included in the table. A weak declining trend is observable in these intervals. An exception is the third quartile for the interval between the first and second child which has diminished considerably, form 4.6 to 3.9 years. It is rather surprising that the lowest rates shown by the third quartile for the interval after the preceding confinement relate to the sixth child (3.7—4.0 years).

The structure of fertility is illustrated also by Table b.5 which shows the probability that a mother with n children will give birth to one more child. The probability that a childless woman will have her first child increases

Table b.4. Intervals since the previous confinement (median M_d and quartiles Q_1 and Q_3) for live-born children with birth rank 2—6.

Birth rank	Birth cohort of the mother			
	1906—10	1911—15	1916—20	1921—25
Second child				
M_d	2.6	2.6	2.5	2.4
Q_1	1.8	1.8	1.7	1.7
Q_3	4.6	4.6	4.2	3.9
Third child				
M_d	2.8	2.7	2.7	2.6
Q_1	1.9	1.8	1.8	1.7
Q_3	4.9	4.7	4.9	4.7
Fourth child				
M_d	2.7	2.6	2.6	2.6
Q_1	1.9	1.9	1.8	1.7
Q_3	4.3	4.4	4.3	4.5
Fifth child				
M_d	2.7	2.6	2.5	2.5
Q_1	1.9	1.9	1.7	1.7
Q_3	4.2	4.1	4.1	4.1
Sixth child				
M_d	2.6	2.4	2.4	2.5
Q_1	1.9	1.8	1.7	1.9
Q_3	3.7	3.7	3.7	4.0

between birth cohorts 1906—1910 and 1921—1925. The same applies to the probability that a mother with one child will have another, although the increase is weaker here. But for mothers with two or more children the probability of one more child is a falling one.

It is well worth noting that the probability that a mother with n children will give birth to one more child with birth rank n + 1 is almost constant for a given birth cohort if n is ascribed values from three to seven. This applies especially to birth cohort 1906—1910 in which the probability that a mother with three children will have a fourth child is 0.668, and the probability that a mother with seven children will have an eighth child is 0.656. This probability could have been expected to fall faster as the value of n rises.

Table b.5. Probability of a confinement with birth order n + 1 for mothers with n children.

Birth year cohort of wives	n = 0	n = 1	n = 2	n = 3	n = 4	n = 5	n = 6	n = 7
1906—10	0.738	0.775	0.703	0.668	0.662	0.653	0.682	0.658
1911—15	0.779	0.777	0.688	0.653	0.638	0.647	0.637	0.629
1916—20	0.798	0.806	0.690	0.631	0.617	0.623	0.599	0.583
1921—25	0.821	0.815	0.664	0.612	0.589	0.593	0.590	0.591

5. A cohort study of the fertility of marriages gives — as mentioned in the foregoing — incomplete information about fertility unless complemented with statistics showing what proportion of married women is represented in the total female population in different birth cohorts and at different ages. The share of married women showed a rising trend from birth cohort 1906—1910 at which the high marriage frequency immediately after World War II was clearly perceptible. This trend was first interrupted in the youngest cohorts.

The frequency of marriages contracted within the different birth cohorts of women showed a pronounced increase in the age class 14—19 which was not interrupted until birth cohort 1941—1945 (Table b.6). In the age class 20—24 the rising trend ended after birth cohort 1921—1925 and in the age class 25—29 after cohort 1916—1920. All the older age classes revealed a continuing decline in marriage frequency.

Table b.6. Women by age-at-marriage as a percentage of total birth cohort.

Birth cohort	Age at marriage							
	14—19	20—24	25—29	30—34	35—39	40—44	45—49	Unknown
1906—10	8.3	30.7	22.2	10.4	5.0	2.2	2.2	0.9
1911—15	7.7	34.9	23.3	10.4	3.9	1.6	1.5	0.5
1916—20	9.4	38.1	24.7	7.8	2.6	1.2	1.1	0.6
1921—25	9.5	47.5	19.5	5.6	2.5	0.9	..	0.4
1926—30	15.7	44.3	18.1	5.3	2.0	..	..	0.3
1931—35	16.8	47.4	16.7	4.4	..	..	..	0.2
1936—40	18.9	48.6	15.2	..	..	..	..	0.1
1941—45	21.2	46.8	..	..	..	..	..	0.1
1946—50	20.2	..	..	..	..	..	..	—

The fertility of first marriages within the birth cohorts according to the 1970 inquiry is shown in Table b.7. The total fertility varied little, with a maximum for birth cohort 1921—1925 and a minimum for the 1911—1915 cohort. When the marriages were distributed according to the age of the women at the time of marriage, the fertility trend within the individual classes fell. This tendency was compensated by the increase in the proportion of marriages contracted at an early age. Only 37.8 % of the marriages in birth cohort 1906—1910 were contracted when the wife was under 25; the corresponding proportion for the 1926—1930 birth cohort was 69.7 %

A corresponding structural change occurred in the distribution of births within birth cohorts according to birth order. The share increased steadily for the first and second child, and for birth orders from five upwards it declined distinctly.

Matrimonial fertility has been concentrated increasingly in the first years of marriage. The decline of fertility after the first 15 years of marriage is strikingly steep.

Table b.7. Fertility % in first marriages by birth cohort of wife, age-at-marriage of wife and birth order of children.

Birth cohort and age at time of marriage	Number of marriages	Birth order 1	2	3	4	5	6—7	8—	Total
1906—10	*9864*	*81.0*	*62.8*	*43.4*	*28.7*	*18.7*	*20.2*	*13.0*	*267.8*
15—19	1004	92.5	77.8	60.3	44.9	32.2	41.7	38.4	387.8
20—24	3725	90.8	75.1	55.6	38.9	27.1	30.7	19.9	338.0
25—29	2688	84.9	65.6	43.9	26.8	15.2	13.3	4.7	254.4
30—34	1267	71.7	49.1	25.8	14.0	6.3	4.2	1.1	172.2
35—39	604	62.1	29.1	11.8	3.5	1.3	0.2	—	107.9
40—44	264	22.3	6.8	1.1	—	—	—	—	30.3
1911—15	*10577*	*82.5*	*64.1*	*43.0*	*27.6*	*17.4*	*18.3*	*10.1*	*263.1*
15—19	970	91.8	77.8	56.9	41.6	29.5	37.8	30.1	365.6
20—24	4425	90.7	73.6	52.2	35.3	23.4	25.7	15.0	315.8
25—29	2953	83.5	64.9	42.3	25.1	14.6	12.8	3.7	246.8
30—34	1320	77.2	54.0	28.3	14.3	5.8	3.3	0.4	183.4
35—39	491	54.0	23.6	9.8	3.1	0.8	—	—	91.2
40—44	201	22.4	3.0	—	—	—	—	—	25.4
1916—20	*10666*	*84.9*	*67.4*	*45.5*	*28.5*	*17.6*	*17.4*	*8.9*	*270.1*
15—19	1178	93.8	78.0	59.3	43.5	31.9	38.4	26.9	371.9
20—24	4790	89.5	74.3	53.3	34.5	21.4	21.4	10.9	305.3
25—29	3100	86.6	67.9	42.7	24.5	13.4	10.8	2.9	248.7
30—34	975	74.5	51.1	25.1	10.9	5.5	3.9	1.6	172.6
35—39	324	57.1	26.2	6.5	2.2	0.6	—	—	92.6
40—44	149	26.2	4.7	0.7	—	—	—	—	31.5
1921—25	*11685*	*88.2*	*71.3*	*46.6*	*28.2*	*16.7*	*15.6*	*7.8*	*274.5*
15—19	1287	91.1	76.9	57.6	40.9	27.4	31.9	20.0	345.8
20—24	6464	92.5	78.0	53.5	32.9	19.6	18.2	9.0	303.7
25—29	2651	87.6	67.3	38.1	20.0	11.2	7.6	2.8	234.6
30—34	765	78.8	53.6	26.7	13.1	4.4	3.1	0.7	180.4
35—39	315	55.2	24.8	5.7	1.3	—	—	—	87.0
40—44	117	23.9	3.4	—	—	—	—	—	27.4
1926—30	*11743*	*90.7*	*73.5*	*45.9*	*25.8*	*14.2*	*12.3*	*5.0*	*267.2*
15—19	2138	95.3	81.0	57.9	38.2	25.1	25.9	13.4	336.8
20—24	6045	93.9	79.1	51.4	29.5	15.9	13.0	4.4	287.2
25—29	2467	88.9	68.0	36.2	15.6	6.3	3.9	0.9	219.7
30—34	716	79.0	51.0	18.3	5.9	1.3	0.2	0.1	156.0
34—39	279	50.5	20.4	2.5	..	—	—	—	73.5
40—44	60	{15}	{2}	—	—	—	—	—	{17}

The per cent distribution of marriage cohorts by the number of children has changed continuously (Table b.8). The share of marriages with 0—3 children has grown sharply, while the proportion of marriages with five or more children has decreased very perceptibly. 24.1 % of the marriage cohort 1926—1930 had at least six children; the corresponding share for the 1951—55 cohort was only

5.0 %. However, a small part of the fertility persisted in the latter cohort at the time of the fertility inquiry (Dec. 31, 1970). This must be taken into consideration in a comparison of the average number of children per marriage in the different marriage cohorts. The average number of children in marriage cohort 1951—1955 may therefore possibly rise slightly. On the other hand, the high average number of children of the marriages contracted in 1926—1930 and 1931—1935 must be attributable to some extent to decimation of the cohorts through deaths. The share of marriages contracted at an early age thus increased. And the number of children of these marriages was considerably greater than the average for the cohort (cf. Table b.7).

Table b.8. Distribution of marriage cohorts by number of children.

Year of marriage	Number of marriages	Distribution of marriage cohorts by number of children (%)								Unknown	Average number of children
		0	1	2	3	4	5	6—7	8—		
1926—30	1699	5.5	11.5	17.2	16.5	12.7	10.2	11.5	12.6	2.3	4.0
1931—35	3817	7.3	13.4	19.2	16.9	12.8	8.5	11.2	8.4	2.3	3.5
1936—40	6582	8.7	13.4	20.7	18.0	13.6	8.5	9.8	5.6	1.7	3.3
1941—45	9007	9.1	13.4	23.1	19.5	13.4	8.5	7.8	3.9	1.3	3.0
1946—50	12658	10.8	15.3	25.1	19.7	11.9	6.7	6.4	2.8	1.4	2.8
1951—55	11183	10.2	15.3	28.9	21.7	11.8	6.0	3.9	1.1	1.0	2.5

6. The data on fertility presented in the foregoing applied to all of Finland. As fertility may be expected to show great variations in different parts of the country, it was of great value that also a regional distribution of the material into four major regions was undertaken in the work-up of the 1970 fertility inquiry.

Region 1. Helsinki.
Region 2. Southern Finland without Helsinki.
Provinces of Uusimaa, Turku-Pori, Åland and Häme.[10]
Region 3. Eastern Finland.
Provinces of Kymi, Mikkeli,[10] Pohjois-Karjala, Kuopio and Keski-Suomi.
Region 4. Northern Finland.
Provinces of Vaasa, Oulu and Lapland.

The population in regions 2, 3 and 4 is also divided into urban and rural districts.

[10] Four municipalities of the province Mikkeli, viz., Hartola, Sysmä, and the urban and rural municipalities of Heinola belong to region 2.

As demographic development has been very different in urban and rural districts, a detailed computation of separate fertility rates for these districts is well motivated, and the same applies to the practice of making a separate region of Finland's only metropolis, Helsinki (region 1).

Before we discuss the regional variations of fertility, let us see how women within the different birth cohorts are distributed by marital status regionally. The share of married women has been smaller in urban than in rural districts. Only the youngest birth cohorts (1946—1950 and 1951—1955) differ from this pattern, which is due to the marrying age in towns being lower than in rural districts. The share of married women has been lowest of all in Helsinki.

Fertility has throughout been higher in rural than in urban districts and likewise highest throughout in the north (region 4) and lowest in the south (region 1): this with the exception of the youngest cohort which has experienced only a small part of their fertile period. The calculated standard errors show that the differences in the fertility are for the greatest part statistically significant.

There is a remarkably great difference between regions in the proportion of women with many children. Thus, the percentage of women with six or more children in birth cohort 1911—1915 was 26.7 in the rural districts in North Finland (region 4) but only 1.9 in Helsinki.

The regional differences in fertility have diminished steadily. To illustrate this point, an index of fertility variations for birth cohorts of women is calculated by regions in Table b.9. The index number for the whole country and for the considered cohort is denoted by 100. In the regions where fertility has been either far higher or far lower than the national mean the divergence from birth cohort 1906—1910 to birth cohort 1931—1935 has been reduced by nearly a half. In two regions, i.e., the urban districts of region 4 (North Finland) and the rural districts of region 2 (South Finland), the fertility rate has consistently kept close to the national mean.

Table b.9. Index of fertility variations for birth cohorts of women by regions (index for the whole country = 100).

	Birth cohort						
	1906—10	1911—15	1916—20	1921—25	1926—30	1931—35	1936—40
Whole country	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Urban districts	76.3	77.9	81.1	83.2	85.6	88.9	90.8
Helsinki	55.1	59.2	60.9	67.9	67.7	74.9	72.2
Region 2	76.1	75.0	79.5	80.9	82.6	88.0	93.9
Region 3	88.5	90.5	94.3	92.2	96.9	96.7	97.7
Region 4	95.1	100.8	100.7	99.2	101.9	100.0	100.5
Rural districts	124.3	122.0	119.4	118.1	115.9	113.5	112.2
Region 2	102.9	98.4	98.4	98.8	99.0	102.0	102.9
Region 3	127.4	128.9	129.0	126.0	120.4	115.3	112.9
Region 4	155.3	148.8	137.1	135.7	134.9	128.1	125.1

7. The fertility of the female birth cohorts by educational level is illustrated by Table b.10.

Table b.10. Fertility of birth cohorts of women by educational level.

Birth cohort and educational level of women	Births per 100 women			
	Whole country	Urban districts	Helsinki	Rural districts
1906—10	*251.5*	*191.8*	*138.6*	*312.6*
Ed. level 1	267.9	205.6	139.1	323.1
» » 2	193.7	166.0	144.4	244.7
» » 3	194.2	141.9	116.9	261.4
» » 4	144.7	134.6	138.5	188.3
» » 5—6	176.2	158.1	179	220
» » 7—8	132.7	118	108	(206)
1911—15	*257.3*	*200.4*	*152.3*	*313.9*
Ed. level 1	272.2	212.6	157.8	323.7
» » 2	217.1	177.5	154.8	279.1
» » 3	216.6	166.9	115.6	274.8
» » 4	171.0	160.8	160.8	232.7
» » 5—6	168.7	151.9	104	201.9
» » 7—8	164	190	204	95
1916—20	*262.8*	*213.2*	*160.1*	*313.8*
Ed. level 1	281.6	228.2	164.3	327.8
» » 2	231.7	196.9	168.3	283.7
» » 3	212.2	181.3	154.6	250.4
» » 4	182.4	175.3	146.5	210.9
» » 5—6	171.7	158.6	151	206.0
» » 7—8	141.0	148.8	139	110
1921—25	*262.8*	*218.7*	*178.4*	*310.4*
Ed. level 1	282.8	235.7	192.7	325.8
» » 2	225.4	200.9	175.4	258.8
» » 3	217.2	181.2	145.4	265.4
» » 4	198.3	190.5	169.8	230.6
» » 5—6	180.8	163.9	157.7	215.6
» » 7—8	152.0	154.8	157	138
1926—30	*252.2*	*215.9*	*170.8*	*292.4*
Ed. level 1	274.8	235.5	183.1	312.2
» » 2	224.9	199.0	174.5	255.2
» » 3	203.0	178.6	133.3	235.1
» » 4	184.3	176.8	162.7	206.7
» » 5—6	191.2	182.5	163.4	209.8
» » 7—8	172.8	162.7	168	225.9

The nomenclature for the eight grades of educational level is given in Table b.11. As the number of women with higher education was rather limited, educational level 5 was combined with level 6 and level 7 with level 8 in the tables.

Table b.11. Nomenclature for educational level.

		Number of years attended	
Ed. level 1.	Lower level of basic education	under 9	years
Ed. level 2.	Upper level of basic education	about 9	»
Ed. level 3.	Lower level of secondary education	about 10—11	»
Ed. level 4.	Upper level of secondary education	about 12	»
Ed. level 5.	Lowest level of higher education	about 13—14	»
Ed. level 6.	Undergraduate level of higher education	about 15	»
Ed. level 7.	Graduate level of higher education	at least 16	»
Ed. level 8.	Postgraduate or equivalent	at least 16	»

In all the birth cohorts, fertility declined steadily with a rising educational level. One explanation for this is that the higher educational levels are represented most strongly in regions where the general fertility level is low. The difference between the fertility rates for women of different educational levels is thus much smaller in urban districts than in the whole country. The differences between the educational levels in Helsinki were even smaller; the lowest fertility rates were recorded for birth cohorts 1921—1925 and 1926—1930 in educational level 3.

Fertility is negatively influenced by the gainful employment of the women. It is very probable that more women of a higher educational level belong to the economically active population than other women. Unfortunately no distribution of women between gainfully empolyed and not gainfully employed was made in this fertility inquiry. Such data should preferably indicate the extent to which women have been gainfully employed during their fertile period.

The fertility level need not necessarily be a consequence of gainful employment. Instead, gainful employment may be a result of childlessness or few children.

A higher educational level raises the age at confinement to a relatively high level. In the under 25 age classes a very small part of the fertility is in the classes of higher educational level. In contrast, the fertility of these groups is strikingly high in the age class 30—34.

8. In the work-up of the material in the 1970 fertility inquiry women were distributed into 20 groups *by socio-economic status.* In the present study the number of the groups was concentrated to seven because of the limited material. Among other things, it was considered unnecessary to divide the material into economically active and formerly active persons. To the extent that fertility is influenced by the socio-economic status, this should be noted at the time of the child's birth. At that time, evidently, a very small proportion of the cases came in the category of formerly economically active. According to the

principles applied in the fertility inquiry, not gainfully employed women were given the socio-economic status of the persons they were directly dependent on financially. A factor of uncertainty arises in the cases in which the socio-economic status changed during the interval between the child's birth and the end of 1970.

Farmers of all the socio-economic groups had by far the highest fertility. Next came labourers and the third group comprised skilled or specialized workers. In birth cohort 1926—1930 the last-mentioned group was overtaken, however, by other employers and own account workers. The lowest fertility rate among all the birth cohorts was among junior administrative or clerical employees.

Table b.12. Fertility of birth cohorts of women by region and socio-economic status.

Birth cohort and socio-economic classification of women	Births per 100 women			
	Whole country	Urban districts	Helsinki	Rural districts
1906—10	*251.5*	*191.8*	*138.6*	*312.6*
Farmers	368.2	344.6	(345)	370.9
Other employers and own account workers	192.6	179.5	147	217.8
Managers and senior administrative or clerical employees [11]	192.9	180.9	176.0	238.8
Junior administrative or clerical employees [11]	157.6	142.8	115.6	207.8
Skilled or specialized workers [11]	213.5	185.8	129.7	261.9
Labourers [11]	228.9	204.8	141.9	263.6
Socio-economic status unknown	290.0	264.8	200	316.3
1911—15	*257.3*	*200.4*	*152.3*	*313.9*
Farmers	363.6	293.4	(357)	370.4
Other employers and own account workers	214.5	198.4	181	238.9
Managers and senior administrative or clerical empolyees [11]	202.6	199.2	182.8	212.4
Junior administrative or clerical employees [11]	171.6	157.8	125.3	217.5
Skilled or specialized workers [11]	226.6	200.5	154.3	281.5
Labourers [11]	246.4	230.9	167.5	249.9
Socio-economic status unknown	276.5	211.8	210	297.5

[11] Including pensioners.

1916—20	*262.9*	*213.2*	*160.1*	*313.8*
Farmers	358.8	312.6	(500)	362.9
Other employers and own account workers	241.2	219.0	172	273.3
Managers and senior administrative or clerical employees [11]	226.9	218.3	205.7	253.2
Junior administrative or clerical employees [11]	178.0	166.7	132.6	208.3
Skilled or specialized workers [11]	245.4	220.4	151.8	286.4
Labourers [11]	268.8	251.6	200.5	294.4
Socio-economic status unknown	271.5	227.7	186	319.6
1921—25	*262.8*	*218.7*	*178.4*	*310.4*
Farmers	347.9	301.6	..	351.9
Other employers and own account workers	252.5	217.2	186	294.9
Managers and senior administrative or clerical employees [11]	220.6	218.2	216.0	228.6
Junior administrative or clerical employees [11]	195.4	183.3	148.6	228.9
Skilled or specialized workers [11]	254.6	419.9	173.4	298.0
Labourers [11]	274.1	259.3	235.2	297.2
Socio-economic status unknown	296.1	287	(241)	321.0
1926—30	*252.2*	*215.9*	*170.8*	*292.4*
Farmers	322.1	309.8	—	323.1
Other employers and own account workers	272.4	242.9	186	300.0
Managers and senior administrative or clerical employees [11]	224.9	213.1	214.5	252.9
Junior administrative or clerical employees [11]	189.5	177.4	146.6	208.9
Skilled or specialized workers [11]	265.4	236.2	167.5	302.7
Labourers [11]	274.1	255.2	222.7	303.9
Socio-economic status unknown	224.7	208	(200)	255.7

If the average female fertility in a birth cohort is indicated by 100, an index of fertility variations by socio-economic status can be calculated (Table b.13). The farmer group was initially far above the mean of 100 and all the other socio-

[11] Including pensioners.

economic groups were below it. (The small group of unknown socio-economic status was not taken into consideration here as its composition can vary.)

The trend is evident: the differences in fertility rates between the various socio-economic classes have continued to decrease. The index for farmers has declined steadily and approached the total mean of 100. For all the other socio-economic groups the index has risen continuously. Fertility in the lowest group, junior administrative or clerical employees, of birth cohort 1906—1910 was only 43 % of the fertility of farmers, against 59 % in birth cohort 1926—1930.

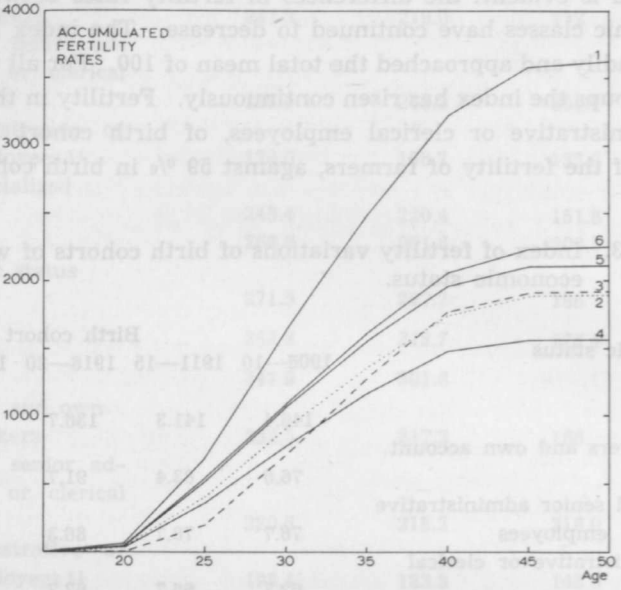
Table b.13. Index of fertility variations of birth cohorts of women by socio-economic status.

Socio-economic status	Birth cohort				
	1906—10	1911—15	1916—20	1921—25	1926—30
Farmers	146.4	141.3	136.7	132.4	127.7
Other employers and own account workers	76.6	83.4	91.7	96.1	108.0
Managers and senior administrative or clerical employees	76.7	78.7	86.3	83.9	88.9
Junior administrative or clerical employees	62.7	66.7	67.7	74.4	75.1
Skilled or specialized workers	84.9	88.1	93.3	96.9	105.2
Labourers	91.0	95.8	102.2	104.3	108.7
Socio-economic status unknown	115.3	107.5	103.3	112.7	89.1
Total	100	100	100	100	100

The distribution of fertility between female age classes shows characteristic differences between the socio-economic classes. Fertility before the age of 25 is especially low among managers and senior administrative or clerical employes. Marriage and reproduction are postponed because of further studies in many cases in this group. The opposite extreme is represented by the groups of skilled or specialized workers and labourers. These groups are gainfully employed from an early age and consequently a proportionately large part of their fertility is experienced before the age of 25. The farmer group is distinguished not only by a very high fertility rate but also by the fact that a relatively great part of their fertility occurs after the age of 35.

The fertility ranking order of the socio-economic groups for the whole of the country was by no means valid for individual regions. The group of managers and senior administrative or clerical employees in Helsinki had a higher fertility than four other groups. The former group had a proportionately high fertility also in the urban districts of the region 2. In the whole country and in the urban districts the fertility of labourers was higher than that of skilled or specialized workers, but in the rural districts the situation was reversed in many cases.

Figure b.1. Accumulated age-specific fertility rates of birth cohorts of women born 1906—10 with different socio-economic status.



1 = Farmers.
2 = Other employers and own account workers.
3 = Managers and senior administrative or clerical employees.
4 = Junior administrative or elerical employees.
5 = Skilled or specialized workers.
6 = Labourers.

9. The material of the present study comprises women born in 1906—1955. For marriages still existing at the close of 1970 there are, too, certain data available on the husbands of these women, viz., the birth cohort, age at marriage, age at confinements, educational level, and region.

The per cent distribution of husbands by age at marriage displays great differences between different educational levels. The higher the educational level the later is the marrying age. The shift towards a younger marrying age in the later birth cohorts applies to all educational levels.

The average number of births in nearly all the birth cohorts was highest at educational level 1, lower level of basic education, and lowest at educational level 4, upper level of secondary education. The high birth rate at educational level 7—8 (graduate and postgraduate level of higher education) is noteworthy. This was true especially of urban districts; fertility was highest at this educational level for the birth cohorts from 1911—1915 to 1931—1935 (Table b.14).

Table b.14. Fertility of marriages existing 31. 12. 1970 by region, birth cohort and educational level of husband.

Birth cohort and educational level of husband	Whole country	Urban districts	Helsinki	Rural districts
	Births per 100 marriages			
1906—10	*279.4*	*208.6*	*160.6*	*335.7*
Ed. level 1	285.9	204.0	146.6	338.9
» » 2	293.5	231.7	168	372
» » 3	263.1	209.2	139	316.8
» » 4	204.3	191.1	133	246
» » 5—6	261.2	250.0	195	289
» » 7—8	249.0	240.7	245	291
1911—15	*271.1*	*222.8*	*171.2*	*315.1*
Ed. level 1	278.4	222.7	153.1	319.7
» » 2	242.6	205.1	198	297.2
» » 3	258.5	222.6	153	300.7
» » 4	212.0	101.3	183	147
» » 5—6	237.7	234.1	207	247
» » 7—8	275.9	265.8	227	323
1916—20	*273.3*	*229.8*	*192.7*	*314.1*
Ed. level 1	281.4	230.5	180.3	318.4
» » 2	257.1	237.4	220	278.3
» » 3	262.4	223.9	157.3	310.6
» » 4	221.4	208.7	186	259.4
» » 5—6	249.8	240.3	232	285
» » 7—8	260.1	254.1	245.1	295
1921—25	*266.1*	*228.8*	*189.5*	*302.1*
Ed. level 1	276.2	231.0	178.2	309.5
» » 2	246.4	229.1	173	275.7
» » 3	239.1	214.7	178	271.0
» » 4	223.4	215.5	177.5	225.8
» » 5—6	246.3	238.9	236	264
» » 7—8	249.7	245.1	230.9	273

It was shown in the foregoing that female fertility at different educational levels varied in quite another way: fertility decreases with the rising educational level.

The husband's age at the time of marriage strongly influenced the fertility of the marriage, although the decline with rising age was naturally not as fast as it was for mothers. The average number of births to husbands of a given age at marriage declined steadily while the birth rate for the birth cohorts as a whole changed only insignificantly until birth cohort 1921—1925. This was caused by the decrease in the average age at marriage; this reduction compen-

sated for the falling birth rates in sub-cohorts of a given marriage age. The average number of children was lowest at educational level 4 for all birth cohorts of husbands up and inclusive of cohort 1931—1935. This rule is applicable on the whole also when the material is distributed by age at marriage. It has already been mentioned that female fertility has begun to be concentrated increasingly heavily in the younger age classes. The same tendency is also valid for birth rates for husbands. It is very manifest in the age classes after 40.

Before the age of 25 the average number of births was highest at educational level 1 and next highest at levels 2 and 3. This is, of course, connected with the fact that a short education allows for gainful employment at an early age. On the other hand, the average number of births at 30—34 was highest among husbands of a high educational level.

If we classify the husbands by educational level and region, it appears that the average number of births in urban districts (above all in Helsinki and regions 2 and 3) was highest in the two highest educational classes. In rural districts, in contrast, the average number of births was usually highest for husbands in the lowest educational classes. The birth rate among farmers is a decisive factor here.