FERTILITY OF AUSTRALIAN BIRTH COHORTS: COMPONENTS AND DIFFERENTIALS

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The paper examines the change in the level and pattern of fertility that took place in the post-1971 period, and the downward completed fertility of successive generations of Australian women born since 1933-37. The change in cohort fertility is assessed in terms of the cohort parity progression ratios, and the four components of cohort total fertility: the proportion of women who proceeded to have a birth, mean age at first birth, mean age at last birth, and average interbirth interval for women who had at least two births. The other aspects discussed are the cohort fertility differentials and the implications of the current trends for future fertility in Australia.

Current Trends in Fertility

In a total population of 18 million, Australia recorded 256,000 births in 1995. Translated into fertility measures, this number represents 14.2 births per 1,000 population (the crude birth rate), 5.4 births per 100 females of reproductive ages 15-49 (the general fertility rate), and a total fertility rate (TFR) of 1.82 children per woman. This level of Australian fertility is lower than that required for the long term replacement of the population (TFR of 2.1). The 1994 TFR for the United Kingdom (1.74) was lower, and that for the United States (2.04) and New Zealand (2.04) was higher (Statistics Canada 1994; Armitage and Babb 1996; National Centre for Health Statistics 1996; Statistics New Zealand 1996).

The fertility in Australia at present represents, more or less, a stabilization since about the late 1970s. The below replacement level of fertility was achieved in 1976. In 1971 the TFR was 2.87 per woman. It declined by 28 per cent between 1971 and 1976, and by about nine per cent between 1976 and 1984. It hovered around the 1984 level (TFR 1.88) until 1992, and has recorded a slight decline since. The TFR (1.82) in 1995 was the lowest ever recorded in Australia.

Figure 1 Total fertility rates, selected countries

Source: TFRs taken from A. Monnier and C. de Guibert-lantoine (1996).

The change in the TFR in some selected countries between 1970 and 1994 is shown in Figure 1. It is clear that a dramatic decline in the TFR has occurred in the selected countries. In Canada, the United States, New Zealand, and Sweden fertility rose between 1985 and 1990 but declined in the following years. In these four countries, the TFR in 1994 was above its level in 1985 (Monnier and de Guibert-lantoine 1996).

Along with the decline in total fertility in Australia between 1971 and 1995, several changes occurred in the pattern of fertility. Whereas, 8.7 per cent of all births (or 25,600 births) in 1971 were ex-nuptial, this proportion rose in each successive year and reached 27.1 per cent (or 68,000 births) in 1995. The nuptial general fertility rate declined but the ex-nuptial general fertility rate (ex-nuptial births per 100 of non-married women aged 15-49) increased rapidly from 1981. The proportion of ex-nuptial births where paternity of the father was acknowledged increased from 60.5 per cent in 1981 to 83.3 per cent in 1995.

The age pattern of fertility changed over time. Until 1971, the peak fertility rate occurred for women aged 25-29 (except for a brief period from 1953 to 1961 when this peak occurred in the 20-24 age group), followed by the adjacent age groups 20-24 and 30-34 in that order. The rate in the age group 35-39 was the next highest, which was above the rate in the 15-19 age group until 1966. The post-1971 change has been remarkable. The age-specific fertility rate in the age group 25-29 still remained the highest, but the increasing

rate in the 30-34 age group overtook the declining rate in the 20-24 age group in 1987 and has maintained its second ranking ever since. The fertility rate in the age group 15-19 declined, and that in the age group 35-39 increased (since 1978) and has maintained its fourth position since 1984. Australian fertility is now concentrated in the 25-34 age group of women. The median age of mothers giving birth in a year continued to rise. For all births, it rose from 26.5 years in 1971 to 28.9 years in 1995. For nuptial births, it moved from 26.8 to 30.0 years, and for ex-nuptial births from 22.3 to 24.7 years over the same time period. The age at entry into first time motherhood increased for nuptial births from 23.7 years in 1971 to 28.5 years in 1995. The corresponding figure for ex-nuptial first births is only available in respect of the three states and one territory (Western Australia, South Australia, Tasmania and the Australian Capital Territory) for births registered in 1995 (23.0 years).

The share of first and second order nuptial births to total nuptial fertility has increased; it was 35.3 and 29.6 per cent respectively in 1971 as compared with 40.4 and 35.7 per cent in 1995. The data for the three states and one territory (Western Australia, South Australia, Tasmania and the Australian Capital Territory) for 1995 indicate that 45 per cent of the total fertility (nuptial and ex-nuptial combined) is contributed by first order births, 32 per cent by second order births, 15 per cent by third order births and eight per cent by fourth and higher order births. Assuming that the present crosssectional pattern and a total fertility rate of 1,820 per 1,000 women were to continue into the future, 18.2 per cent of women will not bear any children, 24.4 per cent will have one child, 29.8 per cent will have two children, 17.7 per cent will have three children, and 9.9 per cent will have four or more children in their lifetime. The corresponding proportions using the 1983 data (ABS Catalogue No. 3222.0) were 19.4 per cent women with no children, 20.0 per cent with one child, 27.5 per cent with two children, 14.3 per cent with three children, and 18.8 per cent with four or more children. The change in the pattern of fertility by birth order between 1983 and 1995 has thus been substantial, especially in regard to higher order births.

Explanations for Fertility Decline Since the 1970s

The dynamics of the cross-sectional fertility decline since the 1970s and its present low level are complex and cannot be explained as the cause and effect relationship of a few factors alone. The economic and social conditions of the 1970s triggered a change in the attitude of men and women towards family formation and reproduction. Women stepped out of their traditional home duties and accepted alternative roles and life styles to motherhood. Increasing proportions of women participated, and continue to participate, in education,

in the labour force, and beside contributing to the family income they are becoming economically independent.

In 1971, 41 per cent of women aged 15-65 participated in the labour force. This increased to 53 per cent in 1995. Couple families of all ages where both spouses were employed rose from 39.6 per cent in 1984 to 49.2 per cent in 1995. Similarly, women's participation in education increased. In 1971, whereas only 27.2 per cent of women aged 15-24 participated in education, this rose to 47.0 per cent in 1995. The improvement in contraceptive technology and easier access to abortion allowed couples to exercise control over unwanted pregnancies and enabled them to plan more precisely the number and timing of their desired children. These factors: education, work and the contraceptive revolution, are believed to have contributed to the lowering of fertility in many of the developed countries (Armitage and Babb 1996).

The two components of fertility - nuptial and ex-nuptial - have been affected by the transformations in family demography. A marriage revolution became apparent in the decreasing proportion of the national population marrying and in the increasing age at marriage. The overall crude marriage rate fell from around nine per 1,000 population in the early 1970s to 6.1 in 1995. The proportion of never married women in each five year age group 20-24 to 35-39 increased rapidly over the same time span. The median age at marriage for all women marrying in 1995 was 26.8 years, which was 2.3 years more than those married in 1985 (24.5 years) and 5.4 years more than those married in 1971 (21.4 years). Similar increases in the median age at marriage occurred for never married, widowed and divorced women marrying over the same time period. Among all marriages in a year, the proportion of spinsters' marriages fell from 90.4 per cent of all marriages in 1971 to 76.6 per cent in 1986 and to 77.1 per cent in 1995; for widows it fell from 3.3 per cent in 1971 to 2.5 per cent in 1995; but for divorced women it rose sharply from 6.3 per cent in 1971 to 20.3 per cent in 1986 and has remained at that level since. Undoubtedly, this was a reflection of the increase in the number of divorces granted (and the increase in the divorce rate which peaked in 1976) followed by remarriages of these women.

A consequence of the marriage and divorce revolution was their effect on family demography, whereby profound changes took place in living arrangements. The proportion of persons who were living alone increased (10.0 per cent in 1995). The proportion of one parent family households increased (8.5 per cent where a woman was the parent and 1.2 per cent where a man was the parent in 1995), and the proportion of couple families with children decreased (41.4 per cent in 1995) and without children increased (33.6 per cent in 1995). There occurred a substantial increase in the proportion of couples living in *de facto* relationships.

Table 1 Percentage distribution of ever-married and all women according to number of children ever born and average issue at specific age groups by year of birth, Australia

Age of women/ birth cohort			Percentage distribution of women according to number of children ever born					Average
	Women	Source	0	1	2	3	4+	issue
Age of women 20-24								
Birth cohort of								
1968-72	All women	Survey, 92	80.5	12.3	5.6	1.3	0.3	0.29
1962-66	All women	Census, 86	75.4	14.7	7.7	1.8	0.5	0.38
1962-66	Ever married	Census, 86	52.4	26.4	16.5	3.8	0.9	0.75
1957-61	Ever married	Census, 81	49.6	27.8	17.7	4.0	0.9	0.79
1952-56	Ever married	Census, 76	44.7	30.0	20.5	3.9	0.8	0.86
Age of women 25-29								
Birth cohort of								
1963-67	All women	Survey, 92	49.1	22.6	19.1	6.9	2.4	0.91
1957-61	All women	Census, 86	42.8	20.9	24.1	9.2	3.1	1.10
1957-61	Ever married	Census, 86	29.0	24.6	30.9	11.8	3.8	1.38
1952-56	Ever married	Census, 81	24.4	23.9	34.2	13.4	4.1	1.50
1947-51	Ever married	Census, 76	18.3	23.2	38.7	14.7	5.1	1.67
Age of women 30-34								
Birth cohort of								
1958-62	All women	Survey, 92	23.3	17.6	32.3	18.3	8.6	1.74
1952-56	All women	Census, 86	19.9	15.4	36.2	20.0	8.5	1.85
1952-56	Ever married	Census, 86	12.4	15.9	40.2	22.3	9.3	2.04
1947-51	Ever married	Census, 81	9.7	13.9	41.8	24.0	10.6	2.16
1942-46	Ever married	Census, 76	6.8	12.0	39.6	26.3	15.3	2.39
Age of women 35-39								
Birth cohort of								
1953-57	All women	Survey, 92	13.0	11.3	37.6	25.5	12.6	2.19
1947-51	All women	Census, 86	12.0	10.5	38.9	25.2	13.5	2.24
1947-51	Ever married	Census, 86	7.4	10.4	41.2	26.7	14.2	2.36
1942-46	Ever married	Census, 81	6.2	9.1	37.5	28.3	18.9	2.55
1937-41	Ever married	Census, 76	4.0	7.7	31.2	29.3	27.8	2.89
Age of women 40-44								
Birth cohort of								
1948-52	All women	Survey, 92	10.3	11.0	38.8	26.2	13.8	2.27
1942-46	All women	Census, 86	9.7	8.7	35.6	27.0	18.9	2.48
1942-46	Ever married	Census, 86	6.2	8.6	37.2	28.2	19.7	2.58
1937-41	Ever married	Census, 81	5.3	7.6	30.1	28.5	28.5	2.90
1932-36	Ever married	Census, 76	3.9	7.6	27.0	27.1	34.5	3.14

Source: Adopted from Adam (1991) and updated with the 1986 Census and the 1992 Family Survey. The survey collected retrospective fertility information from a nationally representative sample of 12,814 women aged 15-59 (except 15-16 year olds who were not married or not living in a *de facto* relationship).

Thus it can be argued that fertility decline since the 1970s has been regulated by the changing conditions of life. The change in the family composition and structure, enhanced demand for education, occupational opportunities, rise in two income families, and a growing variety of leisure activities have all been in competition with bearing and rearing of children (Kiernan 1993).

Cohort Fertility Trends

The fertility of birth cohorts as measured by the mean number of children ever born using data collected in the censuses and the 1992 Family Survey is given in Table 1. It highlights the fact that recent generations have a lower number of children ever born by a given age than older generations. The mean number of children ever born to *ever married* women aged 25-29 years was 1.67, 1.50 and 1.38 children respectively for the birth cohorts of 1947-51, 1952-56, and 1957-61. For *all* women, this number was 1.10 children for the 1957-61 cohort and 0.91 children for the 1963-67 cohort. The lower attainment of fertility by the younger generations is apparent at other ages as well.

The completed fertility (to age 40-44) of *ever married* women born in 1932-36 was 3.14 children as against 2.58 children for the 1942-46 cohort. For *all* women, the 1942-46 cohort recorded 2.48 children whereas the 1948-52 cohort had 2.27 children. The younger generations' fertility is not yet complete, but from fertility levels up to age 30-34 for the baby boom generations of 1952-56 (1.85 children) and 1958-62 (1.74 children) it can safely be deduced that these and later birth cohorts will probably not achieve replacement level fertility of 2.1 children in their lifetime.

The other features of Table 1 are a rise in the proportion childless and a decline in the proportion of women of recent birth cohorts who proceeded to have a third or a higher order child by a given age. Considering the baby boom cohorts of women, between 20 per cent (1952-56 cohort) and 23 per cent (1958-62 cohort) had been childless by 30-34 years of age, and fewer had third or higher order births. In terms of completed fertility, 46 per cent of the 1942-46 cohort and 40 per cent of the 1948-52 cohort of women had three or more births. As explained in the previous section, if the 1995 cross-sectional pattern of fertility is assumed to prevail in the future, this proportion would be only 27.6 per cent.

Cohort Parity Progression Ratios

The 1992 Family Survey data permit the calculation of parity progression ratios, which are defined in this paper as follows: the proportion of women of a birth cohort proceeding to have a birth by a given age, the proportion of first parity women proceeding to have a second birth after a given lapse of time since first birth, and similar proportions for second and third parity women

(Figure 2). The decline in the first time child bearing by the younger cohorts (born since about 1952) by age 25 years or even age 30 years is remarkable. Nearly 60 per cent of all women born in the 1930s had a first birth by age 25. This proportion is down to nearly 30 per cent for the birth cohorts of the 1960s. Some of this decline is related to the postponement of the first birth, but even by the age of 30 years, the reduction in this proportion has been from around 80 per cent for the older cohorts to 60 per cent for the younger cohorts. About 13 per cent of women born in the early 1950s were childless when they reached age 40 years in 1992. Childlessness was higher (16 per cent) among the younger cohort attaining the age of 35 years in 1992.

After giving birth to their first child in the 1980s, a high proportion of women delivered a second child - about 70 per cent proceeded to have a next child within four years and about 86 per cent within nine years of the birth of the first child. These proportions are slightly higher for women who had their first child before the mid-1960s.

The progression from second to third and from third to fourth child has decreased markedly. For example, nearly 50 per cent of women in the 1970s and 1980s gave birth to a third child within eight years of the birth of the previous child. This proportion was nearly 80 per cent for mothers who had a third child in the late 1950s.

Components of Cohort Fertility

The mean number of children ever born to birth cohorts of 1908-12 to 1953-57 is given in column B of Table 2. The completed fertility of the birth cohort of 1908-12 was 2.12 children. Each subsequent birth cohort to the 1933-37 cohort recorded higher numbers of children ever born; the peak fertility (2.82 children) occurred to the 1933-37 birth cohort (data from the 1982 Family Survey, see Table 2 for limitations of these data). Fertility then fell from 2.96 children for the 1933-37 cohort to 2.27 children for the cohort of 1948-52 (data from the 1992 Family Survey), which is the latest birth cohort to complete its fertility (aged 40-44 in 1992). The cohort of 1953-57 (aged 35-39 in 1992) has recorded 2.19 children ever born, and if the current trends in cross-sectional fertility in the age group 40-49 prevail, this cohort will complete its fertility at 2.22 children, which will be slightly below the level for the 1948-52 birth cohort.

McDonald (1988) has analysed the rise in completed fertility of the birth cohorts of 1908-12 to 1933-37 in terms of the change that occurred in the patterns of 'starting, stopping, and spacing of children' as experienced by these cohorts. The first panel of Table 2 gives results from his analysis while the second panel reproduces the same results for the later birth cohorts, using data from the 1992 Family Survey.

Figure 2 Parity progression ratios, 1992 Family Survey, Australia

Table 2 Selected fertility data for Australian women according to their year of birth (values of B, S, F, L, and I)

Year of birth	Age	No. of women	B number	S prop.	F years	L years	I years
Data from the 1982 Family Survey¹							
1908-1912	70-74	na	2.12	0.803	26.36	33.03	4.27
1913-1917	65-69	na	2.34	0.838	25.65	32.37	3.89
1918-1922	60-64	na	2.50	0.874	25.09	31.76	3.70
1923-1927	55-59	na	2.57	0.882	24.45	31.40	3.73
1928-1932	50-54	na	2.70	0.898	24.07	30.84	3.45
1933-1937	45-49	na	2.82	0.916	23.34	30.03	3.37
Data from the 1992 Family Survey							
1933-1937	55-59	912	2.963	0.928	23.893	30.686	3.096
1938-1942	50-54	1,089	2.678	0.902	23.733	29.706	3.033
1943-1947	45-49	1,357	2.467	0.912	24.229	29.531	3.111
1948-1952	40-44	1,690	2.273	0.897	24.407	29.375	3.238
1953-1957	35-39	1,805	2.187	0.870	24.371	29.322	3.269

Notes: 1. The 1982 Survey did not record births outside marriage except for births in a current *de facto* relationship. Data on some women who had first or last birth in the second of three marriages were excluded.

2. na: Not available.

3. B is the mean number of children ever born to women in each cohort.

S is the proportion of women in the cohort who had at least one birth.

F is the average age at first birth for women in the cohort.

L is the average age at last birth for women in the cohort.

I is the average length of all intervals between births for those women in the cohort having at least two births.

Sources: Data from the 1982 Family Survey are from McDonald (1988).

Data from the 1992 Family Survey are based on the Unit record file for the Survey.

The mean number of children ever born (B) is related to the four components as follows:

$$B = S[1 + (L - F)/I],$$

where S is the proportion of women in the cohort who had at least one birth, F is the average age at first birth for women in the cohort, L is the average age at last birth for women in the cohort, and I is the average length of all intervals between births for those women in the cohort having at least two births.

Increasing fertility of the successive birth cohorts of women (from 1908-12 to 1933-37) was the result of the increasing proportion of women who had at least one child (S); child bearing commenced increasingly at younger ages (F), and intervals between their births (I) shortened. The age at which they stopped their child bearing (L) declined, which reduced the impact of the first three variables on the completed fertility. As the difference between the mean age at first birth and the mean age at last birth remained constant, the increase

Table 3A Change in fertility for Australian women born from 1913-1952 (relative to the fertility of the 1908-1912 birth cohort) showing the amount of change due to S, F, L, and I

Year of birth	Age	Percentage change due to				Total	% change B
		F	L	I	S		
Data from the 1982 Family Survey							
1913-1917	65-69	60.4	-55.9	55.0	40.5	100.0	11.1
1918-1922	60-64	63.5	-63.5	51.9	48.1	100.0	18.9
1923-1927	55-59	82.5	-70.2	41.7	46.1	100.0	22.8
1928-1932	50-54	77.0	-73.9	53.3	43.6	100.0	29.1
1933-1937	45-49	90.5	-89.8	53.2	46.2	100.0	32.5

Table 3B Change in fertility for Australian women born from 1938-1942 (relative to the fertility of the 1933-1937 birth cohort) showing the amount of change due to S, F, L, and I

Cohort	Age	F	Percentage change due to			Total	% change
			L	I	S		B
Data from the 1992 Family Survey							
1938-1942	50-54	16.8	-102.9	13.0	-26.9	-100.0	-9.6
1943-1947	45-49	-20.3	-69.8	-1.5	-8.4	-100.0	-16.7
1948-1952	40-44	-22.3	-57.0	-9.5	-11.2	-100.0	-23.3
1953-1957	35-39	-18.4	-52.7	-10.1	-18.8	-100.0	-26.2

Sources: As for Table 2.

in fertility was due to shortened birth intervals and a higher proportion of women having children.

The decline in completed fertility of the successive later birth cohorts (from 1933-37 to 1953-57), has been manifested in the rise in childlessness (declining S), increase in age at first birth (F), increase in the interbirth intervals (I), and a lessening of the age at last birth (L). Thus, in contrast to the positive contribution of S, F, and I, and a negative contribution of L in raising fertility of the successive birth cohorts of 1908-12 to 1933-37, all these components acted in lowering the fertility of the birth cohorts of 1933-37 to 1953-57 (Table 3). However, the largest impact has been due to the reduction in the age at last birth.

Cohort Fertility Differentials

Fertility differentials in this section are examined with a view to shedding light on future fertility of Australian birth cohorts. As mentioned previously, there has been an increase in women's education and workforce participation, a rise in two income families, and a change in family living arrangements. These changes are expected to influence the present and future fertility of the cohorts. The mean numbers of children ever born by cohorts are examined

for various sub-groups while exercising statistical control for the influence of other variables. Multiple classification analysis is used and the selection of variables was restricted to their availability in the 1992 Family Survey. The age at marriage variable was not included as a substantial amount of fertility in Australia is now taking place outside of marriage. Categories of some variables contained only small numbers of women; these were combined to form broad categories in order to provide statistically meaningful results. The reported number of children ever born was used as the dependent variable and the *age of women* and its *square* were used as the continuous control variables. The explanatory variables and their sub-categories are those given in column 1 of Table 4, and conform to the Australian Bureau of Statistics data dissemination categories for the 1992 Family Survey or their further groupings adopted for this study. In the description below, the categories of the variables are italicized. The analysis was carried out separately for women in two age groups - less than and more than 35 years of age but for brevity the results are tabulated for women older than 35 years of age only (Table 4). Observed differences for women in the younger age group may be due to differences in the timing of fertility rather than in the quantum of fertility.

- Place of residence: Women aged 35 and over living in *metropolitan* areas had the lowest completed fertility followed by those living in *other urban* areas and *rural* areas. The younger women aged 15-34 living in the *metropolitan* areas also had the lowest fertility, but their fertility levels were about the same whether they lived in *other urban* or *rural* areas (not shown in Table 4).
- Family type: Women aged 35 and over in *couple* families had higher completed fertility than those living in *other* family types. This relationship reversed and was significant (at the five per cent level) when the influence of the other variables was controlled for in the multivariate analysis. For younger women, the mean fertility level was the same irrespective of their family type.
- Relationship with family reference person: Women living in a *de facto* relationship had higher fertility if they were young (15-34 years), and lower completed fertility if they were older (35-59 years) than those in families of *other* relationship types.
- Family income: Women aged 35 and over in higher family income groups had achieved higher completed fertility. But this relationship was reversed in the case of younger women who have not yet completed their fertility. The higher income group younger women (aged 15-34) in the 1990s may be postponing child bearing to older ages or may even have a smaller completed family size eventually.
- Post-school qualifications: Women who had *no* post-school education had the highest fertility followed by those who had *other* post-school qualifications or a *degree*. This was true for both older (aged 35-59) and younger women (aged 15-34).

Table 4 Multiple classification table of the effects of several variables on children ever born, Australia, 1992 Family Survey (females aged 35-59)

Predictor variable	n	Unadjusted		Adjusted	
		MCEB	R	MCEB	R
Place of residence			0.093		0.056
Rural	750	2.728		2.622	
Other urban	1,637	2.566		2.504*	
Capital city	4,466	2.353		2.394*	
Family type			0.144		0.026
Other types	1,362	2.032		2.695	
Couple family	5,491	2.548		2.384*	
Relation with family ref. person			0.047		0.024
Other	6,593	2.108		2.773	
<i>De facto</i>	260	2.458		2.433*	
Family income (Wk)			0.014		0.060
\$0-600	2,870	2.441		2.344	
\$601-1000	1,873	2.418		2.467*	
\$1001+	2,110	2.474		2.564*	
Post-school qualifications			0.156		0.081
None	3,893	2.597		2.526	
Other P.S.	2,353	2.354		2.403*	
Degree	607	1.827		2.095*	
Status of worker			0.179		0.073
Not working	2,635	2.729		2.517	
Salary, wage	3,367	2.189		2.336	
Other	851	2.578		2.654	
Occupation			0.170		0.047
Not working	2,651	2.728		2.602	
Manag. Prof.	1,335	2.135		2.306	
Trade, sales	2,134	2.274		2.313	
Labourer	733	2.484		2.522	
Marital status			0.344		0.297
Never married	391	0.455		0.428	
Married	5,197	2.589		2.638*	
Other	1,265	2.470		2.278*	
Whether married more than once			0.039		0.000
No	5,959	2.424		2.442	
Yes	894	2.586		2.466	
Birthplace of father			0.062		0.020
Australia	4,052	2.503		2.460	
UK and Ireland	1,103	2.409		2.408	
Other Europe	972	2.324		2.419	
Africa	123	2.659		2.178	
Asia	343	2.248		2.576	
Other	260	2.312		2.436	

Table 4 (cont'd)

Predictor variable	n	Unadjusted		Adjusted	
		MCEB	R	MCEB	R
Birthplace of mother			0.067		0.030
Australia	4,263	2.498		2.495	
UK and Ireland	970	2.374		2.433	
Other Europe	907	2.338		2.260	
Africa	114	2.816		2.729	
Asia	359	2.228		2.214	
Other	240	2.333		2.527	
Birthplace of respondent			0.057		0.020
Australia	4,679	2.482		2.468	
UK and Ireland	716	2.338		2.367	
Other Europe	749	2.395		2.368	
Africa	116	2.767		2.744	
Asia	351	2.265		2.422	
Other	242	2.306		2.382	
Duration of residence in Australia			0.059		0.030
Born in Australia	4,684	2.482		2.425	
0 - 9 yrs	412	2.272		2.438	
10-19 yrs	454	2.185		2.366	
20+ yrs	1,303	2.458		2.550	
Self-reported health status			0.054		0.020
Poor	312	2.619		2.494	
Good, fair	4,436	2.484		2.461	
Excellent	2,105	2.338		2.406	
All predictor variables (full model)					0.429

Notes: 1. MCEB is the predicted mean number of children ever born based on the model.
 2. * indicates that the coefficient of the variable in the model was significant at the five per cent level.

- Work status and occupation: The *salary and wage* earning women had lower fertility in comparison with those *not* working or who had *other* wage and salary work status. In terms of the occupation groups, women who were *labourers* had the highest fertility. However, none of the work status or occupational group categories of women showed any statistically significant fertility differentials in the multivariate analysis.
- Marital status: *Married* women had the highest fertility in comparison with that of *widowed* and *divorced* or *never married* women.
- Number of times married: Women *married more than once* had higher fertility than *other* women who either married once or did not marry at all. Statistical difference (at the five per cent level) in the fertility of these two groups of women was noted for younger women only.
- Birthplace of the father and mother of the respondent and of the respondent herself: The age standardized mean number of children ever born for

women aged 35-59 indicated variation in completed fertility according to the birthplace of the parents of the respondent and the respondent herself. Fertility of women whose fathers or mothers or themselves were born in *Africa* had the highest fertility followed by those born in *south east Asia, Australia, south Asia, countries in Europe* and *other Oceania* in that order. However, these differentials disappeared when countries of birth were combined into regions (due to small numbers) and the effect of other variables was controlled in the multiple classification analysis. Younger women's fertility (aged 15-34) was lowest for women with *Asian* parentage or their own *Asian* birthplace. This may have been due to the postponement of child bearing to older ages in order to obtain higher education (some may be overseas students) and economic security, or not wanting children altogether.

- Duration of residence in Australia: Among younger women (aged 15-34), a longer duration of residence in Australia was related to higher fertility. However, the effect of this variable was non-existent on completed fertility of women (aged 35-59).
- Self assessed health status: Women who reported *poor health* at the Survey had higher younger-age as well as completed fertility than those whose health was *good* or *excellent*. However, multivariate analysis eliminated fertility differentials in completed fertility by health status. Younger women's fertility appeared higher among those with *good* and *excellent health* status compared with women in *poor health*.

Future Fertility of the Birth Cohorts

What does the future hold for fertility of the generations of Australian women? The rise in completed fertility of the successive generations 1908-12 to 1933-37 was the effect of the increase in period fertility during the postwar baby-boom years between 1947 and 1961. The generations of 1938-42 to 1953-57 completed their fertility on a downward sloping trend under the less favourable economic conditions which began in the early 1970s.

The fertility of the 1958-62 and later birth cohorts will be completed in the late 1990s and early twenty-first century. Coming years may provide opportunities for younger people as the bulk of the baby-boom cohorts would have aged into their 50s and 60s, providing work place spaces and already expanded general infrastructure support for later cohorts. On the other hand, the rapid ageing of the population could drain resources and place financial constraints on the then working population which, in terms of the proportion to the total population, will decline. The present life style, increased participation of women in education and the labour force, the rise in two income families, and the change in family demography that developed in the 1980s and 1990s - which contributed to deferment or lowering of cohort fertility - are unlikely to be reversed in the short run at least. The fertility of the 1958-62 birth cohort (aged 30-34 in 1992) will reach 1.99 children, and that

of the birth cohort of 1963-67 (aged 25-29 in 1992) 1.69 children if they reproduce at the 1995 level of current fertility in their remaining reproductive years. Even if generous allowance is made for the postponement of fertility, and thus an increase in fertility at the 30-34 and 35-39 years age groups, the completed fertility of these generations of Australian women will be below the replacement level of 2.1 children per woman. This would not be the first time, however, that generational fertility fell below replacement: the birth cohorts 1897-99 and 1902-09 had below-replacement fertility (Ruzicka and Caldwell 1977:158). Future child bearing is likely to take place under much more transformed conditions of life, not conducive to a rise in fertility.

Contrary to this view, however, is a scenario of future rises in fertility. A concern about de-population, incentives to parents in terms of social welfare benefits, and provision of cost-effective child care facilities at work places could bring about a change in the norms of child bearing and induce couples to raise their fertility. For example, research in Norway (Kravdal 1996) indicated that expansion of day care facilities for children was positively associated with parity two women advancing to parity three. The same paper mentioned that broader family policies that were beneficial to employed mothers contributed to the recent up-turn of fertility in Germany (although there have been further declines in TFR in 1994 and 1995) and some other European countries. In Australia, the number of child care places and the proportion of children under twelve years of age receiving some form of child care have increased due to an increasing participation of married women in the labour force (ABS Catalogue No. 4102.0, 1994), but their effect on fertility is yet to be assessed. On the other hand, rises in fertility in some countries during the latter part of the 1980s may have been due to the occurrence of births which had been delayed from earlier years. In Sweden, for example, the TFR rose from 1.68 in 1985 to 2.13 in 1990 but, by 1995, it had fallen again to 1.74.

On balance it appears that if the fertility of the Australian birth cohorts of women were to rise or even to remain constant, incentives and infrastructure support to parents will have to be provided such that they could combine child bearing and rearing with their already modified life style and working arrangements. Until such support is forthcoming, there does not seem to be hope for a rise in Australian fertility in the future. The total fertility rate will hover around the 1.8 level (or lower) in the decade to come. The TFR in 1995 in South Australia reached 1.75 children, in Victoria 1.76 children, and in the Australian Capital Territory 1.69 children, which were all below the national average of 1.82 children.

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