

## Singapore's 'Three or More' Policy: The First Five Years

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*The new policy has succeeded in increasing the annual number of births, but fertility remains below the replacement level*

More than eight years have passed since Mr. Goh Chok Tong, then First Deputy Prime Minister, announced in March 1987 the slogan "have three, or more (children) if you can afford it" as Singapore's new population policy. The policy, which may be described as "selectively pro-natalist", represented a fundamental change in direction from the blanket "stop at two" policy which had been in effect for about two decades until the mid-1980s. This article reviews the first five years of achievement of the "three or more" policy. Although the evaluation of the effectiveness of the policy ideally should await the availability of more data, some useful indications of its likely success may be obtained by examining the information available so far.

### Goals and strategies

The overall goal of the new population policy may be characterized as "population rejuvenation" in the broadest sense of the term. The policy is intended to address three anticipated trends concerning the future quantity and quality of the population arising from current marriage and reproductive patterns, namely:

- Diminution of the population owing to the failure of parental generations to adequately replace themselves with equally large numbers of children ("below-replacement" fertility);
- Rapid increase in the proportion of the elderly, and decline in the proportions of the young and the working-age adults, as fewer children are born to replace the parental generation (the ageing of the population); and
- Decline in the proportion of talented persons as the less educated marry and reproduce themselves at higher rates of fertility than the better educated (the "lopsided" pattern of procreation).

The last point mentioned has been the most controversial because of its eugenic implications. For example, the graduate mother scheme,<sup>1</sup> a policy measure that resulted directly from this concern, was withdrawn after much controversy.

The most recent projections published by the Ministry of Health in the National Report for the International Conference on Population and Development (ICPD) held at Cairo in September 1994, show that Singapore's resident population will increase to 3.5 million by the year 2030, by which time, 24.6 per cent of the population will be in the 60 and older age groups. In that year also, there will be 43 elderly persons for every 100 persons of working age (15-59 years), up from only 14 elderly persons in 1990. The National Report provides little other information on future population trends except that population decline would have set in, after peaking in the year 2025. The Government has been concerned that, if left unchecked, both the ageing of the population and the "lopsided" pattern of procreation could affect the future quality of the population and its ability to adapt to changing economic circumstances.

The new population policy attempts to redress these potentially disruptive trends by encouraging single persons to get married and by promoting a larger family size of three or more children among the married couples who can afford them. The latter effort is to compensate for those who do not marry and those who do not have any children, in order to attain the two-child average necessary for generational replacement. It is expected that, by raising fertility to the replacement level, i.e. about 2.1 children per woman, and then maintaining this level of fertility indefinitely, the population will be maintained at a constant size with a balanced age structure, i.e. with neither too many of the elderly nor too many very young to be supported.

A series of policy measures or incentives have been introduced to support the "three or more" policy. These policy measures may be classified as follows: (a) incentives to ease the financial burden of child-rearing (tax rebates for third and fourth children, and income tax relief for up to four children), (b) incentives to ease the conflict between women's work and child-rearing roles (child-care subsidy, rebates on maid levies; child-care leave, no-pay leave and part-time work in the public sector) and (c) modification of the earlier, two-child incentives in line with the new policy (priority in allocation of housing and primary school registration for families with three instead of two children). However, the sterilization cash grant scheme, an incentive for low-income lowly-educated women to permanently limit their family sizes to two or fewer children, was retained. Appendix I lists measures introduced at the time of the announcement of the new population policy in 1987. In 1990, an incentive for earlier child-bearing, i.e. a tax rebate of S\$20,000 (US\$1 = currently S\$1.40) for mothers giving birth to their second child before age 28, was also introduced. The purpose was to counter the trend towards later ages at child-bearing which, in the long run, would slow the rate of population growth. The sterilization cash grant scheme was enhanced in 1993 by requiring only that the women agree to accept reversible contraceptive methods (instead of sterilization), and by the addition of educational bursaries for their children. To date, there have not been any direct incentives for marriage. In 1995, however, the Government introduced measures to enable young couples to rent or purchase their own public housing flats and start their families earlier. These measures include lower rental and shorter waiting time for first-time applicants (who are mostly young couples) to rent a flat while waiting for their purchase units to be ready, and a housing grant worth S\$40,000 to be put into the provident fund account of such couples to help them purchase a flat on the re-sale market (the sum is increased to S\$50,000 if they chose a flat close to their

parents' home, the higher incentive being in line with another government objective, namely, promoting inter-generational togetherness).

At the press conference organized to announce the new population policy in 1987, the then First Deputy Prime Minister disagreed with the suggestion that the policy was targetted at specific educational or ethnic groups. While he urged couples to consider carefully their ability to afford the larger families, he also said that the Government "had no objection" to those with less than secondary education having more children if they could afford them. Similarly, the better-educated Malays who were also under-reproducing should be encouraged, although the Chinese were the main cause of Singapore's population problem (the Chinese comprise more than 75 per cent of the country's population). Be that as the case may be, there is nevertheless a strong positive correlation between education and income in Singapore and it is the better-educated who are also the "under-achievers" in the reproductive sense. On the other hand, it could be argued that incentives such as the tax rebates would appear relatively more attractive to the lower income (lower educated) than higher income (better educated) groups, and the extension of the eligibility period, from five to seven and then to nine years, will likely increase the pool that can benefit from them.<sup>2</sup>

This article is confined to an evaluation of the success of the "three or more" policy. To do this, trends in live-births before and after the introduction of the policy are compared. The study design adopted in this article is a time-series design based on repeated observations before and after an intervention programme. In the absence of other confounding factors, a sudden change in the level or the direction of the trend line following the introduction of the new policy may reasonably be attributed to the policy. In line with the goals and strategies outlined above, three measures of effectiveness are used in this report: namely, increases in the number of annual births, increases in third and higher order births, and increases in higher order births to the better-educated mothers. Maternal qualification is used here as a proxy for economic status. As the policy was introduced in March 1987, its effect on live births would only have been felt from 1988 onwards given the normal time-lag before conception and between conception and birth. The data on births and maternal characteristics used in this report are drawn from the Yearbook of Statistics and various issues of the Report on the Registration of Births and Deaths. While the appropriate data base would have been births to Singapore citizens and permanent residents, as the measures are aimed at this group, such information is not publicly available. However, the share of non-resident births is unlikely to be so large as to significantly distort the overall live-birth trends.

## Results

### Annual births

Table 1 shows the number of babies born annually over the period 1980-1992. Prior to 1987, the number of births in Singapore had stabilized at about 40,000-42,000 annually. The exception was in 1986, when it dipped below 40,000, a phenomenon commonly believed to be attributable to the effects of the economic recession and the inauspicious "Year of the Tiger" in the Chinese zodiac. The number of births increased to 43,616 in 1987. This was followed by a sudden jump to 52,957 in 1988, an unusually high figure commonly attributed to the coincidence of the auspicious Chinese "Year of the Dragon" and "88", which in the Cantonese dialect is homonymic with "double prosperity". Annual births remained at the 47,000-51,000 level over the next four years. In 1992, total births numbered 49,400.

### Birth order

This refers to the rank order of a birth in relation to all previous live births of the mother. Table 1 shows further that the number of third children born has also increased, from below 7,000 in 1987 to 9,624 in 1990, before declining to about 8,900 in 1991 and 1992. At the same time, the number of fourth births rose from about 1,600 in 1987 to over 2,000 annually over the next five years. As a proportion of total births, third births rose from 16 per cent in 1987 to about 18 per cent over the next five years, reversing the earlier declining trend. The proportion of fourth order births followed a similar declining, then rising, trend. The decline in the number and proportions of third births since 1990 is interesting and deserves further monitoring, become a major aim of the new policy is to raise family sizes to at least three children (or more than three if the couple can afford them). Is this decline a temporary phenomenon or is it the beginning of a long-term trend towards smaller family sizes? If the latter is the case, then more study may be needed to identify the reasons couples continue to prefer smaller family sizes in spite of the incentives offered to larger families.

**Table 1: Live births by birth order, Singapore, 1980-1992**

Birth order	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
<b>Number</b>													
1st	17,968	18,599	19,105	18,255	18,071	18,638	17,336	17,586	20,522	19,465	20,235	19,623	20,300
2nd	13,999	14,431	14,593	14,078	15,171	15,498	13,406	16,441	19,495	16,631	18,232	17,578	17,300
3rd	6,236	6,305	6,228	5,757	5,877	5,900	5,443	6,966	9,806	8,845	9,624	8,938	8,840
4th	1,885	1,876	1,777	1,655	1,606	1,525	1,337	1,590	2,036	2,017	2,258	2,299	2,220
5th+	1,012	960	897	772	712	679	587	633	688	708	699	676	654
Total *	41,217	42,250	42,654	40,585	41,556	42,484	38,379	43,616	52,957	47,669	51,142	49,114	49,400
<b>Per cent</b>													
1st	43.6	44.0	44.8	45.0	43.5	43.9	45.2	40.3	38.8	40.8	39.6	40.0	41.1

2nd	34.0	34.2	34.2	34.7	36.5	36.5	34.9	37.7	36.8	34.9	35.6	35.8	35.2
3rd	15.1	14.9	14.6	14.2	14.1	13.9	14.2	16.0	18.5	18.6	18.8	18.2	17.9
4th	4.6	4.4	4.2	4.1	3.9	3.6	3.5	3.6	3.8	4.2	4.4	4.7	4.5
5th+	2.5	2.3	2.1	1.9	1.7	1.6	1.5	1.5	1.3	1.5	1.4	1.4	1.3
Total *	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

\* Note: The sum of the cells may not equal the total owing to unknown birth orders.

The increase in the number of total births in the latter part of the 1980s and early 1990s was not, however, entirely due to increases in the larger family sizes. The number of first births has risen as well, to about 20,000 per year from 1988, compared with 18,000 in the years preceding the introduction of the new population policy. Second births have also increased to 16,000-18,000 from 14,000-15,000 previously. As a proportion of total births, first and second births declined post-1987 owing to the more rapid increases in third and fourth births (table 1). In 1992, the proportion of first births was 41.3 per cent, up from 39.7 per cent in 1990.

The increase in the number of first and second births since 1987 may be attributed to the rising marriage trends in the latter part of the 1980s. The number of marriages registered annually rose from 23,100 in 1987 to 25,800 in 1992. More pertinently, the number of spinster brides, i.e. women marrying for the first time, rose from about 21,800 in 1987 to nearly 23,800 in 1992, probably because of the pro-marriage and pro-family environment created by the Governments marriage promotion efforts following the "Great Marriage Debate" started in 1983 by then Prime Minister Lee Kuan Yew. These newlywed women were likely to be giving birth to their first children during the later part of the 1980s and the early 1990s.

Figure 1 presents trends in the age-specific fertility rates (ASFRs) for resident Singapore women in the reproductive ages over the period 1987-1992. The ASFR is a measure of the number of children born per thousand women in that age group. While the appropriate base for study would have been all women of reproductive ages in Singapore, this information is not available as the Department of Statistics publishes estimates of only the resident (i.e. citizen and permanent resident) population. An indication of the trends can, however, be obtained by examining these data, assuming that the foreign population does not differ significantly from the resident population. Figure 1 shows that fertility levels have increased for all age groups from ages 25-29 onwards. On the other hand, fertility rates among the below-25 age groups have declined as Singapore women continued to delay marriage and child-bearing. The total fertility rate (TFR) rose from 1.62 children in 1987 to 1.96 in 1988 and 1.86 in 1990, but remained just below 1.8 since 1991.

## Figure 1: Age-specific fertility rates in Singapore

### Mothers' Education

In terms of maternal qualification, the number of babies born to mothers with secondary and higher education increased while the number born to less well-educated mothers declined compared with 1987. In 1992, the number of babies born to mothers with a secondary education nearly doubled to 19,745 from 10,178 in 1987. The number born to graduate mothers also increased by nearly the same proportion, from 2,107 to 3,904. Babies born to mothers with an upper secondary level of education increased nearly 70 per cent over the same period, from 3,817 to 6,440. On the other hand, the number of babies born to mothers with no qualifications or only primary-level qualifications declined by 22 per cent and 34 per cent, respectively, from 13,959 to 10,919 and from 12,760 to 8,376. As a result of these changes, the proportion of mothers with secondary and higher education has risen from 37 per cent in 1987 to nearly 61 per cent in 1992 (figure 2).

## Figure 2: Births to mothers in Singapore with secondary and higher educational qualifications

Since one of the specific aims of the new population policy is to promote larger family sizes among those who can afford them, it is important to look at maternal qualifications for the higher order births. As mentioned previously, education is being used here as a proxy measure of economic status. In this regard, it may be pointed out that, even as the proportions of third and higher order babies born to secondary and better-educated mothers have increased over the years, the better-educated women continue to be under-represented in these categories relative to all the women giving birth each year. Thus, while 61 per cent of the women giving birth in 1992 had secondary and higher qualifications, the proportion among third order births was 52 per cent and among fourth and higher order births, it was 36 per cent, respectively. A disproportionate percentage of the higher order births continue to be born to women with lower qualifications and who may not be able to afford them.

## Conclusions

At the press conference to announce the new population policy in 1987, the then First Deputy Prime Minister announced that if the "three or more" policy worked, Singaporeans would be replacing themselves by 1995. The Government was hoping that the quarter of a million women aged 25-34 would respond to the new policy and prevent the shrinking of the population and the prospect of having only two young people to support one elderly person in the year 2030. It was expected that, by returning fertility to the replacement level by 1995, the population would peak in 2030 and then stabilize. The Government also rejected reliance on immigration as a means to increase the size of the population.

At another forum to discuss the National Agenda, the then Trade and Industry Minister and Second Defense Minister, Brigadier-General Lee Hsien Loong (currently Deputy Prime Minister) addressed the ethnic differential in population growth trends and the Government's views on gender roles in Singapore. General Lee presented, in graphic form, a projection showing that the population would decline to half the mid-1980's level in the year 2100 if the TFR remained at the 1986 level of 1.44 children per woman, and that the decline would be most severe among Chinese women who averaged only 1.26 children that year. The Malay and Indian populations were expected to remain more or less constant. According to General Lee also, while the Government wanted more women in the work force, this must be balanced with their traditional role of having children and raising families, and attitudes towards marriage and child-bearing would have to be changed. He urged Singaporeans to "keep our institutions and traditional roles intact".

Based on the limited data examined in this article, the following conclusions may tentatively be drawn regarding the success of the "three or more" population policy. The new population policy succeeded in increasing the number of annual births. The relative proportions of third and fourth order births have also increased since 1987. Fertility in the age groups comprising women 25 years and older has increased and more of the better-educated women are also having three or more children. However, the increase in third order births seems to have stalled since 1990 and the better-educated women continue to be under-represented among the higher order births. Perhaps more significantly, the TFR appears to have stabilized at about 1.8 children per woman, and even under the especially favourable cultural circumstances that existed in 1988, the TFR remained below two children per woman.

The Government has taken further steps to help Singapore women combine their work and familial roles, as is evident in the recent increase in subsidy for children attending child-care centres. It has also widened the pool who stand to benefit from the tax rebates by extending to nine years the period over which the rebates can be claimed. Appendix II lists the most recent incentives to promote three or more children. The Government has also relaxed its immigration policy to attract talented and skilled workers from overseas.

The above conclusions on the success of the "three or more" policy are only tentative given the limited time-frame. More definitive conclusions will have to await the availability of more data in the future.

## Footnotes

1. This scheme gave priority in the registration for primary one classes to children of graduate mothers.
2. Income tax rates were lowered in 1994 following the introduction of the Goods and Services Tax.
3. Portion of compulsory old-age savings set aside for medical purposes.
4. Agencies set up by the Government to promote more social interaction among men and women with university and secondary qualifications, respectively.
5. The document on which this list is based covers only those policies to promote three or more children. Other related policies, though in effect, have not been included here.

## References

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## Appendix I: The push for more babies

- Tax incentives

No increase in child relief for first and second child but third child relief raised to S\$750 effective Fiscal Year 1988. Mother needs only three General Certificate of Education "O" level passes taken in one sitting, instead of five, to qualify for enhanced child relief. Fourth child also qualifies for enhanced child relief, which is S\$750 plus 15 per cent of mothers earned income up to a maximum of S\$10,000. Special tax rebate of S\$20,000 to be offset against either or both the husbands and wives income tax liabilities for newborn third child. Another rebate -- only for the working wife -- equal to 15 per cent of her earned income. Any excess of both rebates can be carried forward for up to four years.

- School registration

All disincentives against the third child will be removed. Children from three-child families will have the same priority as those from one and two-child families. Where there is competition for admission, priority will be given to children from three-child families.

- Child-care centres

The Government will pay a S\$100 subsidy on all children, regardless of parents income, in government-run or government-approved centres, including those privately operated.

- Medisave

Medisave3 can be used, with immediate effect, for the hospital costs of a third child, whether delivered in a government or private hospital. But no overdraft of Medisave account is allowed.

- Accouchement fees

No change in the fee for the first, second and third child. Fee for fourth child raised, from 1 January 1988, to S\$1,000 for all ward classes, and to S\$1,300 for fifth and other children. But delivery and hospital costs for fourth child, with a S\$3,000 maximum, can be offset against parents earned income.

- Housing allocation

Families in three-room or larger (public) flats who want to upgrade their flats on the birth of their third child will get priority allocation.

- o Employers attitudes to working mothers

Employers to be asked to be more understanding and flexible towards working mothers with young children. They should offer part-time and flexi-time work, extended no-pay maternity leave, and retrain women who rejoin the workforce. The civil service will lead the way.

- Abortion and sterilization counseling

There will be compulsory counseling before and after abortions to discourage abortions of convenience, and women with fewer than three children will be counselled before sterilization.

- Getting singles to mingle

The infrastructure of the Social Development Unit and the Social Development Section4 will be strengthened, and their activities and programmes widened.

Source: Business Times, 2 and 5 March 1987.

## **Appendix II: Social policies related to family formation (1995)5**

- Income tax relief

Normal child relief

S\$1,500 each for first three children and fourth child born after 1 January 1988.

Enhanced child relief

A working mother with at least three "O" level passes at one sitting or equivalent qualifications eligible for enhanced child relief of S\$1,500 and 5-15 per cent of her earned income if the children are above age 12, and 5-25 per cent if the children are below age 12. The maximum relief for each child in each age category is S\$10,000 and S\$15,000, respectively.

### **Special nine-year tax rebate**

Parents who have a second, third or fourth child qualify for special tax rebates which can be used to offset against either or both the parents income tax liabilities within nine years from the child's year of birth (the maximum period within which the rebates can be claimed is 27 years). Second child rebate varies from S\$20,000 if the mother's age at delivery is below 28 to S\$5,000 if the mother is

below 31. For a third child born on or after 1 August 1987 or a fourth child born on or after 1 January 1988, a rebate of S\$20,000 and 15 per cent of mothers earned income in the year of the birth in lieu of maternity leave (can be offset only against mothers income tax liabilities).

- Child-care subsidy

With effect from 1 April 1995, a monthly subsidy of S\$150 per child is granted to the first four children attending approved child-care centres for full-day care and S\$75 per child for half-day care.

- Public housing scheme

Priority in housing allocation given to families having three or more children with the third child born on or after 1 January 1987 if they are existing public flat owners who want to upgrade to bigger flats, or tenants of rental public flats, or occupiers of purchased or rental public flats who want to purchase public flats, or residents of non-public premises/properties who want to purchase public flats.

- Medical fees

Medisave can be used for the hospital and delivery charges incurred for the first, second and third children. The delivery and hospital expenses for the fourth child, subject to a maximum of S\$3,000 are tax deductible against the parents earned income.

Source: Pamphlet produced by the Family Life Education Co-ordinating Unit, Training and Health Education Department, Ministry of Health, 1995.