

Economic Reforms and Family Planning in China: The One-Child Policy in Rural Guangdong, 1979-1990

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Abstract

The last two censuses of China have shown that fertility in the province of Guangdong had declined less precipitously than in the rest of China. The observation made here is that the relatively moderate decline in the province's fertility appears to be due to a relaxed implementation of the official one-child policy in some rural areas of China, including rural Guangdong. The liberal population policy in rural Guangdong has been consistent with a similarly relaxed economic policies of the national government towards selected regions within the province. Indeed, implementation of the official population policy throughout the province's rural counties has been inconsistent. While most of the province's rural counties experienced fertility decline between the two census years, the drop in fertility was stronger in *Mountain* counties than elsewhere in rural counties within the province. This observation suggests that, within rural Guangdong, population policy had a stronger impact on fertility decline in the economically disadvantaged *Mountain* counties than in its more developed areas such as the *Delta* counties of the Han and Pearl Rivers.

Résumé

D'après les deux derniers recensements effectués en Chine, la baisse de fécondité est moins marquée dans la province de Guangdong que dans le reste du pays. Ce déclin relativement modéré serait attribuable à une application moins rigide du programme de l'enfant unique dans certaines régions rurales, dont Guangdong. La libéralisation de la politique démographique est à rapprocher de l'assouplissement des politiques économiques officielles dans certains comtés ruraux de la province. En fait, l'application de la politique démographique officielle dans les comtés ruraux de la province est inégale. Bien que la plupart des comtés aient enregistré une baisse de fécondité d'un recensement à l'autre, la baisse est plus accentuée dans les régions montagneuses. Cette observation suggère que, au sein des régions rurales de Guangdong, la politique démographique a eu une incidence plus forte sur la baisse de fécondité dans les comtés des régions montagneuses désavantagées que dans les régions plus développées tels les comtés du Delta des fleuves Han et Pearl.

Key words: China, fertility, Guangdong, population policy

Introduction

The one-child policy, a controversial government control program, introduced by the People's Republic of China (PRC) some 20 years ago, has been credited with the considerable decline in fertility throughout PRC over this period (Wolf, 1986). The policy has been pursued with varying intensity throughout the country, however, and opinions have been divided as to its impact on fertility decline.

Thus, it is well-known that implementation of the one-child policy in *cities* throughout China has been met with a high degree of success (Freedman, *et al.* 1988: 40). As a corollary, Wolf (1986) has represented the contention that the one-child policy alone had been the overwhelming determinant of fertility decline in PRC. The approach advanced by Tien (1984), on the other hand, represents the notion that the apparent effectiveness of the one-child policy has been, in fact, facilitated by socio-economic development. To the detriment of either approach, however, investigations of China's population policy, and the analysis of fertility in particular, have been conducted at the national or provincial levels only, and no attempt has been made to facilitate such investigations throughout smaller geographical areas. In particular, examination of fertility in China, so far, has not been done within the context of small rural areas such as counties or other sub-provincial regions. Notwithstanding the human and ethical ramifications of the one-child policy itself, it is evident that

strictly demographic aspects of the policy have not been examined in a sufficient geographical detail. Furthermore, although there has been a virtually universal consensus that the policy has succeeded in its undertaking, setting aside the dubious moral stature it accords the Chinese government, most studies of the one-child policy have not distinguished between cities and rural areas when assessing its impact. Our results indicate that the demographic impact of the one-child policy is much too complex to lend itself to an unambiguous assertion of success or failure. The more likely interpretation of our findings points to economic liberalization as contesting, in its demographic impact, the explicit population policy of enforcement.

In this study we examine the effect of socio-economic determinants and population policy on fertility decline throughout rural regions of one of China's key provinces, Guangdong. From the perspective of fertility determinants at the sub-provincial level in PRC, Guangdong is of particular interest. As a beneficiary of liberal economic policies Guangdong has witnessed impressive development not only in its economy, but also in education (Peterson, 1994; *The Economist*, 1991) and other aspects of social conditions that have impact on fertility decline (Guangdong, 1991a). Along with other Chinese provinces, Guangdong has been subject to the central government's one-child policy since the late 1970's. With the exception of cities where the policy has been uniformly enforced, population policy and economic reforms, however, have not been evenly applied throughout this province.

The national censuses of 1982 and 1990 offer an opportunity to examine fertility in rural Guangdong against both social and economic indicators. Our results for rural Guangdong will show that demographic and socio-economic determinants explain about 59 percent of fertility decline between 1982 and 1990; the same determinants along with the consideration of population policy explain 63 percent of fertility decline in rural Guangdong over the same period. In selected rural regions of the province, however, the impact of population policy on fertility decline is demonstrated to be even stronger. The observations made here will demonstrate that, in fact, the impact of China's population policy has varied throughout rural Guangdong. Population policy, it will be shown here, played a strong role in fertility decline throughout the underdeveloped regions of rural Guangdong, but a lesser role in the more developed rural areas of the province.

The one-child policy must be considered within the historical context of past population control programs in PRC. Population policy in China has evolved from ineffectual propaganda attempts in the 1950's and 1960's, to a more forceful policy in the early 1970's, prompting later marriages, longer intervals between births, and fewer children. The one-child policy was introduced in 1979 in order to decelerate population growth so as to quadruple per capita GNP by the end of the century (Peng, 1991: 24). The introduction of the one-child policy has occurred almost simultaneously with the economic reforms in China. While the one-child policy was initially introduced uniformly (and only with a few exceptions) throughout China, economic reforms have been carried out selectively in specifically targeted regions. In time, economic reforms have spread throughout wider areas, and similarly, starting in 1984 the

implementation of the one-child policy has been moderated in selected regions within some provinces.

In Guangdong, the regions initially targeted for economic reforms were counties and cities in the main river deltas of the province. On the other hand, relaxation of the one-child policy had been gradually attained in rural counties throughout Guangdong, but not in its cities. It is within this context of earlier population policies and the concurrent economic reforms that we examine the impact of socio-economic determinants and the one-child policy on fertility decline throughout the province of Guangdong.

Guangdong and the Geopolitical Context of Its Rural Reforms

Guangdong, located on the south coast of China, is the southernmost mainland province of PRC. The province is bounded on the east by Fujian province and on the west by the Guangxi Zhuang autonomous region. To the north and northeast it is bordered by the provinces of Hunan and Jiangxi, respectively. On the province's south coast, the former British colony of Hong Kong and the Portuguese colony of Macao are situated east and west of the mouth of the Pearl River, respectively. The island province of Hainan, the second largest island of PRC and part of Guangdong until 1988, lies to the south of the province in the South China Sea.

According to the 1990 census the province of Guangdong had 62.8 million population, representing 5.5 percent of the national total. Compared with its population of 53.6 million in 1982, the 1990 population marked a 17.2 percent increase, or an average annual growth rate of just under 2 percent. During the intercensal period 1982-1990, the province's population density per square kilometre increased from 301 to 353 persons. In 1990, about 37 percent of Guangdong's population resided in towns and cities, as opposed to 18.6 percent in 1982 (China, 1991: 4-5, 32).

Guangdong in China's Geopolitical Context

In the late 1970's economic reforms were introduced throughout China, and the so-called open door policy was instituted in select regions to attract foreign investment and technology. Guangdong and Fujian were the first two provinces to become the test ground for the open door policy and, in fact, the reforms in Guangdong became more far-reaching than in any other province in China (Maruya, 1994: 53-74).

With economic reforms and the open door policy implemented across the province, the past decade, particularly, has witnessed fast economic growth in Guangdong. This is understandable considering that the Portuguese colony of Macao is just across the border from the city of Zhuhai, whereas Hong Kong is in the immediate vicinity of the city of Shenzhen, on close approach of about

130 kilometres to the Guangdong capital of Guangzhou (Canton). Hong Kong, a past colony of the United Kingdom, was handed over to Chinese sovereign rule on July 1 1997, whereas Macao will revert to China in 1999.

Due to its proximity to Hong Kong and Macao, since the 1980's the central government had considered the province as the principal area for economic reforms and market liberalization. Considering also the recent transfer of Hong Kong, and the imminent transfer of Macao, to Chinese rule, assigning such significance to the province is not surprising. In 1991, for example, some two million workers in Guangdong were employed in Hong-Kong-owned businesses (The *Economist*, 1991: 19-22).

The regional units of analysis in studies of Guangdong have been usually the administrative areas within the province - counties and cities (e.g., Luk, 1991: 151-169). In 1982 Guangdong comprised 80 counties and 13 cities (Figure 1), while in 1990 there were 76 counties and 19 cities in the province, including 6 counties that became cities (Guangdong, 1992: 1924).

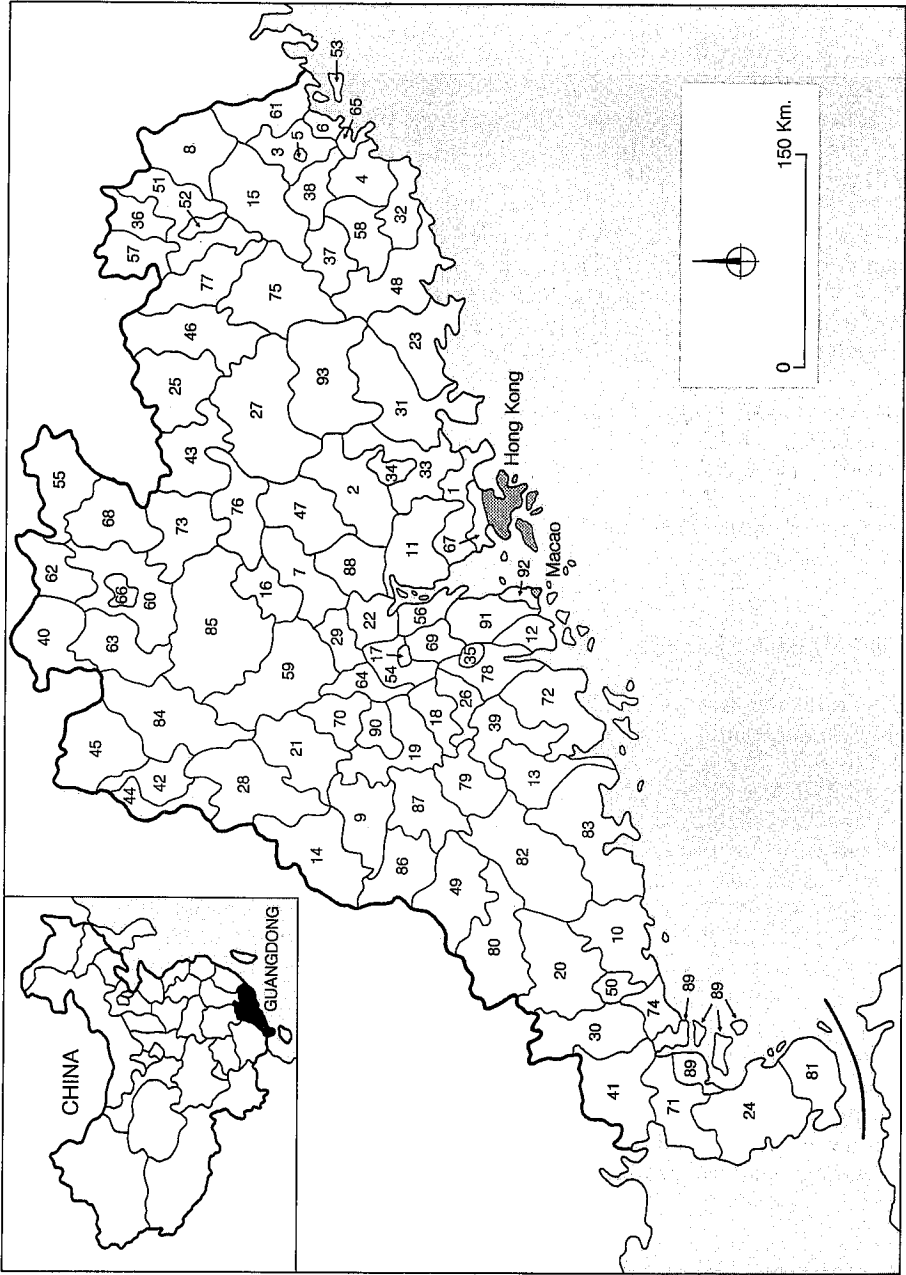
Based on the censuses of China in 1982 (China, 1987) and in 1990 (Guangdong, 1992: 44-54), the population in counties ranged from less than 60,000 and 66,000 in Nan'ao County (in 1982 and 1990, respectively) to 1.7 million and 2 million in Chaoyang County (in 1982 and 1990, respectively). Population of the cities ranged from just over 100,000 and 234,000 in Meizhou to 3.1 million and 3.9 million in Guangzhou (in 1982 and 1990, respectively).

China's Rural Reforms in Guangdong

The rural reforms, as part of the broad economic reforms of the late 1970's, followed the political upheaval of the Cultural Revolution throughout the period 1966-1976. During the 1950's and the Cultural Revolution, collectivization was forcibly induced throughout rural China, Guangdong included. The traditional village structure of rural communities across China, however, constituted an affront to the collectivist policies of the central government by stressing the family as the agricultural production unit. It was precisely due to this threat that the government's Marxist policies of the 1950's and of the Cultural Revolution attempted to eliminate the family as the primary institution of China's social structure. But it was also due to the strong attachment to the traditional village structure, compounded by the high proportion of village populations throughout PRC, that the indigenous family and village structure eventually reemerged in spite of central government control (Potter and Potter, 1990: 251-253).

Localized lineage throughout rural China, and particularly in southern China, has been the backbone of the traditional village structure. Early studies had suggested that localized lineage organization in rural Guangdong (as well as in

Figure 1. Administrative Division of Guangdong into Counties and Cities, China: 1982



Drawn by: Keith Bigelow, Dept. of Geography, University of Saskatchewan

the neighboring Fujian province) has been stronger than in the rest of China (Goode, 1970: 297; Freedman, 1956: 1-10). The geographical manifestation of the lineage organization is in what Freedman (1966: 17) calls, single-surname and multi-surname villages, in reference to rural settlements of about 240 persons (Freedman, 1958: 6) where strong historical family ties exist.

The main reason behind past government attempts to eliminate these indigenous structures was the belief that lineage loyalties will prevent the government from carrying out its socialist policy programs (Parish and Whyte, 1978: 28). The reforms had reversed the course of socialist collectivization programs in favour of market-oriented economic policies, thus yielding to the enduring attachment to indigenous social structures in rural China.

With the launching of China's economic reforms in the late 1970's, government control in cities as well as in rural areas was relaxed. By 1983 the reforms have succeeded to restore the family as the agricultural production unit (Lin, 1988: S201). In rural Guangdong, implementation of the reforms - under a program known as the Household Responsibility System (*bao chai dao hu*) - was similar to the rest of China. The scheme dismantled farming collectives and rural communes, allowing for plots of land to be leased to families. Peasants were obliged to fulfil a quota of produce for the state, and once achieved, they could sell their remaining produce either on the free market, or to the government at a negotiated price. The reforms encompassed not only arable land adjacent to villages, but also other village resources, such as fishing ponds, plantations, poultry-coops, and animals (Lin, 1992: 88-89).

The per capita GDP in Guangdong did not reach the national average until 1978, but by 1991 it surpassed China's average by 64 percent (Maruya, 1994: 58). Except for the three *Greater Metropolitan Centres* of Beijing, Tianjin and Shanghai, Guangdong ranked the second highest in terms of per capita GNP in 1990, amounting to \$484 against \$350 for China as a whole. It is worth noting that only Guangdong, together with the province of Liaoning, were within the reach of \$500 per capita GNP set by the World Bank as a threshold between low-income and middle-income categories (Yabuki, 1995: 85).

Population Policy and Fertility in Guangdong: 1950-1990

China's population between 1953 and 1990 had increased from 574.2 million to 1,133.7 million, an average annual increase of 1.86 percent. Guangdong's population during the same period had increased from 29.8 million to 62.8 million, or 2.04 percent average annual increase (China, 1991: 2, 1990: 617, 1985: 536). Initially, the central government followed the orthodox Marxist view that population growth is beneficial to a socialist society. Following the results of the 1953 census, however, the government became alarmed by rapid population increase, and began contemplating population control policies.

China's population control programs, since the 1950's, have had varying impact on population growth in Guangdong. But at least some of China's family planning programs have made a definite contribution to fertility decline throughout China, Guangdong included, resulting in a much needed deceleration of population growth beginning with the early 1970's.

Since the 1950's, there have been four national family planning programs. The four programs were conducted throughout all the provinces universally, exempting ethnic minorities only. The first two programs, commencing in the mid 1950's and in the 1960's, yielded very little success (Qian, 1984), whereas the third campaign, introduced in the early 1970's, was relatively more effective. Finally, based on economic development plans, the one-child policy was introduced in 1979, aimed at the lowering of population growth rate. In order to quadruple per capita GNP by the year 2000, the government had explicitly set a target of 1.2 billion population by the year 2000.

China's Early Birth Control Campaigns in Guangdong

The first population control program followed the findings of the 1953 census that showed China's total population at about 570 million with an annual growth rate of over 2 percent (China, 1985). Alarmed by the census results, the Chinese government began the first population program in 1956, promoting birth control in the name of maternal and infant health (Tien *et al.*, 1992). No specific measures were taken, however, and the program came to be short-lived (Qian, 1984). During the period 1958-1961, unrealistic government attempts were made to accelerate economic development under the label "Great Leap Forward" (*dai yue jin*). This was accompanied by severe political and economic turmoil throughout China, manifested also by the gradual abandonment of the first population control program (Cho, 1984: 113). The "Great Leap Forward" tragically resulted and ended with a widespread famine (*sannian kunnan shiqi*), leading also to the eventual collapse of the birth control program.

The famine brought the Chinese government to realize that radical policies were yielding results that were just the opposite to the proclaimed goals of the "Great Leap Forward." Following the demise of the "Great Leap Forward" in 1961, a second population control campaign was launched in 1963. The second campaign was coordinated by the Family Planning Office of PRC, set up in Beijing in 1964, and it focused mainly on urban areas throughout China (Qian, 1984). The second campaign was abandoned in 1966 with the onset of another political turmoil, the Cultural Revolution.

The ineffectiveness of the first campaign has been attributed to its nature as a mere propaganda based gambit (Chen and Kols, 1982: J579-581). In contrast, the second campaign brought about some impact on decline in urban fertility throughout China (Cho, 1984: 114). Had it not been for the ferocity of the Cultural Revolution, the second campaign might have impacted the reduction of fertility in China even more. In contradistinction with population control policies that were to follow, both campaigns, however, were supported by a

weak birth control education system (Cho, 1984: 112), and both lacked enforcement.

With the weakening of the Cultural Revolution, a third birth control campaign, called "Later, Longer, and Fewer" (*Wan Xi Shao*), commenced in 1971. The Cultural Revolution that came to an abrupt end in 1976, with the death of Chairman Mao Ze Dong, whereas *Wan Xi Shao* lasted till 1979 (Chen, 1984). Contrasted with the previous two population programs, the *Wan Xi Shao* campaign had clear objectives, and applied concrete enforcement in both rural and urban areas. This was reflected in policies regarding age at marriage and the spacing of births emphasising late marriage, longer interval between births and fewer number of births. Women were not permitted to marry until age 23 in rural areas, and until age 25 in urban areas, and under various threats, four-year intervals between births were required. By withholding medical care from children born beyond allowed limit, urban residents were permitted two children only, while peasants who bore more than three children were subject to psychological pressure to sterilise (Chen and Kols, 1982).

In spite of the lack of clear population control policy by the central government in Beijing, Guangdong's provincial health department commenced the distribution of contraceptives and sanctioned abortion already in the 1950's. This occurred in urban areas only, and primarily for the sake of maternal and child health rather than birth control. In later years Guangdong followed the rest of China in implementing population control policies of the central government.

During the 1960's family planning policies of the Guangdong government focused on urban areas. In 1964, based on decrees from the central government, the province of Guangdong began a campaign of birth control in cities. The policy, fostered by a propaganda campaign for no more than three children, involved provision of free abortion or sterilization, on the one hand, and a partial restriction on free medication for children beyond the set limit of three, on the other hand (Zhu *et al.*, 1988: 402).

In the 1970's the population control campaign in Guangdong became more ferocious, along with a similar trend in the rest of China. The apex years of *Wan Xi Shao* in the province extended from 1974 to 1977. Both urban and rural couples were prompted to adhere to four-year intervals between births, and late marriage regulations identical to the rest of the country were applied to both urban and rural areas.

The Evolution of Family Planning in Guangdong, 1980-1990

In the late 1970's the Chinese government recognized that *Wan Xi Shao* policy measures were insufficient in reducing China's population growth. Furthermore, due to the fact that largest female cohorts since 1950 had been born between the 1960's and the early 1970's, the demographic concern of the government was that as these cohorts were approaching their peak childbearing age in the course

of the 1980's and 1990's, significant increase in the number of births was expected to occur (Zhu *et al.*, 1988; Tien 1989: 8).

It is within this context that the one-child-per-couple policy was introduced in 1979. Within a broader context, the one-child policy addressed the need to reduce the rate of population growth so as to increase per capita GNP from \$250 in 1979 to \$1,000 by the year 2000 (Peng, 1991: 24), and to alleviate pressure on housing and infrastructure (Qu and Li, 1994: 50, 175). In 1983, China's government articulated the one-child policy as an extension of *Wan Xi Shao*, with a clear stipulation requiring all couples, barring a few exceptions, to have only one child. Consistent with earlier policies, as well, the newly introduced campaign exempted ethnic minorities (Qian, 1984: 19) estimated at only about 6 percent of China's total population (China, 1985: 18, 536, 543).

As early as the following year the one-child policy was relaxed for indigenous Chinese populations in several rural regions. This was mainly due to the strong son-preference of Chinese peasants who stubbornly resisted population control, leading to the abandonment of the official one-child policy in some rural areas in 1984 and allowing a second birth to families with only a daughter (Greenhalgh, 1986). With the relaxation of the one-child policy in 1984, the central government had also recognized that the goal of 1.2 billion by the year 2000 was unrealistic, effectively loosening the target to 1.25 billion by 2000. Since 1989, a policy allowing two children per couple in rural areas of some provinces has been, in fact, carried out (Zeng, 1989).

In Guangdong, at the outset, the one-child policy was followed in its general tenets. In 1980, following national guidelines, Guangdong province formulated family planning regulations the purpose of which was to enforce the one-child policy in cities by specifying rewards and penalties (Tien, 1991: 273-282). In rural areas of Guangdong, peasant families considered hardship cases, who requested so, were permitted to have a second child upon approval. The bearing of a third child was officially prohibited under all circumstances (Zhu, *et al.*, 1988: 409), and violators faced fines (Potter and Potter, 1990: 237-250). Correspondingly, the provincial government commenced distribution of intra-uterine devices for couples with one child, it launched a campaign for abortion in unplanned pregnancies, and at least officially, promoted sterilization for couples with two (or more) children (Population Council, 1983: 560-561). Gradually, with the relaxation of the policy throughout China, Guangdong too loosened the birth control rules.

Compared with other provinces, Guangdong enjoyed considerable measure of autonomy in implementation of the one-child policy even at its harshest initial stages, leaving the execution of the policy to the discretion of local officials (Potter and Potter, 1990: 225-250). In 1982, three years into the one-child policy, Guangdong's government allowed for a second birth under any one of six conditions (Zhu, *et al.*, 1988: 409). Additional two conditions were introduced in 1984-85 to exempt couples from one-child policy decrees (Peng, 1991: 48).

The conditions were applicable for rural couples, with conditions (1), (2) and (7), listed in the following, applicable to urban couples as well:

1. A couple's only child suffers from a non-hereditary disease or disability.
2. At least one spouse has never had children.
3. A couple resides in a mountain area.
4. The husband is an off-shore fisherman.
5. The husband has been working as a miner continuously for the past five years.
6. First birth has been a female and couple experiences difficulties in farming work.
7. Infertile couple who has adopted a child, and subsequently succeeded to conceive.
8. The wife married uxorilocally, provided that she has no brothers.

After 1984, with the relaxation of the one-child policy, the categories of couples who qualified for a second birth were broadened even further in rural Guangdong. By 1989, all rural couples in the province were allowed two children, under certain provisions for spacing between births, regardless of the sex of the first offspring (Zeng, 1989). This is noteworthy, since by the end of the 1980's, the tolerance of the central government for autonomous population policy-making has been enjoyed only by three other provinces: Yunnan and Qinghai, two exceptionally undeveloped provinces (Prime, 1991: 16-17), and Hainan Island, the former part of Guangdong that became a province in 1988 (Zeng, 1989).

Population Control and Fertility Trends in Guangdong, 1950-1990

The changing attitude of the central government towards its own official population policy brings to the forefront the question to what extent has policy, as opposed to socio-economic indicators, determined fertility in PRC. For Guangdong, this question is illustrated by the juxtaposition of the province's fertility measures over the period 1950-1990 against the four population policy programs.

The measure used here in examining this question is the total fertility rate (*TFR*), *i.e.* the expected number of live births to a woman during her fertile cycle. The use of *TFR* here is consistent with the argument that *TFR* is the most

suitable fertility indicator for developing countries (Newell, 1988: 41-42). *TFR* for Guangdong, and for China as a whole, over the period 1950-1982, has been estimated by Coale and Chen (1987), based upon the One-Per-Thousand Fertility Survey conducted in September 1982 (Yu and Xiao, 1983). From 1983 onwards, unfortunately, the sole fertility data available for Guangdong has been the annual crude birth rate (CBR) (China, 1990).

CBR, the average number of births per thousand population, is the most commonly available fertility measure, but often the only one in third world countries. Recently, however, an approximation of *TFR* based on CBR and on the ratio of total population to the number of fertile women has been suggested by Smith. Based on this approximation the estimation of *TFR* has been proposed as:

$$TFR = 30 \times g \times CBR$$

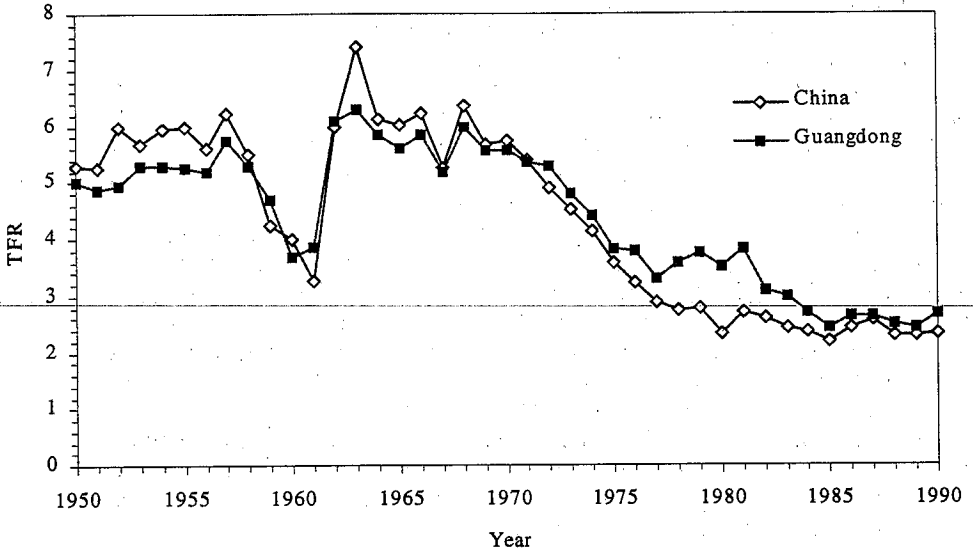
where *g* is the ratio of total population to the number of women in fertile ages (Smith, 1992: 228).

Figure 2 shows comparison between *TFR* for Guangdong and for China, as a whole, using the Coale-Chen estimates for 1950-1982, as well as *TFR* estimates based on the Smith approximation, for 1983-1990.

Figure 2 shows that *TFR* in Guangdong prior to 1971 was in the range of 5.3 to 6.3, and no decline in fertility was observed. Compared with the fertility pattern for the whole of China, *TFR* in the province was consistently lower prior to 1971, with the only exception of the famine period of the "Great Leap Forward," 1958-1961. In fact, the relatively higher fertility in the province that persisted during the famine period, implies less severe consequences of the "Great Leap Forward" in the province than in the rest of China.

After 1971, with the commencement of *Wan Xi Shao*, fertility decline occurred both in Guangdong and in the rest of China. *TFR* for Guangdong dropped from 5.4 in 1971 to 2.7 in 1990, but the national fertility declined even more, dropping from 5.4 in 1971 to 2.3 in 1990. The most significant decline in the province's fertility occurred briefly from 1973 to 1977, while the most significant period of fertility decline for the whole of China occurred over the significantly longer period, 1970 - 1980. This may imply that the implementation of the *Wan Xi Shao* policy in Guangdong was less fierce than in the rest of PRC, or that socio-economic conditions were less conducive to fertility decline in Guangdong than in the rest of China. A corroboration of this suggestion can be seen also in the conspicuous disparity in fertility decline between PRC and Guangdong, during the period 1978 - 1983, an interval partially covering the *Wan Xi Shao* and the one-child policy periods.

Figure 2.
Total fertility rates, Guangdong and China: 1950-1990



Sources: Coale and Chen, 1987; China, 1990; People's Daily, 1991.

Fertility Patterns and the One-Child Policy: Rural Guangdong

The widespread acceptance of the one-child policy in cities throughout China has been acknowledged for some time (Freedman, *et al.*, 1988: 40; Banister, 1987: 187-189). However, the question of population policy efficiency in rural regions of China, either in the way of enforcement or acceptance, is less resolute. In Guangdong too the triumph of the one-child policy in cities has been a matter of record (Zhu, *et al.*, 1988: 411-415), whereas the question of policy impact in rural counties remains to be examined.

Guangdong's rural population in 1982 accounted for 81.4 percent of the province's total (China, 1985: 26-27), and although significantly less in 1990, rural population still constituted 63.2 percent of the total population of the province (China, 1991: 32). Inspection of data for Guangdong's rural counties during the two censuses 1982 and 1990, helps to shed light on the extent to which socio-economic determinants on the one hand, and population policy on the other hand, can be credited with fertility decline in the province. Instrumental in this regard is the fact that the province shows considerable disparity in TFR by sub-provincial regions (Akkerman and He, 1998). The

place-specific disparity in *TFR* appears to be linked both to socio-economic determinants and to the intensity of enforcement (or acceptance) of population policy in each sub-provincial region.

The question of the one-child policy impact in rural areas of Guangdong might be further aggravated by the fact that the censuses of 1982 and 1990, both well within the period of the one-child policy, involved a concern with respect to the accuracy of fertility data in rural areas of PRC. It has been claimed that underreporting of births, in particular female births, has frequently occurred to resist the one-child policy in rural China (Zeng *et al.*, 1993), and the 1990 census of Guangdong, for example, revealed that between 1982 and 1990 the underreporting of newborns amounted to 180,000 each year (Guangdong, 1991b: 97). Other studies, however, have pointed out that in both censuses the occurrence of underreporting has been eliminated by strict confidentiality in enumeration (Guangdong, 1991b; Coale, 1984). For the sake of simplicity, in the following the latter opinion is adopted and the assumption is made that data are of plausible accuracy. In order to facilitate an empirical insight into the impact of fertility determinants throughout the province, *TFR* data estimated by the Smith approximation (Smith, 1992: 228) as given in Table 1, are juxtaposed against population policy proxy-indices and socio-economic indicators, for each rural county of Guangdong. For comparison purposes, the 1990 administrative division of Guangdong was adjusted here to the boundaries of counties and cities as of 1982 (Figure 1).

Socio-Economic Variables and Population Policy Proxies

Our investigation is county-level examination of fertility rates as they relate to the one-child policy within the context of socio-economic development. Consistent with past research, socio-economic development is represented in the present study by non-agricultural employment and female illiteracy. The use of non-agricultural employment as a socio-economic indicator follows the study of Poston and Gu (1987: 541) who showed that, at China's province level, percentage employed females in non-agriculture was negatively related to fertility. Here, too, non-agricultural employment is assumed to be a leading determinant, but for lack of more detailed data non-agricultural employment ratio, *NAE*, is used here.

Expressed as a proportion of persons (male and female) who engaged in work in the industrial and service sectors, to the total employed population, *NAE* covers industry, utilities, services and construction and other sectors. The industrial sector includes manufacturing, mining and lumbering; utilities include production and supply of electricity, gas, and piped water, transport, postal services and communications; the service sector includes geological prospecting and surveying; other than construction, included also is commerce, catering, supply and marketing of commodities, and storage, management of residential buildings and public utilities, residential services, finance and insurance, government, party, and popular organizations. The employed population in the 1982 and 1990 censuses refers to the number of persons aged 15 and over who

engaged in labour for pay or who earned their own income by running businesses (Guangdong, 1992: 1920-1921; China, 1987: xxi).

Female illiteracy ratio (*FIR*) is accepted as positively related to fertility, since schooling for females has been observed to have effect on reduction of fertility in developing countries (Singh and Casterline, 1985). For 1982, *FIR* referred to the percentage of "the illiterate and semi-literate [females] aged 12 and above who cannot read or can read only very little" (China, 1987: 86). For 1990, *FIR* referred to the percentage of the illiterate and the semi-literate among the female population aged 15 and above (Guangdong, 1992: 1919). Considering that birth by a girl prior to the age 15 has been both illegal and unlikely in PRC during the 1980's, the three-year difference in *FIR* definition is presumed here to have virtually no effect on fertility.

Observation of the censuses of PRC in Table 1 points to certain time discrepancy between socio-economic statistics and fertility data. While statistics available for the two socio-economic indicators refer to the exact census years (1982 and 1990), *TFR* data for Guangdong counties are for 1981 and 1989, typically one year prior to the two respective censuses. Thus, socioeconomic variables for a given census year are linked with *TFR* data of the preceding year. The effect of this mismatch, however, is relatively small since neither *TFR* nor socio-economic variables tend to vary greatly over the span of only one year (Guangdong, 1991a, 1990).

The two socio-economic variables for 1982 and for 1990, along with estimated *TFR* values, and the locational identification are shown in Table 1 for the 13 cities and the 80 counties of Guangdong. Data presented in Table 1 clearly support past evidence (Freedman *et al.*, 1988: 40) that in cities there has been an overwhelming adherence to the one-child policy. Accordingly, in our analysis the 13 cities are excluded from further analysis, and only the 80 Guangdong counties are considered.

In addition to the two socio-economic indices, two dummy variables are introduced based upon the locational identification of each county. For each county throughout Guangdong the two dummy variables are established as: (1) Variable *M* attaining either the value 1 or 0, depending on whether a county is Mountain County or Non-Mountain County; (2) Variable *D* attaining either the value 1 or 0, depending on whether a county is a Delta County or a Non-Delta County. By default, a county that is neither in the mountains nor within the two deltas is represented by $M = 0$ and $D = 0$.

The two dummy variables are conjectured here to act as locational proxies to the one-child policy. This conjecture is founded on the premise of past research, reiterated previously, that two categories of determinants are related to the explanation of fertility and its decline in China: Socio-economic factors and birth control policies. The choice of the two dummy variables is based upon the linkage between regional development in each of the province's counties and three mutually-exclusive locational categories attributed to each county: *River Delta Regions*, *Mountain Regions*, and *Other Regions* (Luk, 1991: 151-169;

Table 1. Guangdong counties and cities by locational identification, total fertility rates for 1981 and 1989, non-agricultural employment and female illiteracy rates for 1982 and 1990

Name	Location	TFR ₁₉₈₁	NAE ₁₉₈₂	FIR ₁₉₈₂	TFR ₁₉₈₉	NAE ₁₉₉₀	FIR ₁₉₉₀
1 Bao'an	Delta	3.66	22.2	31.7	0.91	83.9	9.5
2 Boluo	Other	3.98	14.8	33.7	2.69	27.5	24.4
3 Chao'an	Delta	2.50	47.7	36.8	2.60	59.8	25.5
4 Chaoyang	Other	3.68	31.0	44.9	3.08	28.0	21.0
5 Chaozhou*	Delta	2.50	91.4	20.5	2.61	59.8	25.5
6 Chenghai	Delta	3.13	31.7	39.7	2.99	61.7	29.5
7 Conghua	Mountain	4.54	18.3	26.9	3.10	24.2	22.7
8 Dabu	Mountain	4.19	21.4	32.3	3.34	28.3	25.3
9 Deqing	Mountain	3.08	17.3	35.2	2.85	18.6	25.7
10 Dianbai	Other	4.88	13.8	58.1	4.11	16.0	37.5
11 Dongguan	Delta	2.93	32.1	29.2	1.65	70.8	15.0
12 Doumen	Delta	2.98	25.8	35.0	2.75	41.1	25.7
13 Enping	Delta	3.06	21.3	29.4	2.85	29.1	23.3
14 Fengkai	Mountain	3.02	13.4	35.2	2.94	15.7	27.8
15 Fengshun	Mountain	5.20	14.5	30.8	3.42	18.2	21.5
16 Fogang	Mountain	4.01	12.9	29.9	3.54	18.8	26.7
17 Foshan*	Delta	1.58	88.2	21.7	1.42	95.2	14.0
18 Gaoming	Delta	3.12	14.7	29.1	2.41	36.0	21.2
19 Gaoyao	Other	2.92	18.2	38.2	2.85	18.9	30.7
20 Gaozhou	Mountain	3.58	8.5	40.6	3.76	14.3	30.4
21 Guangning	Mountain	3.94	14.9	30.3	2.96	24.6	28.1
22 Guangzhou*	Delta	1.60	83.0	16.5	1.63	86.4	12.5
23 Haifeng	Other	5.15	23.2	60.7	3.63	41.7	35.8
24 Haikang	Other	4.18	10.5	58.8	3.82	16.8	26.4
25 Heping	Mountain	5.05	9.1	36.5	3.57	13.2	26.3
26 Heshan	Delta	2.61	16.9	27.3	2.13	30.0	20.4
27 Heyuan	Mountain	3.94	13.9	36.3	3.32	25.2	27.6
28 Huaiji	Mountain	4.66	11.4	43.4	3.74	13.6	30.6
29 Huaxian	Other	3.62	37.7	26.9	2.86	44.5	21.2
30 Huazhou	Other	4.17	10.4	36.6	4.14	16.1	24.1
31 Huidong	Mountain	4.32	19.6	46.4	3.32	35.2	31.6
32 Huilai	Other	4.77	16.8	81.4	3.36	27.2	51.0
33 Huiyang	Other	4.25	12.4	34.6	2.91	34.7	23.9
34 Huizhou*	Other	2.33	65.9	23.8	1.70	82.2	14.3
35 Jiangmen*	Delta	1.65	75.9	20.4	1.58	88.9	15.2
36 Jiaoling	Mountain	3.69	25.7	29.3	2.76	28.8	24.4
37 Jiexi	Mountain	4.10	17.1	28.8	3.11	22.2	20.9
38 Jieyang	Delta	2.95	36.9	25.3	2.97	49.5	14.4
39 Kaiping	Delta	2.43	23.2	25.2	2.37	34.5	21.6
40 Lechang	Mountain	3.42	37.8	41.9	2.63	38.2	31.9
41 Lianjiang	Other	4.33	12.3	33.0	3.89	17.0	27.7
42 Liannan	Mountain	4.53	20.5	40.5	2.96	21.7	26.5
43 Lianping	Mountain	4.66	11.9	40.9	2.98	17.7	33.2
44 Lianshan	Mountain	3.84	17.9	37.1	3.57	20.4	24.2
45 Lianxian	Mountain	3.49	18.7	31.0	3.31	17.9	25.9
46 Longchuan	Mountain	5.27	10.6	29.3	3.48	14.3	23.5
47 Longmen	Mountain	4.21	18.9	32.0	3.36	23.1	27.2
48 Lufeng	Other	4.71	22.3	76.2	4.10	27.8	64.7
49 Luoding	Mountain	4.19	14.8	28.4	3.51	17.0	24.9
50 Maoming*	Other	3.37	34.4	33.6	3.04	45.1	20.8

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Table 1. Guangdong counties and cities by locational identification, total fertility rates for 1981 and 1989, non-agricultural employment and female illiteracy rates for 1982 and 1990 (Continued)

Name	Location	TFR ₁₉₈₁	NAE ₁₉₈₂	FIR ₁₉₈₂	TFR ₁₉₈₉	NAE ₁₉₉₀	FIR ₁₉₉₀
51 Meixian	Mountain	3.41	19.6	26.7	3.12	23.4	22.8
52 Meizhou*	Mountain	2.42	81.9	14.0	1.93	74.1	13.8
53 Nan'ao	Other	3.24	42.8	39.7	3.22	47.1	35.8
54 Nanhai	Delta	2.61	41.1	25.5	2.05	61.4	18.4
55 Nanxiong	Mountain	3.60	15.4	60.8	2.81	18.3	38.9
56 Panyu	Delta	2.42	35.9	33.1	2.31	48.7	23.1
57 Pingyuan	Mountain	3.91	18.3	32.7	2.76	27.4	30.0
58 Puning	Other	3.97	15.7	35.3	3.79	26.2	21.7
59 Qingyuan	Other	3.34	17.1	40.0	3.14	22.8	30.3
60 Qujiang	Mountain	3.29	20.7	38.7	2.74	29.2	28.9
61 Raoping	Mountain	3.65	22.3	61.1	2.78	26.3	30.8
62 Renhua	Mountain	3.55	37.1	40.3	3.02	39.3	28.1
63 Ruyuan	Mountain	4.29	20.1	49.9	2.73	20.8	26.7
64 Sanshui	Delta	2.21	30.4	29.0	2.14	50.8	22.6
65 Shantou*	Delta	2.15	72.5	31.5	2.45	85.9	22.7
66 Shaoguan*	Mountain	2.00	89.4	17.8	1.66	90.3	15.3
67 Shenzhen*	Delta	3.29	77.0	18.5	1.04	95.8	5.3
68 Shixing	Mountain	3.82	20.8	37.6	2.76	22.1	31.3
69 Shunde	Delta	2.38	44.4	28.4	2.11	67.1	20.9
70 Sihui	Other	3.04	25.6	32.3	2.47	38.6	27.5
71 Suixi	Other	4.24	12.5	39.9	3.96	18.5	29.6
72 Taishan	Delta	2.31	22.7	21.6	2.29	24.0	18.6
73 Wengyuan	Mountain	3.35	14.8	38.6	3.28	20.7	26.8
74 Wuchuan	Other	4.06	20.3	43.7	3.67	26.2	32.9
75 Wuhua	Mountain	5.47	9.9	33.8	4.53	15.1	24.8
76 Xinfeng	Mountain	4.64	13.9	33.2	3.34	22.8	27.9
77 Xingning	Mountain	4.41	20.4	31.2	3.31	25.5	23.8
78 Xinhui	Delta	2.35	34.5	30.8	2.31	42.4	21.9
79 Xinxing	Mountain	3.30	13.8	32.1	3.05	17.6	26.2
80 Xinyi	Mountain	4.10	8.2	37.4	4.10	13.0	30.0
81 Xuwen	Other	4.04	13.2	41.1	3.76	18.0	30.1
82 Yangchun	Mountain	4.12	12.9	40.0	2.99	19.2	30.9
83 Yangjiang	Other	3.59	14.8	42.0	2.94	25.9	30.9
84 Yangshan	Mountain	4.37	12.6	44.8	4.01	15.5	36.0
85 Yingde	Mountain	3.88	15.0	47.4	3.27	18.7	37.0
86 Yunan	Mountain	3.80	16.4	35.8	3.70	21.8	26.5
87 Yunfu	Mountain	3.53	14.5	38.2	3.10	22.3	28.5
88 Zengcheng	Delta	4.05	14.6	26.2	3.03	21.9	20.3
89 Zhanjiang*	Other	3.60	39.2	34.5	3.15	51.0	25.6
90 Zhaoqing*	Other	1.69	80.6	22.7	2.08	69.9	21.2
91 Zhongshan	Delta	2.73	32.6	27.3	2.42	54.2	20.4
92 Zhuhai*	Delta	2.30	49.5	27.6	1.44	84.4	11.2
93 Zijin	Mountain	5.06	11.6	37.6	3.38	17.1	33.0

Notes: * indicates a city.

FIR for each county and city in 1982 has been estimated by applying a ratio of general illiteracy rate to FIR for Guangdong counties and cities in 1987 (Guangdong, 1988).

Sources: Guangdong, 1988; Guangdong, 1992.

Guangdong 1991a, 1990; Vogel 1989: 161-195, 220-274). As outlined earlier, the Pearl River Delta and the Han River Delta contain the most developed counties in the province. The Mountains, on the other hand, comprise the economically disadvantaged, less accessible and less developed counties. Socio-economic development for Guangdong counties located in regions other than the Deltas and the Mountains has been seen comparable to that of the mountain counties (Luk, 1991; Vogel 1989: 220-250).

Regression analysis performed on the variables *NAE*, *FIR*, *M* and *D*, as determinants of *TFR*, shows (in Table 2) that the impact of socio-economic variables and policy variables varied across the regions. A regression analysis employing the two socio-economic variables only, *NAE* and *FIR*, yields results well within the range of expectation. Yet, the additional inclusion of the dummy variables significantly improves the overall explanation of fertility and its decline throughout Guangdong. Clearly, the dummy variables indicate regional difference. At the same time this difference cannot be related to socio-economic factors since these were already included in the regression through the variables *NAE* and *FIR*. As a matter of record, explanations of China's fertility patterns, however, have been supported not only by socio-economic considerations but also by population policy concerns. Accordingly, the dummy variables cannot be interpreted other than as policy proxies. The methodology of the measurement itself follows accepted conventions for the introduction of dummy variables (Pindyck and Rubinfeld, 1981: 112).

Determinants of County-level Fertility

The regression results in Table 2 show that *NAE* and *FIR* explain 46 percent to 57 percent variance in *TFR* for 1981 and 1989, respectively. The coefficients for *NAE* and *FIR* imply that increase in non-agricultural employment has a negative impact on *TFR*, while increase in female illiteracy ratio has a positive impact on *TFR*. The regression results in Table 2 also show improvement in explanation from 56 percent to 61 percent, respectively, when the two dummy variables, *M* and *D*, are introduced.

When regressors *M* and *D* are set to zero, *TFR* value is estimated by default for the third category, *O*, *Other* counties (*cf.*, Fox, 1984: 77-79). The two regression equations show that while in 1981 the difference in *TFR* value between *Mountain* and *Other* counties has been virtually nil (0.083), in 1989 the corresponding difference in *TFR* values has been -0.246. This seems to imply greater policy impact by 1989 in *Mountain* counties relative to *Other* counties. The proposition that by 1989 *Mountain* counties have been more susceptible to population control policy, can be also confirmed by observing the decrease in the coefficient for *M* from +0.083 in 1981 to -0.246 in 1989. Also instrumental is the fact that the difference between coefficients of the dummy

Table 2.

Regression coefficients of variables for TFR, Guangdong, China: 1981 and 1989

Variable	TFR 1981		TFR 1989	
(1)	(2)	(3)	(4)	(5)
Constant	3.928	4.016	3.209	3.569
NAE	-0.048* (0.007)	-0.031* (0.008)	-0.025* (0.003)	-0.0223* (0.004)
FIR	0.022* (0.006)	0.013* (0.006)	0.023* (0.007)	0.015** (0.007)
M		0.083 (0.153)		-0.246* (0.113)
D		-0.689* (0.217)		-0.440* (0.171)
R square	0.461	0.562	0.568	0.611
N	80	80	80	80

- Notes: 1. *indicates significance at the 0.01 level.
 2. **indicates significance at the 0.05 level.
 3. Standard errors are in parentheses.

variables, *M* and *D*, has become smaller in 1989 relative to 1981. The difference between values of coefficients *M* and *D*, for 1981, is

$$0.083 - (-0.689) = 0.772,$$

while for 1989 the corresponding difference shows

$$-.246 - (-.440) = 0.194.$$

The probable interpretation of this is that policy impact between 1981 and 1989 in *Mountain* counties has become more alike that in *Delta* counties.

Further to these observations, regression between *TFR* decline and variables relating to *change in non-agricultural employment*, *change in female illiteracy*

ratios, and the 1981 value of TFR , along with the two dummy variables, was carried out as well. As evidenced from Table 1, most Guangdong counties experienced decline in TFR during the observed period, 1981-1989. Figure 2 implies, furthermore, that TFR for the province during this period has continually declined. Denoting $TFRd$ as the decline in TFR , i.e., $(TFR_{1981} - TFR_{1989})$, the independent variables in the new regression are the following:

- * $(FIR_{1990} - FIR_{1982})$, or the arithmetic difference between female illiteracy ratio between 1990 and 1982, referred to as $FIRd$.
- * $(NAE_{1990} - NAE_{1982})$, or the arithmetic difference between non-agricultural employment ratio between 1990 and 1982, referred to as $NAEd$.
- * TFR_{1981} .
- * The dummy variables M and D .

Role of the One-Child Policy in Guangdong's Fertility Decline

Table 3 shows the result of regressing TFR decline from 1981 to 1989 against the independent variables, $FIRd$, $NAEd$ and the dummy variables M and D . First, it must be noted that TFR_{1981} , in the explanation of TFR decline, retains a stable and a large coefficient, indicating that the magnitude of TFR decline is positively related to the level of TFR in 1981. Table 3, in fact, shows that TFR_{1981} , $FIRd$ and $NAEd$ together explain 59 percent of TFR decline between 1981 and 1989 (column 2 of Table 3).

Consideration of the two dummy variables, M and D , in the regression along with TFR_{1981} , $NAEd$ and $FIRd$, constitutes a further improvement, to the level of 63 percent, in the explanation of TFR decline (column 3 of Table 3).

Inspection of Table 3 shows that *Mountain* counties were more susceptible to fertility decline in the observed period than *Other* counties. The magnitude of TFR decline ($TFRd$) in *Mountain* counties, as shown in Table 3, is by 0.313 greater than TFR decline in *Other* counties. Analogous consideration yields TFR decline for *Delta* counties as being by 0.229 greater than TFR decline in *Other* counties, as evidenced from Table 3.

The significance level for the coefficient of M , however, is 0.003 while for the coefficient of D it is 0.177. By conventional social statistics standards (e.g., Ebdon, 1990: 16), only significance level 0.05 or less is considered adequate. Accordingly, while the coefficient for M can be considered statistically significant for the regression equation represented by Column (3) of Table 3, the coefficient for D is insignificant. Since the coefficient for D is considered unreliable, a comparison of values for $TFRd$ in Column (3) of Table 3, between $\{D = 0 \text{ and } M = 1\}$, and $\{D = 1 \text{ and } M = 0\}$, cannot be made.

From the previous analysis it follows that population policy has had more impact on fertility decline in *Mountain* counties than in *Other* counties. Due to the significance level for D , the proposition that in *Delta* counties the one-child

Table 3.
**Regression coefficients of variables for TFR decline in
Guangdong, China between 1981 and 1989**

Variable	Dependent Variables: TFR Decline	
	(1)	(3)
Constant	-1.635	-1.900
TFR ₁₉₈₁	0.550* (0.058)	0.543* (0.072)
NAEd	0.029* (0.005)	0.029* (0.006)
FIRd	-0.006 (0.007)	0.006 (0.007)
M		0.313* (0.104)
D		0.229 (0.168)
R square	0.585	0.632
N	80	80

Notes: 1. *indicates significance at the 0.01 level.
2. Standard errors are in parentheses.

policy has exerted more influence on fertility decline than in *Other* counties, however, cannot be made with the same level of certitude.

Conclusions

In the conventional demographic paradigm of fertility decline it has been customary to attribute a decisive role to regional development (Morrill, 1993; Anderson, 1986). In China, much as in several other third world countries, an additional determinant of fertility decline has been population policy (*cf.* Birdsall and Jamison, 1983). Within the PRC, and in Guangdong in particular, further factors are at play. The proximity of Guangdong to Hong Kong and

Macao, along with its large population, gives the province exceeding significance within China and, with continuing relaxation of economic controls, may signify future trends elsewhere in the PRC. Given its prime geopolitical position, the twofold impact of the official population policy and of socio-economic development on fertility throughout Guangdong is, therefore, of relevance to the province as well as to PRC as a whole. Guangdong has been one of the first provinces targeted for the open door policy in the late 1970's, and is presently one of the most economically advanced regions in China. It is within this context that China's population policy in Guangdong should be observed.

With the recent transfer of Hong Kong and the imminent handover of Macao into Chinese control, Guangdong has been already a major source of labour force to businesses based in Hong Kong and Macao, and it has become a major marketing target to goods produced in, or channelled through, the two territories. Thus, the impact of fertility on future labour force, as well as on future market demand for goods, cannot be overestimated.

The current process of economic reforms could bring about two outcomes in rural Guangdong, and possibly throughout much of rural China as well: On the one hand, the restoration of the family as the basic production unit in rural areas, reinforced by the traditional paradigm stressing the significance of family kinship and male offspring, could result in reversal of the recent population deceleration. On the other hand, continuing economic reforms, individual freedom and well-being might bring about a pattern of higher personal and family consumption, and the continuing decrease in fertility.

It is apparent that the one child policy, a repeated attempt of the central government to control population growth, has been inconsistent with the economic liberalization programme, both schemes having commenced almost simultaneously in the late 1970's. Within the broader context of economic liberalization and aiming at efficiency in agriculture, the rural reforms restored the family as a fundamental production unit. A family with a single child, clearly, could fulfil neither the agricultural production role, nor its function within the context of the Chinese lineage village structure. Due to the renewed recognition of the economic role of the family, the one-child policy could not have been, therefore, implemented uniformly throughout the province. This study shows that, in fact, the one-child policy has exerted varying impact throughout the province of Guangdong.

In this study two observations have been made. The first is that fertility in the province between the two censuses of 1982 and 1990, had shown moderate decline in comparison with China as a whole. Consistent with the relaxed economic policies towards Guangdong, the moderate decline in fertility (Figure 2), indeed, appears to be due to comparably relaxed implementation of the official population policy in the province.

The second observation made here confirms that the official population policy has not been implemented evenly throughout the province. While most counties

experienced decline between the two census years, the drop in fertility was stronger in *Mountain* counties than elsewhere in the province. Our contention is that policy in *Mountain* counties has had more impact on fertility decline than in the developed *Delta* or *Other* counties in Guangdong. These observations suggest that, in the period 1979-1990, population policy had a strong impact on fertility decline in the economically disadvantaged *Mountain* counties only. On the other hand, the impact of population policy on fertility decline did not have decisive consequence in developed areas such as the *Delta* counties. Accordingly, the proposition could be made that the impact of population policy on fertility decline has decreased with the advancement of economic development and personal well-being.

The present study leaves open the fundamental question of prospects for continuing fertility decline in China, in general, and in Guangdong, in particular. Further research must recognize that in less developed, and less accessible regions, such as the *Mountain* counties of Guangdong, implementation of the central government's population policy will be conditioned upon local commitment. Fertility decline in developed regions, on the other hand, can be expected to continue due mainly to socio-economic determinants rather than population policy.

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