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**PLANNED FERTILITY DECLINE IN RURAL CHINA:
THE CASE OF ANHUI PROVINCE**

By

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A thesis submitted for the degree of

Doctor of Philosophy

Department of Demography, Australian National University

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DECLARATION

Except where indicated, this thesis is my own work undertaken as a scholar from 1986 to 1990 in the Department of Demography, Australian National University.

楊全合

Quanhe Yang

(April 1990)

For Huaiguang and Keliang Yang, and my parents

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ABSTRACT

This thesis examines fertility decline in the context of planned socioeconomic changes in rural China, with special reference to rural Anhui. The period from 1949 to 1972 was basically one of tightening central control of the economy and society, and there was no systematic family planning program in rural China. Fertility changes were indirectly influenced by other planned socioeconomic changes.

During this period, ideological reform and class struggle were emphasized and people were forced to submerge their own interests in favour of the collective's and state interests. The bureaucratic system became increasingly entrenched and ready to carry out the full range of centrally planned policies. It was in these circumstances that the family planning program was introduced to rural China in the early 1970s. During the 1970s, the family planning program developed rapidly from the 'Wan Xi Shao' campaign (Later-longer-fewer: later start, longer intervals and fewer children) to the One-child Family policy adopted in 1979. China experienced a dramatic fertility decline in the 1970s despite the absence of much progress in socioeconomic development.

From 1979 to 1989 a period of economic reforms was accompanied by the loosening of central government control and command economics. In rural China land was redistributed to the peasants under a policy known as the production responsibility system.

The social structure quickly adapted to this changed situation. Peasants found that their interests were served by larger family sizes to take advantage of new farming systems. Their resistance to rigid central population policy grew stronger in the 1980s. This resulted in a period of conflict and modification of population policy. While fertility remains relatively low, these events suggest that future fertility

declines in China are unlikely to be easy or smooth unless economic development reaches the stage where people's economic interests are consistent with low fertility and the whole community internalizes a small family norm.

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Chapter 1

Introduction

1.1 Problems

China's dramatic fertility decline since the early 1970s has been well documented. Studies have found that the marriage pattern of China has changed from early and universal marriage to later but still universal marriage. The overall fertility decline was largely attributable to a decline in marital fertility and was due almost entirely to decrease of third and higher order births. The family planning program, utilizing both contraception and induced abortion, played an important role in fertility decline (Tien, 1983; Coale, 1984; Coale and Chen, 1987; China Population Information Centre, 1984; Lavelly, 1986; Feeney and Yu, 1987; Yang, 1987). Still other studies have applied the Bongaarts model (1983) to identify the major proximate determinants of fertility decline in China, and the changes in marriage, contraception and post-partum infecundability are found to be the main fertility-inhibiting factors of China (Gu, 1986; Wang et al., 1987; Chen, 1989).

A number of studies have examined the relationship between socioeconomic development, family planning programs and fertility decline in China. Some of these show that the level of socioeconomic development and the performance of family planning programs are interrelated, and both played an important role in fertility decline (Tien, 1984; Jiang, 1986; Wu, 1986; Poston and Gu, 1987; Wang, 1988). Others argue that socioeconomic factors in China, not necessarily like the kinds of socioeconomic factors shown to be instrumental in fertility declines of most developed and developing countries, may have played only a minor role in China's fertility transition (Mauldin, 1982; Bongaarts and Greenhalgh, 1985; Wolf, 19886).

Still other studies explain the family planning policies and fertility changes of China in a broad socioeconomic context; these studies have stressed the culture and normative context in which reproduction occurs (Parish and Whyte, 1978; Chen and Kols, 1982; Aird, 1972, 1982, 1985; Mosher, 1983; Chen, 1984; Croll et al., 1985; Pasternak, 1986; Lin, 1986; Kane, 1987).

It has been almost two decades since China started its authoritarian family planning program for controlling population growth. During the 1970s, the family planning program developed rapidly from the 'Wan Xi Shao' campaign (later-longer-fewer: later start, longer intervals and fewer children) in the early 1970s to the One-child Family policy adopted in 1979. During the 1980s, the family planning program experienced a series of conflicts and periods of adjustment. All these changes in family planning must be understood in the context of contemporary socioeconomic development in China. During the 1970s, China was under tight central planning, and the family planning program was designed and implemented from the centre to bring down national population growth. There was little consideration of whether or not people in different regions would accept the population policy. After the announcement of economic reforms (in the late 1970s), the structures of the central economic and political control and planning in China were loosened at the grass-roots level. Popular resistance to the rigid population policy (One-child Family policy) grew stronger and stronger, especially in rural areas. The two most important factors impeding the successful enforcement of the One-child Family policy were the decentralized nature of policy administration and the inability of enforcement mechanisms to adjust to the rapid change in the economy. These led to a modification of centrally formulated population policy in the mid 1980s (Bongaarts and Greenhalgh, 1985; Greenhalgh, 1986). Towards the end of the 1980s, there appeared a tendency to tighten up the family planning program (Hardee-Cleaveland and Banister, 1988). Some studies concluded that there are cycles-of-coercion in family planning implementation in China (Aird, 1988). Other studies disputed the

validity of the cyclical model and suggested linear population policy changes and learning progress in family planning in China (Greenhalgh, 1989a).

Table 1.1 Changes in Per Capita GDP and Other Demographic Indicators of China and Some Selected Asian Countries

Country	GDP(\$) per capita		Average growth % 70-80	TFR		% Decline 70-80	Contraceptive users % Increase %			FPE Score 1983
	1970	1980		1970	1980		1970	1980	70-80	
China	161	310	5.6	5.8	2.3	60.3		69		100.9
India	170	260	3.6	5.7	4.8	15.6	12	28	16	74.7
Indonesia	238	580	7.7	5.6	4.3	22.8		40		87.1
Thailand	347	790	7.1	6.1	3.6	41.4	15	59	44	70.5
Korea	710	1910	8.6	4.5	2.7	40.0	25	54	29	96.9
Hong Kong	1720	5340	9.9	4.0	2.1	47.5	42	72	30	82.6

Sources: 1. World Bank, 1987; United Nations, 1986; Lapham and Mauldin, 1984. *FPE=Family planning effort.

Table 1 gives the changes in per capita GDP and other demographic indicators of China and some selected Asian countries during 1970-1982. It shows that the growth rate of GDP in China from 1970 to 1982 was at a moderate speed, 5.6 per cent on average, but fertility was dramatically reduced, from 5.8 to 2.3 in terms of TFR, a 60.3 percent decline. China is the only country with per capita GDP less than \$400 in the early 1980s where the reproduction rate is approaching the long term replacement level (World Bank, 1987: 269). Moreover, in 1982 China had the highest score of 'family planning effort' among developing countries (Lapham and Mauldin, 1985), and probably the fastest increase in the percentage of contraceptive users from 1970 to 1982. However, when the whole development of Chinese society since 1949 is considered, it is evident that the more recent dramatic fertility decline in China has followed and continues to accompany a series of dramatic ideological, social structural and socioeconomic changes planned by the government, such as land reform (1950s), anti-rightists campaign (1957), Great Leap Forward (later 1950s), Cultural Revolution (1966-1976), One-child Family campaign (1979-) and

the major economic reforms (1979-1989). The understanding of Chinese fertility changes should not be separated from the examination of this sequence of drastic fertility interventions. Fertility decline is only one aspect of planned societal change in China.

In brief, some features of fertility transition in China may be described thus: 1. It has taken place in a volatile society in terms of political and socioeconomic development, where the government is constantly involved in explicit attempts to control that development. 2. Although the course of socioeconomic development has significant effects on people's thinking and behaviour in general, it is unlikely to have been responsible for the dramatic fertility decline in the relatively short period. 3. The successful implementation of the Chinese family planning program is remarkable in comparison with other developing countries. The present study examines fertility decline in China in the context of other institutional changes, explores the major changes which may affect fertility and explains why the 'planned birth campaign' (family planning program) has been so successful. Since China is mainly an agricultural country (according to the 1982 national census about 80 per cent of the population live in rural areas, and agriculture also forms the fundamental base of China's socioeconomic development), the present study concentrates on fertility decline in rural areas. To supplement the national level analysis, this study is focused on the experience of one province, Anhui, a 'ricebowl' province of the southeast.

1.2 Review of Some Fertility Theories

Classical demographic transition theory argues that the prime responsibility for fertility decline lies in the development of industrial and urban societies which undermined the traditional values supporting high fertility. Socioeconomic development or the changes in the environment improved living standards, provided more opportunities for women and increased the cost of children; mortality, especially infant mortality, declined, and these changes gradually altered people's attitudes towards children, and the demand for children. After a certain period of mortality reduction, fertility started to fall, resulting in a change from a high fertility and high mortality pattern to a low-low pattern (Thompson, 1929, Davis, 1945, Notestein, 1945). The classical transition theory developed by the mid-20th century mainly argues in 'macro' terms. In this theory, specific 'population policies' did not play a role in fertility reduction, since they had not been prominent in the historical record to that point.

The Chicago School approach or the new household economics proposed by Becker (1960) and others offered a micro-economic approach to explain fertility changes. The theory assumes that rational and self-interested people will choose to consume the goods that give them the greatest satisfaction. Children are considered as one kind of goods. Time itself is also considered as a valuable commodity, and women must make choices to allocate their time among competing alternatives, children and outside work. As more opportunities become available and with the increasing cost of children, fertility declines.

More recently, Leibenstein (1974, 1975) and Easterlin (1975, 1983) combined the economic decision-making processes with the social and biological constraints to which they are subject. Easterlin proposed a more flexible fertility model which takes into account supply of children, such as mortality and marriage, as well as demand for children. The basic theme of this model was adopted by the United

States National Academy of Science as the analysis framework for a project studying the determinants of fertility decline in developing countries (Bulatao and Lee, 1983). For those theories, the central thesis is that the reduced demand for children is the fundamental driving force of fertility transition.

Other authors have challenged the economic demand theories (Knodel, 1979; Jones, 1982; Cleland and Wilson, 1987). After analysis of the WFS (World Fertility Survey) data of the developing countries, Cleland and Wilson (1987) concluded that the WFS findings showed weak links between economic structure and fertility and stronger links with culture and education. They suggested that the ideational rather than the socioeconomic changes are more important in the fertility transition of developing countries.

Caldwell's theory of inter-generation wealth flows combines the economic and sociological approaches to fertility change. It unites the concepts of demand for children with cultural transmission of Western ideas and values which ultimately undermine that demand. In the societies of mainly family mode of production, the net veneration flow is from children to parents.

The reversal of this flow is the driving force of the fertility decline; the main cause of the reverse is the emergence and cultural transmission of ideas of the child-centred nuclear family. The locus of fertility decision-making shifted from the extended family to the conjugal couple who are free to lavish emotional and financial care on their children in the modern Western mode. As such care is expensive, family size falls (Caldwell, 1982). Caldwell's theory is essentially an ideational theory of change, consistent with the findings of WFS surveys of developing countries and many other studies (Cleland, 1985; Cleland and Wilson, 1987).

Structural theories of fertility change emphasize the importance of social and administrative organization as intermediate factors which shape the course of the fertility transition in different settings. This approach has sought the determinants of fertility in deep-rooted institutional factors (McNicoll, 1980; Potter, 1983; Hirschman, 1985; Hull, 1987; Freedman, 1987).

Some sociological fertility theories have argued that the decision-making couple have little real choice of family size because they are constrained by norms and customs (Jones, 1982); but the demand theories of fertility change, the ideational theory and most other fertility theories commonly assume that the couple or family is increasingly the locus of reproductive decision-making, and socioeconomic development or modernization may alter the surroundings and attitudes of decision-makers who adjust their fertility behaviour accordingly. This process may be influenced by the government or other organizations, such as family planning programs, but the couple or family has the freedom to accept or reject the programs, and the ultimate power of reproductive decision-making mainly lies in the individual. This assumption may not be taken for granted in China: there the underlying political assumptions are that individuals should subordinate their interests to the collective, that collectives should in turn subordinate their interests to the state, and that the Communist Party should have a monopoly on national decision-making¹. The government is assumed to represent all individuals' interests, so, logically, it assumes the responsibility of making major decisions for the state and ordinary people. The government endeavours to make individuals subordinate their preferences to the party's or state's goals defined by the government (Aird, 1985; Mosher, 1983). The restricted freedom of individuals to make fertility decisions in China marks a fundamental difference in the social system between China and most other countries, even most other socialist countries.

¹ In China, the government and party are the same in terms of power control; the Communist Party is the leading force everywhere in China, and the top echelon of government consists of a group of top party leaders. There is no distinction between these two in the present study unless specified.

This political context has important implications in studying fertility decline in China. If the fertility transitions of the developed countries, described by the classical transition theory, represented a 'natural' transition in which socioeconomic development was the driving force in fertility decline, and external interventions such as family planning programs played a minor role, most of the on-going fertility transitions in the currently developing countries represent a 'modified' fertility transition influenced by family planning programs, global networks of communications, Western ideas, etc. The case of China stands at the extreme of modified fertility transition, it represents a large 'planned or ordered' fertility transition. On one hand, it means that the government directly or indirectly interferes in or plans individual fertility behaviour. On the other, it implies that socioeconomic development in China has not yet reached the stage where the majority of individuals would spontaneously accept the very low fertility implicit in the One-child Family policy. The 'planned' fertility transition of China is distinctive. The 'natural' and most 'modified' fertility transitions elsewhere are mainly 'passive' with regard to intervention in fertility behaviour --- family planning programs are introduced in response to community demands for them, or potential demands. In China's 'planned' fertility transition, the government makes the major decisions and plans socioeconomic development and fertility behaviour, and family planning programs are seen as one aspect in the whole planning process. Once the government has justified the decision to bring down population growth, it is not necessary to consider whether or not ordinary people accept the decision, although it is easier if they do.

This is not to say that socioeconomic development and other influences have played no role in fertility decline in China. However, China as a centrally controlled and planned society provides an example of very successful planned fertility decline in a relatively short period of time. Regardless of socioeconomic trends, the centrally

planned society through its bureaucratic system has the potential to effectively change human fertility.

The present study does not intend to develop a fertility theory:

It is widely agreed that we do not have an adequate theory of fertility, if by theory we mean a coherent body of analyses linking a characterization of society and economy, aggregate or local, to individual fertility decisions and outcomes, able to withstand scrutiny against the empirical record (McNicoll, 1980: 44).

It is hoped that the present study of fertility decline in China will provide supplementary evidence to enrich existing fertility theories.

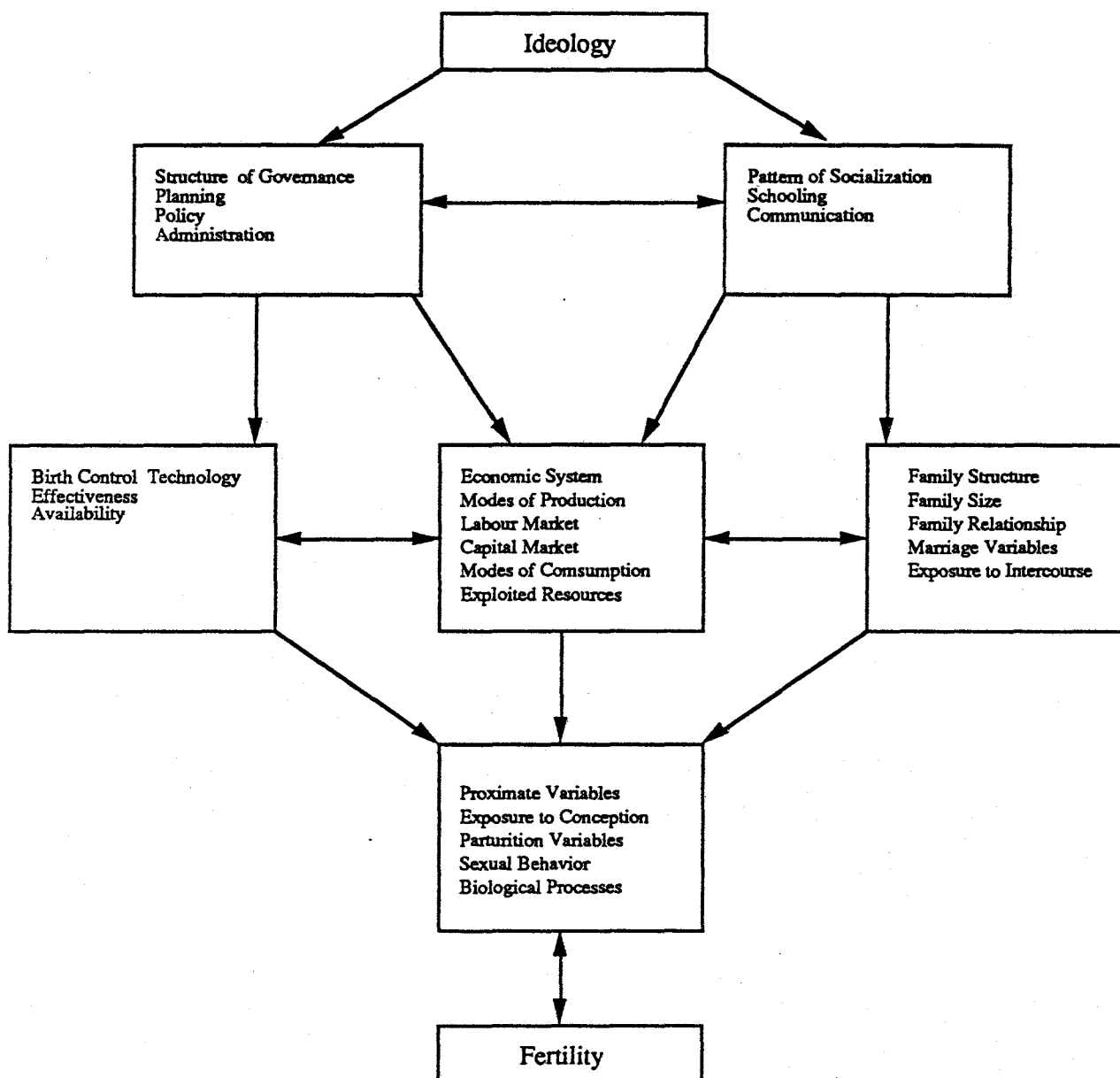
1.3 Conceptual Framework

The level of fertility in a society falls below its maximum potential level through the direct operation of various factors limiting exposure to intercourse and exposure to conception and through factors affecting pregnancy outcomes and length of the post-partum infecundity. Davis and Blake (1956) first outlined a group of eleven such direct fertility determinants. Bongaarts (1978) developed a model in which the main immediate or 'proximate' fertility determinants could be measured and their relative effects on fertility quantified. By definition socioeconomic factors have to operate through the 'proximate' determinants to affect fertility. Bongaarts showed that most fertility differences among societies could be explained by four 'proximate' variables. Those are (1) proportion of married women among females of reproductive age, (2) proportion of fecund women using effective contraception, (3) prevalence of induced abortion, and (4) duration of post-partum infertility. Some studies have tried to link proximate variables to more remote influences, such as education, socioeconomic development, socio-political system and cultural background --- factors which influence fertility indirectly, through one or more proximate variables (Cleland, 1985, Rouyer, 1987, Hull, 1987).

Hull (1987) has proposed a general conceptual framework for the study of planned fertility reduction using the institutional approach. The framework attempts to link proximate variables to institutional changes in society; it assumes that fertility behaviour is the outcome of both institutional influences and individuals' decision-making processes, and a large number of interrelating institutions in society shape the environment in which fertility decisions are made. This framework identified three institutions which directly affect 'proximate' determinants: family system, economic system and technology of birth control. The next level of institutions consists of the structure of governance and the pattern of socialization, and at the apex of the framework is ideology (Figure 1.1). Changes in ideology result in changing structures of social control, which in turn, lead to change of environment in which people make their fertility decisions. As that environment changes, so does the behaviour with regard to the proximate variables and the fertility level itself.

The institutional approach provides a basis and general guidance for study of planned fertility decline in China. It should be emphasized that the official guiding ideology in China is Marxism-Leninism-Maoism; the Communist Party or the government is the leading force in building socialism. Since 1949 the government has constantly managed Chinese society, and established a huge bureaucratic system to carry out planned or purposive social changes. This system reaches every corner of Chinese society. The basic method of planned social change in China is as follows: the start of the change process is initiation of government policy in favour of a certain change. This initiation can be translated into either indirect or direct attempts to change social life and people's behaviour. Indirect attempts are pursued by structural transformations. The government can use some or all of its resources to bring about change in the social structure. The assumption behind this mechanism is that once the structure has changed, people will adapt their behaviour to it. There are, however, two major types of more direct change mechanisms: administrative sanctions and normative influences. The government can make clear what kinds of

Figure 1.1 General Conceptual Framework for the Study of Planned Fertility Reduction



Source: Hull, 1987.

behaviour and attitudes are allowed and forbidden, and then use the party, police and other organizations to punish those who do not comply (Parish and Whyte, 1978).

The practice of government intervention in society is based largely on Marxist doctrine, which holds that the economic base in a society determines its superstructure, and the superstructure can in turn influence economic development. In a socialist country, those influences are believed to advance the society. Mao Zedong (Tse-Tung), former chairman of the Communist Party of China (1949-1976), stated it more clearly: 'Our goal is not only to know the society, but more importantly to reform the society' (Mao, 1963:227). Marxism-Leninism and Mao's application of these doctrines to the Chinese case are the fundamental theories guiding the Communist Party and the party is the leading force of the planned economy.

Within the Central Party Committee, a group of top leaders are the principal power holders. They are the key persons in determining the nation's future. One of the most important features of this elite political system is its periodic changes in controlling the society. It periodically swings between the tightening and loosening of central control and planning over the society (Pye, 1988: 38). Generally speaking, during a period of tightening control, ideological changes of people and class struggles in society will be emphasized, and during a loosening period, socioeconomic development will be emphasized. Because a detailed discussion of the political system in China is beyond the scope of the present study, I will rely on a number of recent studies of Chinese politics for an understanding of the key institution of control in Chinese society.

1.4 Objectives Of Study

From a political point of view, the last forty years development (1949-1989) in China can be broadly divided into three periods. 1. From 1949 to 1979: although there were a few times of relatively tighter or looser control, this period was basically one of tightening central control. 2. From 1979 to 1989, this was a period of economic reform and loosening central control. 3. Since the second half of 1989, there has been another period of tightening central control. The implication of this classification is that any specified planned socioeconomic changes and campaigns in China are influenced by whether they are undertaken in periods of tightening or loosening central control.

In more detail, the Communist Party began its rule of the country in 1949, after which there were a series of mass campaigns in China: land reform (1950s), the anti-rightist campaign (1957), the Great Leap Forward (later 1950s), the Cultural Revolution (1966-1976), the One-child Family campaign (1979-), the economic reform (late 1970s) and Anti-bourgeois Liberalization (1986). Dramatic fertility decline was only one of the outcomes and closely related to other changes. The main stages of socioeconomic development and development of population policies in China since 1949 are defined as follows:

1949-1952. Recovery from the war, and establishing a 'new democratic economic system'.

1953-1957. Transitional period and first Five Year Plan. Government guided economy to transfer from 'new democratic' to socialist economy and land reform in rural areas. As a result of rapid expansion of socioeconomic development, there was

a great increase in female labour and a demand for birth control, but the government remained at the stage of general propaganda on birth control with no specific policy.

1958-1965. Rapid expansion of socioeconomic development. For the first time the government was seeking the 'Chinese socialist road' which led to 'the Great Leap Forward', resulting in three years of famine. After the anti-rightist campaign (1957), 1958-1962 marked a period of total rejection of demographic knowledge. Following the failure of economic planning, there was a short period of economic reform. During the reform, in 1962, the state family planning office was established and some offices were also set up in the main cities. The government planned to introduce birth control in cities and gradually extend it to rural areas, but this was soon interrupted by the Cultural Revolution.

1966-1976. Cultural Revolution. The economy almost collapsed. During the later years of the cultural revolution, population growth placed more and more pressure on society. In 1972, population growth became part of national development planning and the government started producing contraceptives in mass quantity and free of charge. The 'Wan Xi Shao' birth control campaign (later-longer-fewer) was in effect until 1979.

1977-1979. The government was seeking the 'Chinese socialist road' again and making preparations for a new economic reform. The One-child Family policy was announced in 1979.

1978-. The 'Production Responsibility system' was introduced to rural areas and later expanded to cities as the 'contract system' in the early 1980s. For the first four years of the One-child Family policy, there was an increasingly rigid implementation of the policy; since the mid-1980s, the state family planning commission has adjusted the policy in a more rational and flexible way. At the beginning of 1988, the

'reproduction responsibility system' was officially introduced and there has since been a tendency to tighten up the implementation of population policy.

On the basis of the earlier discussion of the conceptual framework and stages of development, the following hypotheses about fertility changes in China and Anhui are proposed:

1. Before 1970, the Chinese government did not regard population growth as one of the principal contradictions in building the socialist China. The principal 'contradictions' were the ideological reforms, class struggles and socioeconomic changes, and the government devoted its main attention and resources to these matters. Population growth was basically a 'neglected corner' in planning. Presumably, during this period socioeconomic development or socioeconomic factors played an important role in fertility change and differentials. As a result of a series of ill-planned changes, population growth gradually became recognized as a principal contradiction in society (early 1970s), then the government started paying attention to population growth, and made use of the existing political and administrative system to control the population. In a broad sense, the 'planned birth' campaign (1972-), Great Leap Forward (1958) and Cultural Revolution (1966-76), have common characteristics: government planned changes. In this case, the importance of socioeconomic development in determining fertility gradually diminished while the importance of administrative forces gradually increased as the implementation of population policies became more and more rigorous.

2. During the 1970s, the family planning program in China achieved remarkable success in controlling population growth despite the absence of much progress in socioeconomic development. The success of the program was largely due to the fact that during the 1970s under tightening central control and planning, the bureaucratic system was capable of changing people's reproductive behaviour. It is assumed that

not only can the population policy bring down the fertility of women, it can also change to some extent people's attitudes towards children (Whyte and Gu, 1987). However, people's demand is unlikely to be as low as one or two children per couple, so the present situation of fertility transition in China is unlikely to be a stable one.

3. The economic reform of China (1979-1989) essentially meant adoption of the capitalist mode of production with some minor modifications. The socioeconomic structures and the ideology of the society gradually changed during the reform. More and more people gradually realized the importance of their own economic interests and wanted the right to make their own decisions. The planned birth campaign marked an end of the high tide of government planned, dramatic changes in China. But the struggles between the government planned birth policies and the demand for more children will exist until economic development reaches the stage where people have internalized a small-family norm, and this will release the pressures. Finally, a relatively stable equilibrium will have been reached.

In this thesis, fertility decline in rural China, particularly in rural Anhui is analysed in the context of planned socioeconomic changes. The changing patterns and trends of reproductive behaviour in rural Anhui since 1949 are also used to signal the influences of political and planned socioeconomic changes.

1.5 Data

The main sources of quantitative demographic data are from the 1953, 1964 and 1982 censuses of China and Anhui; China's National One-per-Thousand-Population Fertility Sampling Survey (1/1000 Fertility Survey. See Appendix for the Questionnaire) and the 1987 One Percent National Population Survey.

Qualitative demographic data have been collected from documents about the population policies in China and Anhui since the 1950s. The findings of some qualitative analysis of Chinese fertility changes, for both China and Anhui, are also cited.

The quantitative socioeconomic data are mainly derived from the Statistical Year-Book of China and Anhui (1980-1987) and the Economic Year-Book of China and Anhui (1982-1988).

1.6 Structure of Thesis

In the next chapter, the setting of the study, Anhui province, is compared with China in terms of the socioeconomic development, and rural development since 1949. The structures and functions of local governments, and their ability to influence the planned changes and people's behaviour are analysed. The levels and trends of rural fertility in Anhui and China are also examined.

Chapter 3 analyses in detail the planned societal changes in rural Anhui since 1949. It provides a basis for analysing the dramatic planned fertility decline since the early 1970s. The interactions between planned societal changes and people's fertility behaviour are also analysed.

Chapter 4 describes the development of the family planning program in Anhui, and its development is viewed as one of the series of planned socioeconomic changes. The structure and function of family planning activity is an extension of the existing bureaucratic system. The basic methods of family planning activity are essentially the same as other planned changes.

Chapter 5 analyses the changing age-pattern of first marriage and its impacts on fertility in rural China and Anhui since 1949. Its change is used as an indicator to signal the planned socioeconomic changes. The computer program NUPTIAL (Rodriguez and Trussell, 1984) is modified and used.

In Chapter 6, the technique of life table analysis is used to examine the fertility change by birth order in rural China and Anhui. Those changes are analysed in the context of planned socioeconomic changes since 1949. The computer program BIRTH (Rodriguez and Menken, 1984) is used and modified to read Chinese data.

Family planning in China is one of the planned changes, and it is mainly responsible for the dramatic fertility decline since the early 1970s. Chapter 7 examines how family planning affects all married women in term of contraceptive use (including induced abortion).

Chapter 8 is the conclusion.

Chapter 2

The Setting of Anhui

2.1 Anhui in Comparative Perspective

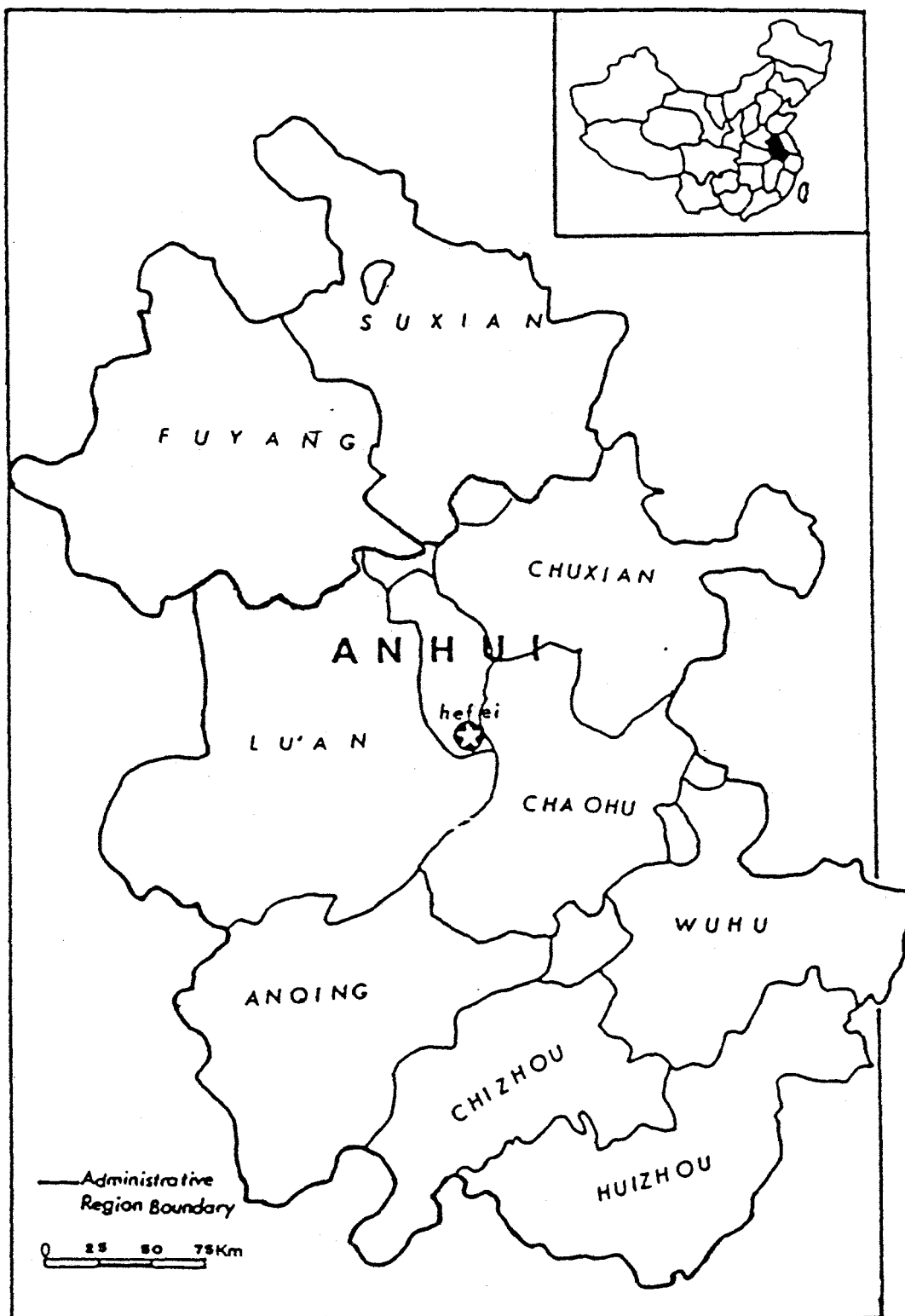
Anhui province is situated in the southeastern part of China, and is bounded by Jiangsu and Zhejiang provinces to the east, Henan and Hubei provinces to the west, Jiangxi province to the south and Shandong province to the north. It is about 450km wide and 570km long forming a total area of 139.6 thousand km², which accounts for about 1.4 per cent of all China. In 1987, it had a population of 52.7 million. Figure 2.1 is the map of Anhui province.

2.1.1 Natural Conditions of Anhui

Anhui has a varied topography: the areas along the Huai, Yangzi river and the north are mainly plains, comprising 49.6 per cent of Anhui's total area. The south and southwestern parts of Anhui are mainly mountain areas, accounting for 15.2 per cent of total area; there is about 27 per cent of hilly land and 8.2 per cent of water.

Anhui province is in the subtropical zone and has rich water resources, but the irrigation system has not yet been properly developed; the available water of the Yangzi River valley per *mu* is as much as five times more than that of the Huai River valley. The lack of irrigation networks between these two valleys often results in flood in one place and drought in the other. On average about two thirds of Anhui's total disaster areas are actually hit by disasters every year, 18 per cent more than the national average. Coal is the main energy resource in Anhui; the proved reserves are the fifth biggest in China. There are two main coal mines, Huainan and Huaibei,

Figure 2.1 Map of Anhui Province



both situated in northern Anhui. Anhui is also rich in other mineral resources: of 51 kinds of proved reserves, 18 are within a tenth of national proved reserves in quantity.

Geographically, Anhui can be divided into four areas:

1. Northern Anhui (Huaibei Plain) is mainly a plain area, containing 95 per cent of Anhui's coal reserve deposits; apart from the coal mining industries, it is an agricultural area which accounts for 47.8 per cent of the total cultivated land. More than 70 per cent of Anhui's grain products come from this area, but unfortunately, it is often hit by droughts and floods, so the per *mu* yield is about 30 per cent lower than the provincial average.

2. Middle Anhui is mainly a hilly area. The provincial capital, Hefei city, is in the middle of the area, and is also the political, cultural and industrial centre of Anhui. In the west, there is a forest which accounts for 31.7 per cent of Anhui's total forest areas.

3. The Yangzi River valley is the richest agricultural area of Anhui with the highest per *mu* yields in rice, wheat and cotton. The main agricultural products are rice, rape and cotton. More than half the fishing products are from this area, which is also Anhui's metallurgical industrial base, accounting for 85 per cent of its metallurgical products.

4. Southern Anhui is mainly a mountainous area, where more than 70 per cent of Anhui's forestry products and teas are produced; but communications and transportation are poorly developed.

2.1.2 Socioeconomic Development of Anhui

Table 2.1 shows some indices of social and economic development of China and Anhui for some selected years since 1952. There are two basic features in Anhui's social and economic development: wealth in both natural and human resources. In 1985, Anhui had a labour force of about 26.3 million, 5 per cent of the national labour force and the eighth biggest labour market among the 28 provinces and autonomous regions in China. As it is an agricultural province, more than 80 per cent of its labour force has been engaged in agricultural production since the 1950s. Anhui's agricultural product constituted more than 80 per cent of total provincial product during the 1950s but this was reduced to about 70 per cent during the 1960s and early 1970s, and further reduced to about 45 per cent in the late 1970s and early 1980s. Anhui's light industries have mainly processed agricultural products; since 1950, on average, 80 per cent of the raw materials used by the light industries have been agricultural products. Obviously, agriculture is the key sector of Anhui's social and economic development, but the speed of its agricultural development has lagged behind the national average in the last few decades, as has the development of the industrial sector which mainly depends on agricultural products.

There are some shortcomings in Anhui's social and economic development: first of all, although Anhui had a labour force of more than 22 million according to the 1982 census, about half of them were illiterate or semi-literate, 14 per cent more than the national level, and 75 per cent of the female labour force were illiterate or semi-literate, 30 per cent more than the national average. Second, the development of science and technology in Anhui is far below the national average. During the 1950s, Anhui had a few scientific research institutes and a small number of scientific workers, but until 1978 the number of scientific workers per thousand population was still as low as 1.9, less than half of the national average. Third, per capita fiscal

Table 2.1 Comparative Indicators of Social and Economic Development: China and Anhui

	1952	1965	1978	1980	1983
Economic indicators					
Per capita GNP(<i>yuan</i>)					
China	104	194	315	376	464
Anhui	77	146	298	275	357
Per capita fiscal revenue					
China	32.0	65.3	116.5	109.9	118.2
Anhui	9.1	23.1	47.7	41.5	44.3
Total industrial production index					
China	100	453	1601	1889	2340
Anhui	100	375	1257	1477	1930
Total agricultural production index					
China	100	137	230	259	336
Anhui	100	125	183	198	269
Agriculture products as % of total products					
China	57	37	28	31	34
Anhui	85	66	45	45	44
Labour force in agriculture %					
China	88	82	76	75	75
Anhui			85	83	82
Education indicators					
Population aged 12 and over who are illiterate or semi-literate %					
China		55(1964)			32(1982)
Anhui		68(1964)			46(1982)
Primary school enrolment (as % of age group)					
China			94	93	93
Anhui			90	89	90
Scientific workers per 1,000 population					
China	0.8		4.6	5.4	6.7
Anhui	0.1		1.9	2.2	3.2
Population per physician and health worker					
China	833	474		351	313
Anhui	2272	541		467	429
Life expectancy					
China		57(1957)	68	69	68
Anhui					69

Sources: State Statistical Bureau, 1985; Provincial government of Anhui, 1985; China Population Information Centre, 1986b.

revenue of Anhui has been substantially lower than that of China as a whole. Actually, it has been less than half the national average since the 1950s, which is why the Anhui government has always complained of the shortage of money in

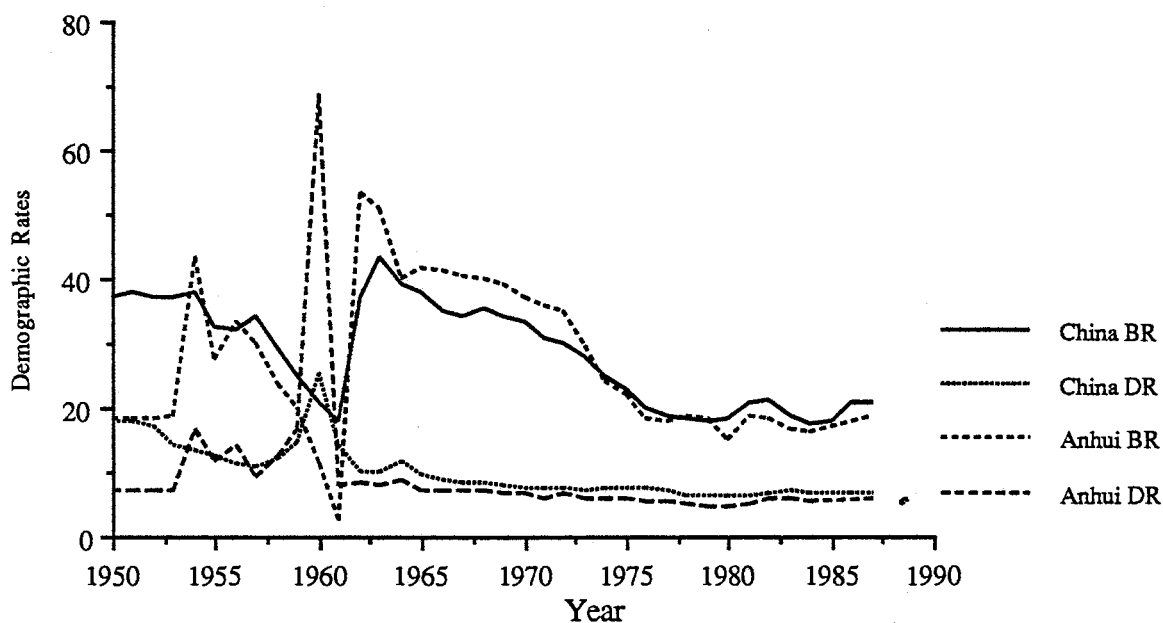
Anhui's development. Clearly, the lower educational level of Anhui's labour force indicates that this labour force is less advanced; the lower level of science and technology development suggests that Anhui's future development is constrained and the shortage of fiscal revenue would limit the prospects of provincial development. In view of these disadvantages, Anhui province stands currently at the lower middle level of socioeconomic development in China and its future development will be restricted by these disadvantages.

2.1.3 Population of Anhui

Figure 2.2 gives the birth and death rates of China and Anhui since 1949. The population growth of Anhui has some distinguishing features in comparison with China as a whole. The birth rates experienced two peak periods, one low peak period and two relatively stable periods. The lower rates of growth in Anhui during the early 1950s were probably due to under-reporting rather than being the real figures. The first peak period was 1954-1957 with average birth rates of 33.3 per thousand and a peak at 43.3 per thousand in 1954. The second peak was 1962-1972, when on average, the birth rates were 41 per thousand; in 1962 the peak was 53.3 per thousand, 26 per cent higher than the national average. The period 1960-1961 was marked by lower birth rates: the average birth rate was 45 per cent lower than the national level. From 1976 to 1984 was a relatively stable period: on average the birth rates were close to the national level and since the early 1980s they have been lower than the national level. For the death rates, from 1954 to 1960, there were two peak periods: the first was 1954 with a death rate of 16.6 per thousand, which was mainly due to the severe floods of that year. The second peak was during the three years of famine, 1959-1961; the death rate reached 68.6 per thousand in 1960, more than twice as high as the national average, and it was the highest among 28 provinces and

autonomous regions of China in 1960, reflecting the severe effects of famine on mortality in Anhui.

Figure 2.2 Birth and Death Rates of China and Anhui, 1950-1987



Sources: State Statistical Bureau, 1988; Qin, 1985.

According to the 1964 population census, the population density of Anhui was 224 per km²; it increased to 357 per km² in 1982. Population is unevenly distributed; in northern Anhui (Huaibei plain), the population density increased from 309 per km² in 1964 to 509 in 1982; in middle Anhui from 224 per km² in 1964 to 356 in 1982; in the Yangzi River valley from 277 to 432 per km² and in southern Anhui from 111 to 165 per km². From north to south, Anhui ranges geographically from plains through hills to mountain areas, and the population distribution and growth range from a higher to a lower level accordingly.

Table 2.2 shows some demographic indices of China and Anhui, 1952-1983. For the last few decades, Anhui has accounted for around 5 per cent of the national population and the sex ratio has been higher than that of China. The 1982 census

showed that Anhui was the eighth biggest province of China in terms of population. According to the 1953 census, the broad age structure of Anhui was very close to that of China; considerable changes occurred in the 1964 census: the percentages of the young group (age 0-14) and the old group (65+) in Anhui were lower and the percentage of the 15-64 age group was higher than that of China. This may suggest

Table 2.2 Selected Demographic Indices of China and Anhui

	1953		1964		1982	
	China	Anhui	China	Anhui	China	Anhui
Population by sex						
Total (000)	580,600	30,660	694,580	31,241	1,008,180	49,666
Male	300,820	160,96	356,520	16293	519,430	25,764
Female	279,780	145,64	338,000	14948	488,750	23,902
Sex ratio	107	110	105	109	106	108
Population by age group (%)						
Age 0-14	36.3	36.1	40.4	38.4	33.6	36.2
Age 15-64	59.3	60.2	56.0	59.2	61.5	59.8
Age 65+	4.4	3.7	3.6	2.4	4.9	4.1
Women 15-49	23.5	22.9	22.0	23.7	24.7	23.2
Age indicators						
Median age		23.1		21.0	22.9	20.2
Dependency 0-14	61.2	60.0	72.2	64.9	54.6	60.6
Dependency 65+	7.4	6.1	6.3	4.1	7.9	6.9
Total	68.6	66.1	78.5	68.9	62.5	67.4
Urban-Rural population (%)						
Urban	13.3	7.6	18.4	12.5	20.8	14.4
Rural	86.7	92.4	81.6	87.5	79.2	85.6
Population density (per Km²)						
	62	215	74	223	107	355

Sources: Anhui Statistical Bureau, 1984; Tian (Ed), 1985; Provincial Government of Anhui, 1985

greater losses of younger and older people during the famine (1959-1961) in Anhui. In 1982, the age structure of Anhui returned to the 1953 pattern while the national pattern changed away from it. Anhui had a younger 1982 age structure than China, which indicates that Anhui had experienced faster population growth since 1964. The same trends are true for the changes in dependency ratios, which in Anhui in

1964 were considerably lower than those of China; they were considerably higher for the 0-14 age group and lower for the 65+ age group in 1982. Urbanization in Anhui has always been lower than in China: more than 80 per cent of Anhui's population were farmers until 1985.

2.2 Local Party and Administrative Structure

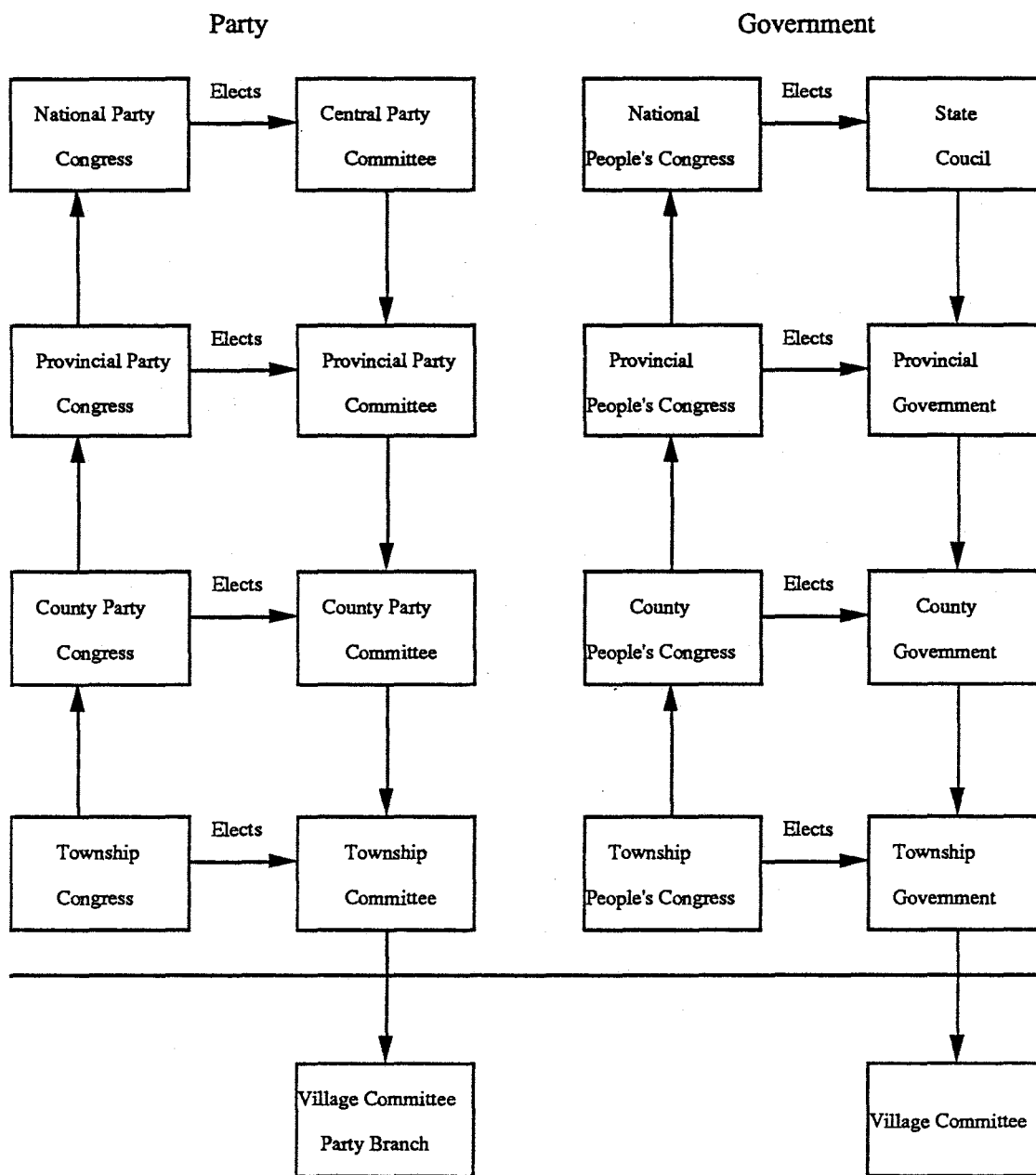
Anhui province is divided into eight administrative regions; among these regions, there are 67 counties. Below the county level, there are 149 towns and 3,410 townships (communes before 1983). There are also nine cities under the jurisdiction of the provincial government and six cities under the jurisdiction of the administrative regions. Under the 1982 Constitution, the administrative regions are not a level of government, but rather they are executive bodies of provincial government. The basic structures, functions and relationships between local party and government organizations are briefly explained as follows.

The Chinese Communist Party was founded in 1921 as a vanguard to lead the revolution. In 1949, the Party took power and has ruled China since then. The provincial Party committees were officially established after 1949. In December of 1952, Anhui Province held the first Party members' representative assembly. In July of 1956, the first Provincial Congress of the Communist Party of Anhui was held, the second Party Congress was held in 1963 and the latest one was in 1971, representing 944,237 Party members, accounting for 2.3 per cent of total provincial population. The left panel of Figure 2.3 shows the basic structure of local Party leadership. From the macro point of view, the key organs of Party leadership are the central standing committees, especially that of the Political Bureau, which meet regularly, carry out day-to-day business, and prepare the agendas and decisions which the larger bodies (such as the Central Committee and the Party Congress) adopt at their infrequent

meetings. The provincial and county level of the Party are mainly the executing organs which carry out the centrally decided policies and campaigns, sometimes with some modifications to suit local conditions. From the micro point of view, the township (commune before 1983) Party committees, which are the lowest level of government, deal with the concrete implementations of policies, campaigns and production plans. Implementation of decentralized policies is finally realized at this level. Below the township, it is the Party Branch in village committee (production brigade before 1983). At the end of 1983, there were 3,410 townships and 31,305 village committees in rural Anhui. Usually, there is a secretary and a deputy secretary with three to five Party committee members at the township level, and there is a secretary and deputy secretary with one to three committee members at the village committee level. In total, there were 18,000 to 20,000 Party leaders at township level and 100,000 to 150,000 Party leaders at the village committee level in rural Anhui.

The right panel of Figure 2.3 shows the simplified basic structure of the Chinese government under the 1982 Constitution. The supreme organ of government remains the National People's Congress (NPC) which is a large body comprising representatives of provincial assemblies (which in turn are elected by the counties and municipalities below them). It is reconstructed every five years or so except that during the Cultural Revolution a full decade elapsed. In theory, the party and the people's congress jointly rule the country. In reality, the NPC serves little in the way of a genuinely representative or legislative function, mainly rubber-stamping policies made by the Party and imparting to them the legitimacy and formal status of 'laws' (Blecher, 1986).

Figure 2.3 Simplified Structures of the Chinese Communist Party and Government



The first Provincial People's Congress of Anhui was held in August 1954 and the subsequent Congresses were held in 1958, 1964, 1978 and 1983. The NPCs at different levels are not the administration bodies; the State Council and the different levels' governments are the administrative bodies. The State Council consists of the Premier, vice-premier and the heads of different ministries and commissions which form the Chinese government's administrative apparatus. At the provincial level, there are the corresponding departments in accordance with the State Council. The township is the lowest level of government, usually consisting of a director, one or more deputy directors and the heads of public security, finance sections, family planning office and other sections. At the village committee level, there is a leader, an accountant and a head of militia who are in charge of the administrative affairs of the villages.

The relationship between the Party and the Government has experienced phases of separation-emergence-separation. In the early 1950s, the pressing tasks of China were administrative and institutional rather than political. The Government organizations had to be established and began to function throughout the country. The functions of Party and Government were distinct during the early 1950s. Since the late 1950s, the Party has gradually directed the country towards the line of ideological changes, class struggles and political campaigns. The powers of the Party committees at different levels were strengthened. During the Cultural Revolution (1966-1976) the revolutionary committees were established consisting of representatives of the party, the government and mass organizations; actually the Party committees monopolized everything and the distinction between the Party and government practically disappeared. Since the early 1980s, the separation of the functions of the Party and Government have become part of the economic reform. As Deng Xiaoping pointed out, 'the excessive centralized Party leadership in the past is the root cause of many problems, it created serious bureaucratic style of work. ... the

Party must not exercise leadership in everything' (Deng, 1987: 288). These reforms have also taken place in Anhui: at the end of 1983, the Anhui government started rural administrative reform and changed the commune into the township and production brigade into village committee. The functions of the Party and Government were separated again (Provincial government of Anhui, 1985).

2.3 Rural Development of Anhui

Anhui is mainly an agricultural province. During the 1950s the farmers constituted more than 90 per cent of the total provincial population, and in 1985 the proportion was still as high as 83 per cent, 6 per cent higher than the national average. From 1949 to 1983, the rural development of Anhui can be divided into five stages:

1. Economic recovery and first Five Year Plan (1949-1957). The land reform of the early 1950s mobilized the enthusiasm of the farmers and agricultural production developed rapidly. In 1952, total agricultural output value reached 4,727 million *yuan*, 25.6 per cent higher than in 1949, and the average growth rate was 8.0 per cent. It continued to grow to 6,092 million *yuan* in 1957 and the average growth rate for 1949-1957 was 7.4 per cent.

In 1955, Anhui started the movement of agricultural co-operative transformation. By the end of that year, 92,686 co-operatives were established, and 5,777,000 households, 85 per cent of total households, had joined the co-operatives. The farmers' living standards gradually increased, and per capita grain consumption of farmers reached 308 kg in 1957, a 34.2 per cent increase from 1949. This suggested a bright future for agricultural development.

2. Great Leap Forward and second Five Year Plan (1958-1962). Late in 1958, rural Anhui rapidly introduced people's communes. Under the pressure of 'jump into communism', the economy was overheated. There was a movement towards extreme boasting and exaggeration of the agricultural production of China. Anhui was not an exception; many communes claimed that the grain yields per *mu* were well over 5,000 kg, an impossible achievement at that time. The Great Leap Forward soon led to complete failure in rural development and three years of famine, 1959-1961. In 1962, the total agricultural output value of Anhui was reduced to 3,870 million *yuan*, 36.5 per cent lower than in 1957; from 1958 to 1962 the annual rate of reduction was 8.7 per cent. Per capita grain was reduced from 308 kg in 1957 to 210 kg in 1961. Rural Anhui was seriously affected by famine. For example, the survey of Liyuan commune of Fengyang county showed that the commune's cultivated land was reduced from 23,400 *mu* in 1955 to 14,800 *mu* in 1961. Beside the lack of seed grain, reductions in land use were probably the result of declines in numbers of draught animals (Kane, 1988: 78). The total grain production of the commune was reduced from 2.9 million kg in 1957 to half a million kg in 1961, a 77 per cent reduction. Most of the villagers had to flee from the famine, but the conditions in other counties were no better than in their own, so more than half of them died of famine or famine-related diseases. Later statistics showed that Liyuan commune was by no means the worst hit by the famine.

3. The economic reform (1963-1965). Shortly after the famine, there was an economic reform. Rural development gradually recovered from the famine; from 1962 to 1965 the total agricultural output increased by 52.4 per cent and grain production increased by 44.2 per cent. Again there appeared a picture of prosperity.

4. Cultural Revolution (1966-1976). Anhui rural development was seriously affected by that political campaign. At that time, the Dazhai brigade in Shanxi province was lauded as the national model of agricultural development, and the Guozhuang

brigade in Anhui province as the provincial model, with the basic principle that poor conditions lead to revolution and revolution makes richness. In agricultural production, only grain production was emphasized as the key link and other agricultural products and family side-products were regarded as leading to the capitalist road. Those products were discouraged and family side-productions were prohibited. Although grain production increased during the Cultural Revolution, from 9.8 billion kg in 1966 to 14.0 billion kg in 1976, other agricultural production made slow progress: the value of animal husbandry increased at an average rate of 4 per cent a year, the value of fisheries 1.5 per cent and cotton production was almost constant for 10 years. During that time, the agricultural population increased by 11.5 million, a 33 per cent increase from 1966. So the farmers' living standard could hardly be increased; for about 10 years, the per capita income of farmers was around 60 *yuan*.

5. Production responsibility system (1978-). In 1978, Anhui was afflicted with a severe drought, in response to which the Anhui government first tried out the 'responsibility system' in some counties which were seriously affected by the drought; later the responsibility system was ratified by the central government of China and extended to the whole province and China. The responsibility system brought about the rapid rural development of Anhui. Although Anhui was hit by severe floods in 1983, the total agricultural output increased by 47.5 per cent compared with 1978 and forestry, animal husbandry, sideline production and fisheries all increased substantially. There were about 1.4 million 'specialized' households in 1983, comprising 15 per cent of total Anhui rural households; they are the people who became richer first in the economic reform and continue to lead the trend of Anhui rural development.

Table 2.3 shows some agriculture indices of China and Anhui. From 1952 to 1983, the total cultivated land of Anhui decreased by 20 million *mu* while the agricultural

population increased by 16.5 million, consequently per farmer cultivated land in 1983 was reduced to half of that in 1952, from 3.1 *mu* to 1.5 *mu*. The average annual rate of reduction of cultivated land and rate of increase of population are 23.7 per thousand and 8.6 per thousand respectively.

Table 2.3 Selected Agricultural Indices of China and Anhui

	1952	1965	1978	1980	1983
Total cultivated land (000 <i>mu</i>)					
China					
Anhui	867,27	72,764	67,037	66,693	66,518
Per capita cultivated land (<i>mu</i>)					
China					
Anhui	3.1	2.5	1.6	1.5	1.5
Total value of agric. output (1980 price level)					
China	100	100	100	100	100
Grain production	83.1	75.8	67.8	63.7	62.0
Forestry	0.7	2.0	3.0	4.2	4.1
Animal husbandry	11.5	14.0	13.2	15.3	14.7
Sidelines	4.4	6.5	14.6	15.1	17.5
Fisheries	0.3	1.7	1.4	1.7	1.7
Anhui					
Grain production	71.1	73.9	74.3	72.5	74.3
Forestry	0.3	2.3	2.5	2.4	2.3
Animal husbandry	16.0	16.1	15.5	15.8	13.0
Sideline	10.6	6.3	6.9	8.3	9.3
Fisheries	1.4	1.5	0.8	1.0	1.2
Grain yields per <i>mu</i>					
China	88	109	169	183	227
Anhui	74	100	160	161	220
Per capita grain (kg)					
China	288	272	319	327	380
Anhui	300	294	315	297	390
Per capita income of farmers					
China		107	134	191	310
Anhui		108	102	185	305
Bicycles per household					
China			0.31	0.37	0.63
Anhui			0.11	0.16	0.39

Sources: State Statistical Bureau, 1985a; Provincial Government of Anhui, 1985; China Population Information Centre, 1986b.

Since the 1950s in China the structure of total value of agricultural output has changed considerably: the value of grain production has steadily declined and all

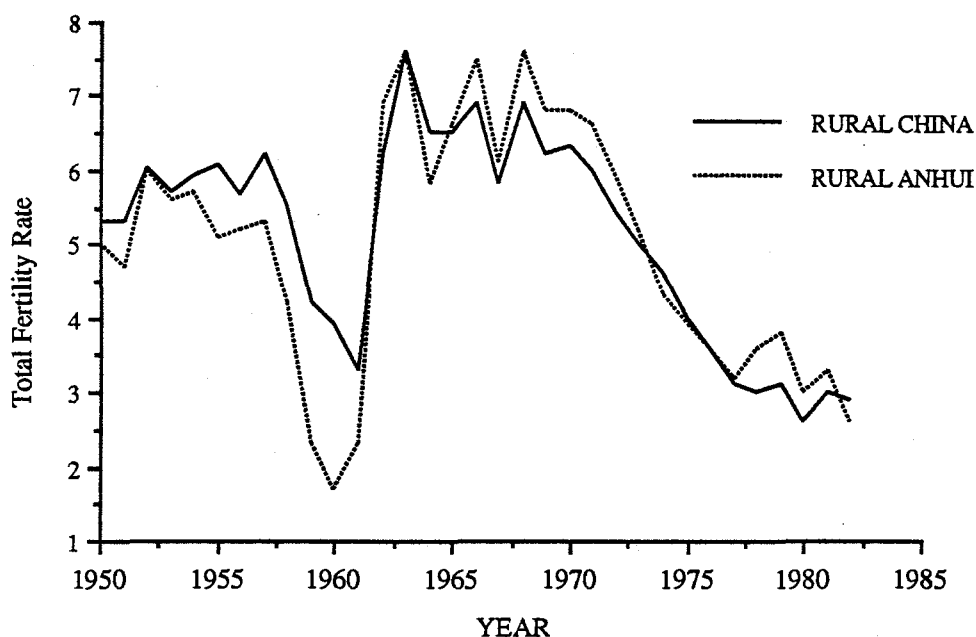
other components have gradually increased, especially sideline production which has more than trebled in 30 years. This is, of course, mainly due to economic reform; the township (commune) owned light industries and private enterprises in rural China have mushroomed since the later 1970s. The rural development of Anhui has not followed the national pattern: the values of all components of agricultural output have not changed much, and no clear trends could be observed. When the actual conditions of Anhui are considered, some drawbacks of Anhui rural development can be seen: for example, forest areas occupy one fourth of Anhui's total area, but the total value of forestry products has accounted for less than 2.5 per cent of total agricultural output since 1952. Anhui has the second biggest fishing area in China, but the value of fishing in 1983 was only the 13th in China. This suggests that other agricultural productions in Anhui have yet to be developed. The grain yield per *mu* and per capita in Anhui have been close to the national average level since 1952. There was a jump from 1980 to 1983 and in terms of grain yields per *mu* and per capita, Anhui was ahead of China: 37.5 per cent increase of grain yields per *mu* compared with 26 per cent increase in China. This may suggest that though Anhui was the pioneer of the 'responsibility system' and benefited from the earlier start of the new system, there is no guarantee that Anhui will continue to lead rural development in China. In fact, considering the present situation in Anhui, such as the higher illiteracy rates of the labour force, lack of science and technology development and very low per capita fiscal revenue, etc., it is more likely that it will slow down in future rural development. For the light industry products, it can be seen that the number of bicycles and sewing machines per household in Anhui has been considerably lower than in China since 1978. The lack of development of Anhui's light industry, as mentioned before, is mainly responsible for the lower level of possessions. It also reflects the lack of purchasing power of light industry output in rural Anhui (Luo, 1985: 135).

Anhui as a whole stands at the lower middle level of socioeconomic development in China. Anhui's rural development is in a state of imbalance, although grain production has been close to the national average, especially since the later 1970s; however the development of other agricultural products (forestry, animal husbandry, sidelines and fishing) lags behind the national trends.

2.4 Levels and Trends of Rural Fertility in Anhui

Figure 2.4 gives the TFR (total fertility rate) of rural China and Anhui, 1950-1982. The TFRs of Anhui were lower than the national level before 1960. From 1950 to 1955, on average, Anhui's TFR was 6.5 per cent lower, which may partly reflect poor reporting in Anhui. During the economic crisis and three years of famine (1959-1961), the TFR of Anhui on average was about 45 per cent lower than that of China; the lowest fertility in Anhui was 1.7 in 1960, which was only half of the national minimum (3.35). During the baby-boom period (1962-1972), Anhui's fertility was higher than that of China; the average for that period was 6.74 in Anhui and 6.4 in China: Anhui was about 5.3 per cent higher. From 1973 to 1977, the TFRs of Anhui were close to the national pattern, but during the late 1970s and early 1980s, the TFRs of Anhui were about 12.5 per cent higher than the national average. This may suggest the stronger resistance of Anhui's farmers to the One-child Family policy after the 'responsibility system' in rural areas. Generally speaking, Anhui's fertility was not only sensitive to the economic crisis and famine, but also sensitive to the economic reform and population policy; fertility was below the national level during the economic crisis and famine, above the national level during the baby-boom, back to the national level during the rigid implementation of population policy and again above the national level in the recent economic reform.

Figure 2.4 Total Fertility of Rural China and Anhui, 1950-1982



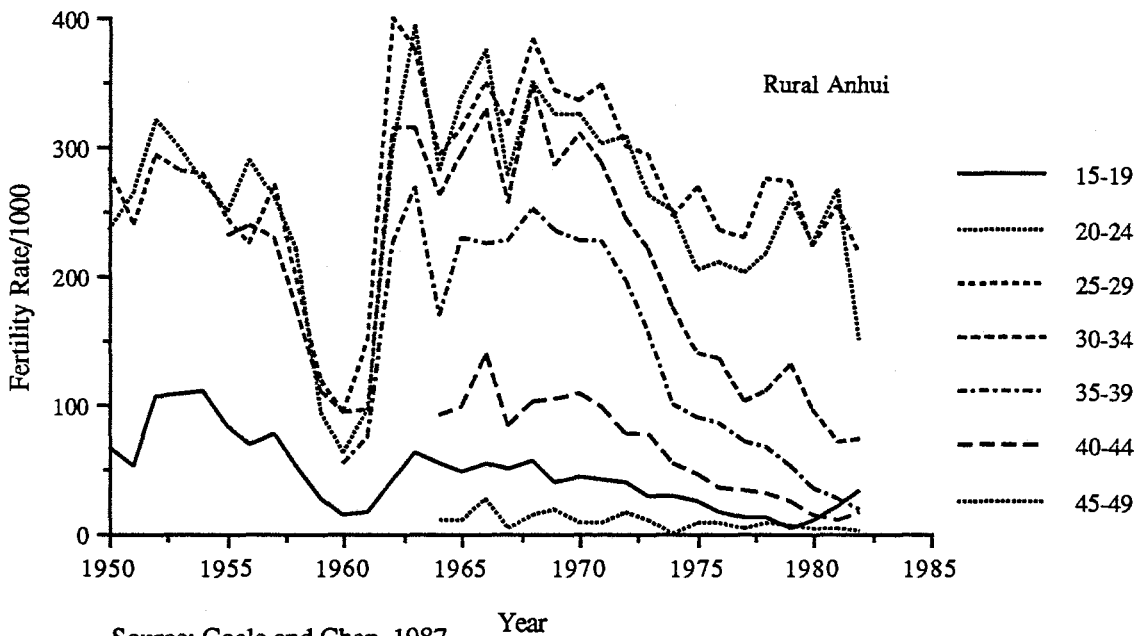
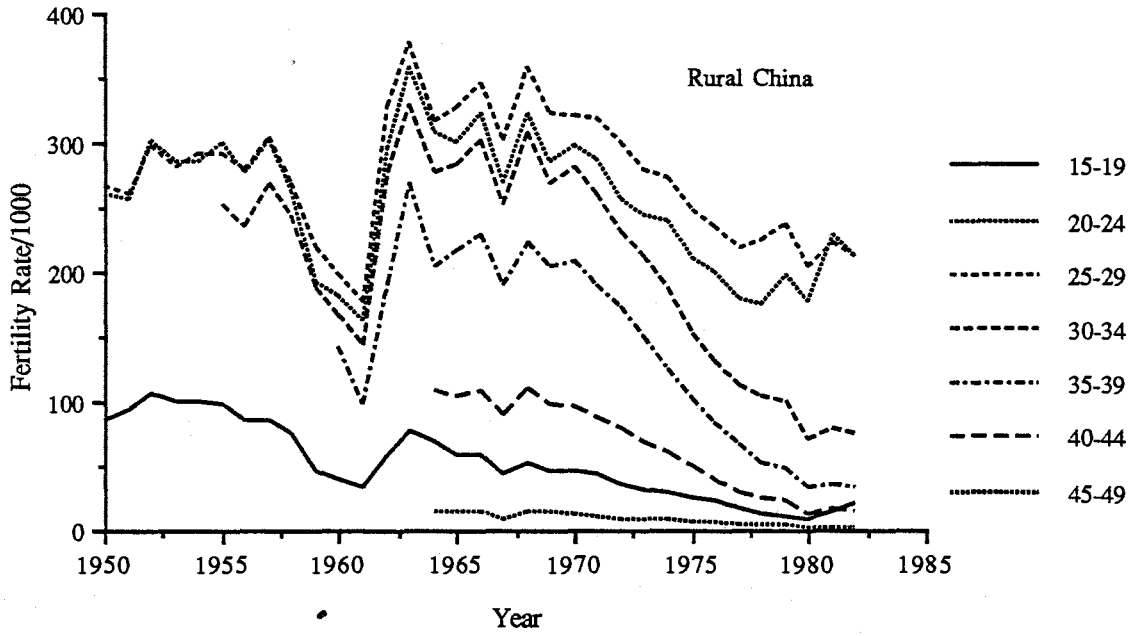
Source: Coale and Chen, 1987

Figure 2.5 provides the rural fertility changes of China and Anhui by age groups from 1950 to 1982. Age-specific fertility rates (ASFR) in rural China varied in a synchronized way until the late 1960s, after which fertility at all ages except perhaps ages 45-49 underwent a large sustained decline. The synchronism of the variation until the late 1960s, as pointed out by Coale and Chen (1987: 7)

suggests that the variations from year to year had a quasi-biological source, since voluntary control by means of contraception or induced abortion normally affects fertility at higher durations more than at lower durations, as is evident in the downward trend after 1969. Possible quasi-biological factors were disruptions of married life caused by a change in living arrangements due to collectivization and disruptions of married life or even reduced fecundability caused by an economic crisis, including widespread famine.

Because of the very high proportion of married women even at ages 20-24, rural fertility rates at ages 20-24 and 25-29 in China were virtually identical from 1950 to 1957. In the late 1950s, fertility at ages 20-24 began to fall below fertility at ages 25-29 as later marriage reduced the proportion married among women in their early

Figure 2.5 Age Specific Fertility Rates of Rural China and Anhui, 1950-1982



Source: Coale and Chen, 1987

twenties. The proportion ever married at 20-24 declined from 87.4 per cent to 75.2 per cent in 1969, 59 per cent in 1979 and 44 per cent in 1979.

During the period of the Great Leap Forward, followed by three years of famine (1958-1961), fertility at all reproductive ages experienced a tremendous decline, reaching its lowest point in the entire post-1950 period, mainly because of the economic crisis and three years of famine (1959-1961). Fertility at ages 20-34 declined no less than 35 per cent from 1958 to 1961. Shortly after the famine, fertility at all ages peaked in 1963 and the rates were more than doubled in less than three years. The exceptionally high fertility of 1963 was partly due to the compensation effects after the famine. From the early 1960s to the early 1970s, fertility remained at a high and unstable level, which might reflect the effects of social turmoil (Cultural Revolution) and lack of population policy in rural China. Since the early 1970s, fertility at all ages has undergone a substantial decline, especially for women aged 30+. This coincided with the gradual implementation of a rigid population policy in China.

The greater oscillations are the first impression of Anhui's fertility changes in comparison with China. In the early 1950s, this feature had already been revealed. During the economic crisis and three years of famine, Anhui's fertility at all ages underwent a dramatic decline; the lowest fertility in Anhui was in 1960, one year earlier than the national fertility decline. Fertility of Anhui in 1961 was no less than 45 per cent lower than national fertility in the same year. Even in 1961, Anhui's fertility recovered somewhat from its level in 1960, but it was still considerably lower than the national level. This suggests that Anhui was hit by the economic crisis and famine earlier, more seriously and probably for longer than other provinces of China.

Fertility soon swung back and peaked in 1963; Anhui's fertility at ages 20-24 and 25-29 exceeded the national average level. During the baby-boom (1962-1972), there were two fertility fluctuations in Anhui just as in China, in 1967 and 1969, which probably reflected the impacts of marriage concentration soon after three years of famine. Fertility changes in Anhui in both fluctuations exceeded the national level, especially for women of age groups 20-34. Since 1972, the fertility decline for women aged 30+ in Anhui has more or less followed the national pattern; fertility at ages 20-29 declined at a slower speed than in China as a whole.

2.5 Summary

In summary, Anhui is mainly an agricultural province with rich natural resources and an abundant labour force. Geographically, moving from north to south of Anhui it features plain, hilly and mountain areas whose main products are wheat and coal; wheat, rice, fishing and light industrial products; forest products and tea respectively. Anhui province, on average, stands at the lower middle range of socioeconomic development. Before 1980, the rate of socioeconomic development was rather slow, but in the late 1970s, Anhui was a pioneer of the 'responsibility system' and since then its rate of development has exceeded the national average. Population growth rates in Anhui were higher than the national average during the 1950s, and much lower than the national average during the three years of famine, suggesting more serious effects of famine. From the early 1960s to 1975, its growth rates were higher than the national average, and they have been closer to the national pattern afterwards. Basically the same pattern was observed with regard to rural fertility changes in Anhui.

Chapter 3

Planned Societal Changes in Rural Anhui

3.1 Introduction

In this chapter, the major events of planned societal change in rural Anhui are examined in historical order, providing a basis for understanding the social system, and also for understanding the circumstances in which the family planning program is carried out in rural Anhui.

3.2. Land Reform and Agricultural Co-operation Movement, 1949-1957

On 30 January, 1950, shortly after the national liberation (1949), the Central Government of China announced the 'Regulations of Land Reform in China', and the first agricultural reform was started. Land has been the essential issue in rural China: the peasants have lived on their land for thousands of years and it is their lifeblood. Before the liberation (1949), most of the land was possessed and controlled by a small number of landlords and leased to the poor peasants. The main purpose of land reform in early 1950s was to redistribute the land to the majority of poor peasants and to realize their dream of many years, 'Land to the Tiller'.

In rural Anhui, the land reform started in late 1950. Every county government sent land reform teams to the rural areas, and the first stage was to mobilize the masses and to stress the significance of land reform; meanwhile the teams investigated the socioeconomic conditions of the villages. Then followed a key step in land reform: the classification of classes. In April 1950, the Central Government released several documents about how to classify the classes in rural China. On the basis of possession of land and degree of exploitation, the peasants were classified into five major classes: 1. Landlord. 2. Rich peasant. 3. Middle peasant. 4. Poor-lower middle

peasant. 5. Farm hand. The general line of land reform was to rely on the poor-lower middle peasants and farm hands, united with the middle peasants, to neutralize the rich peasants and gradually eliminate the exploitation system controlled by the landlords and some rich peasants. Before the land reform, about 40 per cent of the cultivated land in rural Anhui was owned by 409,400 landlords and rich peasants who constituted only 6.5 per cent of the total rural population. Table 3.1 shows the land distribution by different classes in rural Anhui before and after land reform.

Table 3.1 Land Redistribution by Different Classes in Rural Anhui Before and After Land Reform, 1950- 1951

Classes	Households (1,000)	% of Total Households	Land (1,000)	% of Total Land	Land per HH (<i>mu</i>)*
Before Land Reform (1950)					
Landlords	240.5	3.8	25,257	30.9	105.1
Rich Peasants	169.0	2.7	6,477	7.9	38.4
Middle Peasants	2,288.0	35.2	29,358	37.0	12.8
Poor Peasants	3,088.4	48.9	15,382	18.8	5.0
Farm Hands	366.0	5.8	480.0	0.6	1.3
others	162.0	2.6	455.1	0.6	2.8
After Land Reform (1951)					
Landlords	24.0	3.8	3,225	3.9	13.5
Rich Peasants	168.9	2.7	4,567	5.6	27.1
Middle Peasants	2,287.0	35.2	37,347	45.6	16.3
Poor Peasants	3,095.2	48.9	31,789	38.9	10.3
Farm Hands	366.8	5.8	2,978	3.6	8.1
Others	162.5	2.6	579	.7	3.6

Source: Anhui Statistic Bureau, 1984. *HH=Household.

After land reform, 87 per cent of landlords' and 26 per cent of rich peasants' land was redistributed to other classes. Poor-lower middle peasants and farm hands gained, on average, 6 *mu* of land per family, middle peasants also slightly gained some land, about 3.5 *mu* per family. Landlords and rich peasants respectively lost 91.6 and 11.3 *mu* of land per family. The land reform was a fundamental change in economic structure in rural areas: it eliminated the ancient feudal land system and set the scene for increased rural productivity. After the land reform, the Central

Government also launched a series of rural economic policies in favour of rural development, such as taxation and finance policies, and the state monopoly for purchase and marketing of grain. The total value of agricultural production of rural Anhui increased at a speed of 6.2 per cent annually from 1950 to 1957, while per capita grain of peasants increased from 220kg to 330kg and income from 25 *yuan* to 75 *yuan* (Anhui Statistical Bureau, 1985; State Statistical Bureau, 1985). There was a sense of prosperity in rural Anhui. After the land reform, although 25.3 million middle and poor-lower middle peasants accounting for 93 per cent of Anhui's rural population gained 27 million *mu* land and 200,000 cattle, the means of production per family were still very limited. Land was one of the basic means of production; given the lack of other means of production, such as farm animals, tools and farm machinery, the prosperous peasants mainly depended on the size of the labour force and the labour skills the family had. There were basically four different kinds of families: 1. Among the big families with more labour and skills, although they had a poor foundation to start with, the living standard steadily increased; their main fears were unexpected disasters. 2. Among small families with a smaller labour force, but some labour skills, as long as the main labour force was healthy, the living standard could be expected to increase gradually. 3. Small families with few workers and few skills could rarely improve their living standard. 4. Big families with few workers and few skills were in difficulty and could not expect to improve their standard of living. Traditionally, only adult males were regarded as the labour force and the labour skills also passed to them. So the peasants realized that the more workers and skills they had, the more the family could prosper; these were the major determinants of family prosperity during the early 1950s. In fact, the land reform strengthened the traditional culture of son preference and provided incentives to the peasants to have bigger families. That was the fundamental driving force in the demand for more children in rural areas during the early 1950s. Meanwhile, the Chinese government also encouraged people to have more children, as Chairman Mao Zedong stated, 'People are the most valuable resources in the world... the more people, the easier for

economic development in China' (Mao, 1957: 387). With the end of the turmoils of war, people had a peaceful life and the public health services were improved, so naturally fertility steadily increased in rural Anhui from the early 1950s.

After land reform, the individual families became the basic production units, but owing to the poor economic conditions and uneven distribution of labour forces among the families, some families naturally organized their production together into what were called 'mutual benefit production groups', which indicated that the peasants had in themselves the seeds of co-operation. More and more families gradually realized the strength of getting organized, and more of them joined the 'mutual benefit groups'. That was the origin of the second rural reform in China: the 'Agricultural Co-operation' campaign. In the first stage, there were the 'mutual benefit groups', which were gradually extended to the 'elementary agricultural producer's cooperatives'. At that stage, the land still belonged to the individual families; the distribution of the product was according to the amount of work each member did and the amount of land he contributed as a shareholder. In July 1955, Mao Zedong gave a speech about agricultural co-operation which led to a sharp intensification of the agricultural co-operation campaign in rural China. In that campaign, the Anhui government revealed its capacity for manipulating people: for example, before August 1955, only 13.6 per cent of families in rural Anhui had joined the advanced Co-operative, by the end of that year 85 per cent of families had joined, there were 92,686 advanced co-ops including 5.8 million families, and a considerable percentage of families were forced to join (Provincial Government of Anhui, 1985: 264). At the beginning of 1956, the transformation of elementary to advanced agricultural producer's cooperatives in rural Anhui was finished; Anhui was one of the fastest provinces completing that campaign in China. The fundamental difference between the elementary and advanced Co-op was land ownership: in the advanced Co-ops the land and other chief means of production belonged to the Co-ops and the distribution system was based on the principle of

'from each according to his ability, to each according to his work'. By the end of 1956 the transformation of the agricultural system into a socialist system was completed. The peasants actually owned the land from 1951 to 1956, and although during that time rural socioeconomic conditions were poor, possessing the land mobilized the enthusiasm of the peasants, and agricultural production increased steadily. In 1956, the land was taken back by the government which gradually eliminated peasants' incentives to production; since then the government has planned a series of social structure and ideological changes, and one political campaign after another has brought about national disasters. Fertility also fluctuated wildly with these campaigns and man-made disasters. The driving force behind these changes is the Communist Party and its bureaucratic system which served as a tool to carry out these campaigns.

3.3 Changes in Social Structure in Rural Anhui

The process of agricultural co-operation or socialism was accompanied by another fundamental social structure change: the establishment of the centrally controlled bureaucratic system. This system greatly emphasized the role of ideological changes in socioeconomic development, especially the role of Marxism-Leninism-Mao's thoughts, and carried out a series of political campaigns and different socioeconomic policies, including population policies. Analysis of the changes and functions of social structure in rural areas helps to understand the implementation of population policies and the dramatic fertility decline since the early 1970s.

Historically, the county was the lowest level of local government in charge of the affairs of towns and villages. Above the county was the highest level of local government, the province. By the 1954 Constitution of China, one level of local government in rural areas, *xiang* (commune after 1958) under the county

administration was added. On average, a county has 40 to 50 *xiangs* and a *xiang* has 5 to 10 production brigades. In 1955, there were 9,593 *xiangs* in rural Anhui; in 1956, they merged into 3,577 *xiangs* with 29.4 million total rural population.

At each level of local government, there were the corresponding party committees. The main functions of the *xiang* government were supposed to be economic management and public welfare in the villages. The party committee was in charge of ideological education and remodelling, and the party members were supposed to set 'revolutionary examples' in the villages to lead the way to socioeconomic development. During the early 1950s, the functions of the *xiang* government and the party committee were more or less separated; the *xiang* government played a major role in socioeconomic development. After the transformation of agricultural co-operation in 1956, the economic structure of rural China changed from individual family to collective ownership. Land and other chief means of production were collectively owned and the products were collectively distributed. It did not make much difference whether or not one worked hard. The peasants' direct interest in production gradually weakened; from the economic point of view, the system no longer produced any internal incentive for peasants to work hard. Under these circumstances, motivation for production could only come from the moral encouragement which is the main job of the party committee. The party believes that the correctness or incorrectness of the political line decides everything; once the correct political line is decided, the party cadres become the decisive factor in carrying out the corresponding policies and campaigns. In the mid 1950s, the central party's general line shifted in terms of ideology and class struggles which led to the party committees taking an enhanced leadership role at local government levels. The campaign of the people's communes in the later 1950s actually started the centralized party leadership in rural China.

3.4 Great Leap Forward and Three Years of Famine (1958-1965)

The origin of the people's commune was in Xinxiang county, Henan province in 1956. Mao Zedong visited the first commune in 1957. At the 6th Plenary session of the 8th Party Congress of 1958, the central committee, on the basis of Mao Zedong's suggestion, released 'A resolution for the problems of the people's commune' which set off a high tide of the people's commune campaign. The campaign started in Anhui in September, 1958, and in about three months, there were established 1,010 people's communes which included 9,590 production brigades and 7.2 million families. By the end of that year, the provincial government announced that the people's communes were organized throughout rural Anhui. Anhui was again one of the fastest provinces to complete the people's commune campaign. The people's commune was usually based on the *xiang* administrative region: a few *xiangs* combined into a commune or a bigger *xiang* might itself become a commune. Officially, the people's commune was an organization which integrated government administration and economic management, but the Party committees actually took all the leadership and monopolized everything; the local government administration existed in name only. The centrally controlled Party leadership was realized through the people's commune campaign. On the management side, the people's commune was the basic accounting unit and the production teams under the production brigades were the basic labour production units; actually the people's commune planned all production. For the distribution system, the commune applied jointly the wage and supply system; the supply system was a system of payment in kind which was supposed to have some elements of communist society. In fact, it was an egalitarian system: grain, private plots and household land were distributed according to the number of people in each family; bigger families with fewer workers and more children could get more grain, other food and private land than families with more workers and fewer children. Although the bigger families with more children used to be worse off, the people's commune distribution system brought them to about the same level as the others. This provided some incentives

for the peasants to have more children, not for direct economic considerations as after the land reform, but as a result of the egalitarian distribution system.

The people's commune campaign soon led to the 'Great Leap Forward' (1958). The general line of the Party that guided the Great Leap Forward was 'Going all out, aiming high and achieving greater, faster, better, and more economic results in building socialism' (Chen, 1958: 77). That was a period during which production figures and improvements in peasant living conditions were exaggerated greatly. In Anhui, the communes set up common dining rooms and dormitories and tried to apply the communist system of distribution according to needs. The communes reported higher and higher and impossible production yields per *mu* and rushed into the communist society. Unfortunately, nothing worked as expected, and rural development was soon destroyed by the Great Leap Forward, which was followed by three years of famine (Peng, 1987). Rural Anhui was one of the provinces worst affected by the famine: some villages were completely empty, as many people were dead of hunger and some wandered away in search of food; in some counties two thirds of the population died of hunger and famine-related diseases. The crude birth rate dropped from 20 per thousand in 1959 to 2.3 per thousand in 1961 and the crude death rate increased from 16.7 per thousand in 1959 to 68.6 per thousand in 1960; both figures set national records. The result of the famine was to provide firm evidence of the faults in economic planning and management of the people's commune campaign. Unfortunately, the Party headed by Mao Zedong turned the blame onto the Soviet Union for its pressure on China to repay the foreign debt. It also blamed the local leaders for their proneness to boasting and exaggeration in production during the years of natural disaster (1959-1961).

Nevertheless, the Party tested the strength of mobilizing the masses by emphasizing the ideological changes in economic development through the centralized

bureaucratic system. This line of manipulating the people and society continued to develop in later years.

Shortly after the famine, there was a period of reform (1962-1965). In rural Anhui in order to recover from the famine, the peasants spontaneously carried out some kind of 'responsibility system' known as *San Zi Yi Bao* (More plots for private use, more free markets, more enterprise with sole responsibility for their own profit or loss, and fixing output quotas on a household base). From late 1961 to early 1962, that system was adopted by more than 85 per cent of production brigades in Anhui. The reform brought about rural development in Anhui: the total value of agricultural production increased by 52.4 per cent from 1962 to 1965 and per capita grain increased from 214kg to 294kg. Since the economic development was contradictory to the Party's general line, the 'responsibility system' was soon prohibited as attempting to follow the capitalist road. In 1963, rural Anhui started the 'Four-clean-ups' campaign: a nation-wide movement to clean things up in the fields of politics, economy, organization and ideology, 1963-1966. At the beginning, the campaign was aimed at the peasants who favoured *San Zi Yi Bao*, many of whom were forced to do self-criticism and to confess that they attempted to follow the capitalist road. The attack was then directed at the leaders of communes and production brigades who supported *San Zi Yi Bao* and rural economic development, and they were criticized as against the Party's general line and socialist system. The 'responsibility system' was strangled at birth and the focal point of the work was again changed to ideological remodelling and class struggles.

However, the people's commune campaign was the beginning of the centrally controlled bureaucratic system in rural areas. The Great Leap Forward tested and verified the strength of the system to manipulate the people, and the three years of famine showed what serious mistakes the Party could make if actual economic conditions were not considered properly in development planning. But the Party

ignored these warnings, and continued further on the wrong line; the 'Four-clean-ups' campaign in 1963 was only a prelude to another national disaster: the Cultural Revolution (1966-1976). Population growth and fertility behaviour inevitably fluctuated with these planned changes.

3.5 The Cultural Revolution (1966-1976)

Power struggles among the top leaders resulted in the Cultural Revolution, which the people, especially the Red Guards, were fooled into thinking was a life-and-death struggle between the proletariat and bourgeoisie, socialism and capitalism. Though the main battlefields were in urban areas, the rural areas were affected. In rural Anhui, the campaign 'Learn from Dazhai and catch up with Guozhuang' ran through the Cultural Revolution: Dazhai, a village in Shanxi province, was the national example of agricultural success; Guozhuang, a village in northern Anhui, was the provincial example. The basic principle of these examples was that poor conditions led to revolution and revolution made wealth. In order to have the revolution, the peasants must have the revolutionary spirit which could only come from learning Mao's thoughts and fully criticizing and cleaning up the capitalist thoughts that the peasants spontaneously had. It was believed that the main manifestation of capitalism was private ownership; in order to block the way of capitalism and move along the socialist road, the communes put undue emphasis on large size and having a higher degree of public ownership, which in fact further disconnected the peasants' interest from production.

The communes planned and managed production and the peasants worked collectively and did not have any rights to decide what to do. Only grain production was emphasized, other production was regarded as not following the socialist road. The distribution of grain and other food was still according to the number of people

in each family. The working points of each family were accumulated to the middle and end of the year's distribution to cover the cost. The working points of the labour force were fixed on a daily basis, ranging from 5 points for a half and 10 for a full unit of labour; one point was worth from 2 to 20 cents (Chinese *renminbi*) depending on the prosperity of the production brigades. A full labour unit might earn 20 to 50 cents daily. The families whose working points were not sufficient usually received subsidies; they were often the families which had more children and a smaller labour force. The families with more labour were only slightly better off than others after payment of the extremely low income. For most families, cash for buying salt, food oil and cloth came from selling eggs, pigs and other family products which were strictly limited to prevent the restoration of capitalism.

As a result, rural development in Anhui stagnated during the Cultural Revolution. Although only grain production was emphasized, per capita grain production of Anhui in 1978 was 314 kg, only 6 kg more than in 1957. Per capita income in 1978 was 66 *yuan*, only 6 *yuan* higher than in 1950; taking into account inflation, the living standard of the peasants actually declined. The provincial government announced a 30 per cent decline in standard of living in 1978 from 1955. During that time, a bigger labour force did not seem to promise a family future prosperity because the system restrained them from becoming rich, but bigger families with more labour did provide more security in case of any kind of emergency or disaster and also potentially more security for the aged. Also the cost of raising children was very low: there was a saying that 'One additional mouth in the family is not more difficult than adding one more pair of chopsticks', and the families with more children were likely to get more shares from the collectives. So it is not likely that a series of planned campaigns altered the peasants' demand for more children very much, although the underlying determinants were shifted around with these campaigns.

3.6 Responsibility System (1978-)

The overthrow of the 'Gang of Four' in October, 1976 ended Mao's 27 years of dictatorship, and opened a possible way of reform in China. The rural reform of China actually started in Anhui in the middle of 1978. In that year, Anhui was hit by the biggest drought in a century; about 60 million *mu* of cultivated land, accounting for 90 per cent of total cultivated land, was affected by the drought and 4 million people even ran short of drinking water. Many communes could not continue the autumn sowing; instead of letting the land lie fallow, some production teams in Feixi county decided to apply the method of 'fixing of farm output quotas for each household', which was the method adopted in 1962 after the three years of famine. It had helped the peasants to recover from the famine, although the method was criticized as following the capitalist road; since then, the effectiveness of the method for rural development could hardly have been forgotten by the peasants. At the beginning, the cadres at all levels were afraid to support it, but fortunately, at the Third Plenum of the Eleventh Party Central Committee in December 1978, the reformers headed by Deng Xiaoping scored a decisive victory, and the path was cleared for a subsequent program of reform. The meeting also passed the modified 'Regulations Regarding the Work of Communes'; first released in 1962, the modified 'Regulations' emphasized the importance of rural economic development. After that, the provincial government of Anhui investigated the production teams where the 'responsibility system' was adopted and decided to extend the system to all rural Anhui; by the end of 1979, there were 37,900 production teams. Ten per cent of total teams adopted some kind of responsibility system; this increased to 95 per cent of production teams in 1982 and in the following year, the system was adopted by all production teams in rural Anhui.

Initially, there were basically two kinds of responsibility systems. In the responsibility system without direct connection with production outputs, production teams owned all means of production and planned all production, but they assigned the basic working points to the labour force of each family. The number of basic working points each family had was used as a criterion to distribute an amount of land to each family, then the outputs of the crops were calculated according to the different land and crops and then fixed for the households who agreed with the quotas. If the households produced more than the fixed quotas, they got a material bonus, usually fertilizer, farm chemicals or grain; if they failed to achieve the fixed quotas, basic working points were deducted. The pre-fixed outputs had to be submitted to their production teams for unified distribution among all the peasants according to the working points.

The second kind of responsibility system had a direct connection with production outputs. In that system, the means of production were still owned by the production teams, but all land and outputs of crops were distributed and assigned to each family. Each family signed the contract about how much grain or other products they should submit, and how much they should pay for the accumulation fund and funds for public welfare of production teams; the family received whatever remained. This system is called *Da Bao Gan* (comprehensive contract) and gradually became the dominant form of responsibility system.

Linking the peasants' interests directly to the production outputs is the essential point of the responsibility system; instead of lacking interest in the production as before the reform, the peasants not only pay great attention to production, but also to production management because to a large extent the quality of the management determines the production yield. Second, the responsibility system fundamentally changed labour force management from collectively planned to individual family management; the families sign contracts with production teams and plan their own

production, and have the right to decide what to do and when it shall be done. As a result, production and the peasants' standard of living have substantially improved, while peasants feel that they have more free time than before. Third, as the families are in charge of the whole process of production under the responsibility system, it provides great incentive for the peasants to learn some agricultural technology in order to achieve better management and higher production. Table 3.2 shows some indices of peasants' living standards in rural Anhui in 1978 and 1983.

Table 3.2 Some Indices of Peasants' Living Standard in Rural Anhui, 1978 and 1983

Items	Unit	1978	1983	% Change 83/78
Per capita income	<i>Yuan</i>	113.1	305.0	169.0
Per capita living exp.	<i>Yuan</i>	102.5	258.4	152.2
Per capita grain	Kg	273.2	284.1	4.1
Per capita food oil	Kg	2.3	4.3	83.4
Per capita meat	Kg	4.3	8.0	85.5
Per capita clothes cons.	M	5.2	6.0	14
Per capita living space	Sq ²	8.4	12.4	47.6
Bikes per 100 people		10.5	39.4	274.4
Radios per 100 people	Set	14.0	70.8	404.5
TV per 100 People	Set	0	1.1	
Doctors per 1,000 people		1.3	1.4	7.1
Total Savings	1,000 <i>Yuan</i>	97,860	825,360	743.4

Source: State Statistical Bureau, 1985b.

In 1983 the average living expenses of peasants were 258 *yuan*, 1.5 times more than in 1978 and 2.6 times more than in 1957. In five years from 1978 to 1983, living expenses increased by 156 *yuan*, whereas from 1957 to 1978, they had only increased by about 30 *yuan* in 21 years.

The responsibility system soon led to the development of 'specialized households' and rural light industries. The 'specialized households' specialized in certain activities, such as pig, chicken and other livestock raising, rice and wheat ploughing and household sideline productions, etc., and they got rich first; sometimes they were

called '10,000 *yuan* households' which means they earned more than 10,000 *yuan* annually. There were about 1.4 million of these households in 1983 in Anhui and they led the way in rural reform. Rural light industries have also been springing up vigorously during the rural reform, and the rural economic structure has developed towards a united agriculture-industry-commerce system; in 1983 the total value of rural light industry in Anhui had increased by 91 per cent from 1978. The peasants also went to the towns or cities to set up small shops, to undertake civil engineering projects and to provide other services; in 1983 in Anhui more than half a million peasants were involved in Anhui province, and the numbers seem to be rapidly increasing.

As expected, rural reform has also brought some problems:

1. Effects on the fixed assets and public welfare of the production teams. In many production teams, not only had the land been redistributed to the peasants, but the public buildings, agricultural machinery, accumulated funds and other fixed assets of the production teams were also removed, dismantled and redistributed by the peasants. The production teams practically existed in name only. Consequently, there was a serious effect on public works, such as repair of old school buildings, building of irrigation systems, and caring for the 'five guaranteed' households.

2. Effects on families. The land was distributed according to the number of persons in each family and similar problems occurred as after the land reform in the early 1950s. There are basically three kinds of families with difficulties. The bigger families with a small labour force and few labour skills have more land than they can handle. In some families, the head of the household, usually the husband, works in the towns or cities as a cadre or worker, as they do not have enough workers to plough the land. These two kinds of families have to pay 20 to 50 *yuan* per *mu* to hire help to work on their land during the ploughing and harvesting seasons. There

are also other families with sufficient workers, but lacking labour skills, mainly as a result of laziness under the commune system. Some of their members are cadres and their main objectives used to be ideological remodelling and class struggle: they did not know what to do about production management.

3. Effects on the leadership and cadres. The change in fundamental economic structure towards individual family-centred production resulted in a substantial weakening of leadership in most of the production teams and some of them completely broke down, and the cadres resigned. The peasants complained of the heavy burden of paying subsidies to the cadres; the production brigade usually had 20 or more subsidized cadres, four of whom (Party branch secretary, production brigade leader, head of militia and accountant) received fixed subsidies of 300 to 600 *yuan* a year while the others received subsidies for losing working time. The head and accountant of the production team usually got 100 or more *yuan* a year. Apart from the subsidies, these cadres also got land and they spent most of the time on their own land instead of managing the village work, so their incomes were higher than the average level. This also affects barefoot doctors and some villages stopped having them or reduced their numbers, which indirectly affected the family planning implementation in rural areas.

The responsibility system also has some demographic consequences:

1. Effects on marriage. According to the reports of the Women's Federation, Maternity and Child Care Institute and Youth League of Anhui province in 1988, illegal marriages occurred in most of the rural areas in Anhui. For some administrative regions, illegal marriages were as high as 80 per cent; in some villages legal marriages were less than 10 per cent. An illegal marriage is one in which the couple married below the minimum marriage age (22 years for males and 20 for females) and did not have marriage certificates (*People's Daily*, July 5, 1988).

The main reasons for the high incidence of illegal marriages are as follows. First, under the land distribution system of the rural reform, the land was distributed according to the number of persons in each family and in the middle of the 1980s, most production teams adjusted the land distribution according to the change of numbers in each family, which provided considerable incentives for the peasants to have more children. The peasants said that early marriage and paternity of sons brings three great benefits to the family: a daughter-in-law as a labourer, a grandson as a gift and more land. Second, the ideas of more children and more happiness for the older generation were strengthened during the reform, and the open policies have brought new views about the relationship between male and female through television, films and publications which stimulated the curiosity of the younger people about the opposite sex; these have coincided to push early marriage and childbearing. Third, although illegal marriages are against the marriage law, there is no official punishment for those marriages. Each department goes its own way and there is a lack of co-ordination: for example, judicial departments care more about propagation of the law than execution of the law; departments of civil administration investigate mainly the couples who come for the marriage registration; the offices of family planning care mainly about the use of contraception and childbearing quotas. It makes no difference whether or not the couple is married legally, the Women's Federations safeguard all women's and children's legitimate rights and interests. Under these circumstances, the cadres of village committees have no intention of asking about illegal marriage and enjoy attending the marriage ceremonies; because in the eyes of the community, 'illegal' marriages carry no stigma, the couple has been married according to traditional custom (*People's Daily*, July 10, 1988).

2. The responsibility system brings wealth to the peasants and this renders ineffective some punishments for the couples who have more children. Some peasants, especially those from specialized households, said that it is well worthwhile to have a son and pay a fine of 2,000 *yuan*.

3. In 1988, there were about 1.6 million people who came to the towns and cities in Anhui to work in small business and other jobs; many couples settled in the cities and did not use any contraception, and some of them have more than six children. This 'floating population' seems to be increasing rapidly (*People's Daily*, July 12, 1988). They become the 'blind spot' of the family planning programs.

3.7 Change in Social Structure

Changes in the fundamental economic structure require corresponding changes in the superstructure: the centralized bureaucratic system. Rural Anhui is the pioneer of the responsibility system and is also one of the earliest provinces to adjust the rural bureaucratic system. In August of 1981, the provincial government started a pilot project of reforming the commune system at Kaocheng commune, Fengyang county. The main purpose of the commune reform was to separate the functions of the Party Committee and government administration, and to eliminate the centralized party leadership which had dominated the communes for the last 25 years. Meanwhile, a new committee for economic development was established, which was mainly in charge of the development of rural light industries and agricultural technology. In early 1983, the commune reform was extended to all rural Anhui and by the end of that year, there were established 3,410 townships and 31,305 village committees instead of communes and production brigades. The functions of party committee, government administration and economic committee are clearly defined and it is emphasized that the party committee should not monopolize everything.

The commune reform ended the centralized party leadership at the township (commune) level. Since the centralized system was geared to carry out ideological reform, class struggles and campaigns, the separation of the functions of different departments has brought some difficulties for the implementation of the family

planning policy. Previously the policies were carried out through the centralized bureaucratic system, but now different departments could shift responsibility onto others. Some cadres of family planning complained that 'everyone says that the family planning program is a very important work; in fact, no one really wants to do this work because they know that they will be cursed as wicked for stopping others from having more sons'. Also these changes affected the collection of statistics, so that in 1988 it was admitted that there had been large-scale under-reporting of births in recent years. Early in 1989, the State Family Planning Commission introduced the 'contract system' and tried to improve the implementation of family planning policies during the reform; the development of the family planning program and the contract system is analysed in detail in the next chapter.

3.8 Summary

Apart from the family planning program, there have been four major planned socioeconomic changes in rural Anhui since 1949: Land Reform and agricultural co-operation movement, 1949-1957; Great Leap Forward followed by three years of famine, 1958-1965; Cultural Revolution, 1966-1976 and Economic Reform, 1979-1989.

After the Land Reform in rural Anhui, the individual families became the basic production units with their own land, owing to the poor economic conditions and lack of other production materials, such as cattle, machinery and fertilizers, the size of the labour force became the key factor in families' future prosperity. The land reform provided some incentives for the peasants to have more children. During the agricultural co-operation movement, the mode of production in rural Anhui was gradually transformed into collective ownership (socialism), and land no longer

belonged to individual families. Meanwhile the bureaucratic system was gradually taking its form in rural Anhui.

The commune system was regarded by the Party as the socialist solution in rural China. The establishment of the commune system (1957) soon led to the Great Leap Forward (1958), the failure of which resulted in three years of famine, a national disaster. Nevertheless, during the period of these campaigns the centrally controlled bureaucratic system was firmly established in rural Anhui. The Central Party Committee gradually directed the nation towards ideological reform and class struggle. Although the commune system further disconnected the peasants direct interest in production, the egalitarian distribution system provided some incentives for some peasants to have more children.

During the Cultural Revolution, ideological reform and the class struggle were emphasized in rural Anhui. Preventing the restoration of capitalism and following the socialist road were the overwhelming task of the Party. The rural development in Anhui stagnated during the period of Cultural Revolution, but the bureaucratic system was further developed and ready to carry out any central planned policies.

During the economic reform (1979-1989), the production responsibility system was introduced to rural Anhui, and land was redistributed to individual families. The individual families became the basic production units again, which gave great production incentives to the peasants. The rural economic reform soon led to the changes in social structures and the commune was replaced by the *xiang* (township). The main purpose of the commune reform was to separate the functions of Party and government, and to weaken the monopoly power of the Party.

Since late 1989, the Central Party Committee has issued urgent calls to strengthen ideological reform, and tighten Party leadership at all levels. It is unclear to what

extent the Party will re-establish central planning and tight social control after the impact of a decade-long economic reform.

Chapter 4

The Development of the Family Planning Program in Anhui, 1963-1989

4.1 Introduction

The family planning program has been mainly responsible for the dramatic fertility decline since the early 1970s in China. However, it should be pointed out that family planning developed along with many other planned socioeconomic changes. In this chapter, the development of family planning in Anhui is examined as one of the planned socioeconomic changes.

There are many studies about the development of population policy and family planning in China. For reviews of the early phases of the family planning program see Aird, 1972, 1982; Orleans, 1981; Chen and Kols, 1982; Qian, 1983; State Family Planning Commission, 1985; Li, 1986; Kane, 1987; Banister, 1987; for a review of more recent changes in the family planning program see Greenhalgh, 1986; Aird, 1988; Hardee-Cleaveland and Banister, 1988. These studies provide excellent analyses of the development, structure and functions of China's family planning program. The present study focuses only on Anhui province, especially on the development of the program in rural areas. The development of family planning work, its structure and the basic ways of policy implementation are analysed in turn.

4.2 The Development of the Family Planning Program in Anhui

The development of the family planning program in Anhui can be divided into four stages:

1963-1966. Initial stage
1971-1978. The stage of gradual development
1979-1983. The stage of rapid development
1984- The stage of adjustment

4.2.1. The initial stage, 1963-1966

Although there were some national family planning propaganda and usage campaigns during the 1950s and early 1960s in China, Anhui province did not start the family planning project until 1963. After receiving the Central Committee and State Council's document 'Instructions about Advocating the Family Planning Work' in December 1962, the Anhui government established its first provincial family planning office, consisting of seven officials. The office was under the joint leadership of the provincial Public Health Bureau and the Women's Federal Association. The main task of the office was to stress the necessity of family planning, to provide advice for couples about contraception and to distribute contraceptives to those who needed them. During this time, family planning work was confined to urban areas; couples were encouraged to have two or three children, and to space the births four or five years apart.

During the initial stage, there was no family planning in rural Anhui. After the three years of famine, the population growth of Anhui rapidly increased, especially in rural areas: the crude birth rate was as high as 45 per thousand during the period 1962 to 1966. In July 1965, the Anhui government issued a document: 'A Notice About Strengthening Family Planning Work', which proposed the idea of extending family planning to rural areas, but unfortunately, the Cultural Revolution started in 1966 and the family planning program in Anhui was completely disrupted.

In fact during the initial stage, the family planning work had hardly any significant influence on people's reproductive behaviour in urban areas, and no effect in rural areas. It may, however, have introduced the idea of family planning, especially in urban areas and thus made later family planning campaigns a little easier.

4.2.2. The stage of gradual development, 1971-1978

In July 1971, the State Council issued the Document 'Report on Family Planning Work', prepared jointly by the Ministry of Health, Ministry of Commerce and Ministry of Fuel Chemistry Industry. In the Report all provincial governments were asked to re-establish their family planning offices and to make family planning part of their socioeconomic planning. Shortly afterwards, the Public Health Bureau of Anhui called more than 20 party and government leaders from administrative regions and cities and organized a trip to visit the Yantai region, Shandong province, a national example of family planning work. At the end of 1971, the Anhui government held its first family planning seminar in Maanshan city and decided to re-start family planning in Anhui. In the following year, the provincial Family Planning Office was re-established, including 25 full-time staff. The head of the provincial party committee concurrently held the leadership of the Family Planning Office.

Some new developments in family planning work followed. First of all, Family Planning Offices were also established in all cities and counties under the leadership of local Bureaux of Public Health; at the commune level, the director of the Women's Federation and the head of the local hospital were responsible for family planning. Secondly, the provincial Office with the support of local offices organized 396 training courses and trained a total of 8,769 barefoot doctors, family planning workers and midwives between 1972 and 1974. Finally and more importantly, the provincial Office made it clear that 'In family planning, emphasis must be put on rural areas...' (China Population Information Centre, 1986a: 126). In 1972, the provincial Office issued 'Trial Regulations of Family Planning Work', which specifically pointed out that in rural areas, marriages should be carried out at later ages and married couples should be encouraged to use contraception. Those who

complied with the family planning program or underwent sterilization should be rewarded.

During this period, the family planning program was mainly carried out by propaganda and campaigns, in essentially the same style as many other planned behavioural changes. This was basically a period of tightening central control, the Party emphasized ideological reform and class struggles, and successfully made people submit their interests to the collective's and state's interests. The Party made it clear that implementation of family planning program was for the nation's interests, people had to sacrifice their own interests (in this case desire for more children) and follow the central population policy.

4.2.3. The stage of rapid development, 1979-1983

In the late 1970s and early 1980s, the Central Committee of the Communist Party issued a series of documents about family planning in China. The One-child Family policy started in 1979. Apart from the One-child Family policy, another very important document is the 'Open Letter of the CPC Central Committee regarding control of China's population growth to all members of the Communist Party and Communist Youth League' (1980), in which the Central Committee urged all party and youth league members to understand clearly the serious population problems in China and urgently appealed to them to set an example in following the One-child Family policy (Tian., 1985: 27). In the Constitution of China as revised in 1980, the family planning policy is defined as a basic State policy. Late in 1980, the Anhui provincial Party Committee held a meeting and discussed how to strengthen family planning work in Anhui. The Committee decided to separate the Family Planning Office from the Bureau of Public Health, and the new office is under the direct leadership of the provincial Party Committee.

In late 1980, the new office held the first provincial family planning congress, which commended 232 advanced collectives and 314 advanced individuals on their family planning work and urgently appealed to all participants to learn from them. In May 1981, the Family Planning Office and the Bureau of Employment and Personnel of Anhui employed 3,000 family planning workers, most of them working for communes in rural areas and street committees in cities. In the same year, the 'Trial Regulations for Family Planning Work' were modified, and four articles were added; the modified version emphasized the rewards for those who complied with, and punishments for those who violated, the family planning regulations (China Population Information Centre, 1986a: 127).

In January 1982, the provincial Family Planning Office became the Family Planning Committee functioning as one of the provincial bureau; the offices in cities and counties were also changed into independent committees. The Trial Regulations were modified again, to allow only three kinds of couple to have a second child: the couple whose first child could not become a normal member of the labour force, for example through congenital malfunction; in cases where a couple remarried, one of whom must be marrying for the first time; and the couple whose first child is a daughter, but where the husband is the only son in the last two generations. No couple is allowed to have a third child (China Population Information Centre, 1986a: 128).

The provincial Family Planning Committee also urged all governments at different levels to make family planning one of the most important aspects of their socioeconomic planning, and also to make carrying out this planning part of the cadres' work responsibility. Then there was a provincial campaign to study the 'Open Letter', particularly in rural areas.

In Anhui as elsewhere, the economic reform in rural areas brought about contradictions between government population policy and the people's desire for children: on the one hand, the government was determined to bring down population growth at any cost, on the other hand, the family planning policy, particularly the One-child Family policy, was by no means acceptable to most farmers. The economic reforms also made some of the family planning punishments ineffective, and resistance to the program grew stronger and stronger (Whyte and Gu, 1987; Hull and Yang, 1987; Wang, 1988). Most couples in rural areas have two children, some even have more. Under those circumstances, the Central Committee of the Communist Party issued Document No.7 in 1984, which provided adjustments in family planning to meet the realities of the situation.

4.2.4. Adjustment in family planning work, 1984-

The basic idea of Document No.7 was to relax the family planning policy. The essential point was to extend the criteria under which couples, especially in rural areas, might have a second child. The policy is called 'opening a small hole to close a big hole'. Opening a small hole means to extend the categories of couples eligible to have a second child, and closing a big hole is aimed at stopping large numbers of couples from having more children. In Anhui, the categories for permitting a second child were extended from three to 13; there are also some recommendations for improvements in the management and working style of family planning work. For a detailed discussion of Document No.7 and the new categories for having a second child see Greenhalgh, 1986.

The relaxation of the family planning policy soon had a response from all family planning offices, and was enthusiastically supported by most couples. On the one hand, the work eased for the family planning workers and cadres, and complaints

about them were considerably reduced; on the other hand, in some rural areas family planning was already out of action, with most couples having a second, or even more, children.

Because of this problem another correcting, but basically tightening, adjustment process was introduced. In early 1986, the Central Committee issued Document No.13 concerning family planning work. The document affirmed the achievements in family planning during 1981-1985, the sixth Five-year Plan, pointed out the persistent problems, and set the agenda for the seventh Five-year Plan (1986-1990). Wang Wei, the director of the State Family Planning Commission, pointed out that population control remained critically important, and that, because of changes in age structure, and the pressure of the third babyboom, family planning work would become even more difficult during the next five years. Thus, family size guidelines were to be strictly implemented.

In March 1987, the Governor of Anhui province, Wang Yuzhao, stressed at the Family Planning Congress of Anhui that the adjustments in family planning work over the last few years were not designed to relax the policy, as some people had thought; in fact, they were issued to grasp family planning more firmly. He also emphasized that family planning work in Anhui should:

1. ...strictly restrict the second births.
2. continue to carry out the slogan 'First child IUD, second child sterilization and unplanned pregnancy abortion'.
3. Apply firmly the economic sanctions for those who have unplanned births.
4. Fulfil the family planning policy down to every grass-roots organization and carry out family planning responsibility system...(Wang, 1987: 3)

In January 1988, Wang Wei, associated with the softening of the work-style in China's population program between 1984 and 1986, was replaced by Peng Peiyun. Generally, such a move signals a shift towards tightening population policy (Hardee-Cleaveland and Banister, 1988). At the meeting of the directors of family planning committees in China, held in February, 1989 in Beijing, Peng Peiyun pointed out that

'the year of 1988 was the third year of the new baby-boom and also a year when family planning work was further tightly grasped by seeking unity of thinking and stabilizing the policy'. Although the family planning work in 1988 achieved some successes, '...the progress of family planning throughout the country is very uneven' (Peng, 1989: 1). Peng emphasized that:

The central task of family planning for 1989 is, in the spirit of the 13th Party Congress and its Third Plenary Session, to take family planning work and the control of population growth as important activities which should be grasped firmly in improving economic circumstances, re-establishing economic order, and deepening the reform in an all-round way. Great efforts should be made for the continued advocacy of late marriage and late childbearing, fewer but healthy births, and one child for one couple (Peng, 1989: 2).

In February 1989, the spokesman of the State Family Planning Commission announced the guiding principles of present family planning work. The most important feature is the introduction of the 'Contract system of family planning target fulfilment'. According to the system, the contracts of responsibility for fulfilling family planning targets are signed between governments at different levels, such as between province and county, and between county and *xiang* governments. The contracts are also signed between family planning committees and offices at different levels. Furthermore, the performance of family planning work is included as one criterion to evaluate the achievements of local cadres, especially the cadres who are in charge of family planning (*People's Daily*, February 16, 1988).

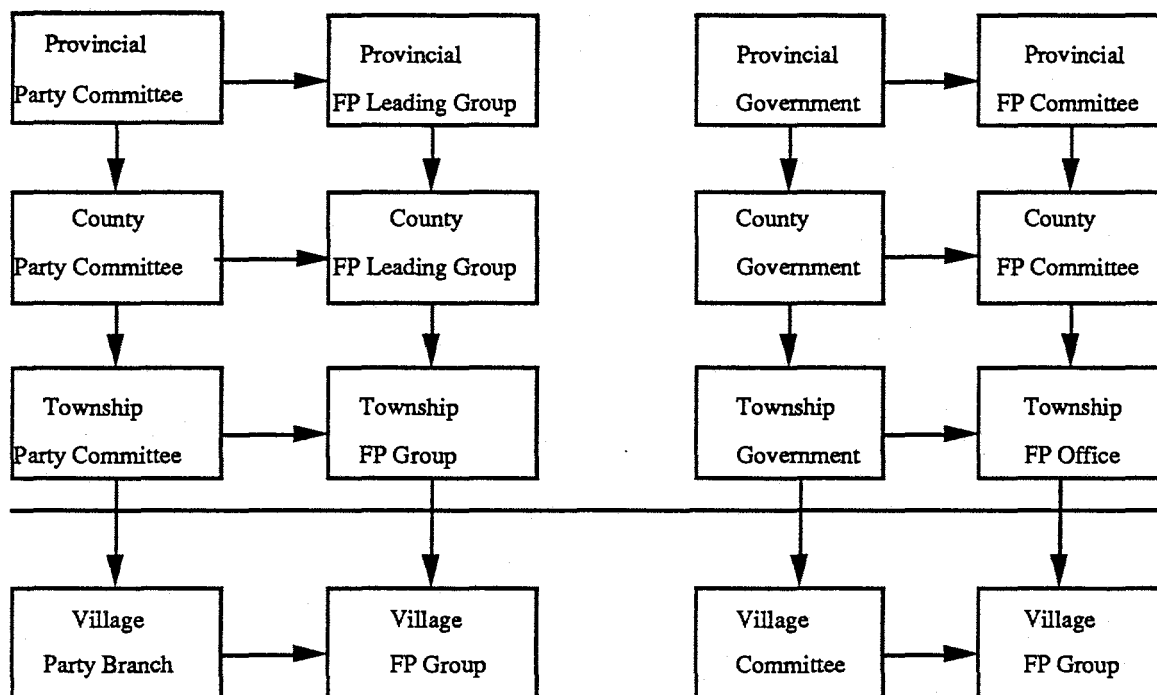
In mid-1989, the Anhui government and Family Planning Committee held a meeting to discuss how to carry out the new family planning guidelines. It is likely that the family planning program in Anhui will be tightened in the near future, but it may not be possible to return to the policy of the 1979-1984 period, and what eventuates may be a compromise program between the tightening period (1979-1984) and the softening period (1984-1986) in terms of family planning implementation. It is too early to be able to assess, in terms of family size, the impact of these recent developments.

4.3 Family Planning Organization Hierarchy

One of the most important features in family planning in China since the early 1970s has been the establishment of an elaborate family planning organization hierarchy. This system has played a fundamental role in the dramatic fertility change in China. The structure of the family planning organization is essentially an extension of the existing bureaucratic system. As mentioned in Chapter 2, there are two parallel bureaucratic systems in China: the Party and Government systems. The family planning organization is extended on the basis of the government system which is monitored and ultimately controlled by the Party system. Figure 4.1 shows in simplified form, the structures of the family planning organization in Anhui. The executive offices are under government leadership. The family planning groups at different levels of the Party system are intended to show that the Party pays great attention to family planning work, and to ensure that the population policy is carried out at different levels.

In 1988, the Anhui provincial Family Planning Committee had 28 full-time staff. There were three divisions under the Committee: the Family Planning Propaganda and Education Centre, with 30 full-time staff; the Institute of Family Planning Technology Research, with 50 full-time staff, and the Managing Office of Family Planning Devices, with 10 full-time staff. The major function of the provincial committee is to make family planning an integral part of the provincial socioeconomic plan, and to pass on and interpret the central government's population policy to cities and counties. In family planning propaganda, the provincial committee is responsible for organizing the Party and government leaders at different levels to study population policy, and through their understanding to publicize it to the masses.

Figure 4.1 Simplified Structure of Bureaucratic System and Family Planning Organization Hierarchy, Rural Anhui



In policy implementation, the provincial Family Planning Committee is responsible for monitoring the process of policy implementation in all cities and counties. Although the provincial committee has little right to change the centrally made policy, it can approve or disapprove the modifications of policy implementation made by the local committees; these modifications also serve to modify the provincial Family Planning Regulations. The provincial committee is also responsible for introducing local successful experiences in policy implementation to other places; in other words, for the identification of successful initiatives and for seeing that such initiatives are adopted elsewhere. In family planning organization, the provincial committee is responsible for establishing family planning committees and offices at different levels. By the end of 1986, apart from the family planning committees, all cities and counties had established Family Planning Propaganda and

Technical Service Stations. More than 60 per cent of *xiang* governments (communes before 1983) also established service stations. The provincial committee also has the right to employ family planning workers.

The next level of the family planning hierarchy is the city or county Family Planning Committee: the major functions of this committee are similar to those of the provincial committee. The present analysis focuses on county committees only because the study deals with rural areas. There are some differences between provincial and county committees in family planning work: first, once the county committee receives guidelines on population policy from the provincial committee, it is responsible for reporting this to the county Party committee and government for their approval and support. Then it has to investigate the local situation with reference to policy implementation. For example, the provincial guidelines may state that where couples have an unplanned birth, economic sanctions must be applied: it is the county committee which decides the amount of the fine. Secondly, the county committee has to decide what type of family planning propaganda it should use, and how often it should hold family planning campaigns.

Of course, there is no universal formula for policy implementation among different counties. Generally speaking, the richer counties have found it relatively easy to follow the policy guidelines, while the poorer counties may find it hard to fulfil the family planning target. In 1985, of 72 counties in rural Anhui, 15 were classified as lagging behind the others in family planning work (China Population Information Centre, 1986a).

The *xiang* Family Planning Office, as the lowest level of government, deals with every concrete matter of policy implementation. Usually the *xiang* office keeps all family planning records of married women of reproductive age; it contains information about the marriage, birth history and contraceptive use of women, and

serves as a reference point for the family planning program. The *xiang* family planning work can be divided into two broad categories: daily work and work during campaigns.

In daily work, the *xiang* office is responsible for distribution of contraceptive methods to family planning workers in different villages, and for monitoring the contraceptive use of all women. It is also responsible for identifying the primary targets of the family planning program: this usually refers to the women pregnant with an 'unplanned child'. The office will organize the local family planning workers to visit these women repeatedly and to persuade them to have abortions. In many cases, it is not possible to avoid having an abortion unless the women escape from the village (personal experience). For the planned births, the *xiang* office issues the certificate for *Hu Kou* (household card) registration with the *xiang* government which legalizes the status of the child. It also issues the single child certificate for those who have signed the one-child contract. The couples who want a second child have to apply to the *xiang* office. All unplanned births are classified as 'black children', and the *xiang* office is responsible for collecting fines from their families.

At the time of family planning campaigns, which may happen a few times a year depending on the plans of family planning committees at the higher level, the *xiang* office usually holds a joint meeting with all family planning workers, people from the Party committee, government and Women's Federation, etc. to discuss the plan of campaign. Usually the head of the *xiang* Family Planning Office explains the family planning situation and emphasizes the problems in various places. In most cases, the goal of the campaign is simple: how many abortions and sterilizations are necessary to fulfil the family planning target, and how many women have to have IUDs and other types of contraception. The list of women who should have abortion, sterilization and IUD is prepared according to family planning records. Many *xiang* hospitals can perform the family planning operations including abortion and

sterilization; if the hospital cannot, the *xiang* office contacts the nearest county hospital or asks for a family planning operations team from the county (personal experiences).

4.4 Basic Methods of Family Planning Implementation

The basic methods of family planning policy implementation are essentially the same as with other planned changes introduced by the government. For planned or purposive social changes, there are indirect and direct attempts to achieve the desired changes, as mentioned in Chapter 1. Indirect attempts involve changes in social structure, and the direct attempts can be divided into administrative sanctions and the mobilization of normative influences for the desired changes. For family planning work, the organization hierarchy was derived from the existing bureaucratic system, and people have no opportunity to change it but must adjust their reproductive behaviour accordingly. The roles of administrative or economic sanctions, and the mobilization of normative influences, in family planning program implementation are analysed as follows.

4.4.1. Propaganda and campaigns

Family planning propaganda and campaigns are basically the techniques used to prepare and mobilize normative influences for the desired social change. The idea came from the thoughts of Mao Zedong, former chairman of China (1949-1976), who believed that in order to achieve certain revolutionary goals, it is essential to use mass media to prepare public opinion, and then to mobilize the masses to participate in the movement; the cadres and Party members should play a key role in mass movements. As mentioned before, the family planning propaganda in Anhui started in 1963 and was ended by the Cultural Revolution in 1966. During that time the

propaganda was confined to urban areas only; from the early 1970s, it was extended to rural areas.

From the early 1970s to 1978, the main method of family planning work was propaganda and campaigns, as is evident in the 'Trial Regulations of Family Planning Work of Anhui' issued in 1974. The 'Trial Regulations' stated that later marriage and family planning should be carried out in rural areas, and it encouraged men married to women whose families had no sons to settle down in the women's families. The feudal idea of regarding men as superior to women should be completely eliminated. It also stated that the women who had family planning operations should be rewarded (China Population Information Centre, 1986a: 125). Up to the mid 1970s, the government family planning propaganda tried to convince the masses by the method of persuasion and education.

Apart from propaganda, the family planning campaigns also played a major role in bringing down population growth. For example, Bo county, in the northeastern part of Anhui, had a total population of 1.2 million in 1987, more than 80 per cent of whom lived in rural areas. Table 4.1 shows the family planning campaigns of Bo county since 1972.

First, it is apparent that the family planning campaigns aim at abortion and sterilization. The main targets of the campaigns are the women who had more children than those approved under whichever guidelines were currently in operation. In many cases, the abortions are followed by sterilization. The main reason for aiming the campaigns at abortion and sterilization is simple: the local family planning workers feel that once the women were sterilized, they would cease to be a concern to the program (Yang, 1987: 341). From the table, it can also be seen that the frequency of campaigns increased yearly. During the early 1970s, there was about one a year; from 1975, this increased to twice a year, spring and autumn

Table 4.1 Family Planning Campaigns of Bo County, 1972-1981

Year	Campaigns	Changes in Crude Birth Rate
1972-1973	Campaign of IUD insertion, sterilization and induced abortion	39.0 to 26.4 per 1000
1974	Campaign of sterilization and induced abortion	26.4 to 19.0 per 1000
1975-1976	Spring and Autumn campaigns yearly	19.0 to 14.3 per 1000
1977-1978	Unstable policy and family planning at a low ebb	14.3 to 18.8 per 1000
1979-1980	Campaign of vasectomy	18.8 to 14.3 per 1000
1981	Campaign of vasectomy and induced abortions	14.3 to 11.1 per 1000

Source: Liang and Li, 1982

campaigns. The table also shows how much the crude birth rates were reduced through the family planning campaigns, reflecting the main purpose of family planning work.

Propaganda and campaigns were effective ways to control population growth in China principally during the period of tight central control. People, especially farmers, became used to the idea of submitting their individual interests to the collective's and state's interests. When the State stressed the importance of family planning in the interests of people and country, it was not very difficult to carry out the rigid population policy through its tightly controlled system. Since the economic reform of the late 1970s, the tight central controls had a diminishing impact at the grass-roots level. The farmers were given more economic freedom as the land was redistributed to them, and the resistance to the rigid family planning program also grew stronger. Under those circumstances, administrative or economic sanctions played a greater role than normative influences in family planning campaigns.

4.4.2. Economic sanctions

After the economic reform, family planning propaganda and campaigns gradually lost their effectiveness in reducing population growth; complaints about the family planning workers increased and conflicts between family planning workers and some couples became increasingly serious. In October 1980, I went to Bo county for the population sample survey and heard a number of cases of those conflicts. In some villages the family planning workers confiscated, during harvesting seasons, the cattle and some production materials of the farmers who had 'unplanned pregnancies'; unless they agreed to have an abortion or sterilization, the cattle and production materials would not be returned to them. On the other hand, some couples went to the family planning worker's house and smashed everything they could find after they found that their aborted baby was a male.

The 'Report of Bo County Family Planning Work of 1981' stated that:

...in rural areas, since the economic reform and New Marriage Law, farmers' income and standard of living were considerably increased, the idea of early marriage and having more children is rising again. The proportion of women who have unplanned births substantially increased. The main reason is the failure to apply the settled economic sanctions. Furthermore, with the increasing of income, the purely economic fine has considerably reduced its effectiveness... (Liang and Li, 1982: 5)

The Family Planning Committee of Bo county made some suggestions for improving the family planning work. It emphasized that in the following year

...we must: 1. Strengthen party leadership in family planning work. 2. Continue to have a few abortion and sterilization campaigns each year. 3. Firmly carry out the economic sanctions. 4. Carry out administrative sanctions for the cadres who do not comply with family planning program... (Liang and Li, 1982: 6)

It is clear that the importance of administrative and economic sanctions is emphasized in their family planning work. In 1981, the 'Trial Regulations of Family Planning Work of Anhui' were modified again: the new version emphasized the punishment of those couples who had unplanned births. Apart from the economic

fine, it adopted some additional sanctions, such as reducing the responsibility land and private plots. The most common practice in land redistribution in rural Anhui is according to the size of family; if couples have 'unplanned births', their land and private plots will be reduced accordingly.

In the policies discussed so far, all methods of family planning implementation are designed to manipulate the people, and they do not take into account whether or not the farmers accept them. This is the most apparent feature of family planning implementation before and during the early stage of economic reform. Not until the early 1980s was the contract system introduced in family planning work

4.4.3. Contract system

There are basically two kinds of contracts about family planning work in rural Anhui. One is the family planning contract signed between household and cadres (household contract), and the other, which came much later, is the contract signed between cadres at different levels (cadres contract).

Household contract

Initially, the contract system was introduced during the economic reform for production purposes (as part of production responsibility system). In the late 1970s, the contract system was extended to family planning work in some rural areas of Anhui, particularly in the southeast. The Chu Xian region in the southeastern part of Anhui consists of six counties and three cities; in 1987 it had a total population of 8.7 million of whom 79 per cent lived in rural areas. In 1980 this region started the 'Double Contract' which consists of production and reproduction responsibilities elements. Regardless of production achievements, if the household did not fulfil the

agreed reproduction goal, which in most cases meant they had an 'unplanned birth', they were subject to certain economic sanctions, including fines and reduction of land and private plots. In 1981, the 'Double Contract' system was introduced to all rural areas in Anhui by the provincial Family Planning Committee.

Cadres contract system

The 'Cadres' Work Responsibility System' was introduced in rural Anhui in 1981, at first in some counties of Chu Xian region. At the beginning, this system was designed for production management, later it was extended to family planning work. Fulfilling the family planning target became one of the cadres' responsibilities, and in some areas the family planning work was used as one criterion to judge the cadres' job performance. Usually, the contract of cadres' work responsibility is signed between the cadres at the *xiang* government and village committee. The *xiang* government monitors and evaluates their job performance. There are some problems with the Cadre Work Responsibility System. Some cadres complained that if they fulfilled the contract, it was difficult to get the agreed rewards, such as a certain amount of money. If someone did not fulfil the contract, especially the family planning part, most of them could avoid the problems, so some cadres regard the family planning part of the contract as a soft task.

In the late 1980s, the cadre work system has been extended further. The contract is not only signed between cadres and family planning workers at the lower level (below *xiang* government), it is also signed at the higher government level and between different levels of government. Sichuan province is one of the pioneers of the extended cadres' responsibility system. In 1987, more than 20 prefectural

commissioners, mayors and chiefs of autonomous *Zhou*² had signed the 'Family Planning Responsibility Contract'. It is stipulated in the contract that these commissioners, mayors and chiefs of *Zhou* should set targets for the number of births and the proportion of planned births, of unplanned pregnancies and of permitted second births. The contract specifies the total numbers of population for 1990 and 2000 respectively. Money awards will not be given to those who fail to fulfil their tasks and demotion or dismissal will occur in serious cases (China Population Information and Research Centre, 1989: 4). In early 1989, a modified version of this system was adopted by the State Family Planning Commission as the 'Contract System of Family Planning Target Fulfilment', mentioned earlier in this chapter. There is not much evidence to analyse how the cadres and family planning workers at different levels follow the new State guidelines in family planning work. Since the new guidelines made it clear that family planning work is one of the criteria for their job performance, the cadres and family planning workers must, in their own interest, make efforts for the new tighter population policy.

4.5 Summary

Family planning propaganda in Anhui started in 1963. From 1963 to 1966, it was restricted to urban areas and mainly remained at the stage of empty propaganda. It had hardly any noticeable influence on people's reproductive behaviour.

From the early 1970s, the family planning work put stress on the rural areas. The family planning hierarchy was gradually introduced, derived from the existing bureaucratic system. During the 1970s, propaganda and campaigns were the main methods for family planning program implementation which was incorporated into

² Autonomous *Zhou* in Sichuan province is similar to the Region, e.g. Chu Xian region, in Anhui. But an autonomous *Zhou* usually has a minority population.

the tight central controls exercised at that period in China. Couples and households were in a passive position, and they were told to sacrifice their own interest for those of the nation.

Economic reform in the rural areas changed the social structure at the grass-roots level. The individual family became the production unit responsible for their own land; the idea of subordinating one's own interest to that of the state was largely dropped. Meanwhile resistance to an intensified family planning policy increased. There was a contradictory period between the late 1970s and 1984. Although economic sanctions and some kind of contract system were introduced in family planning work, the majority of couples in rural areas could hardly be persuaded to accept the idea of the one-child family.

From 1984 to 1986, the State family planning commission adjusted its policy to suit the changed conditions, particularly in rural areas. However, any liberalization was soon denied as Pen Peiyun replaced Wang Wei as the head of the State Family Planning Commission in 1988. The most important feature of the present population policy is that it involves the cadres and family planning workers at different levels in signing the family planning contracts: family planning work became one of the criteria for their job performance. Previously, the cadres and family planning workers only executed the family planning program, spasmodically; they knew their careers would not be in jeopardy if they could not fulfil the family planning work. The new family planning guidelines have made it clear that their career and future are tied to the family planning program. Of course, this is not a new invention in planned socioeconomic changes in China: it is essentially merely an extension of techniques to strengthen the leadership's commitment to the planned changes, in this case family planning work.

Chapter 5

Age at First Marriage and Fertility

5.1 Introduction

As mentioned in the previous chapters, the history of communist China (since 1949) consists of a series of planned socioeconomic changes. Fertility behaviour is influenced by these planned changes, particularly by the family planning program (since the early 1970s). China's National One-per-Thousand-Population Fertility Sampling Survey (1/1000 Fertility Survey) in 1982 and 1984 collected information about marriage and birth history of women aged 15 to 67. The data provide an opportunity to analyse the marriage and fertility changes since the 1940s in China. By using the 1/1000 Fertility Surveys data, the present and next chapter examine the changing marriage pattern, its impact on fertility, and fertility changes by birth order in the context of planned socioeconomic changes in rural China, especially in rural Anhui.

In the conceptual framework of Chapter 1, marriage is one variable of the family system, and there are three institutions at the primary level next to the 'proximate determinants' of fertility: family system, economic system and technology. Marriage is also one of the four major proximate determinants of fertility. In this chapter, the changing age-pattern of first marriage in rural China and Anhui is examined by using the program NUPTIAL (Rodriguez and Trussell, 1984), and its change is used as an indicator to signal the planned societal changes in rural Anhui since 1949; then the impact of age at marriage on fertility is analysed for rural Anhui.

5.2 The Changing Age-pattern of First Marriage

Studies on the age at first marriage in China since the 1940s have shown that the nuptiality pattern has changed from early and universal marriage to late and universal marriage. Age at first marriage has increased gradually since the 1950s and the postponement accelerated after 1972, when implementation of the family planning policy started. There are distinct differences in changing nuptiality patterns and increasing age at first marriage between urban and rural China; rural China lags a few years behind the urban areas in terms of changing nuptiality pattern and there is about a two year difference in age at first marriage. The age at first marriage in urban areas increased from 18.5 years in the 1950s to 24.5 years in the early 1980s and in rural areas from 18.1 to 22.6 years. The changing age at first marriage is closely related to socioeconomic development, especially to population policies (Zhao and Yu, 1984; Zhang, 1986; Yang, 1987). However, the studies which reached the above conclusions are based on the direct examination of data about the age at first marriage. Although this is useful and indeed essential, the present study supplements it with a more refined analysis using Coale's model nuptiality schedule (Coale, 1971; Coale and McNeil, 1972). The results are transformed into two and three dimension contour maps in order to relate the changing age at first marriage to the planned societal changes and to reveal the trend in age-pattern of first marriage.

Table 5.1 shows the direct calculation of mean age at first marriage for ever-married women aged 25 to 60+, in rural China and Anhui. It is apparent that the proportion of women married by age 30 is close to unity, and women currently aged 25-29 are most likely to follow the same pattern eventually. For rural China the ages at first marriage for the age groups above 45 show no significant difference but at younger age groups the age at first marriage has steadily increased over recent time. The same pattern is true for the women of rural Anhui. These direct examinations clearly show that the nuptiality pattern in rural China and Anhui changed from earlier and universal marriage to late and universal marriage and the increasing age at first

Table 5.1 Reported Mean Age at First Marriage of Ever-married Women for Cohorts Aged 25-60+, Rural China and Rural Anhui Province

Cohort	Rural China				Rural Anhui			
	Mean	SD	Pr	N	Mean	SD	Pr	N
25-29	21.1	2.76	96.5	36,838	20.9	2.54	96.1	1,739
30-34	19.9	2.95	99.5	29,978	19.7	2.66	99.7	1,562
35-39	19.0	2.78	99.7	22,220	18.8	2.30	99.8	1,132
40-44	18.6	2.71	99.6	18,384	18.8	2.44	99.8	958
45-49	18.0	2.88	99.6	18,271	18.1	2.56	99.7	956
50-54	17.9	2.85	99.6	16,397	18.3	2.57	100.0	763
55-59	18.0	3.16	99.5	14,284	18.4	2.88	100.0	803
60+	17.9	3.34	99.5	18,038	18.2	2.90	99.6	962

Source: 1/1000 Fertility Survey of China, 1982. Note: Pr proportion ever married in the age group.

marriage has accelerated for the younger age groups. The analysis assumes that women reported their age at birth and marriage accurately, indeed studies of the age reporting of Chinese women all show a high degree of accuracy (Chen, 1984; Coale, 1984). This is mainly due to the Chinese use of animal years: there are 12 calendar animals, and each year is the year of one of the them; for example 1990 is the year of the horse and 12 years hence it will be the year of the horse again. People may not remember in which solar year they were born but most of them remember in which animal year they were born; the animal years can then be easily converted into the solar years. But animal years are generally not significant for marriage dates, and there is no guarantee that women would correctly remember in which animal or solar year they got married, especially the older women. To check the quality of the data, I have examined the data sets for rural China and Anhui using Coale's nuptiality model to estimate the mean age at first marriage.

Coale's nuptiality model is a function of three parameters: a , the age at which a substantial number of first marriages began to occur; k , the speed at which marriage takes place; and c , the proportion who ever (eventually) marry (Coale and McNeil, 1972). Considerable experience has been accumulated to show that it adequately

represents the age-specific schedule of first marriage rates in a wide variety of populations. Rodriguez and Trussell (1980) have modified the first two parameters so that they are more readily interpretable (the mean and the standard deviation) and have written a computer package (NUPTIAL) for finding maximum likelihood estimates of the three parameters. The package NUPTIAL uses three types of input data: household data, individual data, or both, or all-women data. The present study uses individual data only. The NUPTIAL program is written for the WFS standard data file (for women aged 15-49 or similar range); the respondents of the 1/1000 fertility survey of China are 15 to 67 years of age, so the program has been modified to read the Chinese data³.

Table 5.2 shows the estimates of mean, standard deviation and standard errors of age at marriage for ever-married women of rural China and Anhui. It is apparent that the estimated means of the NUPTIAL program are all higher than the direct calculations, especially for rural China. The statistical tests show that the differences between the two sets of means for rural China are all significant, but for rural Anhui only the differences at the first age group are significant. On average for rural China the differences between directly calculated and indirectly estimated means are about two years except for the first age group, and for rural Anhui about one year except for the first age group. The outputs of the NUPTIAL program for ever-married women include the observed proportions of women marrying at each age, the pooled proportions and the fitted proportions, the differences between pooled and fitted proportions are also calculated. In order to check the quality of the data, the differences of proportions married between pooled and fitted of rural China are plotted in Figure 5.1.

³ I wish to thank Mrs Ros. Goodwin, Australian National University, for her help to modify the NUPTIAL program to read Chinese data.

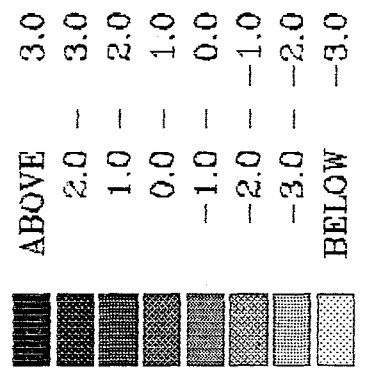
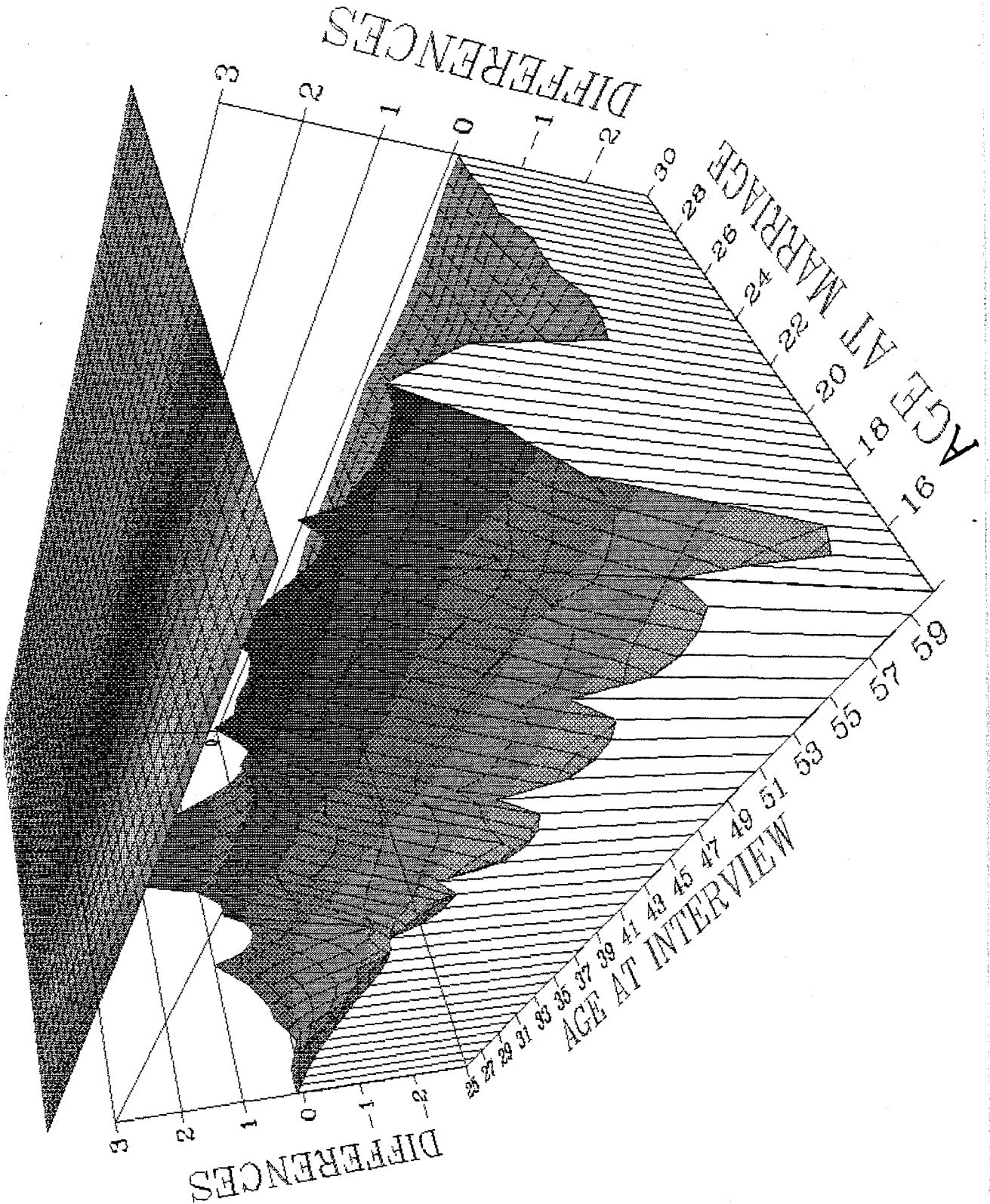
Table 5.2 Coale-McNeil Estimates of the Mean, SD and SE of Age at Marriage for Ever-married Women, Rural China and Anhui 1982

Cohort	Mean	SD	St Errors	St Errors	Goodness of Homogen	
					Fit P	P
Rural China						
25-29	25.8	6.20	.069	.052	.012	.000
30-34	21.8	3.77	.024	.020	.080	.000
35-39	20.7	3.21	.022	.018	.004	.000
40-44	20.3	3.19	.023	.019	.017	.000
45-49	20.3	3.20	.023	.019	.023	.000
50-54	19.6	3.22	.025	.020	.019	.002
55-59	19.6	3.39	.028	.023	.159	.641
60-64	19.5	3.36	.029	.024	.151	.739
Rural Anhui						
25-29	22.9	4.50	.161	.133	.047	.000
30-34	20.3	3.10	.080	.067	.059	.000
35-39	19.5	2.57	.068	.057	.004	.834
40-44	19.4	2.88	.092	.073	.009	.435
45-49	18.7	2.68	.083	.063	.361	.996
50-54	18.9	2.80	.099	.080	.011	.291
55-59	18.9	3.05	.010	.088	.008	.817
60-64	18.8	2.75	.105	.086	.284	.998

Source: 1/1000 Fertility Survey of China, 1982.

When the distributions of those differences are looked at in detail, it is clear that the observed proportions marrying at younger (before 17) and older (after 22) ages are below the fitted proportions and the pooled proportions tend to be higher than fitted at age 19 to 20. The positive differences concentrate on 19-20 years of age, and the maximum likelihood estimates smooth the observed data mainly along the 19-20 years of age, which also explains why the estimated means are higher than observed ones. For all age groups there are only a few points where the difference between observed and fitted exceeds 3 per cent (positive or negative) which is considered significant (Trussell, 1980). The same pattern is true for the rural Anhui results, but there is much less difference between observed and fitted proportions for each age group. There is no way to decide unambiguously whether the true nuptiality pattern conforms more to the observed data or to the model. If the marriage-age reporting of Chinese women is as accurate as the age reporting, the observed data are close to the

Figure 5.1 Differences Between Observed and Fitted Proportion Marrying at Each Age for Ever-married Women Aged 25-60, Rural China



true nuptiality pattern. However, as animal years are of little help to women in remembering their marriage dates, the possibility of misreporting of age at marriage of Chinese women cannot be denied. There is also no reason why the 'excess' marriages should concentrate on age 19-20, and it may be that women, especially the older women, who married just before or after age 19-20 have tended to report a marriage age of 19 or 20. It is more likely that the true nuptiality pattern lies somewhere between the observed and fitted patterns. But no firm conclusions can be drawn without further field research.

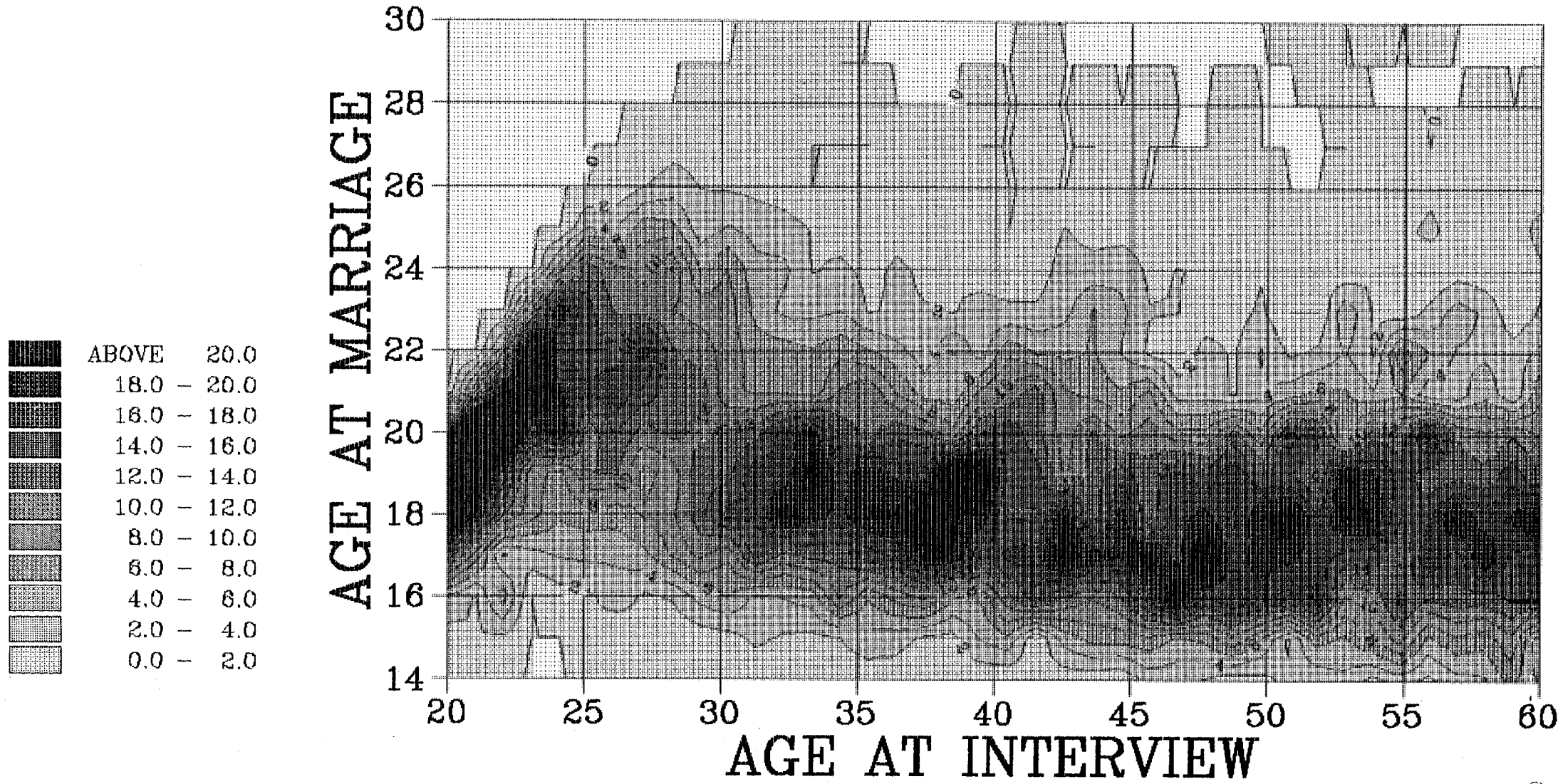
In Table 5.2, in general the results show that age at marriage has been rising both in rural China and Anhui; the differences across cohorts in Anhui are smaller. In rural China ages at marriage for the last three age cohorts (50-64) are almost identical, which may indicate that no changes in age at marriage occurred for those cohorts; the higher p-value of homogeneity for the last two age groups also confirms that there are no significant differences among those women. For rural Anhui the same trend is true but it extends to a further age-group (women aged 45-49) suggesting that changes in marriage age occurred later in Anhui. The higher p-values of homogeneity confirm that these women are homogeneous in terms of age at marriage. The age at marriage started rising steadily for women aged less than 50 in rural China and the rise accelerated at the age groups below 35. The estimated mean for the first age group (25-29) may not be very accurate because of the large standard deviation and errors. For rural Anhui the rising age at marriage lags behind the national average and rises at a slower pace. In general, the model does not seem to fit well: there are many very low p-values, especially for rural China. In fact when one examines the data closely, as presented in Figure 5.2, the observed proportions marrying for each cohort generally have two low peaks at younger and older ages of marriage and one high peak around age 19. It is clear that no model of a smooth pattern of first marriage rates with a single peak could possibly fit these data well, so

the model must be viewed as a smoothing device which is intended to reveal the underlying nuptiality pattern once distortions in the data have been removed.

Since the differences in mean age at marriage for rural Anhui underlying both direct and model estimations are not significant except for the first age group (25-29), both results may be fairly close to the true nuptiality pattern. The estimates from the model have been transformed into contour maps in order to see the over-time trend in the nuptiality pattern and to relate it to the planned societal changes in rural Anhui. Figure 5.2 gives the observed proportions marrying at each age for the cohort aged 20-60: the X axis is the age of women at interview in single years, the Y axis represents the single year of age at marriage and the Z axis is the proportion married at each single year from 14 to 30.

There are a number of interesting features from the figure; first of all, with regard to the over-time trend of age at marriage, it is clear that from age 60 to about age 30 at interview the age at marriage tended to increase slightly and most of the women married between age 16 and 21. The number of women who married at ages less than 16 gradually declined over time and few women married after age 22. For women aged 30 or less at interview, there is an apparent increase in age at marriage and a period of discontinuance of marriage between age 30 and 28 (the lighter shading areas across all age at marriage) which suggests a sudden increase in age at marriage. Presumably this is due to the introduction of the family planning program, the 'Wan Xi Shiao' (later-longer-fewer) campaign, in rural Anhui (1972) and since then the nuptiality pattern of Anhui has changed into the later and universal marriage pattern. For women aged 20 to 24 the dark concentration area is due to the truncation of the data. Secondly, among the women aged 30 to 60, there are a few marriage concentration areas (darker areas). Between ages 45 and 48 at interview the marriage concentration occurred at age 16 to 17 and between ages 36 and 40 the concentration was around 17 to 19. The first earlier age at marriage concentration (46-48) can be

Figure 5.2 Proportion Marrying at Each Age of Ever-married Women Aged 20-60, Rural Anhui



traced back to the early 1950s when, after land reform, the number of labourers in each family became the major determinant of future family prosperity, which probably encouraged earlier marriage. The second marriage concentration (among women aged 36-40 at interview) happened during the middle 1960s after the three years of famine (1959-1961), and it may reflect the effects of famine on marriage.

From this map, there are three age groups of women where marriage irregularity can be identified: 45-48 at interview, where there is the early marriage concentration, 36-40 at interview there is a heavy marriage concentration due to the effects of the three years of famine, and for women aged 30 or less at interview who enter a new era of nuptiality pattern. The present study is not interested in marriage concentration which happened for women aged 55+; presumably most of them were married before Liberation (1949).

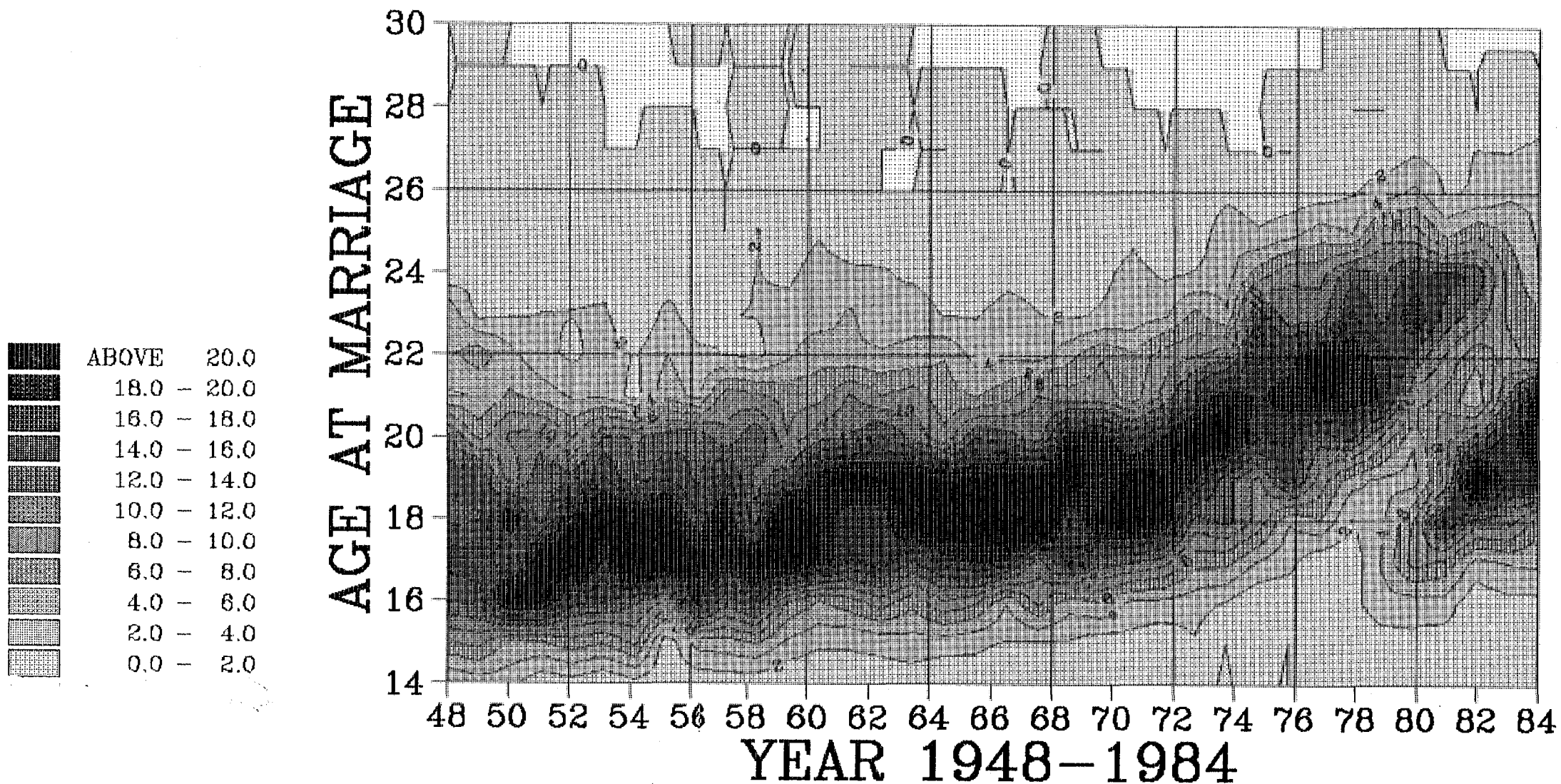
In order to link the changing nuptiality pattern to the year when the changes took place, the same data are recalculated in Figure 5.3 on an annual basis, giving the proportions of women married at each age from 1948 to 1984; the data of the 1984 follow-up 1/1000 fertility survey of 1982 are added to this figure. Early marriages were concentrated during the early 1950s, the period of land reform. As mentioned in the previous chapter, this was also a period of separation of functions between the Party and Government and the centrally controlled bureaucratic system had not yet fully developed, so the fundamental economic structure change (land reform) turned the individual families into production units with their own land, which indirectly encouraged earlier marriage in order to quickly gain more labourers for the family. In late 1956, the land was taken back by the government, the Party and Government became dominant economic actors and the Party directed the nation towards the ideological and class struggles which led to the 'Great Leap Forward' and the centrally controlled bureaucratic system was further developed through this

campaign. The failure of the 'Great Leap Forward' resulted in the three years of famine and its impact on age at marriage is clearly shown in the map as the marriage gap (lighter shaded areas between 1960 and 1963). After the famine, there was a short period of economic reform (1963-1965), and the age at marriage also responded to the reform: there is a marriage concentration from 1963 to 1968 around marriage age 18.

Before 1972, there was no systematic family planning program in rural Anhui, but between 1949 and 1972 the Party successfully established a centrally controlled bureaucratic system ready to carry out any centrally planned policies. So it is not surprising that in 1972 when the family planning program 'Wan Xi Shiao' (later-longer-fewer) was introduced in the region, its impact on age at marriage was immediately apparent, and the rise in age at marriage accelerated after 1972. It probably reached its highest point in the late 1970s when the One-child Family policy was introduced (1979).

From the figure, it can be seen that since the early 1980s, age at marriage has declined. More recently, as mentioned in the previous chapter, reports from the Women's Federation, Maternity and Child Institute and Youth League of Anhui province stated that a substantial proportion of marriages below the minimum marriage age have occurred in most of rural areas of Anhui (*People's Daily*, July 5, 1988), thus presumably, the age at marriage has continued to decline after 1984. This is one of the demographic consequences of rural economic reform as analysed in Chapter 3. It indicates that the substantial increase in age at marriage between 1972 and the early 1980s was a temporary planned change resulting from pressures of the family planning program on women, while on the other hand, it implies that socioeconomic structure in rural Anhui had not yet developed to a stage where most women would spontaneously accept the later age at marriage. Once the basic economic conditions were changed, such as land redistributed to farmers, more

Figure 5.3 Observed Proportions Marrying at Each Age of Ever-married Women, 1948-1984, Rural Anhui



freedom in terms of production, a loosened bureaucratic system and separation of the functions of Party and Government, farmers have been more likely to respond to what they really think is good for them, rather than what the government says is good for them. Earlier age at marriage is but one example of such changes in behaviour. As long as economic reform continues, the age at marriage in rural Anhui is not likely to return to the level of the late 1970s, but rather may continue to decline to the levels which prevailed before 1972.

5.3 The Impact of Age at Marriage on Fertility

The analysis of age at marriage is an important demographic research topic in its own right; however demographers' primary interest in this topic is to assess the ultimate impact of changes in age at marriage upon fertility. As mentioned before, the changes in the nuptiality pattern of rural Anhui can be divided into three periods: before 1972 a smooth and slow increase in age at marriage except for the disruptions of three years of famine; from 1972 to the early 1980s, a period of substantial increase in age at marriage; and more recently a tendency for age at marriage to decline. At present, there are no data available to examine the change in age at marriage of the last period, so the following study is confined to examining the impact of the first two periods of Anhui's nuptiality changes on fertility. The mean length of interval between marriage and first birth, mean number of children ever borne in the first five years of marriage and accumulated fertility of all ever-married women by age at marriage are examined in this section.

Table 5.3 shows the mean length of interval between marriage and first live birth, for ever-married women by age and age at marriage. For each age cohort, the length between marriage and first birth is greater for women who married earlier than for women who married later. The biggest differences are found between age at

marriage of 15 or less and 16-18 years of age, and the differences become less for the subsequent age at marriage groups. This may indicate that among women who married very early (15 or less) some may not have been mature enough to give birth soon and among those who married later, there may have been a 'catching up' effect. Looking at the age at marriage across age cohorts reveals that the intervals between

Table 5.3 Mean Length of Interval Between Marriage and First Live Birth (in Months) by Age and Age at First Marriage, Rural Anhui

Age at Interview	Age at First Marriage				
	<15	16-18	19-21	22-24	25+
25-29	25.7*	24.4	20.5	16.3	15.2
30-34	34.1	24.9	22.0	19.1	15.7
35-39	42.9	30.6	24.7	21.2	16.9
40-44	46.5	41.5	33.2	24.6	19.9*
45-49	44.7	32.5	32.6	31.4	24.7*
50-54	43.8	33.3	29.9	28.6	39.7*
55-59	52.7	36.6	33.8	28.3	37.7*
60+	40.7	36.7	37.6	34.0	26.8*

Source: 1/1000 Fertility Survey of China, 1982. * Less than 30 cases.

Table 5.4 Mean Length of Interval Between Marriage and First Birth (in Months) by Year of Marriage and Age at First Marriage, Rural Anhui

Year Marriage	Age at First Marriage				
	<15	16-18	19-21	22-24	25+
50-54	45.7	31.5	30.0	27.4	38.0*
55-59	51.8	42.1	42.1	32.2	26.4*
60-64	37.8	31.3	26.8	26.1	27.7*
65-69	27.7	25.2	23.5	19.6	21.0*
70-74	34.0*	23.9	21.4	19.9	17.0
75-79		22.8	19.1	17.4	16.3
80-82		14.0	12.6	12.4	13.6

Source: 1/1000 Fertility Survey of China, 1982. * Less than 30 cases.

marriage and first birth constantly declined for successive age cohorts for each marriage age group. In general, the intervals between marriage and first birth are

shortened towards the top-right hand corner of the table, which implies that the younger women who married later have the shortest intervals and the older women who married earlier have the longest intervals between marriage and first birth. When the same data are recalculated by year of marriage for ever-married women in Table 5.4, the same trend is observed: women who married later and more recently, have shorter intervals between marriage and first birth. Moreover, the impacts of planned societal changes on nuptiality and fertility are clearly revealed in this table: for women who married during 1955 to 1959, the intervals are exceptionally long, which indicates the effects of the Great Leap Forward (1958) and the three years of famine (1959-1961). During the Great Leap Forward many couples were separated by the communes' common dormitories or being sent away from home to work on major construction projects, and during the three years of famine the serious shortage of food may have led to higher rates of miscarriages (Coale and Chen, 1987; Kane, 1988). A substantial shortening of the intervals occurred among the women married after 1980: all had their first child after just over one year of marriage no matter at what age they got married. These are the women married after the One-child Family policy (1979). Under the policy pressures women may be anxious to have their first child soon; some couples said: '...since only one child is allowed, the sooner the better to have a baby, if it is a son every one is happy...' (personal interview, Huaibei, Anhui province, October, 1980). It seems that most couples expect their first child to be a son. If it is a daughter, they may feel that they still have time to arrange to have a second birth.

Tables 5.5 and 5.6 show the mean number of children ever born in the first five years of marriage to ever-married women who married over five years before the survey. These tables provide the information to examine the fertility behaviour of women in their early marriage period according to age at marriage. Table 5.5 shows that among all women, those with later ages at marriage have a higher mean number of children ever born in the first five years of marriage while younger cohorts also have a higher

Table 5.5 Mean Number of Children Ever Born in the First Five Years of Marriage to Women Married Over Five Years before the Survey by Age and Age at First Marriage, Rural Anhui

Cohort	Age at First Marriage				
	<15	16-18	19-21	22-24	25+
25-29	1.61*	1.72	1.84	1.95	
30-34	1.40	1.83	1.82	1.95	1.91
35-39	1.19	1.62	1.81	1.83	1.84
40-44	1.02	1.04	1.54	1.83	1.75*
45-49	1.18	1.44	1.23	1.44	1.78*
50-54	1.15	1.43	1.55	1.48	1.20*
55-59	1.02	1.39	1.52	1.68	1.25*
60+	1.32	1.43	1.36	1.49	1.31*

Source: 1/1000 Fertility Survey of China, 1982. * Less than 30 cases.

Table 5.6 Mean Number of Children Ever Born in the First Five Years of Marriage to Women Married Five Years before the Survey by Year of Marriage and Age at First Marriage, Rural Anhui

Year Marriage	Age at First Marriage				
	<15	16-18	19-21	22-24	25+
1950-54	1.19	1.47	1.49	1.67	1.36*
1955-59	.74	.98	1.04	1.29	1.56*
1960-64	1.36	1.64	1.71	1.74	1.46*
1965-69	1.58*	1.80	1.87	1.88	1.81*
1970-74	1.50*	1.75	1.82	1.94	1.84
1975-77		1.75	1.88	1.93	2.08*

Source: 1/1000 Fertility Survey of China, 1982. * Less than 30 cases.

mean number of children ever born in the first five years of marriage. The results are consistent with Table 5.3, the same top-right hand corner trend being found. The younger cohorts who married later tend to have a shorter interval between marriage and first birth and higher fertility level in the first five years of marriage while for the older cohorts the opposite seems to be true. It is interesting to note that for women aged 45+ and married between ages 16 and 24 (accounting for more than 80 per cent of total marriages), the mean numbers of children ever born between marriage age

groups are not significantly different except for one figure (1.68). Compared with Table 5.3, women who married earlier had longer intervals between marriage and first birth, while from Table 5.5 in about five years all women aged 45+ and married between ages 16 and 24 ended up with about the same fertility level. This suggests that those women who married earlier probably had shorter intervals between first and subsequent births than those who married later and they caught up with the others within about five years. The remaining difference is that those who married earlier would have a longer exposure time to possible pregnancy. Obviously, in the absence of modern contraception, age at marriage is one of the major determinants of completed fertility.

For younger cohorts, although the age at marriage is substantially increased, the intervals between marriage and first birth are also considerably shortened and the fertility level in the first five years of marriage is actually increased in comparison with older cohorts. This may suggest that the family planning program successfully achieved the goal of later age at marriage (1972 to early 1980s), but once the women were allowed to get married, they tended to catch up with the time they had to wait, so the increasing age at marriage did not play a role in the reduction of the completed fertility of the younger cohorts although it would reduce the number of generations in the long term. Consequently, the fertility decline among these women must have taken place after five years of marriage. Table 5.6 gives the results of the same data but recalculated by the year of marriage. Exceptionally low figures are found for women who married during 1955-1959, whose fertility behaviour was presumably affected by the Great Leap Forward and the famine. On average, the figures for 1955-1959 are .56 lower than those for the women who married in the next five years (1960-1964). If data were available for women married after 1977, one would expect a lower mean number of children ever born in the first five years of marriage due to the influence of the One-child Family policy.

Table 5.7 shows the relationship between age at marriage and cumulative fertility. It is clear that age at marriage played an important role in determining the completed family size for women aged 40+. With increasing age at marriage, there is a significant decline in mean number of children ever born for women of each age group. For the younger women (aged less than 40), the same trend is true but those

Table 5.7 Mean Number of Children Ever Born to Ever-married Women Aged 25-60+ by Age at First Marriage, Rural Anhui

	Age at Marriage					Mean
	<15	16-18	19-21	22-24	25+	
Age Cohort						
25-29	2.94	2.73	2.21	1.48	.80	1.96
30-34	3.89	3.58	3.10	2.56	1.76	3.12
35-39	4.64	4.38	3.96	3.29	2.67	4.09
40-44	5.45	5.06	4.49	4.47	3.00	4.76
45-49	5.75	5.89	5.06	4.40	4.10	5.50
50-54	6.03	5.73	5.30	5.15	2.17	5.50
55-59	6.07	5.62	5.04	4.81	3.40	5.35
60+	5.73	5.75	4.73	3.79	3.30	5.28

Source: 1/1000 Fertility Survey of China, 1982.

women are subject to the truncation problem, and were also affected by the population policy, especially the One-child Family policy. The age at marriage remains as a determinant of completed family size, but it will not be as significant as for the older cohorts.

In summary, it is clear that for the women aged 40+, age at first marriage was higher with age group, and the intervals between marriage and first birth among these women are longer for the ones who married earlier, but in about five years the women (aged 40+) who married between ages 16 and 24, on average, have about the same number of children ever born. In other words, although the women aged 40+ who married earlier had longer intervals between marriage and first birth, they

caught up with the others in the first five years of marriage in terms of fertility and remained to have a longer exposure to potential pregnancy than others. If contraception is absent, the age at marriage is a major determinant of completed fertility. For the younger cohorts, especially those aged less than 30, age at first marriage is considerably increased under the influence of the population policy; it seems that women are 'squeezed' to certain later ages to get married, and after the marriage, most of them soon have the first birth. In the first five years of marriage, their fertility level is substantially higher than that of the older women (aged 40+). Although the increase of age at marriage shortened the total exposure time of women to birth, it also increased, at least partly, the fertility level of younger women in the early period of marriage, so the completed fertility of younger women would not have been affected if there were no contraception. In other words, the overall low level of fertility of younger women could not have been achieved without the massive use of contraception.

5.4 Age at Marriage and Completed Fertility

Table 5.8 shows the Multiple Classification Analysis (MCA) of the relations between completed fertility, age at first marriage and education of ever-married women aged 40+. The grand mean is 5.27 for all women. After the adjustment with other variables, the differences between the age groups are not significant except for the women aged 40-44, and this aberration may be due to the truncation problem. The slightly lower figures for women in the oldest two age groups may reflect under-reporting of children ever born, especially if the child died at an early age. It is clear that age at marriage played an important role in the determination of completed fertility; the adjusted mean number of children ever born dropped considerably with the increasing age at marriage. About 88 per cent of women married between ages 16 and 24; the differences between those who married at age 16-18 and 22-24 are more

Table 5.8 Relation Between Mean Number of CEB, Age at First Marriage and Education for Ever-married Women Aged 40-60+, Rural Anhui

Variable	Number of Cases	Mean Parity	
		Unadjusted	Adjusted
Age Groups			
40-44	959	4.76	4.87
45-49	957	5.51	5.47
50-54	763	5.50	5.48
55-59	804	5.36	5.36
60+	965	5.29	5.31
Eta=.12 Beta=.10			
Age at Marriage			
< 15	390	5.84	5.79
16-18	2,190	5.63	5.61
19-21	1,438	4.89	4.86
22-24	317	4.52	4.59
25+	113	3.24	3.25
Eta=.23 Beta=.22			
Education			
No Schooling	4,139	5.32	5.30
Some School	309	4.60	4.90
Eta=.08 Beta=.04			
Grand Mean =5.27 Multiple R ² =.257			

Source: 1/1000 Fertility Survey of China, 1982.

than one child and the differences between youngest age at marriage (<15) and married at 25 or over are more than 2.5. Women's education also played a role in completed fertility. After adjustment by age at marriage and age groups, the difference in means between women with and without education is apparent. It may be true that women with some education also tended to marry later, since the adjusted mean for women with some education is considerably higher than the unadjusted mean. In general, it seems true that women who had some education and married later tended to have fewer children than others, while women who had no education and married earlier were likely to have the most children of all.

5.5 Summary

In the conceptual framework, the family system (marriage is one of the variables) is one of three institutions at primary level, influenced by the structure of governance and pattern of socialization. This chapter has examined the changing nuptiality pattern of rural China, particularly rural Anhui, in relation to the planned societal changes in rural China since 1949 and their impact on fertility. It is found that the changing nuptiality pattern of rural Anhui can be divided into three periods: 1949 to 1972; 1972 to early 1980s and middle to late 1980s. 1949 to 1972 represents a period of gradually increasing age at marriage, and two impacts of planned societal changes on nuptiality can be identified. During the early 1950s after the land reform, the land was redistributed to farmers and the individual family became the production unit; under those circumstances the number of labourers in a family was the major determinant of the future family prosperity. Also with the end of war, there appeared a concentration upon earlier ages at marriage. The second impact is the Great Leap Forward and three years of famine. There appeared to be an earlier age at marriage concentration during the Great Leap Forward (1959) and a period of three years reductions in all marriages (1960-1963) due to the effects of the famine and afterwards a period of compensating marriage concentration.

During this period, there was no family planning program in rural Anhui, but age at marriage was indirectly affected by other planned societal changes, and the society was ready to carry out effectively any centrally planned policies. The family planning program was introduced to rural Anhui in 1972, and the nuptiality pattern of rural Anhui also entered a new era, with rapid increase in age at marriage under the influence of the program. More recently, after the rural economic reform (1978) and the implementation of a new marriage law in 1981, the nuptiality pattern seems to have swung towards earlier marriage and probably joined the trend since 1972.

The substantial rise in age at marriage between 1972 and the early 1980s may be only a temporary planned change achieved through the centrally controlled bureaucratic system. It seems that rural Anhui has not yet developed to a stage where most of the women would spontaneously accept later age at marriage. Taking into account the more recent downwards trend in age at marriage, the time-trend of age at marriage in rural Anhui may appear as a smooth and gradual upwards line in the long term. Unless the underlying socioeconomic conditions have been changed, the planned societal changes could influence the age at marriages at the margin, but probably not the underlying nuptiality pattern.

The impact of age at marriage on fertility was then examined. For women married before 1972, particularly the cohorts aged 40+ at the time of survey, age at marriage played an important role in determining the fertility level. Generally, women who married earlier had longer intervals between marriage and first birth, but in the first five years of marriage, most women had about the same fertility level in terms of mean number of children ever borne regardless of age at marriage; consequently, in the absence of modern contraception, women who married earlier would have more children than others. For women married after 1972, particularly women aged less than 35, the age at marriage has substantially increased, but the intervals between marriage and first birth are also considerably shortened compared with older women and their fertility in the five years of marriage was higher than that of the older women. This is partly due to the influence of the family planning policy which prevented women from getting married earlier; once they were allowed to get married at certain 'later' ages, they tended to catch up with the time they had to wait. Obviously the completed fertility of those women would not be affected by the increasing age at marriage if there were no family planning program, and the overall low fertility of those women must be achieved through massive use of contraception.

More recently, the nuptiality pattern may be changing back to join the trend from 1972, but the shortened intervals between marriage and first birth, and higher fertility level in the early post-marriage period may still remain. Earlier marriage would leave women with longer exposure time to pregnancy and require more efforts by the family planning program to bring down fertility; at the same time, it would increase the number of generations in the long term. Both trends will tend to result in higher population growth rates.

Chapter 6

Life Table Analysis of Fertility Change by Birth Order in Rural Anhui, 1948-1982

6.1 Introduction

In this chapter, the technique of life table analysis is used to examine the fertility change by birth order in rural China, particularly in rural Anhui. These changes are also examined in the context of the planned socioeconomic changes, including the family planning program in rural Anhui since 1949. The computer program BIRTHS written by Rodriguez and Menken (1984) for the World Fertility Survey is used and modified to analyse the Chinese data.

There have been a number of studies about birth intervals in China. Feeney (1985) developed the Period Parity Progression Ratio (PPPR) to study the fertility changes in different periods; the method is particularly useful for evaluating the effects of the family planning program on fertility. Feeney and Yu (1987) analysed fertility change in China using the PPPR method; they found that the recent dramatic fertility decline is mainly due to the decline in second or higher-order births and that the family planning program is responsible for this. Zou (1987) studied the relationship between the family planning policies and the changing fertility by parities since 1970. The study concluded that the Chinese government made its family planning policies based on its socioeconomic conditions. By focusing the policies on birth order, it not only effectively reduced fertility, but also changed people's attitudes towards children, from wanting a large family to wanting a small one.

Coale, Li and Han (1988) analysed the distribution of inter-birth intervals in rural China, revealing that the monthly probability of conception before the first and

second birth increased from the 1940s to the 1970s. The intervals from the second to the third birth were always longer than from the first to the second and birth intervals were longer following a male birth. The study also linked the mortality status of the birth to the birth intervals.

This chapter mainly focuses on the relationship between fertility change by birth order and the planned socioeconomic changes. The change in fertility by birth order in the last few decades in rural Anhui is used as a signal of the effects of planned socioeconomic changes on the process of family building. Some light is shed on the extent to which the fertility changes caused by the planned changes affected women at different stages of their reproductive career.

6.2 Life Table Analysis

Life table analysis of birth intervals views the process of family building as consisting of the stages where women moved from marriage to first birth, first to second birth and so on. For those processes, there are two aspects of interest to demographers. One is the proportion of women at each parity who eventually move to the next higher parity, or the parity progression ratio, which is related to the quantity or quantum of fertility. The other aspect is the time from one birth to the next for those women who continue reproduction, which is related to the timing or tempo of fertility. It would be simple to study these two aspects if one had the completed birth histories of the women who had completed the reproductive period. The parity progression ratio can be derived directly from the data, from which also the birth intervals can be calculated. But most of the fertility surveys collect cross-sectional types of data. Except for the older cohorts (aged 45 or more), many women are surveyed while they are still in their reproductive period. The incomplete information on reproductive experiences involved two problems in the study of

fertility change by birth order: selectivity and censoring. Selectivity relates to the fact that transition from parity i to $i+1$ can only be studied for women who have reached parity i or more at the time of the survey. Censoring relates to the fact that some women have reached parity i at the time of the survey, but they may stay at parity i or move to parity $i+1$ some time after the survey; these problems will affect the calculation of the birth intervals. The technique of life table analysis is designed to solve the above problems, especially the censoring problem in the analysis. Detailed discussions about the life table analysis of birth intervals can be seen in Hobcraft and Rodriguez, 1980; Rodriguez and Hobcraft, 1980; Ryder, 1980; Smith, 1980; Srinivasan, 1980.

The program BIRTHS (Rodriguez and Menken, 1984) is used for the analysis; it was written for birth interval analysis using the WFS standard data file. The 1/1000 Fertility Survey of China is not in the WFS standard record form, so the program was modified to read the Chinese data file. The basic information required to construct a life table is a cross tabulation of all ever-married women by duration of exposure and termination status. For example, for the newly married women, duration of exposure is the interval from marriage to either first birth or interview, whichever comes first. The termination is a variable indicating whether the exposure was terminated by first birth or interview. The computational formulas in the BIRTHS program are briefly explained as follows:

Duration and Exposure

Let j indicate duration categories and define;
 $w[j]$: width of duration category j ;
 $W[j]$: upper bound of duration category j ;

The calculation of events of exposure for subgroup i and duration category j is done as follows: let

$e[ij]$: events (births) in subgroup i at duration j (including cases with both events and interview at duration j)

$c[ij]$: cases censored (interviewed) in subgroup i at duration j
 $N[ij]$: number exposed in subgroup i at start of duration j
 $P[ij]$: person-months of exposure in subgroup i at duration j .

The quantities $e[ij]$ and $c[ij]$ are obtained from a tabulation of data. The BIRTHS program has approximate and exact calculation of exposure. In the approximate calculation, women having a birth or interviewed in a given duration interval contribute to exposure half the width of the duration interval. In exact calculation, the actual number of completed months of exposure minus 0.5 is used. In the approximate calculation, the $N[ij]$ and $P[ij]$ are calculated as:

$$\begin{aligned}
 N[ij] &= N[ij-1] - \{e[ij-1] + c[ij-1]\}, \text{ with} \\
 N[ij] &= \text{sum}(e[ij] + c[ij]) \\
 P[ij] &= w[j] * (N[ij] - (e[ij] + c[ij]) / 2.0)
 \end{aligned}$$

In the exact calculation, $P[ij]$ is calculated as:

$$\begin{aligned}
 P[ij] &= P[ij] + w[j], \text{ for all } j \text{ such that } W[j] < t; \text{ and} \\
 P[ij] &= P[ij] + (t - W[j-1] + 0.5) \text{ for } j \text{ such that } W[j-1] < t < W[j]
 \end{aligned}$$

Life Table Functions

For subgroup i and duration j , the calculation of life table function defines:

$h[ij]$: hazard in subgroup i and duration j .
 $H[ij]$: cumulative hazard.
 $b[ij]$: birth density.
 $B[ij]$: birth function, Where
 $h[ij] = e[ij] / P[ij]$, and
 $H[ij] = H[ij-1] + h[ij] * w[j]$, with $H[i0]=0$,
 $B[ij] = 1.0 - \exp(-H[ij])$, and
 $b[ij] = B[ij] - B[ij-1]$, with $B[i0]=0$

if duration k corresponds to 60 months the quantum is $B[ik]$ and the conditional mean is calculated as

$$a[i] = \text{sum}((W[j] - w[j]/2) * b[ij]) / B[ik] \text{ where the sum is for } j=1 \text{ to } k.$$

The present study uses the exact calculation of exposure. The quantum of fertility is defined as 60 months, or within five years from the previous event. The conditional mean is calculated based on the 60 months quantum, and used to represent the tempo of fertility. These are the summary measures of the life table analysis of birth

intervals. The quantum of fertility provides a natural analogue to the parity progression ratio, which indicates the proportion of women having a subsequent birth in a reasonably long period (five years). The conditional mean shows the mean time of women moving from one to the next birth which also contains some information about the distribution of the birth intervals (Rodriguez and Hobcraft, 1980; Rodriguez and Menken, 1982). The analysis follows the methodological principles and analysis structure outlined by Rodriguez and Hobcraft (1980). Over 400 life tables are calculated for the analysis. The quantum, conditional means and birth functions of those life tables controlled by the age, cohort and period are presented in the study.

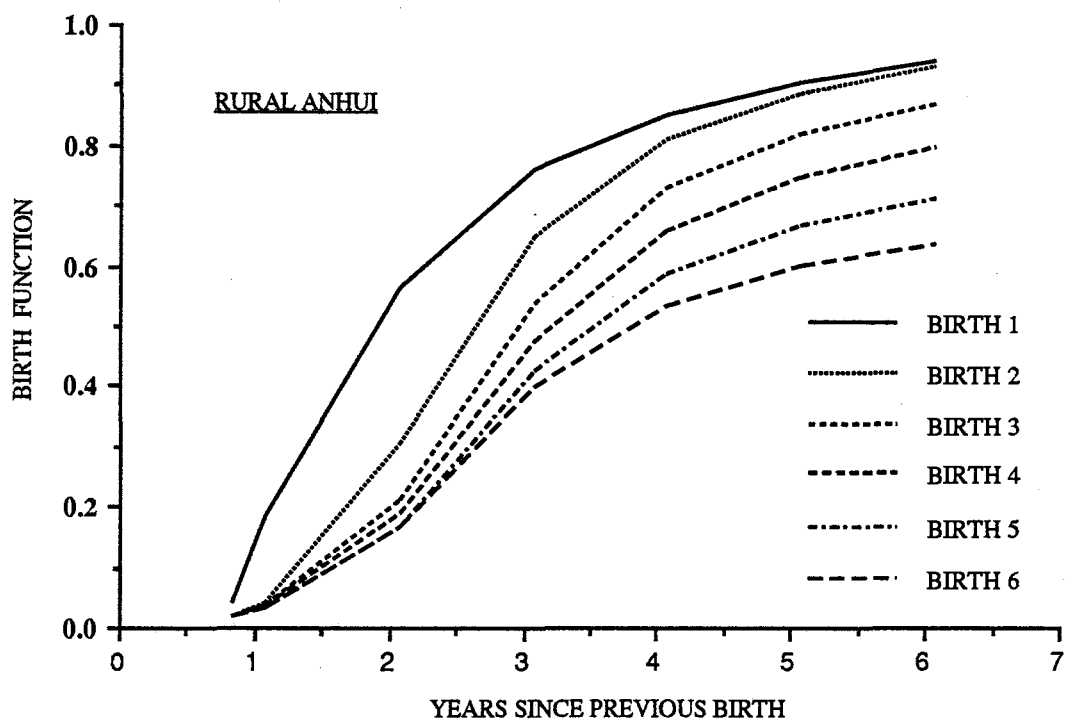
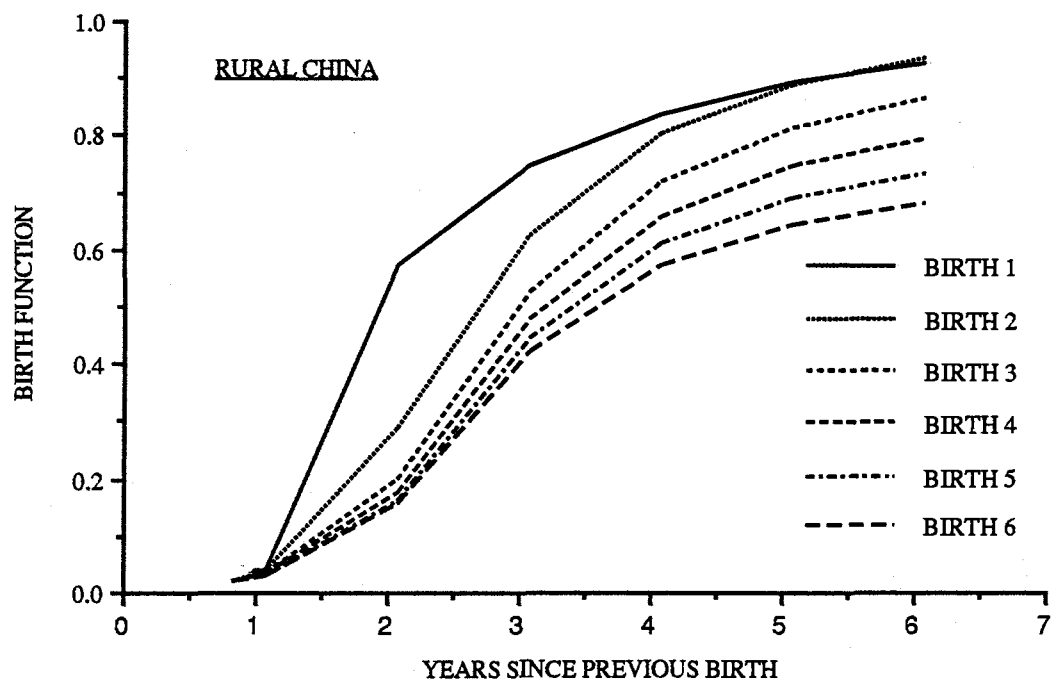
Table 6.1 Summary Measures for Birth Intervals, Rural China and Anhui

Summary Measures	1	2	3	4	5	6
Rural China						
Q*	.905	.913	.842	.775	.713	.662
M*	23.5	31.0	32.9	33.2	33.2	33.0
No. Cases	94,526	88,704	76,550	61,657	47,082	34,121
Rural Anhui						
Q	.919	.911	.850	.777	.691	.618
M	23.9	30.2	32.5	33.0	33.1	32.5
No. Cases	9,016	8,704	7,789	6,438	4,909	3,456

Source: 1/1000 Fertility Survey of China, 1982. * Q = Quantum. M = Conditional mean.

Table 6.1 gives the summary measures of birth interval analysis in rural China and Anhui. Figure 6.1 shows the birth functions of the life tables. It can be seen from the figure that the proportion of women having a subsequent birth by each duration declines with parity; most of the differences are captured by the quantum of fertility, which ranges from over 90 per cent for the first birth to about 66 per cent in rural China and 62 percent in rural Anhui for the sixth birth. It is interesting to find that for the first and second birth, the quantum of fertility is almost identical by the end of

Figure 6.1 Life Table Birth Function by Birth Order, Rural China and Anhui



5 years, and the only differences between the first and second birth are the timing of the fertility. This suggests that most of the married women tend to have their first child soon after marriage, then slow down considerably from the first to the second birth, which is consistent with the findings of Coale, Li and Han (1988). On average, the first birth interval is just under two years for both rural China and Anhui and for higher order birth it is about two and a half years. The table and figure also indicate that most married women have two births, and after their second child the family size clearly affects the probability of having a subsequent birth, but not the timing of the next birth. The conditional means from third to sixth birth are surprisingly identical, all around 33 months. The pattern of birth intervals in rural Anhui is similar to the national average; probably the quantum of lower birth orders (first to third birth) in rural Anhui is slightly higher than the national average, while the higher-order births are slightly lower. The rest of the analysis mainly concentrates on rural Anhui. The birth intervals are examined by order in relation to age, cohort and period effects. The period effects are emphasized in order to relate the effects of planned socioeconomic changes to birth intervals in rural Anhui.

6.3 Age Effects on Birth Intervals

Age is defined as age of women at start of the intervals. Four age categories determined by the quartile distributions of the age at the start of intervals are used. Table 6.2 gives the quartiles of age at start of birth intervals. The quantum and conditional means from marriage to sixth birth are presented in Table 6.3. The quantum and conditional means are classified by the quartiles of each birth order. For example, the age at which 25, 50 and 75 per cent of women married are 17, 19 and 21 respectively, the quantum and means from marriage to first birth are divided into four categories corresponding to each quartile of number of marriages; women who married at less than 17 years of age, 17-18, 19-20 and 21 or more years of age.

Table 6.2 Quartiles of Age at Start of Birth Intervals, Rural Anhui

Quartile	Marriage	1st	Previous Event		4th	5th
			2nd	3rd		
Q1	17	20	22	25	27	30
Q2	19	22	24	27	30	132
Q3	21	24	26	29	32	35

Source: 1/1000 Fertility Survey of China, 1982.

Considering first the intervals from marriage to first birth, it seems that age at first marriage has a clear effect on the proportion of women who have their first child by the end of five years. Women who married younger (before 19) have a lower quantum of fertility than women who married later. The difference in the quantum of fertility between ages at marriage less than 17, and 21 or more, is about 15 per cent. However, it should be pointed out that the results of this table are calculated on the basis of whole samples, and do not take into account any differences between the age cohorts in terms of age at marriage. The results from Chapter 5 show that under the influence of the family planning program since 1972, age at first marriage has increased considerably since the early 1970s, and the intervals from marriage to first birth of younger women are considerably shorter than among older women. The fertility level in the first five years of marriage of younger women is also considerably higher than that of older cohorts. Presumably, in Table 6.3 for the first birth, the majority of women who married earlier are the older cohorts, and a large percentage of those who married late are younger cohorts. This results in the trend that the women who married younger have a lower fertility quantum in the first five years of marriage.

Table 6.3 Birth Intervals by Age at Start of Intervals, Rural Anhui

Birth Order	Summary Measures	Age At Start of Intervals			
		<17	17-18	19-20	21+
1	Age	<17	17-18	19-20	21+
	Q	.780	.879	.897	.934
	M	28.0	25.5	23.5	20.7
2	Age	<20	20-21	22-23	24+
	Q	.872	.879	.875	.823
	M	30.2	30.4	29.7	30.2
3	Age	<22	22-23	24-25	26+
	Q	.836	.831	.805	.723
	M	31.0	32.3	32.8	33.7
4	Age	<24	25-26	27-28	29+
	Q	.799	.738	.714	.650
	M	31.3	32.5	33.7	34.8
5	Age	<27	27-29	30-31	32+
	Q	.726	.678	.648	.551
	M	30.8	33.4	34.0	34.0
6	Age	<30	30-31	32-34	35+
	Q	.706	.632	.573	.439
	M	30.8	33.0	32.9	34.1

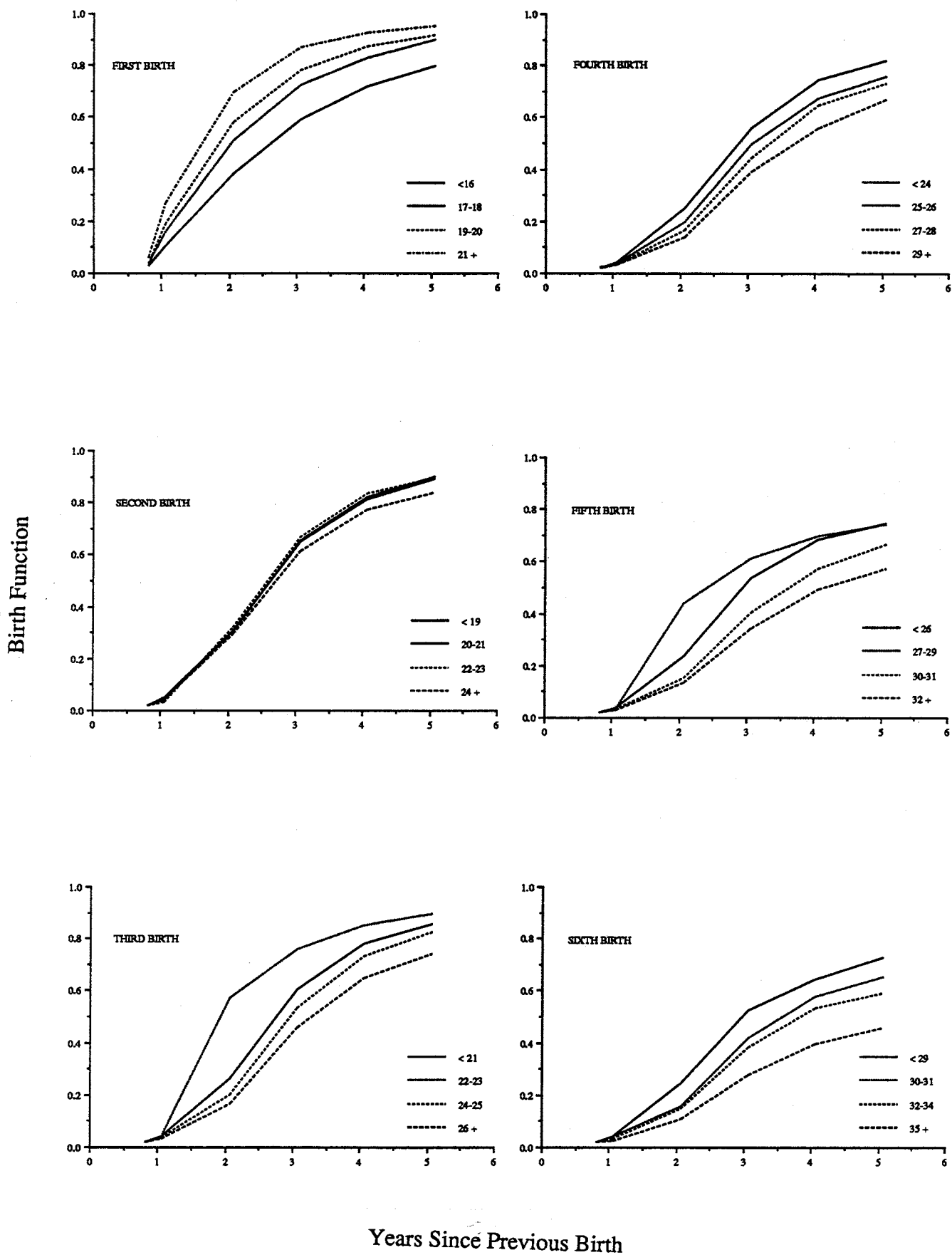
Source: 1/1000 Fertility Survey of China, 1982.

It is interesting to note that the age effect on the birth interval disappears from the first to the second birth. The quantum and timing of the second birth interval by age at marriage are very similar. If it is true that the younger cohorts married late and had shorter intervals between marriage and first birth, one would expect them, *ceteris paribus*, to progress to the second birth sooner than the older cohorts. In other words, the higher quantum and timing of fertility for second births are expected for the younger cohorts. The similarity of quantum and timing of fertility for the second birth may reflect the influence of the family planning program on the younger women. This point becomes clearer in the next section once the cohort effect is analysed by controlling the relative ages.

As we move to the higher parities, the age effects on the quantum and timing of fertility become much clearer. Consider for example the interval from second to third birth. The categories of age correspond to women having their second birth at ages under 21, 22-23, 24-25 and 26+. It is found that the quantum of fertility ranges from 84 per cent for women who had their second birth at less than 21 years of age to 72 percent for the women who had their second child after their 26 birthday. The age effect on timing of fertility is less pronounced, ranging from 31 months for women having their second birth relatively younger to 34 months for those who had their second child late. Consider now the interval from fourth to fifth birth. The categories of relative age correspond to ages at fourth birth under 26, 27-29, 30-31 and 32+. The quantum of fertility ranges from 73 per cent for women who had their fourth birth at less than 26 years of age to 55 per cent for those who had their fourth birth after their 32nd birthday. The conditional means vary from 31 months among those who had their fourth birth younger to 34 months among those who had it relatively old. Generally speaking, from third birth onwards, women who had their previous birth relatively young have a higher probability of progressing to the next parity and also have shorter inter-birth intervals.

Figure 6.2 shows the plots of birth functions of all births by age at start of intervals. For the first birth, the women who married younger tend to have a lower quantum of fertility in the first five years of marriage as well as longer intervals from marriage to first birth. The quantum and timing of fertility are almost identical for the second birth for all ages at the start of the intervals. From third to sixth birth, the age effects on the birth intervals become very clear. Presumably, most of the women who had three or more children are the older cohorts, so they are less likely to have been affected by the family planning program, particularly by the One-child Family policy since 1979, during their reproductive periods.

Figure 6.2 Life Tables by Birth Order and Age at Start of Intervals, Rural Anhui



For the analysis of age effects, it may be concluded that before the family planning program, the relative age at each birth played an important role in determining the completed family size. The women who married early or had subsequent births at relatively young ages tend to have larger families. The opposite is probably true for women who married later or had the subsequent birth at an older age; they tend to have smaller completed families. This is consistent with the findings of Chapter 5, which shows that for the older women (aged 35+) the mean length of interval from marriage to first birth is longer for those who married earlier. But within the first five years of marriage, the majority of women regardless of age at marriage have about the same level of fertility, which suggests that those women who married earlier catch up with others in the first few years of marriage. The analysis of Table 6.3 further suggests that the catching-up effects for women who married earlier or had the subsequent births relatively young may be continued to the higher parities.

Clearly, the turning point of the trend in quantum and timing of fertility is from the second birth. The age effects on birth intervals change the direction from the second birth; as explained before, this may reflect the influence of the family planning program on younger women.

6.4 Cohort Effects on Birth Interval

Cohort is defined as the age of women at the time of survey. For cohort effects on birth interval, it is necessary to compare the childbearing experience of different generations of women. Six age groups are used, 15-24, 25-29, 30-34, 35-39, 40-49 and 50-59. The results of life table analysis are presented in Table 6.4 and the associated Figure 6.3. Considering first the intervals from marriage to first birth among the different cohorts, it is apparent that among the younger women, the larger proportion progress from marriage to first birth within five years; also the younger

cohorts have shorter intervals between marriage and first birth. The distinctive difference in terms of quantum of fertility is found between the women aged less than 40 and 40+. The quantum of fertility is more than 90 per cent for the younger cohorts (less than 40) and about 82 per cent for the older cohorts (40+). It partly explains the results in Table 6.3, which shows the lower quantum and longer birth intervals from marriage to first birth within five years for the women who married earlier. It is likely that the older women (40+) tend to have married earlier and a considerable percentage of them had their first birth after five years.

Table 6.4 Birth Intervals by Age Cohort, Rural Anhui

Birth Order	Sum Measure	15-24	25-29	30-34	35-39	40-49	50-59
1	Q	.966	.966	.948	.909	.818	.825
	M	19.8	20.6	21.8	24.6	26.5	26.5
2	Q	.826	.937	.940	.947	.803	.802
	M	27.1	28.7	29.3	29.6	31.6	31.7
3	Q		.685	.794	.901	.834	.741
	M		32.2	32.5	31.1	32.6	32.9
4	Q		.533	.520	.735	.843	.700
	M		33.7	32.7	31.7	33.2	33.3
5	Q		.334	.374	.480	.732	.667
	M		36.8	33.0	31.3	32.6	33.5
6	Q			.365	.353	.600	.617
	M			33.3	31.0	32.1	33.4

Source: 1/1000 Fertility Survey of China, 1982.

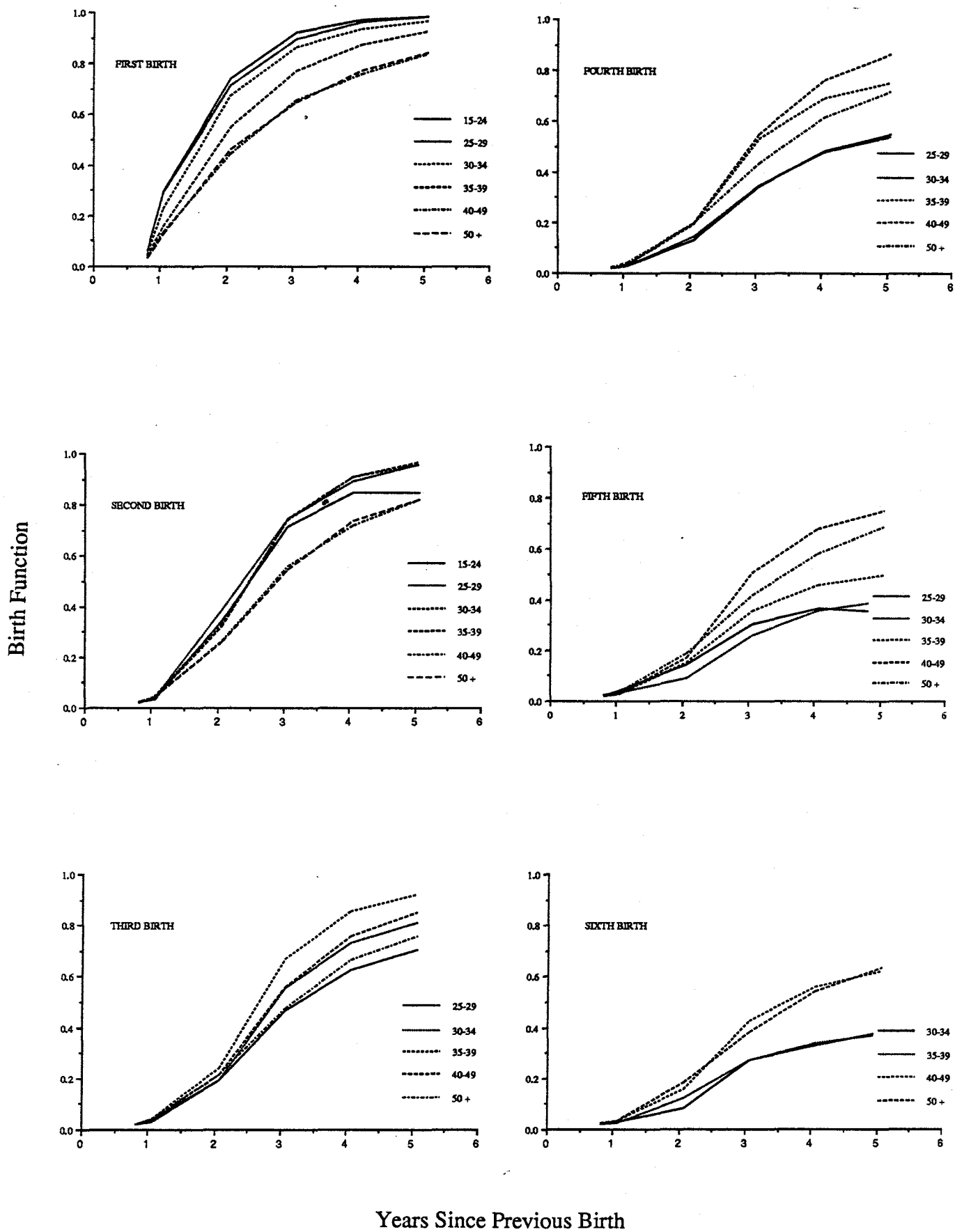
Moving from the first to the second birth, it can be seen that the proportion of women progressing to the next parity is gradually declining from the 35-39 age cohort to the youngest cohort. This indicates the effects of the family planning program on the early stage of family building of the younger cohorts. The differences in quantum and timing of fertility are less pronounced among the women aged 25 to 39, and this may reflect the impacts of 'Wan Xi Shao' (Later-longer-

fewer) family planning campaign on delaying the second child during the 1970s.

For the higher parities the decline of quantum of fertility is much clearer and very pronounced. Consider the interval from third to fourth birth: among women aged 40-49 about 84 per cent progress from third to fourth birth within five years, and this proportion is reduced to about 74 per cent for women aged 35-39. In the next two age groups (25-29 and 30-34), only half of them did so. For those two age groups (25-29 and 30-34), it is also evident that the dramatic fertility decline happened after their second child was born. On average, about 94 per cent of them (25-29 and 30-34) moved from first to second birth within five years. For the next birth, the percentage was reduced to 68 and 79 for women aged 25-29 and 30-34 respectively. Furthermore, only one third of them progress from fourth to fifth birth within five years. For women aged 35-39, the dramatic fertility decline happened after the birth of their third child, from 90 per cent to about 74 per cent in five years. For the two oldest cohorts (40-49 and 50-59) the quantum of fertility gradually declined from parity to parity, and except for the first birth the timing of each parity is remarkably close, all slightly over two and a half years.

The plots of the birth functions in Figure 6.3 show the same trends for different cohorts. Those results suggest that in rural Anhui under the influence of the family planning program, most of the women aged 25-29 and 30-34 in 1982 had two children. Fewer and fewer of them progress to the higher parities. Presumably, for those women after their second child was born, more and more of them have to use some kind of contraceptive methods. For women aged 35-39, the dramatic decline in quantum of fertility occurred after they had their third child. Presumably, most of women aged 35-39 at interview were married in the mid-1960s. The introduction of the family planning program in 1972 seems to have had an almost immediate impact

Figure 6.3 Life Tables by Birth Order and Age Cohort, Rural Anhui



on them. A similar situation may be true for women aged 30-34 who were married in the late 1960s and early 1970s.

Table 6.5 shows the second, third and fourth birth intervals by controlling the relative age. Because the age at first marriage and first birth is analysed in Chapter 5, the present analysis begins with second, third and fourth births. Considering the progression from first to second birth, it is clear that for each age cohort (except for women aged 40-49) the proportion of women having a second child within five years declines as the age when they had the first birth increases. The opposite trend for women aged 40-49 is most certainly due to the effects of three years of famine (1959-1961). Many of them might have had their first birth just before or around the famine period and the progress to the next birth was seriously affected by the famine. Within each category of age at first birth, it can be seen that the youngest cohort for which data is available shows the lowest proportion having a second child within five years and shorter birth interval. Generally speaking, for women aged less than 50, the quantum of fertility for younger cohorts is lower than for the older cohorts, and in many cases the younger cohorts tend to have shorter intervals. The trend of quantum of fertility becomes clearer for the higher orders of birth. Considering the third birth interval, within each category of age at second birth, the quantum of fertility considerably declined among women less than 40 years of age. The differences in proportions of women having a third birth within five years between age group 35-39 and 25-29 are no less than 25 per cent for each age category. This indicates the strong influence of the 'Wan Xi Shao' family planning campaign (later-longer-fewer) on birth interval regardless of the age at previous birth. But the change in the timing of fertility is less clear; no systematic trend is found for the different cohorts. The similar trend in quantum and timing of fertility is true for the higher order of births.

Table 6.5 Second, Third and Fourth Birth Intervals by Cohort Controlling Relative Age, Rural Anhui

Age at Birth	Sum Measure	15-24	25-29	30-34	35-39	40-49	50-59
Age at First Birth							
<20	Q	.854	.958	.973	.967	.765	.833
	M	27.7	30.1	28.7	28.9	32.0	31.1
20-21	Q		.946	.948	.961	.780	.832
	M		29.2	29.8	29.6	31.9	31.4
22-23	Q		.902	.939	.944	.827	.821
	M		27.5	29.2	29.0	30.8	32.7
24+	Q		.898	.876	.881	.866	.676
	M		27.2	28.8	31.6	31.6	31.9
Age at Second Birth							
<22	Q		.723	.885	.972	.743	.860
	M		32.3	30.3	29.0	33.1	31.3
22-23	Q		.729	.820	.962	.803	.801
	M		31.6	33.5	31.2	32.0	32.1
24-25	Q		.595	.761	.895	.883	.766
	M		31.3	32.7	31.2	32.5	33.7
26+	Q			.658	.722	.864	.594
	M			32.1	33.8	32.9	34.5
Age at Third Birth							
<25	Q		.601	.650	.891	.812	.841
	M		31.7	32.0	30.0	33.3	31.1
25-26	Q		.371	.485	.778	.931	.719
	M		31.8	31.5	32.2	31.6	32.9
27-28	Q			.432	.626	.888	.638
	M			35.0	33.2	32.6	34.1
29+	Q			.216	.460	.778	.621
	M			27.4	32.9	34.8	35.1

Source: 1/1000 Fertility Survey of China, 1982.

6.5 Period Effects on Birth Interval

In order to make use of the most recent data, the period is defined as 5, 10, 15, and so on years before the Survey. Seven calendar periods have been classified: 1948-52, 1953-57, 1958-62, 1963-67, 1968-72, 1973-77 and 1978-82. Those periods are roughly incorporated with the major events of planned socioeconomic changes in rural Anhui. 1948 to 1952 represents the early period of liberation and Land Reform; 1953-1957 was the period of the agriculture co-operation movement; 1958 to 1962 was the 'Great Leap Forward' and three years of famine, then followed a short period of economic reform from 1963 to 1965. The Cultural Revolution started in 1966; from 1972, the government introduced the family planning program to rural Anhui; 1973 to 1977 represents the period of gradual development of family planning program in Anhui. The last period of classification (1978-1982) represents the early period of economic reform and the One-child Family policy (1979). The following analysis attempts to link the changes of quantum and tempo of fertility to the planned changes in rural Anhui.

Table 6.6 shows the birth intervals by calendar periods. It is interesting to note that during the early period of liberation and Land Reform in rural Anhui (1948-52), the quantum of fertility is no less than 80 per cent within five years from the first to sixth birth. The lower than expected figures of quantum for the lower parities (first and second birth) may be due to the fact that a considerable percentage of women had their first or second child after longer than five years; it may also be due to misreporting of the childbirths, especially if the child died early. No matter what may be the cause, it is probably true that during this period, family size did not seem to affect the probability of having a subsequent child. Regardless of the number of children the family had, more than 80 per cent of women moved to the next parity within five years. As mentioned in Chapter 3, this may reflect the fact that during the Land Reform, the size of the labour force in each family was the most important fact

for family prosperity. Having more children seemed to be the only way to increase the labour force in the family.

Table 6.6 Birth Intervals by Calendar Period, Rural Anhui 1948-1982

Birth Order	Summary Measure	82-78	77-73	72-68	67-63	62-58	57-53	52-48
1	Q	.990	.951	.943	.910	.752	.849	.863
	M	19.0	21.8	22.1	24.5	30.7	24.0	26.5
2	Q	.901	.931	.945	.937	.618	.769	.807
	M	28.0	29.8	29.1	30.0	37.7	30.5	32.1
3	Q	.656	.768	.912	.913	.593	.710	.811
	M	32.2	33.3	31.2	31.1	37.3	32.3	33.4
4	Q	.397	.576	.850	.882	.586	.703	.804
	M	32.1	32.4	32.5	32.8	36.9	32.2	32.6
5	Q	.289	.431	.744	.804	.549	.664	.862
	M	32.9	32.9	31.5	32.8	38.5	32.4	32.1
6	Q	.245	.350	.638	.746	.538	.648	.821
	M	31.8	33.1	31.4	33.2	35.0	31.7	32.2

Source: 1/1000 Fertility Survey of China, 1982.

Figure 6.4 also shows that the birth functions of 1948-52 are about the same from the first to the sixth birth.

Noticeable changes occurred during the next five years when the Agricultural Co-operative Movement started in 1955, and land was gradually taken back by the government. The quantum of fertility declined gradually with the increasing number of children in the family, but little change occurred to the tempo of fertility, especially from the second to the sixth birth.

The most astonishing figures are found during the 1958 to 1962 period, which shows how seriously the famine could affect fertility. Only 75 per cent of women had their first birth within five years and the mean interval increased to about two and half

years. The dramatic decline in the quantum of fertility is evident for all orders of births and the tempo of fertility increased to about three years from the second to the sixth birth.

Shortly after the famine, there was the period of Economic Reform (1963-1965). Fertility substantially increased for each order of birth and the tempo of fertility was shortened, which might reflect the 'catching up' effect after the famine. During the Cultural Revolution, fertility within the early years of marriage (first and second birth) continued to increase and the average length of the birth interval was shortened. However, there is some evidence of fertility decline from the higher order of births during 1968-1972, especially from the fourth to the sixth birth. For example, during 1963-67, about 88 per cent of women moved from third to fourth births within five years, and this was reduced to about 85 per cent in 1968-72; but the tempo of fertility remained little changed.

Since the introduction of the family planning program in 1972, its impact on fertility by birth order is apparent. During 1973-1977, not much change occurred to the first and second birth in terms of quantum and tempo of fertility compared to the figures of 1968-1972. The substantial decline occurred from the second to the third birth, for example, only about 77 per cent of women moved from second to third birth within five years compared with 91 per cent in the previous five years. The largest decline in the quantum of fertility occurred from the third to the fourth birth which dropped to about 58 per cent. Again there was little change in the tempo of fertility.

For the most recent period (1978-1982), the quantum of fertility reached its maximum point for the first birth, about 99 per cent of women having their first birth within five years, and the average length being shortest (19 months) between marriage and birth of any group studied. The quantum fell to about 90 per cent from first to second birth. The largest decline was from second to third birth, on average

only 66 per cent of women moving from second to third birth within five years. The substantial decline in the quantum of fertility continues for the higher order of births. Again, the tempo of fertility remains little changed.

Figure 6.4 gives the birth functions by calendar period and birth order. If one takes the 1958-1962 birth function curve as the base line of comparison, it is clear that for the first three births, the 1958-1962 curve remains at the lowest position. This suggests that no planned socioeconomic changes, including the family planning program, had a more serious effect on fertility than the three years of famine. From the fourth birth onwards, the birth function curves of 1973-1977 and 1978-1982 gradually moved below the 1958-1962 curve, which demonstrates that the family planning program is more powerful in bringing down the higher-order births than the effects of famine.

Table 6.7 gives the second, third and fourth birth intervals by calendar period controlling relative age. The purpose of controlling relative age is to avoid the possible effect of selectivity on retrospective period data. As the analysis goes back in time it is forced to deal with a progressively younger group of women. The birth intervals of the past period are based on the women, who on average started the intervals relatively younger. It is shown in Table 6.3 that except for the first birth, the relatively younger women tend to have higher probability of having another child and slightly shorter intervals between birth.

This possible bias is controlled in Table 6.7. Looking first at the early period of liberation (1948-1952), Table 6.6 shows that family size has no effect on the probability of having another child. Once the relative age is controlled, it can be seen that although on average, family size has no effect on the next birth, the relative age at previous birth did have an effect on the next birth. For example, about 91 per cent of women who had their first birth in their teens move to the second birth within five

Figure 6.4 Life Tables by Birth Order and Calendar Period, Rural Anhui

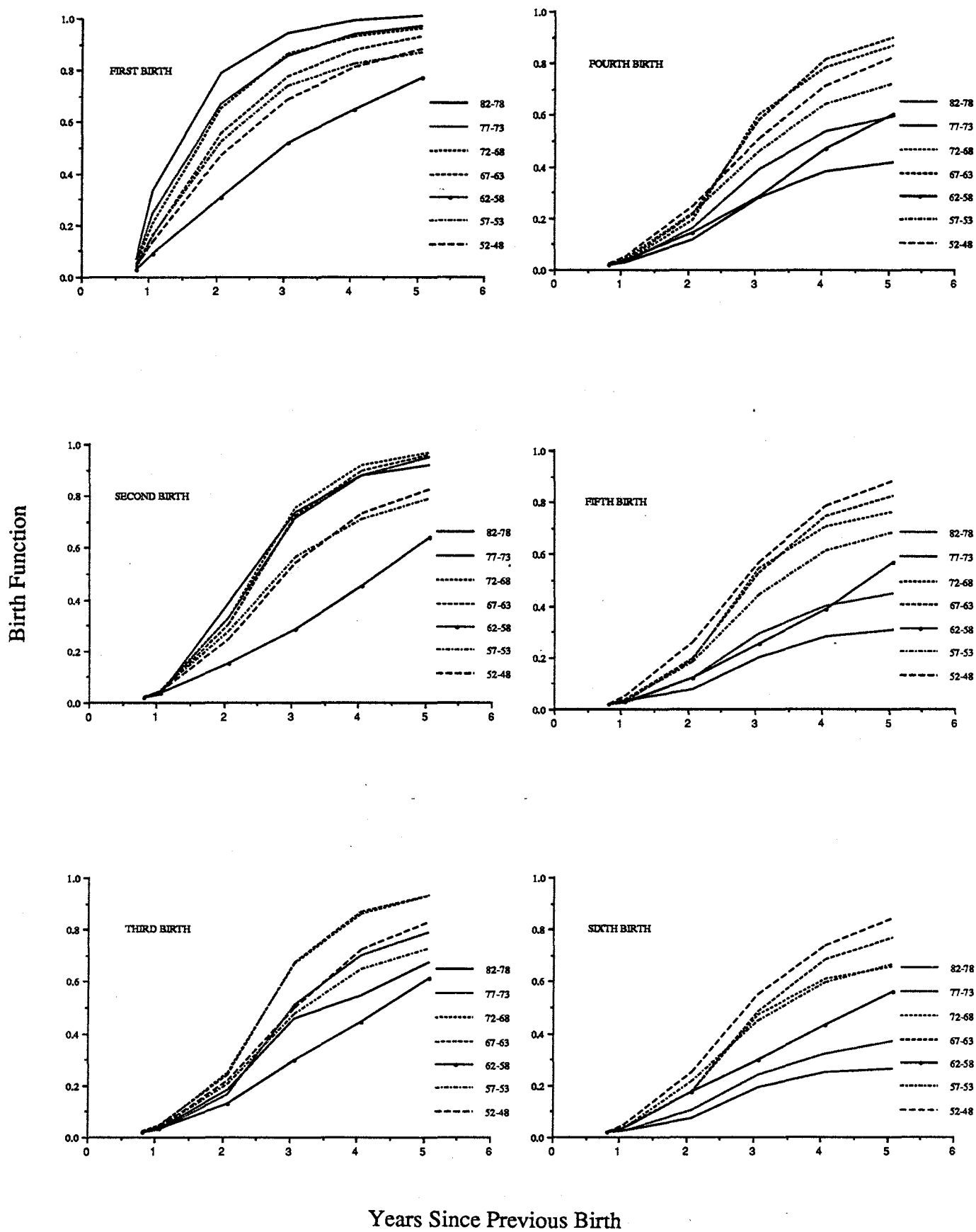


Table 6.7 Second, Third and Fourth Birth Intervals by Calendar Period Controlling Relative Age, Rural Anhui 1948-1982

Age at Birth	Sum Measure	82-78	77-73	72-68	67-63	62-58	57-53	52-48
Age at First Birth								
<19	Q	.914	.963	.970	.971	.651	.818	.811
	M	29.8	29.8	28.7	28.7	38.5	30.1	30.4
20-21	Q	.934	.952	.948	.965	.630	.730	.843
	M	29.0	30.1	29.0	29.8	39.0	31.0	32.5
22-23	Q	.905	.913	.958	.925	.566	.791	.836
	M	27.4	29.0	29.0	29.5	38.2	31.7	33.2
24+	Q	.872	.882	.860	.883	.587	.691	.707
	M	27.5	30.3	31.1	31.7	33.5	29.1	33.1
Age at Second Birth								
<21	Q	.740	.769	.937	.960	.601	.814	.855
	M	30.4	31.8	30.3	28.4	36.2	31.7	31.9
22-23	Q	.657	.804	.953	.961	.652	.726	.842
	M	30.7	33.8	31.4	30.3	36.2	32.0	32.5
24-25	Q	.669	.782	.933	.927	.629	.771	.832
	M	33.4	32.7	30.4	31.0	39.7	33.6	33.0
26+	Q	.626	.686	.819	.865	.504	.553	.720
	M	32.2	34.7	32.6	32.8	37.4	32.3	36.4
Age at Third Birth								
<24	Q	.582	.633	.901	.946	.680	.800	.891
	M	32.1	31.6	30.3	30.8	38.6	30.8	30.1
25-26	Q	.374	.573	.902	.960	.683	.751	.804
	M	30.1	31.8	32.0	30.8	34.7	32.7	33.0
27-28	Q	.398	.555	.851	.906	.532	.707	.818
	M	33.9	34.0	33.0	32.4	35.2	32.8	34.5
29+	Q	.261	.504	.763	.818	.459	.565	.664
	M	31.0	33.3	34.6	34.6	37.8	33.4	34.4

Source: 1/1000 Fertility Survey of China, 1982.

years, but only about 75 per cent of women did so if they had their first child after their 24th birthday. The birth intervals are also slightly shorter for the relatively young women. The same trend is true for the third and fourth birth.

For the next period (1953-1957), the differences in terms of the quantum of fertility may exist only between the youngest and oldest age categories. For example, consider that from second to third birth, about 85 per cent of women who had their second child at less than 21 years of age move to the third birth within five years, but only 59 per cent of women did so if they had the second child after age 26. For women who had their second birth between age 22 and 25, it probably makes no difference in the progress to the next birth.

After the three years of famine among the women who had their first child before age 22 the proportion and timing of having a second child within five years remained unchanged until the late 1970s. For women who had their first child at age 22-23, the quantum declined gradually from early 1970. For women who had their first child at age 24 or later, there does not appear to be any significant change in the quantum of fertility. From second to third birth, the change in the quantum of fertility became clearer. For all women, the decline in the quantum of fertility clearly started in the early 1970s. For women who had their second child at a later age the margin of the decline in the quantum is greater. From third to fourth birth the quantum declined substantially from the early 1970s; for women who had their third child before age 27, it declined from about 92 per cent to 61-67 per cent. A similar change seems to be true for women who had their third child after age 27. These findings suggest that the women who accepted the 'Wan Xi Shao' family planning program accepted both parts of the program --- 'longer' and 'fewer' children.

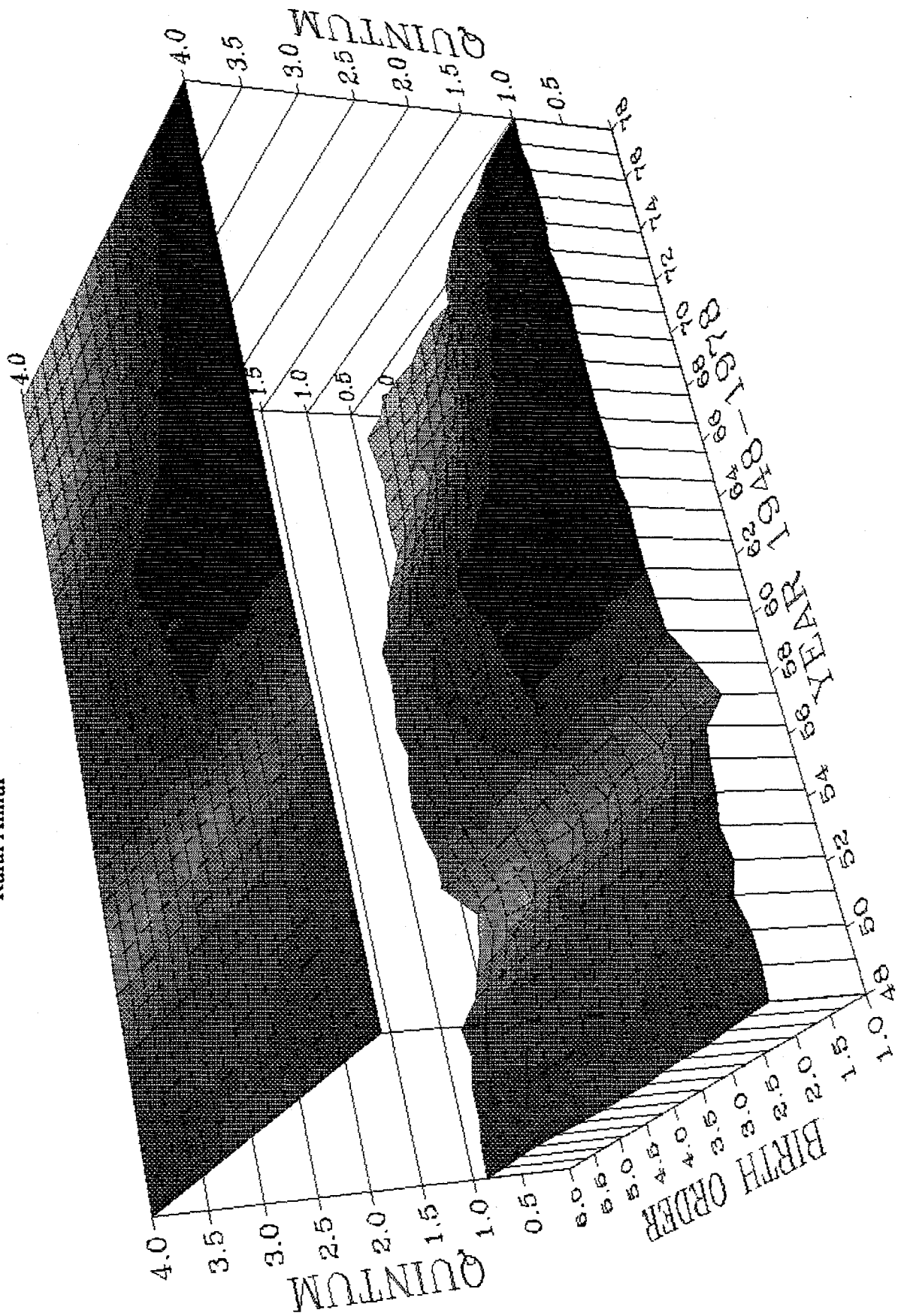
Finally, in order to put all findings together and relate them to the planned socioeconomic changes in rural Anhui since 1949, the summary measures of the life table analysis, the quantum and conditional means are transformed into the three-dimensional contour maps. Figure 6.5 gives the quantum of fertility by birth order and Figure 6.6 shows the conditional means by birth order from 1948 to 1978.

In Figures 6.5 and 6.6, the life tables by birth order are calculated on the yearly basis where the interval started. Taking 1948 as the example, life table analysis first cross-tabulates all women who married, having first birth, second birth and so on in 1948, and then calculates all the birth functions. The quantum and conditional means are calculated within five years from 1948 for each birth order. The calculations are the same for the subsequent years. So the last year at which the quantum and conditional means are available is 1978. The X axis of the figures is the year, Y axis is the birth order from one to six and Z axis represents the quantum or the conditional means. Each figure contains in total the quantum and conditional means from 180 life tables.

Looking first at Figure 6.5, it can be seen that during the early 1950s the quantum of fertility was relatively high and stable from first to sixth birth. The quantum gradually declined from the mid 1950s from the higher order of births. The impact of three years of famine is most apparent since it forms a deep valley across all birth orders. Then comes a long period of high fertility, especially for the first to third births. From the late 1960s, there appear some signs of fertility decline in the higher birth orders. From the early 1970s, the dramatic fertility decline occurred. It started from the higher orders of birth and rapidly filtered down to lower parities. These results are consistent with the findings of Feeney and Yu (1987) who concluded that the dramatic fertility decline in China under the influence of family planning is mainly due to the decline in higher-order births.

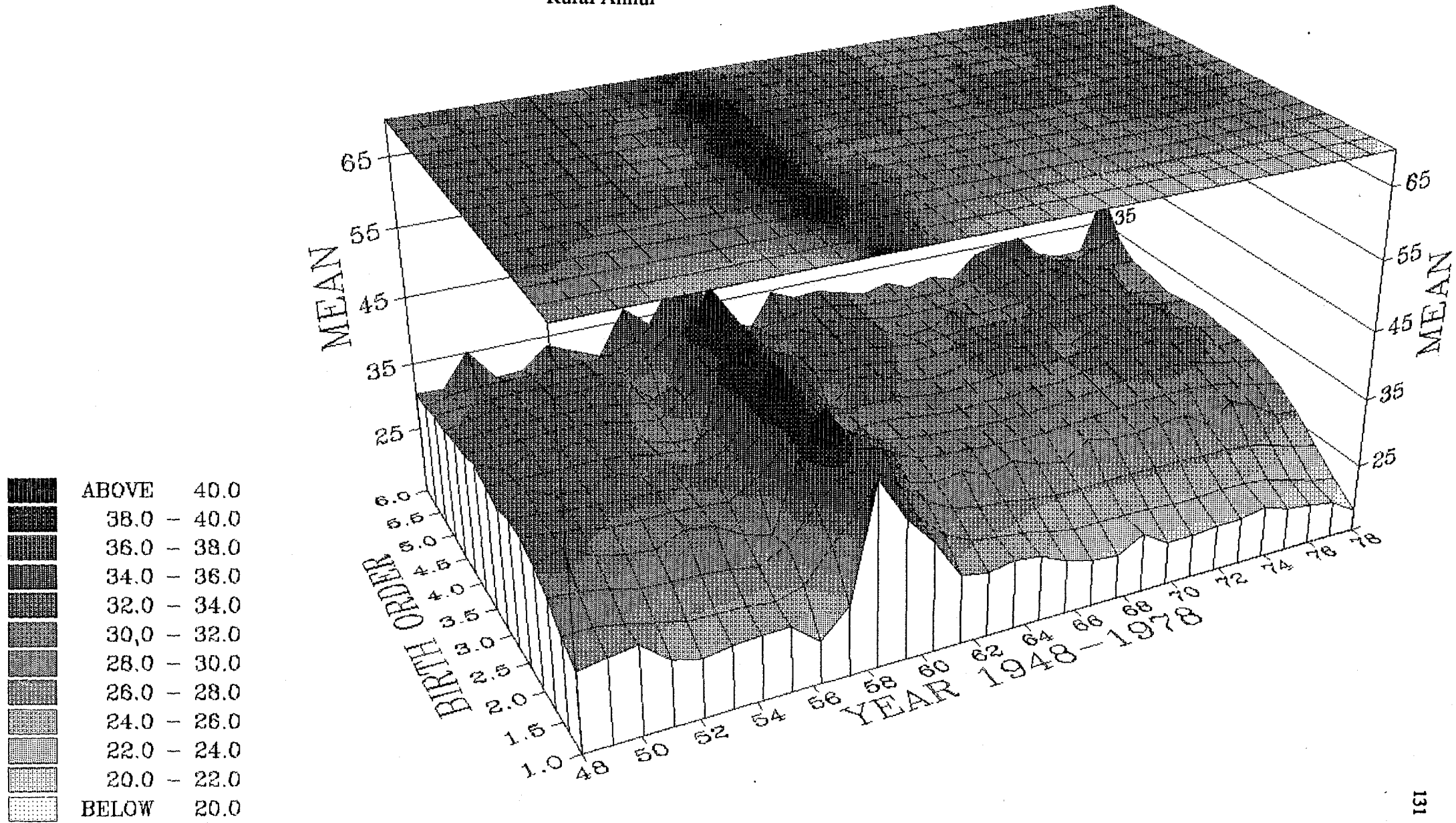
Figure 6.6 presents a very interesting finding about the tempo of fertility in rural Anhui. If we remove the disturbance of the three years of famine, the change in tempo of fertility by birth order is mainly concentrated along the first and second births. The timing of fertility has gradually shortened in the early stage of the family building process since 1948; but this is not the case for the third and higher-order births: the tempo of fertility has been remarkably stable in the last few decades. Although Coale, Li and Han (1988) find that the interval following a male birth is

Figure 6.5 Quantum of Fertility by Birth Order and Calendar Period, 1948-1978, Rural Anhui



ABOVE	0.90
0.80 -	0.90
0.70 -	0.80
0.60 -	0.70
0.50 -	0.60
0.40 -	0.50
0.30 -	0.40
0.20 -	0.30
0.10 -	0.20
BELOW	0.10

Figure 6.6 Conditional Mean of Birth Intervals by Calendar Period, 1948-1978, Rural Anhui



generally longer than if the previous birth is female in rural China, the findings of the present analysis suggest that on average there is probably no significant change in the tempo of fertility for the higher order of births. It also indicates that although the family planning program since 1972 successfully prevented a substantial percentage of women from having more children, the women who did have more children would have them without significant delay.

6.6 Summary

In this chapter, three measures of life table analysis are used to study fertility change by birth order: the quantum of fertility, or proportion having a subsequent birth within five years of previous birth; conditional mean, an estimate of the average birth interval for women who have a subsequent birth within five years; and the birth functions. The analysis is controlled by age, cohort and period effects on birth intervals and the fertility changes by birth order are analysed in the context of the planned socioeconomic changes in rural Anhui since 1949.

It is found that age at the start of intervals played an important role in determining the quantum and tempo of fertility. Generally speaking, the women who had the previous birth (or marriage) at a relatively young age tended to have a higher probability of progressing to the next birth within five years.

For the different age cohorts, the substantial fertility decline clearly took place among women aged less than 40. It starts for women aged 35-39 after most of them had their third child. For women aged 25-34, the substantial decline in the quantum of fertility occurred after the second child was born. For the youngest cohort (15-24), there is a sign of decline in the quantum from first to second child within five years. For the first and second birth, the younger cohorts tend to have shorter birth

intervals. Little change was observed for the higher-order births in terms of the tempo of fertility.

The period effects can be broadly divided into two periods; before and after the introduction of the family planning program (1972). Before 1972, the fertility change was indirectly affected by the planned socioeconomic changes in rural Anhui. There are three noticeable periods; first of all during the early period of liberation (1949), Land Reform stimulated parents to have more children in order to gain more labour for the family. There appears to have been a period of relatively high and stable fertility. On average, more than 80 per cent of women moved to the next parity regardless of family size. Secondly, during the three years of famine for all orders of birth, the quantum of fertility was reduced drastically and the tempo of fertility reached the longest intervals. Then comes a compensation period of high fertility until the early 1970s; but during the late 1960s and early 1970s, the quantum of fertility probably started to decline from the higher orders of birth (fourth birth onwards).

The introduction of the family planning program to rural Anhui in 1972 started a new era of fertility transition. During the early period of the family planning program (1973-1977), the substantial decline in quantum of fertility first occurred from the third and higher orders of birth. It quickly filtered down to the second birth in the next five years (1978-1982). This indicates that the program is clearly and rigorously focused on parity and birth order. It seems that women who had given birth to their second child became the primary target of the family planning program. The patterns of fertility decline imply that they used some kind of contraceptive method; the pattern of contraceptive use is analysed in Chapter 7.

Finally, it is interesting to note how stable is the tempo of fertility for the third and higher order of births through the entire period of study (1948-1982), except during

the three years of famine (1959-1961). The family planning program successfully stopped many women from having more children, but those who did continue, did so without delay.

Chapter 7

Patterns of Contraceptive Use in Rural Anhui, 1982

7.1 Introduction

The 1/1000 Fertility Survey of China in 1982 collected information about current contraceptive use of currently married women aged 15-49. There are many studies, using the 1/1000 Fertility Survey data, about the patterns and incidence of contraceptive use, and the degree to which cultural and socioeconomic factors help to explain those patterns (Qiu, Wu and Wang, 1984; Tuan, Zhong and Li, 1986; Sun, 1986; Poston, 1986; Yang, 1987). It is found that the percentage of contraception (69 per cent) in China is as high as in many developed countries. The principal method of contraception is IUD (50 per cent), followed by male and female sterilization (35 per cent) which constituted 85 per cent of all users (Poston, 1986). In rural China, use of both IUD and sterilization is about 15 per cent higher than in urban areas. The differentials in contraception are found among women with different socioeconomic background and number of living children. There is also considerable variation in the patterns and methods of contraception among subregions in China. The percentage of contraceptive use ranges from 60 per cent in Northwestern areas to more than 70 per cent along the coastal areas. The percentage of sterilization varies from 17 per cent in Northern areas to about 40 per cent along coastal areas. Less variation is observed for the IUD users (Qiu, Wu and Wang, 1984). Some studies also analyse abortion in China (Tuan, Zhong and Li, 1986; Hull and Yang, 1987), and conclude that though abortion was officially used as a back-up method in case of contraceptive failure, there is evidence of coercion in some cases of abortion. Further investigations are needed before any detailed conclusion can be drawn.

There is no doubt that the family planning program, as one of the planned socioeconomic changes in China, played an important role in the dramatic fertility decline. As mentioned in Chapter 4, the main focus of the family planning program in rural Anhui, as is probably true of all rural China, is to increase the use of fertility control methods (including abortion) to reduce population growth. Women have little choice in contraception, even the contraceptive methods are fixed for them depending on how many children they have (Hardee-Cleaveland and Banister, 1988). The slogan mentioned in Chapter 4, 'first child IUD, second child sterilization and unplanned pregnancy abortion' is self-evident. So studying the patterns of contraception in rural Anhui, one may not assume that the existing pattern is based on people's choice, it is more likely that the pattern reflects how the family planning program affected women with different backgrounds. In other words, most women are not in a position to choose contraception, rather they have been chosen for certain contraceptive methods. This chapter examines how the family planning program affected all married women in terms of contraceptive use, including induced abortion. Chapters 5 and 6 in which time-series data were available, make it possible to analyse fertility changes in the context of planned socioeconomic changes since 1949. For contraception analysis, the data are only available for 1982 (induced abortion goes back to 1979). So the contraceptive pattern of 1982 is examined to signal the influence of the family planning program on fertility.

The year 1982 represents a contradictory period. It was about four and a half years after the economic reform known as Production Responsibility System in rural Anhui, and about four years after the One-child Family policy. On the one hand, resistance to the rigorous family planning program increased during Economic Reform in rural China; on the other hand, the State's ambitious target was to keep the population within 1.2 billion by the year 2000, and it urgently called for strengthening family planning at all levels.

7.2 Current Use of Specific Methods by Age

Based on the degree of reversibility of the technique, the different contraceptive methods are divided into three broad categories: sterilization (male and female) --- irreversible method; IUD --- semi-reversible method; and others (pill, condom, diaphragms, etc) --- easily reversible method. Of course, it is possible from the medical point of view to reverse sterilization; however, for family planning work, it is reasonable to assume that sterilization is irreversible. IUD insertion and removal requires medical assistance, and it is hard for the individual user to discontinue it, so it is classified as a semi-reversible method. The same applies to injections. Any other methods which can be easily discontinued by individual users at any time are classified as easily reversible methods. The present study does not attempt to separate the women who are forced to use some kind of contraceptive methods, e.g. sterilization, from those who use them on a voluntary basis.

Variations with age in the use of various specific methods are shown in Table 7.1 and associated Figure 7.1.

The pattern of contraceptive use of specific methods by age in rural Anhui (Table 7.1) is similar to the national average, except that pill users are doubled in Anhui. The percentage of users in rural Anhui is about 6 per cent higher than the national figure. For all methods, it can be seen from Figure 7.1A that the percentage of users increases substantially with age, from less than one third of users among the young age group (20-24) to more than 90 per cent for women aged 30-39. The lower percentage of users for older women (40+) is mainly due to the fact that some of them are approaching menopause and reported themselves as infecund at the time of the survey.

Table 7.1. Current Use of Specific Contraceptive Methods by Age Groups (20-49), Rural Anhui

Age	Sterilization		IUD	Pill	Others	User as % of Exposed	
	Female	Male				No. Users	Women
20-24	1.5	0.0	58.2	35.1	5.2	134	26.5
25-29	10.5	5.8	60.8	19.7	3.3	1,195	68.9
30-34	24.8	11.8	50.5	11.4	1.5	1,423	91.5
35-39	38.2	10.8	41.1	8.8	1.0	1,051	93.7
40-44	28.4	10.4	49.4	10.1	1.6	799	85.1
45-49	21.6	11.0	56.8	7.3	3.3	454	49.7
All Age							
Rural Anhui	23.9	9.6	51.6	12.9	2.1	5,056	74.7
Rural China	27.1	8.1	54.3	6.7	3.9	68,255	68.3

Source: 1/1000 Fertility Survey of China, 1982.

Table 7.1 clearly shows that the IUD is the principal contraceptive method for all women. More than half of women who are currently using contraception depend on it. The percentage of IUD users does not seem to vary much among different age groups: except in the 35-39 age group, it varies between 50 and 60 per cent.

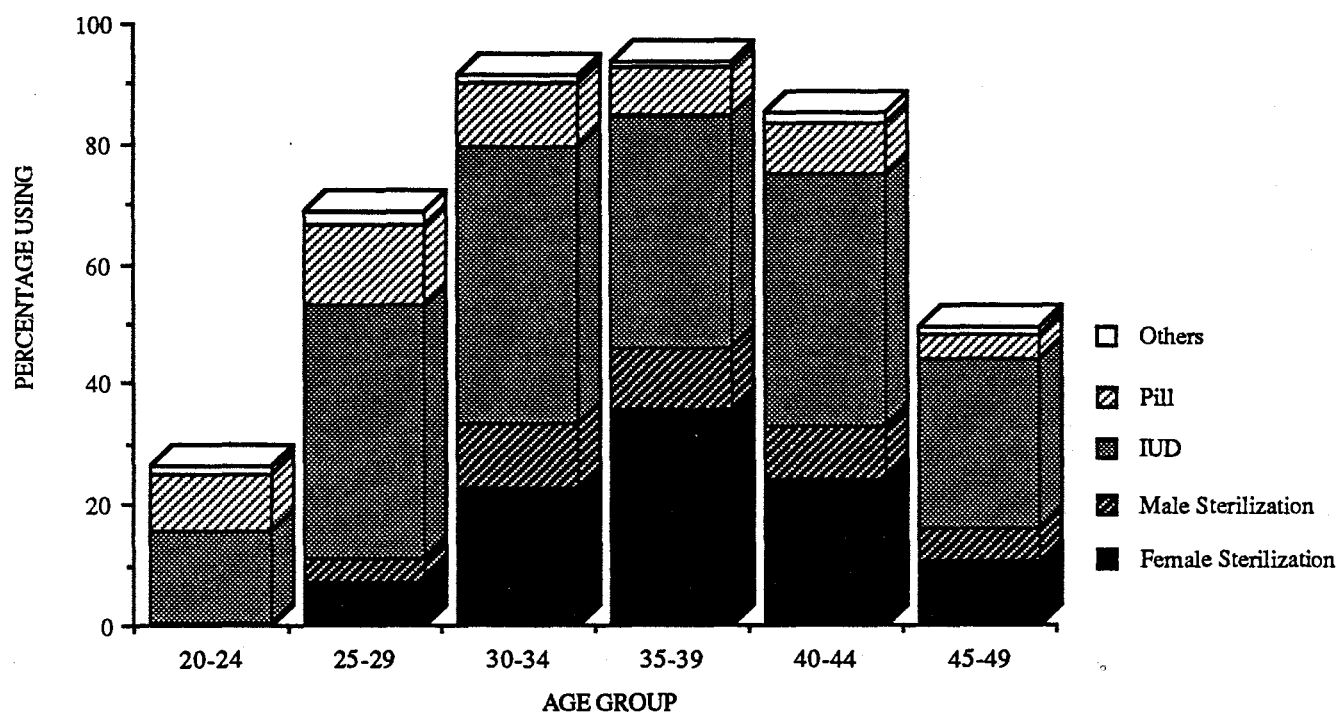
The same cannot be said for the percentage of sterilization, which increases with age, especially female sterilization. Few women aged 20-24 are sterilized (1.5 per cent), but from age 25 to 39, the percentage of sterilization increases substantially, peaking at 38 per cent for women aged 35-39; then it declines to about 22 per cent for older women (45-49). The lower rate of sterilization among these older women probably reflects the lower impact of the program in earlier years. It is interesting to note that there is no male sterilization among the husbands of women aged 20-24; male sterilization is about 6 per cent for the next age group (25-29) and remains at about 10 per cent for the rest of the age groups (30-49). There are some reasons for the relatively low percentage of vasectomy, one of them is that some couples are afraid of the man becoming a eunuch after vasectomy; it is well known in China that a eunuch was a castrated man who used to be employed in imperial courts. Also there

are generalized fears that men may be affected --- weakened --- by the operation: this is very important among peasants where the man is the main worker for the family.

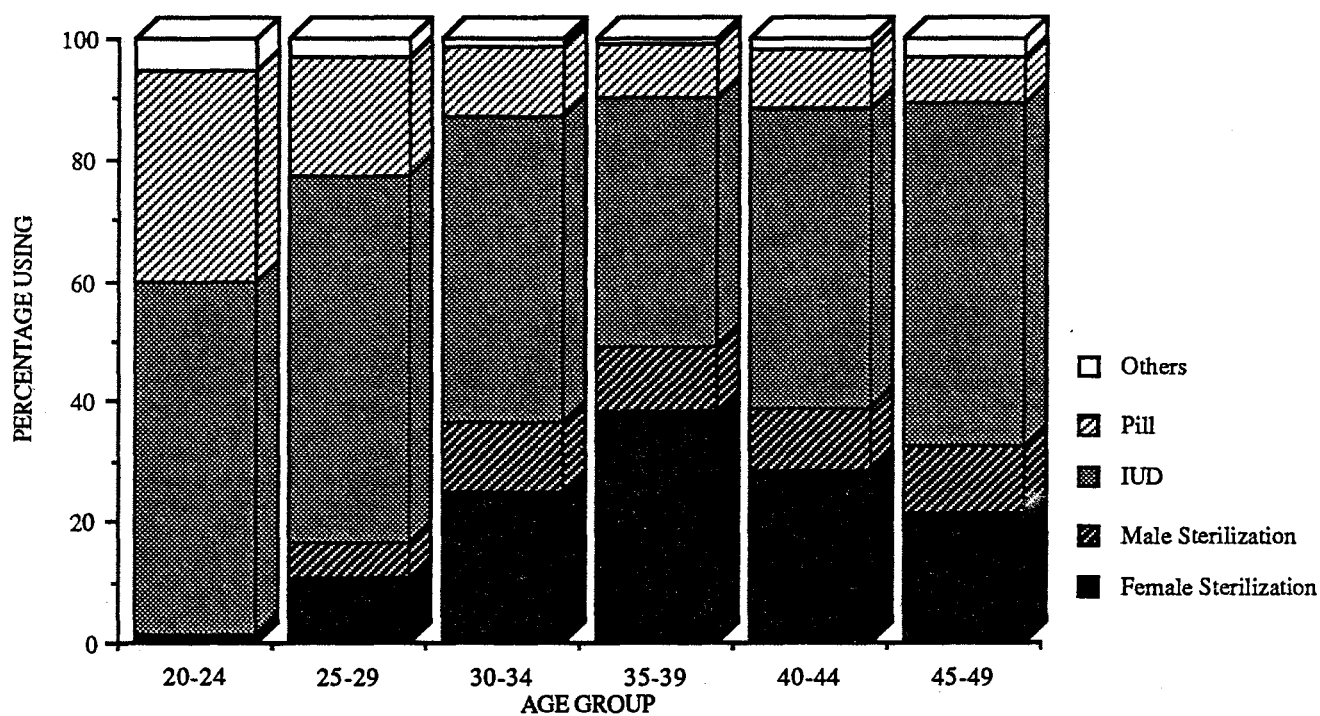
The percentage using easily reversible methods (pill and others) decreases steadily with age; more than 40 per cent of women aged 20-24 depend on the pill and other methods, while use declines to about 20 per cent for the next age group (25-29), and remains at about 10 per cent for the remaining age groups.

Figure 7.1B shows current use of specific methods of all current users (20-49) by age group in rural Anhui. Reading from the bottom of the figure, the first two colours represent the changes in percentage using irreversible contraceptive methods, the next colour is the percentage changes of IUD users and last two colours stand for the users of easily reversible methods. The figure reflects the influence of family planning campaigns in rural Anhui, for example, the campaigns in Bo county since the early 1970s (as mentioned in Chapter 4), of which the main purpose was clearly to increase the number of abortions, sterilizations and IUD users. From the family planning workers' point of view, the best solution in contraception is sterilization. Once the women had sterilization, the family planning workers did not need to worry about them any more. The more cases of sterilization, the easier their job. Since IUD is a very effective method and can last a reasonably long period, it is the second best method; in most cases, the IUD can be removed only in a family planning clinic or service station, and only if strong reasons are given. The use of easily reversible methods is concentrated among young women (under 30), of whom presumably a considerable percentage are childless or have only one child. It is very hard to persuade them to use more permanent methods, particularly sterilization.

Figure 7.1 A. Current Use of Specific Contraceptive Methods of Currently Married Women (20-49) By Age Group, Rural Anhui



B. Current Use of Specific Contraceptive Methods of All Current Users (20-49) By Age Group, Rural Anhui



7.3 Current Use of Specific Methods by Number of Living Children

The population policy and family planning program in China are clearly and rigorously focused on birth order (Feeney and Yu, 1987); the birth interval analysis in Chapter 6 shows that the quantum of fertility by birth order has considerably declined since the early 1970s. At the most recent period (1978-1982), the dramatic decline in the quantum of fertility occurred from the second to the third birth and continued to decline for higher-order births (Table 6.6). The analysis of contraceptive use by number of living children provides an opportunity to observe how the family planning program affects women's reproductive behaviour by birth order.

Table 7.2 and the associated Figure 7.2 show the current use of specific contraceptive methods of current users (20-49) by number of living children in rural Anhui. Less than 3 per cent of married women with no child use any contraceptive methods, which suggests that most women in rural Anhui do not delay their first birth after marriage, consistent with the findings in Chapters 5 and 6⁴. Among the women who have one child, the percentage of contraceptive use increases to about 43 per cent. Although the One-child Family policy was announced in 1979, the majority of women in rural Anhui did not seem to follow the policy closely. Among those 43 per cent contraceptive users, 5 per cent have sterilization, slightly over half use the IUD, and about 42 per cent use other easily reversible methods (pill and others). It seems probable that only the 5 per cent of sterilized women have fully accepted the One-child Family policy. In other words, less than half of those with one child are using any contraceptive and only about 2 per cent of those with one child have decided to stop there.

⁴ Among the 3 per cent (or 12) childless women, the use of IUD, especially sterilization, may be due to misreporting during the survey.

Table 7.2. Current Use of Specific Contraceptive Methods of current users (20-49) by Number of Children ever Born, Rural Anhui

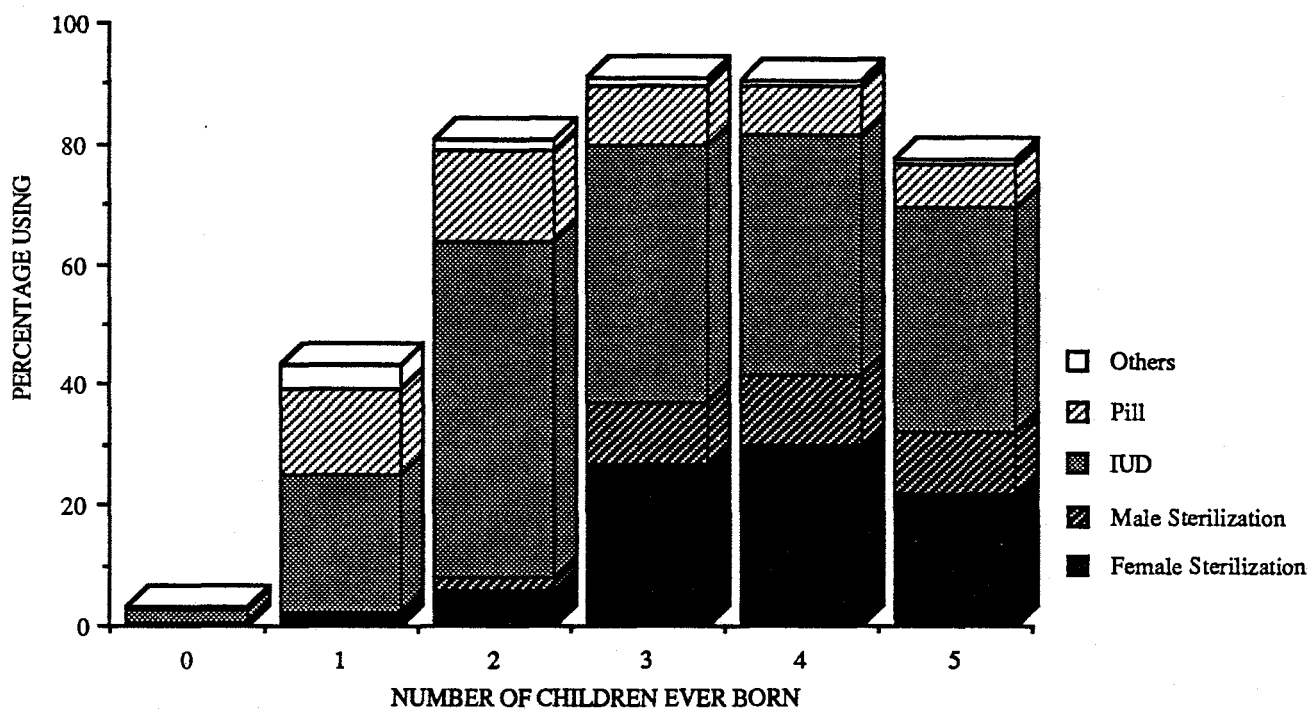
No. of Children	Sterilization		IUD	Pill	Others	User as % of Exposed	
	Female	Male				No. Users	Women
0	8.3	0.0	75.0	8.4	8.3	12	2.9
1	4.7	0.3	52.5	33.5	9.0	343	43.3
2	7.4	2.4	68.8	18.7	2.6	985	80.9
3	29.4	11.5	47.0	11.1	1.1	1,230	91.0
4	32.9	12.6	44.4	8.7	1.4	1,085	90.8
5	28.3	12.9	48.5	8.7	1.5	1,401	77.8
All							
Rural Anhui	23.9	9.6	51.6	12.9	2.1	5,056	74.7
Rural China	27.1	8.1	54.3	6.7	3.9	68,254	68.3

Source: 1/1000 Fertility Survey of China, 1982.

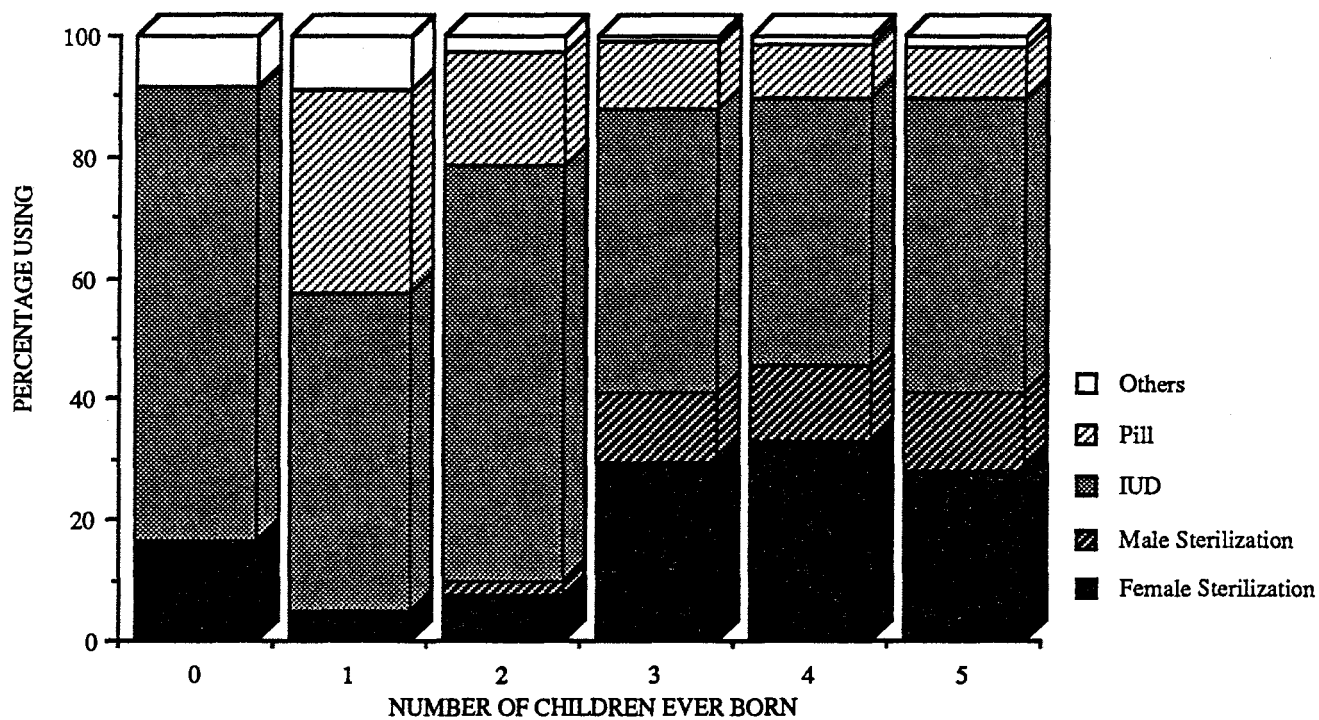
The percentage of contraceptive users almost doubled among women who had two children compared with women who had one child, from 43 to 81 per cent, which clearly indicates the focus of the family planning program on birth orders. It is interesting to note the shift in contraceptive use by methods from one to two children. The percentage of users using easily reversible methods declined from 42 to 21 per cent, and IUD users increased to about 69 per cent. The percentage sterilized increased to about 10 per cent of users. After having their second child, the majority of married women are programmed to take non-easily reversible contraceptive methods (IUD and sterilization).

The most interesting findings in the pattern of contraceptive use are from the second to the third birth. After having their third child, the percentage of women sterilized rose from 10 to 41 per cent, while the percentage of IUD users declined by more than 20 per cent; the percentage of pill and other methods users stabilized at around 10 per cent. The pattern of specific contraceptive use remains similar among women with three or more children.

Figure 7.2 A. Current use of Specific Contraceptive Methods of all Married Women (20-49) by Number of Children Ever Born, Rural Anhui



B. Current Use of Specific Contraceptive Methods of Current Users (20-49) By Number of Children Ever Born, Rural Anhui



These findings suggest that the number of children is one of the most important factors in determining the use of specific contraceptive methods. It seems that few newly married women use any kind of contraception; after having the first child, about half the women use contraception and concentrate on IUD and easily reversible methods. From the first to the second birth, the most important feature is the dramatic increase in contraceptive use: in fact, no less than 90 per cent of women are using contraception, and the majority of them have IUDs (69 per cent). The most distinctive shift in use of specific methods occurred from the second to the third birth: among the women with three or more children, more than 40 per cent have sterilization and just under half use IUD. Sterilization and IUD users make up no less than 85 per cent of total users.

Of course, in the developed countries, such as the United Kingdom and Australia, a similar trend of contraceptive use by number of children ever-born is observed; young women are more likely to use the pill or condom, after having one or two children, many of them switch to the IUD, and then to sterilization once the family is completed. This is mainly because when children are being planned for, women do not mind too much if they forget a pill and get pregnant slightly before they meant to. But once the family is complete they want reliable, safe long-term protection (Kane, 1987). But the use of any contraceptive methods in developed countries is mainly determined by the individual couples, taking into account such factors as cost of children and women's employment. In rural China since the cost of raising children is relatively low and the expected returns of children are higher, it is unlikely that for most peasants the desired number of children is as low as two or three (Wang, 1988). So the observed contraceptive pattern by number of children in rural China has mainly resulted from the influence of the family planning program.

The analysis in Chapter 6 shows that in the recent period (1978-82), the dramatic fertility decline occurred from the second to the third birth. The analysis in the present chapter shows that the dramatic fertility decline was achieved by massive use of sterilization and IUD insertion (probably also many abortions) after the third child. These are the most important characteristics of the planned fertility decline.

7.4 Current Use of Specific Methods by Educational Level

Of the 5,056 current contraceptive users in rural Anhui, 77 per cent (3,883) have never attended any school, 17 per cent (839) have primary school education and only 6 per cent (334) have secondary or higher education. These figures are well below the average educational levels of women for China as a whole; on average 43 per cent of women have no education, 33 per cent have primary school and 24 per cent have secondary or higher education in rural China. As mentioned in Chapter 2, Anhui as a whole stands at the lower middle level of socioeconomic development in China and one of the serious problems for its future socioeconomic development is the lower educational level of the labour force. So it is not surprise to find that the average education level of women at reproductive ages in rural Anhui is much lower than the national average.

Table 7.3 and associated Figure 7.3 give the current use of specific contraceptive methods of all current users (20-49) by education level in rural Anhui. There is not much difference in percentage of contraceptive use between women with no schooling and those with primary school education. The women with some schooling have a slightly higher percentage of contraceptive use (78.6 per cent) than illiterate women (74.6). A lower percentage of contraceptive use (67.2 per cent) is found among women with higher education, which may be due to the fact that a larger percentage of women with higher education are younger and many of them may be

just married or have only one child, so the overall percentage of contraceptive use appeared to be lower among them.

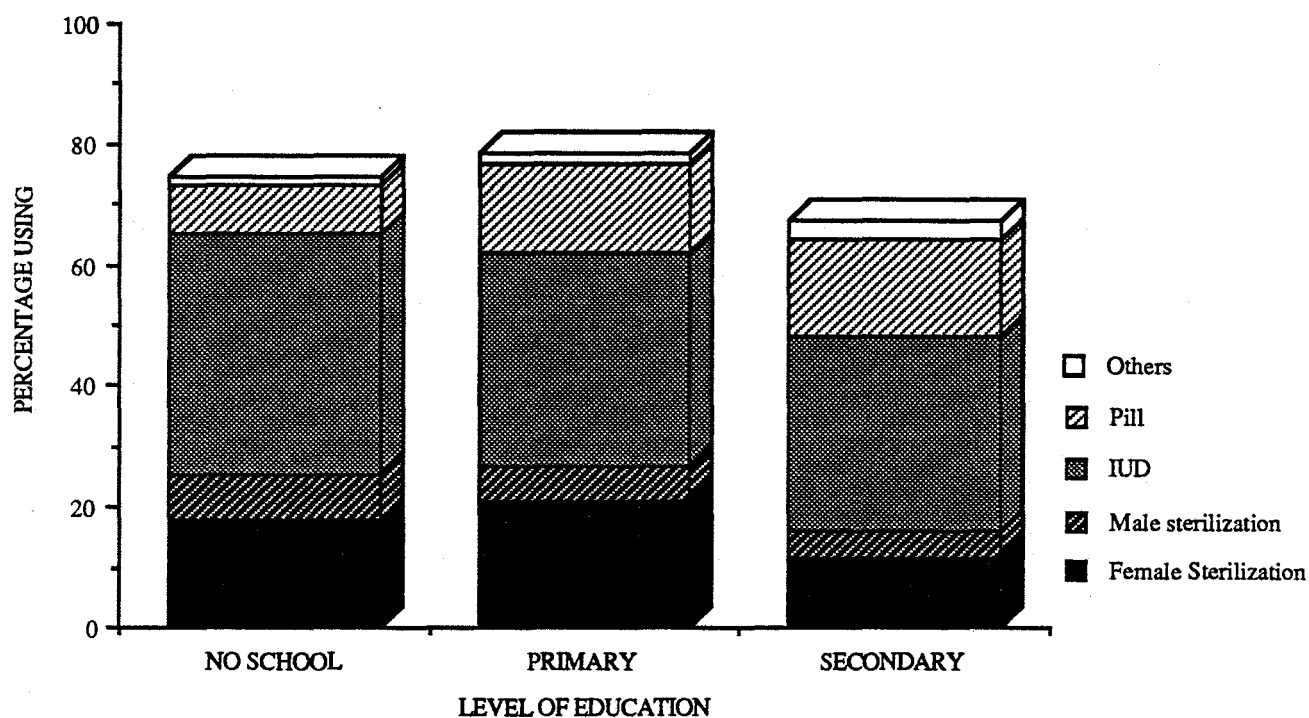
Table 7.3. Current Use of Specific Contraceptive Methods of all current users (20-49) by Education Level, Rural Anhui

Education	Sterilization		IUD	Pill	Others	User as % of Exposed	
	Female	Male				No. Users	Women
No School	23.9	10.3	53.2	10.6	1.9	3,883	74.6
Primary	26.6	7.3	45.3	18.8	2.0	839	78.6
Secondary	17.1	6.6	47.9	24.0	4.5	334	67.2
All	23.9	9.6	51.6	12.9	2.1	5,056	74.7

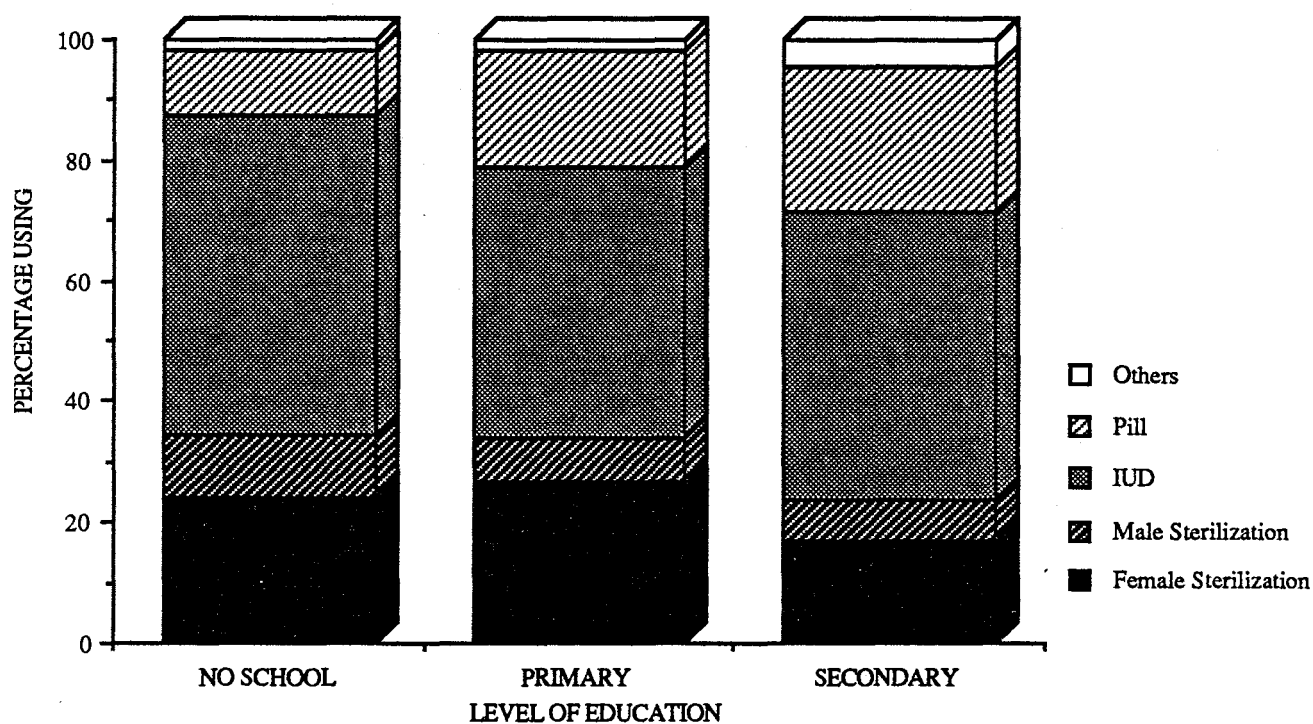
Source: 1/1000 Fertility Survey of China, 1982.

It is very interesting to observe the changes in percentage of users of specific methods among the different education groups. Of the women with no schooling, 34 per cent are in couples that have been sterilized (24 per cent tubal-ligation and 10 per cent vasectomy), 53 per cent depend on IUD and about 12 per cent use easily reversible methods. For the next education group (primary school), the percentage sterilized remains unchanged (27 per cent tubal-ligation and 7 per cent vasectomy), the percentage of IUD users dropped to about 45 per cent and the percentage of easy methods users increased to about 21. Among the women with higher education, the percentage of sterilization dropped to about 24 per cent (17 per cent tubal-ligation and 6 per cent vasectomy) and the percentage of easily reversible methods users reached the highest point of 29 per cent; this trend can be seen clearly from Figure 7.3. Of course, this is partly due to the fact that a large percentage of the higher education group are younger women. It is also related to the differences in contraceptive knowledge and desire for more children among different education groups. The local family planning workers may feel that it is unsafe to leave the uneducated women with easily reversible contraceptive methods. And the more educated women may be more confident about demanding real choice from the

Figure 7.3 A. Current Use of Specific Contraceptive Methods of All Currently Married Women (20-49) By Level of Education, Rural Anhui



B. Current Use of Specific Contraceptive Methods of All Current Users (20-49) By Level of Education, Rural Anhui



family planning workers. The 1/1000 Fertility Survey of China has no information about contraceptive knowledge and desire for more children.

7.5 Patterns of Induced Abortion in Rural Anhui, 1979-1982

The Chinese government has stated clearly that family planning is the basic state policy; the implementation of the family planning program is based on the principle of integrating state guidance with massive voluntary effort. Contraception is the preventive measure and induced abortion serves only as a 'back-up' method in the family planning program (Wang, 1986). Many studies argue that the family planning program in China is coercive, especially the use of induced abortion (Mosher, 1983; Banister, 1987; Aird, 1988). The present study does not aim to clarify whether or not the family planning program is coercive, but to examine the patterns of abortions in rural Anhui since 1979. The existing pattern is regarded as the result of the family planning program and should reflect the influence of the program.

In the 1/1000 Fertility Survey, all married and exposed women were asked about the dates of, and reasons for abortions since 1979. Among 6,770 exposed women in 1982 in rural Anhui, 469 cases of abortions were recorded since 1979: 422 of them were first abortions, 42 were second abortions and five were third abortions. The present study examines only the first abortions. In 1979, 76 first abortions were recorded, 118 in 1980, 107 in 1981 and 121 up to September 1982. It is not possible to find out how accurate the abortion information is; it is probably true that many women tended to under-report their abortions, especially those who should have used contraception but did not. It is comparatively easy for women to get abortion outside their own area, many rural women go to a town for privacy. They were afraid that they might be classified as people who did not comply with the state population policy and become the primary target of the family planning program.

Table 7.4 Reasons for Induced Abortions for Women Aged 20-49 in Rural Anhui, 1979-1982.

Reasons	Year			
	1979	1980	1981	1982*
Sterilization Failure	1.3	2.5	3.7	3.3
IUD Failure	39.5	34.7	33.6	25.6
Others Failure	21.1	18.6	25.2	26.4
Non-contraception	38.2	44.1	37.4	44.6
Total	100	100	100	100
Total Abortions	76	118	107	121

Source: 1/1000 Fertility Survey of China, 1982. * Number of abortions for 1982 is only up to September 1982.

Table 7.4 shows the reasons for reported induced abortions for women aged 20-49 in rural Anhui since 1979. Less than 4 per cent of abortions were due to the failure of sterilization. The failure or expulsion of IUD accounts for more than 30 per cent of abortions from 1979 to 1981 and decreased to about 26 per cent in 1982. It is interesting to note that the percentage of abortions due to failure of IUD is much higher than that of other contraceptive methods, except in 1982. Studies about contraceptive effectiveness suggest that in developing countries the effectiveness of IUD is about 96 per cent and for other methods (except sterilization) on average it is about 70 per cent (Laing, 1985: 146). One would expect the percentage of abortions due to IUD failure to be lower than those due to failure of other contraceptive methods because of the relatively higher effectiveness of IUD. The higher failure rate of IUD in rural Anhui suggests that some of the IUD users may have deliberately removed their IUD to get pregnant. The analysis of the Bo county population survey in Anhui (Liang and Li, 1982) indicated that a considerable amount of 'unplanned pregnancy' resulted from self-removal of IUD, which suggests a strong desire for more children. Other possible explanations or partial explanations are that Chinese IUDs are different in design and do seem to have higher failure rates than those used elsewhere. Also, expulsion rates vary depending on the technique of

the person inserting them, it is possible that during the family planning campaigns, many IUD insertions were not well done (Kaufman, 1987). The highest percentage of abortions was due to non-contraceptive use; presumably, a large percentage want to have more children.

Table 7.5 shows the percentage distribution of abortions for women aged 20-49 by age groups, number of children ever-born and educational level. It is apparent that abortions are concentrated among women aged less than 40 years of age: more than 90 per cent of abortions were performed on these age groups. The percentage of abortions among women aged 20-29 steadily increased from 1979, and by 1982 women in those age groups accounted for about half of the induced abortions. For women aged 30-39, the percentage of abortions declined from 54 per cent in 1979 to about 45 per cent in 1982, which may suggest that since the early 1980s more and more younger women have 'unplanned pregnancies'. It may also indicate, as the previous discussion has shown, that increasingly these older women with more children were the effective target of the family planning program.

It is not surprising to find that about 60 per cent of abortions were undergone by women who had two or three children, because they are the primary target of the family planning program. In many cases, the induced abortions were followed by sterilization or IUD insertion, especially for women who had two or more children.

The majority of women who had abortions are illiterate. It seems that in rural Anhui the relatively young (under 40) and illiterate women who have two or more children are most likely to have abortions. They have a stronger desire for more children, are less likely to use contraception, and are more likely to become the primary target of the family planning program.

Table 7.5. Percentage of Induced Abortions to Women Aged 20-49 by Age, Number of Children Ever-born and Educational Level in Rural Anhui, 1979-1982.

Variables	Year			
	1979	1980	1981	1982*
Age				
20-29	35.5	39.0	45.8	49.6
30-39	54.0	53.4	47.7	44.6
40-49	10.5	7.6	6.5	5.8
Total	100	100	100	100
No of Living Children				
1	10.5	10.2	19.6	13.2
2	36.8	35.6	37.4	34.0
3	22.4	20.3	19.6	26.4
4	17.1	17.8	11.2	15.0
5	13.2	16.1	12.1	11.6
Total	100	100	100	100
Education				
No School	63.2	66.0	58.0	72.7
Primary	25.0	24.6	28.0	21.5
Secondary	11.8	9.4	14.0	5.8
Total	100	100	100	100
Total Abortions	76	118	107	121

Source: 1/1000 Fertility Survey of China, 1982. * Number of abortions for 1982 is only up to September 1982.

7.6 Summary

The family planning program in China is mainly responsible for the dramatic fertility decline since the early 1970s. One of the most important aspects of the family planning program is contraceptive use, including induced abortion.

The analysis in Chapter 6 shows a clear pattern of fertility decline by birth order since the early 1970s in rural Anhui. In the most recent period (1978-1982), the dramatic fertility decline occurred from the second to the third birth. The analysis of the contraceptive pattern shows that the family planning program is focused not only

on the birth order, but also on specific contraceptive methods by birth order. More than 90 per cent of current users who have less than two children use IUD or other easily reversible contraceptive methods. After having a third child, no less than 40 per cent of current users are sterilized, which suggests that with increasing number of children, more and more exposed women are pushed towards the use of irreversible methods (male or female sterilization) through the family planning program.

There is no difference in contraceptive use between illiterate and primary school educated women; women with higher education are more likely to use easily reversible contraceptive methods. On the one hand, This may suggest that women with higher education are more likely to resist successfully pressures to make them use irreversible methods; on the other hand, it may also reflect the differences in desire for more children among different education groups.

Illiterate women with two or three children are more likely to have abortions. Presumably, a considerable percentage of them may have 'unplanned pregnancies' and most probably these are women who want more children. A large percentage of abortions resulted from the failure or expulsion of IUD which suggests that some of the IUD users may deliberately remove their IUD in order to have a pregnancy.

Around the mid 1980s, as mentioned in Chapter 4, more and more places in Anhui followed the slogan 'first child IUD, second child sterilization and unplanned pregnancy abortion' in family planning work. Table 7.6 shows the percentage of changes in use of specific contraceptive methods of all current users from 1981 to 1986 in rural Anhui. It is clear that the pattern of contraceptive use changed towards the line of family planning specified in the slogan. The percentage of sterilization increased to about 60 per cent while the IUD users declined to about 33 per cent from 1984; the percentage of other contraceptive users has remained constant since 1981. This trend of contraceptive use suggests that in rural Anhui most couples

Table 7.6. Percentage Changes in Use of Specific Contraceptive Methods of All Current Users (15-49), Rural Anhui 1981-1986.

Methods	Year					
	1981	1982	1983	1984	1985	1986
Female	23.4	24.3	33.6	39.1	39.4	40.4
Male	9.4	11.4	15.4	19.7	19.9	18.3
IUD	59.3	57.1	45.4	36.0	33.8	33.4
Pill	6.9	6.3	4.7	4.5	5.7	6.6
Others	1.0	0.9	0.9	0.7	1.2	1.7
Total	100	100	100	100	100	100

Source: China Population Information Centre, 1986a.

would have two or more children before they agree to have sterilization. For some of them sterilization may be the price they paid for an additional child.

Chapter 8

Conclusion

This thesis has examined fertility decline in rural China, particularly in rural Anhui, in the context of planned socioeconomic changes since 1949. The development of the Chinese political system played a very important role in determining socioeconomic development and policy implementation (Greenhalgh, 1989c). From the political point of view, China's development from 1949 to 1989 can be divided into two broad periods in terms of tightening and loosening central control: from 1949 to 1979 was basically a period of tightening central control; while from 1979 to 1989 economic reform was accompanied by the loosening of central control. As mentioned in Chapter 3, there have been four major socioeconomic campaigns in rural China since 1949. These were:

1. Land Reform and Agricultural Co-operative Movement (1949 to 1957).
2. Great Leap Forward followed by three years of famine (1958-1961).
3. Cultural Revolution (1966-1976).
4. Economic Reform (1979-1989).

These planned changes formed the background for thoroughgoing institutional changes in the environment in which fertility decline has taken place. Essentially, the family planning program was a key part of the broad strategic directions adopted during each period of government action. It should be pointed out that the first eight years of implementation of a widespread effective family planning program (1972-1979) were in a period of tight central control, while from 1979 to 1989 the One-child Family policy was carried out during a period of economic reform and loosening central control (Chapter 4). Fertility behaviour in both periods was influenced by, and fluctuated with, these major changes in governmental style.

The basic format of socioeconomic campaigns in China is as follows:

The change process is initiated by Party policies outlining specific changes in policy themes. These can be translated into either indirect or direct attempts to change social life and people's behaviour. Indirect attempts are implemented through structural transformations. The government can use some or all of its resources to change economic or social structures. The assumption behind policies is that where a structure changes, people will adapt their behaviour to the new conditions.

There are, however, two major types of direct change mechanisms frequently utilized by government: administrative sanctions and normative influences. The government identifies and announces the kinds of behaviour and attitudes to be favoured or forbidden, and then uses the party, public security apparatus, work units and community organizations to reward those who comply with the announced norms and punish those who do not. These general principles and methods for enacting social changes were the basis of implementation of the family planning program (Chapter 1).

The general conceptual framework for the study of planned fertility decline assumes that fertility behaviour is the outcome of both institutions' and individuals' decision-making processes, and that a large number of interrelating institutions in society shape the environment in which fertility decisions are made. This framework identified three types of institutions at the primary level influencing the 'proximate' fertility determinants: family organization, economic institutions, and the institution of birth control technology and distribution. These are shaped by the structure of governance and the system of socialization, which are in turn conditioned by the prevailing ideology. The logic of the framework is that changing ideology produces changes in structures of social control (government and socialization), which in turn lead to changes in the immediate environment in which people make fertility decisions. As this environment changes, so does the behaviour with regard to the 'proximate' variables and thus the fertility level itself. This framework is used as a

basis, and general guide, for study of planned fertility decline in rural China. The major findings are summarized as follows.

8.1 Pre-Family Planning Program in Rural China, 1949-1972

The period 1949 to 1972 was basically one of tightening central control but with a virtual absence of a family planning program in rural China. Fertility changes were indirectly affected by other planned socioeconomic changes. The analysis in Chapter 5 showed a gradually increasing age at marriage in rural China over those years, particularly in rural Anhui. Two impacts of planned socioeconomic changes on nuptiality were identified. First, during the land reform of the early 1950s, land was redistributed to farmers and the individual farming family became the main production unit. Under these circumstances the number of labourers in a family was a major determinant of family prosperity. With the end of war and demobilization of armies, there was a marriage boom, with a large number of marriages at relatively young ages.

The second impact was during the Great Leap Forward followed by three years of famine. There appeared to be an earlier age at marriage during the Great Leap Forward (1958) and a period of three years of discontinuity of marriage (1960-1963) due to the effects of the famine. These were followed by a period of compensating early marriage. For women married before 1972, particularly those aged 40 years and over at the time of interview in 1982, age at marriage played an important role in determining fertility levels. Generally, women who married earlier had longer intervals between marriage and first birth, but over the first five years of marriage women had about the same fertility level in terms of mean number of children ever born regardless of age at marriage. Consequently, in the absence of modern contraception, women who married earlier would have had more children than others

because of a longer total exposure to childbearing over their fertile life-span. In other words, age at first marriage was an important determinant of completed fertility in rural China.

The analysis of fertility change by birth order (Chapter 6) further confirms that age at the start of intervals (marriage or births) played an important role in determining the quantum and tempo of fertility. Women who had a previous birth (or initiated marriage) at a relatively young age had a higher probability of progressing to the next birth. Similar to the changing nuptiality pattern, from 1949 to 1972 there are three noticeable effects of planned socioeconomic changes on fertility by birth order:

First of all, during the early period of Communist government (1949-1957), Land Reform stimulated parents to have more children in order to gain more labour for the family. This appears to have been a period of relatively high and stable fertility. On average, more than 80 per cent of women moved to the next higher parity regardless of family size. Secondly, during the famine years of 1959-1961 for all orders of birth, the quantum of fertility was reduced drastically and intervals lengthened. This was followed by a compensation period of high fertility extending through the early 1970s; but during the late 1960s and early 1970s, fertility probably started to decline with reductions of fourth and higher order births. Although there was no systematic family planning program in rural China before 1972, the Communist Party successfully established a huge bureaucratic system to carry out all centrally planned policies and this provided the basic framework for family planning once the program was established.

8.2 Rapid Development of Family Planning Program, 1972-1979

Since the early 1970s, the Chinese government has emphasized the importance of family planning in population control, particularly in rural China. The family planning program was introduced to rural Anhui in 1972. During the period 1972 to 1979, the family planning program developed rapidly from the 'Wan Xi Shao' campaign in the early 1970s to the One-child Family policy adopted in 1979. A family planning organizational hierarchy was also established within the context of the government bureaucratic system. Under the influence of the family planning program, nuptiality and fertility in rural Anhui entered an era of rapid change.

Age at first marriage increased rapidly, from about 18 years on average in the early 1970s to about 22 years towards the end of the 1970s. The intervals between marriage and first birth were considerably shortened. This suggests that some of the women may have been squeezed to later ages at marriage under the influence of the family planning program, but after marriage tended to compensate for the time they had to wait. Within the first five years of marriage, regardless of age at first marriage most women had about the same level of fertility. Although increasing the age at marriage would tend to increase the average length of generation, it would have had no specific effect on completed family size.

The substantial decline in fertility beginning in the early 1970s occurred first at third and higher orders of birth. It quickly filtered down to the second birth by the end of the 1970s, which clearly reflected the focus of the Chinese family planning program on birth order.

There is no doubt that the family planning program has contributed enormously to the fertility decline in rural China. The goal of the family planning program is

straightforward. To control population growth, later age at marriage is enforced for unmarried women, and for married women some method of birth control including induced abortion must be used. Over the decade from 1979 to 1989 the main methods of policy implementation were population propaganda and various campaigns carried out by family planning organizations. The hierarchy of the family planning organizations was supported, in turn, by the bureaucratic system which was centrally controlled. During the period of tightening control (1949-1979), ideological reform and class struggle were emphasized, and the central government successfully made people submit their interests to the collective's or state's interests. These background institutional changes help to explain why the Chinese family planning was successful in reducing population growth in a relatively short period of time, in advance of major change in socioeconomic development.

8.3 Conflicts and Adjustment in Family Planning Program, 1979-1989

The redistribution of land to the peasants is known as the 'production responsibility system': under this reform the individual family again became the basic production unit. Peasants had more economic freedom to decide on products, process, and labour inputs, instead of submitting their interests to the collective's or state's interests, the peasants gradually emphasized their own interests. These changes diminished the power of central planning and control, the structures of which were loosened at the grass-roots level. This policy shift on the economic side impeded successful enforcement of the rigid population policy (One-child Family policy), both by the decentralized nature of policy administration and by the inability of the enforcement mechanism to adjust to rapid changes in the economy. Resistance to rigid population policy grew stronger and stronger in rural China as a result of the reforms of 1978-1979, leading to an adjustment of population policy in the mid 1980s. This reflected a softer style in policy implementation. In fact, before the

policy adjustment in the mid 1980s, many provinces had already modified their interpretations of central population policies to suit the changed local situations created by economic reform.

The State Family Planning Commission was quick to recognize the implications of the trend of economic reform for family planning program implementation. Soon after the policy adjustment, population growth greatly increased in some rural areas, partly because the 1960s baby-boom cohorts reached the reproductive ages. In rural Anhui, there were considerable increases in the proportions marrying early (below the minimum legal age), commencing childbearing early and having 'unplanned births'. These changes suggest that the reduction in fertility levels recorded for rural China in the 1980s is by no means necessarily a permanent one, because peasants evidently want more children than the one-child policy requires. Also they indicate that socioeconomic development in rural China has not yet reached a stage where most of the peasants would spontaneously adopt very small family sizes.

The economic reform has also reduced the effectiveness of the propaganda and family planning campaigns. Economic sanctions and the contract system were introduced into the family planning program during the 1980s. In early 1989, the State Family Planning Commission emphasized the importance of 'unified thinking in family planning and population control', and of 'grasping family planning firmly'. These phrases appear to signal a desire to tighten up the family planning program. Although it is obvious that social and economic structures changed significantly during economic reform, the Chinese government apparently still believes that the family planning program working through the structure of government can both achieve low fertility and modify people's attitudes towards bigger families. Data appear to contradict this notion.

During economic reform and the implementation of a new marriage law in 1981, the nuptiality pattern in rural Anhui moved towards earlier marriage. The substantial rise in age at marriage between 1972 and the early 1980s may have been a temporary change achieved through the centrally controlled bureaucratic system. All other trends indicate that rural Anhui has not yet developed to a stage where most women would spontaneously accept a later age at marriage. Taking into account the more recent downwards trend in age at marriage, the long term time-trend of age at marriage in rural Anhui appears as a smooth and gradual upwards line. Unless the underlying socioeconomic conditions change, government efforts can influence age at marriage at the margin, but probably cannot greatly modify the underlying nuptiality pattern.

There is insufficient data to analyse the fertility change by birth order for the period of economic reform (the 1/1000 Fertility Survey of China was conducted in 1982). The total fertility rate (TFR) in China declined from 2.6 in 1981 to 2.4 in 1983, reaching a low 2.2 in 1985. Since 1985, the TFR has increased to 2.4 in 1986 and 2.6 in 1987. A similar trend is found in Anhui. The TFR declined from 3.2 in 1981 to 2.8 in 1983, and reached the lowest fertility of 2.4 in 1985 before increasing to about 2.7 in 1987 (China Population Information and Research Centre, 1989: 7). The increase in TFR since the mid-1980s in rural China and Anhui may reflect, at least partly, the relaxation of population policy during that period. But it also suggests that the present situation of fertility transition in China is unlikely to be stable until the changes in social and economic structure encourage people to internalize a small-family norm.

The analysis of the 1/1000 Fertility Survey of China shows a distinct pattern of contraceptive use in rural China and Anhui. Sterilization and IUD users constituted more than 80 per cent of total users. The use of specific methods is influenced by the number of children women have. More than 90 per cent of current users who have

fewer than two children use IUD or other easily reversible contraceptive methods. After having a third child, no less than 40 per cent of current users are sterilized. Around the mid 1980s, the slogan 'first child IUD, second child sterilization and unplanned pregnancy abortion' became a guiding principle in family planning work. From the early 1980s to 1986, available data show that the pattern of contraceptive use in rural Anhui changed towards the line specified in this family planning slogan: sterilizations increased to about 60 per cent while IUD use declined to about 30 per cent by 1986.

In summary, before 1979 from a political point of view China was basically characterized by tightening central control through its fully entrenched bureaucratic system. Ideological reform and class struggle were emphasized by the central government. People were told to ignore their own interests in favour of the primacy of collective and state interests. There were a series centrally planned socioeconomic changes. The family planning program was introduced to rural China and Anhui in the early 1970s. The central government was determined to bring down rates of population growth as these were assumed to place heavy burdens on socioeconomic planning. The established bureaucratic system was able to carry out centrally planned policy mainly through propaganda and administrative methods. Referring to the study framework (Chapter 1), the main channels of family planning program implementation in China before 1979 were the structure of governance (bureaucratic system) and the pattern of socialization (propaganda), through which the central government directly controlled the fertility behaviour of each family. Under these circumstances, the successful implementation of the program did not require major changes in the economic system. In other words the levels and trends in socioeconomic change were largely irrelevant to the overall success of the family planning program, although they may have played an important role in fertility variations among different socioeconomic settings. Planned fertility transition in this

period in rural China and Anhui has some distinct characteristics in relation to 'proximate' fertility variables:

1. The early period transition did not change the proportion married among females of reproductive age. The analysis in Chapter 5 shows that more than 95 per cent of Chinese women married before age 30 whatever their birth cohorts.
2. The early period transition focused on massive use of contraception. The family planning program focus on the parity and the use of specific contraceptive methods are largely determined by the number of children women had (Chapter 6 and 7).
3. There is not sufficient data to analyse the prevalence of induced abortion. A number of studies indicate that the Chinese family planning program involved substantial use of induced abortions. The analysis in Chapter 7 suggests that abortion is also parity related (most abortions taking place among women having two or more children) which is consistent with the focus of the program.
4. The birth interval analysis in Chapter 6 indicates that birth intervals are getting shorter among the younger cohorts, especially the intervals between first and second birth, which may suggest change in the duration of post-partum infertility among the different cohorts.

It is apparent that the dramatic fertility decline in rural China and Anhui in the 1970s and early 1980s has been achieved mainly through changes in two sets of proximate variables: proportion of fecund women using effective contraception and the prevalence of induced abortion. These changes were the main focus of the family planning program.

During the period 1979-1989, the economic system changed drastically. In rural China, land was re-distributed to peasants, and they were given more economic freedom in production. The structure of central control was loosened at grass-roots level. The economic reforms in turn suggested reforms in the social and political systems. Although the signals from the central government about population control remained strong, the changed economic situation in rural China encouraged peasants to resist the rigid population policy. This resulted in major conflicts and consequent adjustments of central population policies. It appears that induced fertility transition in rural China, using mainly administrative methods and propaganda in policy implementation, must now take account of unanticipated changes in economic structure: changes which have gradually assumed fundamental roles in determining fertility behaviour.

Since the June 4th Incident of 1989, the Chinese Central Party Committee has issued urgent calls to strengthen ideological reform, and tighten Central Party leadership at all levels. This signals another fundamental turning point in the history of communist China. After a decade of economic reform (1979-1989), the Central Party Committee is attempting to re-establish central planning and tight social controls. It is unclear to what extent the Party will be successful in the new policies since there are at least three important factors impeding the successful re-implementation of goals of centralism. First of all, the lack of an absolute, authoritarian leader, such as former chairman Mao Zedong, means that it is difficult to attain strong unity of thinking and action in the government itself. In other words it is not possible to formulate a single 'correct political line' for the whole nation to follow. Second, the economic reform brought an increased emphasis on decentralization in decision-making and implementation of policies. Cadres at all levels are reluctant to revert to the centralized manner of policy implementation and give up the autonomy achieved in the decade to 1989. Mao Zedong (1938: 514) stated that: '...once the correct political line is formulated, cadres will become the key instrument in carrying out the

policies...'. Cadres no longer wish to be seen as mere functionaries, carrying out a party line. Third, during economic reforms, more than 80 million peasants became involved in collective or private light industries. They are no longer traditional peasants in isolated agrarian communities. It will not be easy to persuade them to submit their own interests to those of a large collective or to the state's interests. The influence of new entrepreneurs on other peasants should also not be under-estimated. These factors, plus many others, suggest that the foundation of central control in China is shaky, and the restoration of the old system built from 1949 to 1979 is very unlikely.

From the viewpoint of the conservatives in government, central control and central planning of population policy should be re-established, with reliance on strong administrative methods to achieve its goals. In other words, more coercive measures in family planning program implementation may be expected. But peasants increasingly demand to make their own fertility decisions, consistent with their family's labour needs. It is more likely that population policy will end up as a compromise between these two extremes, the government's demand to control population and the peasants' demand for more children. Government population policy will need to take into account the peasants' interests if the changed economic conditions are to continue. Peasants will need to recognize that the total promotion of individual family size interests might lead to collective disaster. In the near future, fertility outcomes will largely depend on the relative strengths of the government in implementing population policy and the peasants' desire for more children. In the long-term, the fertility outcome in rural China will largely depend on social and economic policies and their outcomes, and not merely population policy or the family planning program.

APPENDIX

"Questionnaires for Women"

(15 - 67 years old)

_____ county (city, district) _____ commune (neighbourhood
committee)

_____ brigade (residents committee)

Name of the householder:

1. Name:
2. Date of birth: Age:
3. Nationality:
4. Education: illiterate, primary school, junior middle school, senior middle school, college and university.
5. Occupation: peasant, worker, cadre, student, housework, waiting for job assignment and others.
6. Marital status: unmarried, first marriage, remarriage, divorce, widowhood
7. Date of first marriage: Age:
8. Contraceptive methods: tubectomy, vasectomy, IUD, oral pills, injectables, condoms, spermicides, withdrawal, rhythm method, others.
9. Reason for not using contraception: planned birth, infertility, menopause, others.
10. History of induced abortion since 1979:

date:	(reason)	(length of pregnancy)
date:	(reason)	(length of pregnancy)
date:	(reason)	(length of pregnancy)

11. History of childbearing

order of live B.	date of birth	sex	information on survival	babies died in 1980 & 1981		age of mother
				date of death	duration of survival (month)	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

total number of children _____, male _____ female _____
 number of own children _____

12. Date of accepting one-child certificate:
 Age of the only child:

date of interview:
 interviewer's name:
 recorder's name:

Source: Xiao, 1984.

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