China's Population: Recent Trends and Future Challenges

Lee-Jay Cho

NUPRI Research Paper Series No. *50*

February 1989

Lee-Jay Cho
Vice President
East-West Center
and
Director
East-West Population Institute
Honolulu, Hawaii
U.S.A.

C O N T E N T S

F I G U R E S

A B S T R A C T

Providing a historic overview of China's demographic changes during the past 2,000 years, this paper first examines the fertility and mortality trends as well as changes in her population policy since the founding of the People's Republic (1949-88). Special attention is given to the one-child policy and its implications in the context of projected changes in future population growth and urbanization trend. The paper also identifies available data and research on the People's Republic. The paper concludes with delineation of five future challenges for China: consistent and long-term policy implementation; collective vs. individual responsibility system; urbanization; age dependency and family structure; and education and discipline.

This address was delivered on the occasion of the Fortieth Anniversary of the Japanese Population Association in Tokyo on June 3, 1988.

I. Introduction

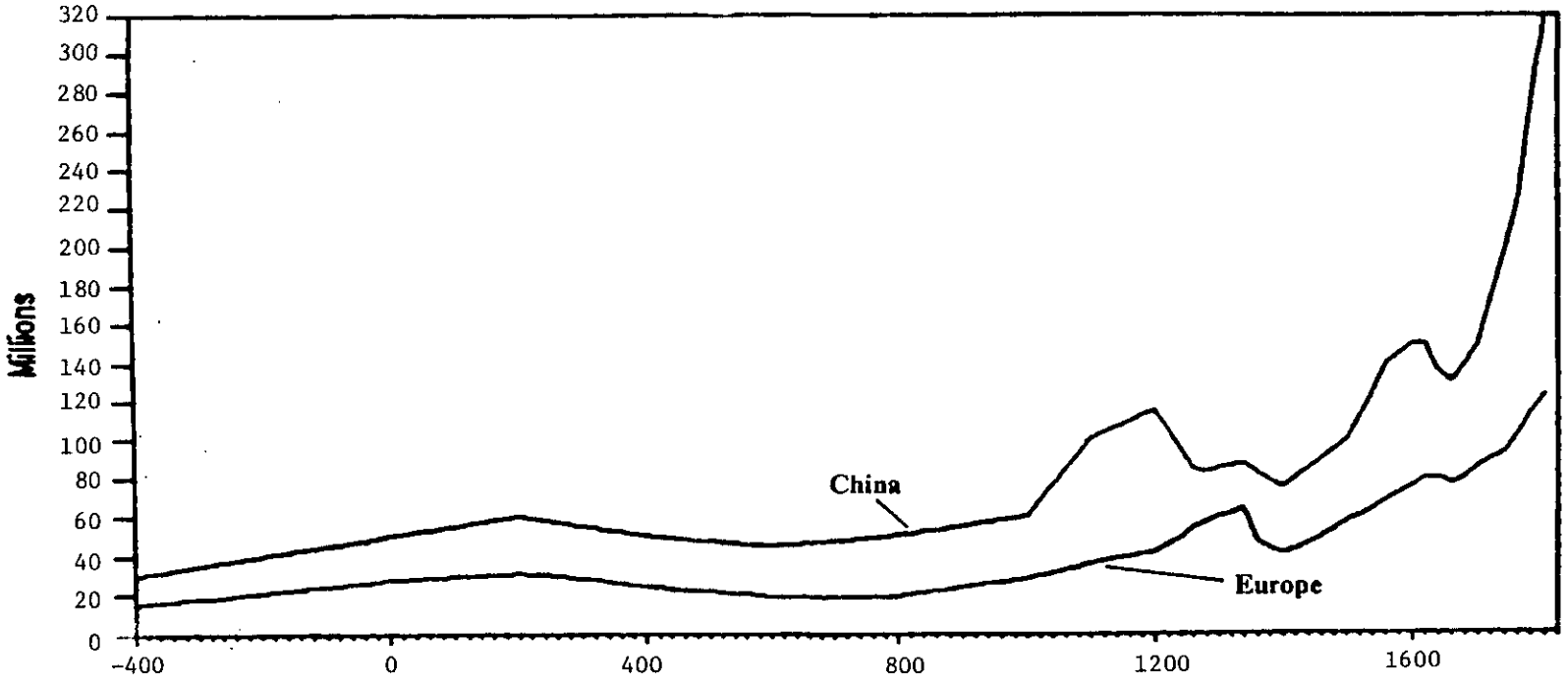
China was still sparsely populated during the golden era of the Han dynasty, which lasted more than 400 years (from B.C. 206 to A.D. 200). Even during the Tang dynasty (A.D. 618-907), the populace and environment of China were quite different from what we observe today. Take, for example, a popular poem composed by one of the most famous Chinese poets, Li Po. In describing his journey by a small boat along the Yangtse River, he mentions that he passed by 10,000 mountain peaks and, from the forest lining both banks of the river, he heard the ceaseless cries of monkeys.

Today, by contrast, when we sail along the same river in the area of the famous Sansha (or "Three Gorges"), the 10,000 peaks are barren and the monkeys have long since vanished. The increasing pressure on the land that has brought about these changes is relatively recent, however, when we view the changes in China's population from a long-term perspective. The Chinese leadership even in Li Po's time took a particular interest in enumerating their subjects, and we, therefore, have a reasonable picture of the changing population situation in China going back more than 2,000 years.

II. Historic Overview of Population Growth

According to the censuses taken during the Han dynasty in China, the population count was around 50 million during the first two centuries A.D. (see Figure 1). This trend continued, with some fluctuation, up to the end of the Tang dynasty. Subsequently, as a result of the political disruptions and wars during the turbulent period beginning in the late eighth century, the census count of China's population was most likely less accurate than at other times and, in fact, probably included only part of the country. Estimates for the period from the eighth to the eleventh centuries show a population below 50 million. The population increased substantially during the eleventh century, but then declined again in the twelfth century, towards the end of the Sung dynasty. This is understandable since the Sung rulers controlled the least territory of any of the major Chinese dynasties, due to the invasion of their northern

Figure 1. China and Europe Population: 400 B.C. to 1800 A.D.



SOURCE: Patrick R. Galloway and Ronald D. Lee, "Some Possibilities for the Analysis of Aggregate Historical Demographic Data from China," in *Workshop on Qing Population History: Papers Presented at California Institute of Technology, Pasadena, California, August 26–31, 1985.* Vol. II.

territory by non-Han tribes.

China's rapid population increase is a phenomenon of only the last several centuries. China's population was estimated to be only 61 million at the end of the 14th century, 65 million in 1651, and close to 430 million by 1850. The two centuries between 1650 and 1850 are a period of dramatic population growth: the population increased over sixfold under unusually favorable material conditions and political stability. For example, during a period of about half a century, China's population more than doubled, from 143 million in 1741 to 313 million in 1793. By 1911, however, the population had declined to 342 million.

The latest count of China's population is roughly 1 billion 90 million people in 1988. At the time of the 1982 census, the population was estimated at 1 billion and 8 million. Thus, during only the past six years, there has been an increase of 80 million. In terms of the rate of population growth, this increase does not appear to be so high. But in absolute terms, it is like adding, in a single decade, the equivalent of the entire population of Japan.

III. Population Explosion, 1650-1850

From this brief overview, we can see that the real population explosion in China took place between about 1650 and 1850. When China entered the 19th century, the country had just completed a doubling in its population, which was even more massive than the contemporary population growth in Europe and America. How was this possible? Political stability during this period helps to account in part for the rapid growth. Also, the Chinese civilization, which is among the oldest in the world, had accumulated probably the best presteam-engine technology in terms of agricultural cultivation and social-institutional arrangements, maximizing the traditional values and social harmony based on Confucian values.

In the absence of major climatic changes or natural disasters, the high level of agricultural production had allowed the Chinese to enjoy a fairly decent nutritional level, so that the level of mortality was lowered. The Chinese during this period were highly successful in using the existing premodern technology to feed themselves, thereby

providing the foundation upon which the massive population growth could take place. This, in turn, created the basis for further population increases in subsequent centuries.

In achieving this level of prosperity, the Chinese placed themselves well ahead of preindustrial Europe and America. The difficulty was that the relative prosperity did not continue to grow but instead levelled off at a fairly high equilibrium point. In some ways, the elites of Chinese society were intoxicated with their style of life, showing signs of decadence as illustrated in the novel Dreams of the Red Chamber. The situation, as described by the well-known historian of China, John K. Fairbank, was one where

> "the relatively high level of Chinese technology, in the era before the invention of the steam engine, remained in balance but with a circular flow of production and consumption that inhibited investment in industrial development. The basic problem, then, is that China was unable to increase per capita productivity and thus break out of the so-called 'high-level equilibrium trap.'"(1)

IV. Fertility and Mortality Trends, 1949-88

Let us now examine population growth in China in terms of fertility and mortality rates during the past few decades. There appear to have been three major waves of population growth since the founding of the People's Republic in 1949. Between 1950 and 1959, the average annual absolute numbers of birth was around 20 million and from 1962 to 1970 the annual figure was 27 million. With the massive implementation of planned birth programs in 1971, average annual births showed a moderate decline to about 20 million. This figure was further reduced to 18 million during the years 1976-81, but it rose to 20 million again during 1982-86. The annual average growth rate slowed from 2.6 percent in 1970 to 1.5 percent in 1982. This decline is especially dramatic when translated into absolute numbers.

The trends of these recent decades are extremely interesting in

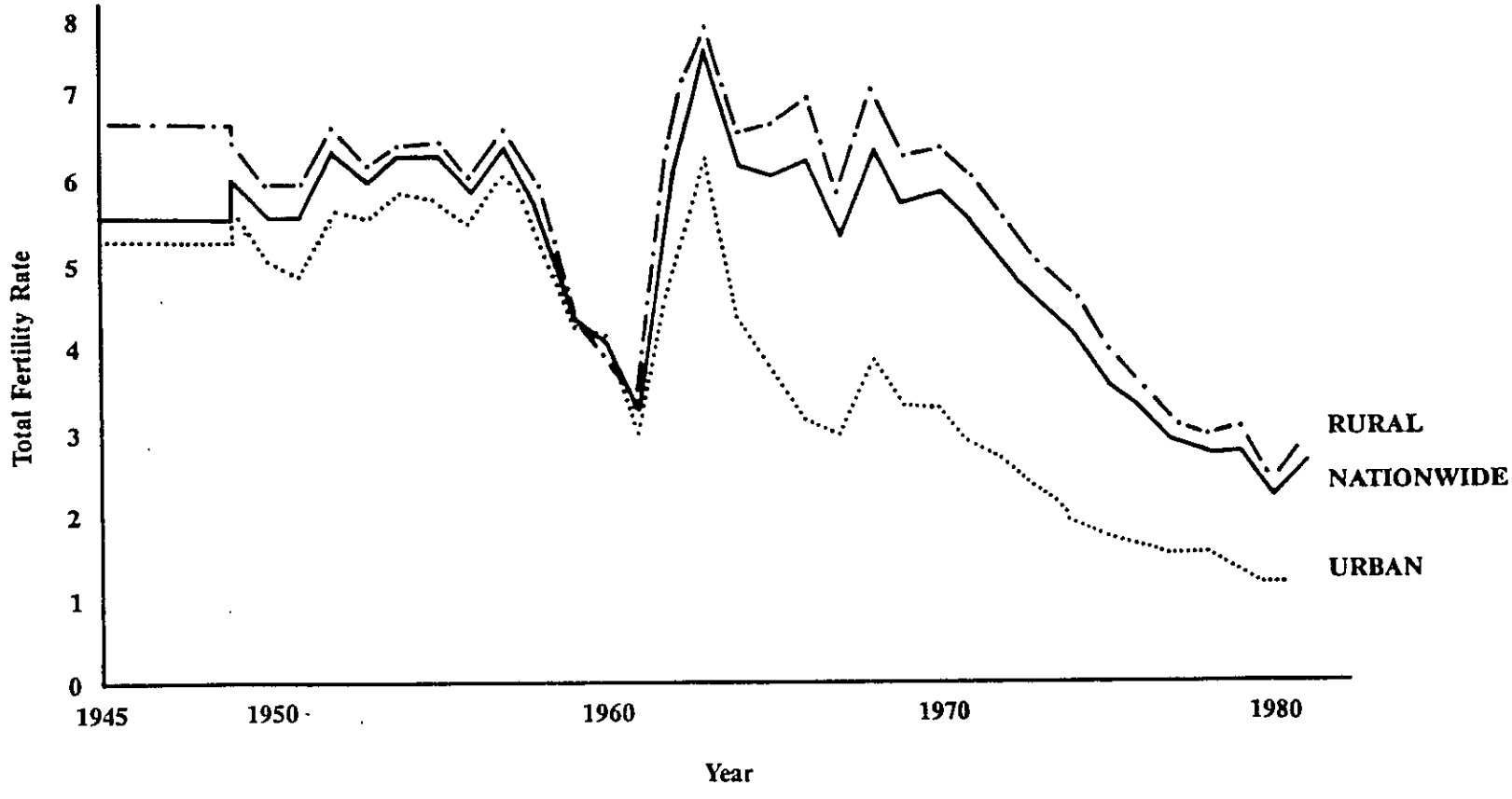
the light of their major fluctuations (see Figure 2). For example, the death rate showed a rapid decline beginning in 1950 and continuing to 1957. For the following several years, however, during the period of political upheaval known as the Great Leap Forward, the mortality rate more than doubled. Prior to the Great Leap Forward, Chinese agricultural production had shown substantial annual increases and, by the eve of the Great Leap Forward, China had achieved self-sufficiency in agricultural production.

In 1958, when the government was trying to get the Great Leap Forward started, the weather was very uncooperative. Meanwhile, with so many farmers marching and demonstrating about the country to win the revolution, there was apparently inadequate labor available to harvest all the crops. Although actual production was declining, the official statistics showed that production had increased, and therefore the government requisitions were increased. The result was an old-time famine, somewhat comparable to the one that occurred about 1870 in northwest China, where the corpses of the victims of starvation lined the roads. That famine, more than a century ago, was a natural disaster, because no rain fell for three consecutive years. The famine during the Great Leap Forward, on the other hand, was man-made. In 1959 and 1960, China was far better organized to cope with the disaster. But the widespread malnutrition made many people susceptible to disease and caused the mortality rate to rise dramatically. As a result, during 1958-63, there were 27 million excess deaths above the linear trend line.(2) In demographic terms, the Great Leap Forward was a catastrophy.

In the succeeding quarter century, the Chinese mortality rate has been fairly typical of developing countries in Asia, and similar declines in the rate are observable in Korea, Taiwan and Malaysia.

It should also be noted that the peak in the mortality rate coincided with a trough in the birth rate between 1957 and 1962, partly as a result of major disruptions that occurred during the Great Leap Forward. In addition to the disruption already mentioned, about 70 million people were pulled out of their villages and became separated from their families. Mostly young men, they were sent to work in steel mills, at dam sites and other large-scale capital construction projects. The result was a drop in the birth rate at a time when the mortality rate was peaking due to malnutrition or starvation. The

Figure 2. Total Fertility Rate Curve From 1950 to 1981



SOURCE: State Family Planning Commission, *Quanguo qian fen zhiyi renkou shengyulu zhouyang diaucha fenxi* [China 1982 National Fertility Survey] (Beijing: State Family Planning Commission, 1983), pp. 152–54.

effects on fertility measurements are clear: fertility dropped from the high level of 6.2 births per woman in 1957 to the low level of 3.3 in 1961. As China emerged from the Great Leap Forward, the fertility rate rebounded to an all-time high of 7.5 births per woman. In light of more recent government policies, this phenomenon of the early 1960s is not only extremely interesting but also demonstrates how suddenly and how far the fertility rate can shoot up when conditions change after being reduced to an extremely low level.

From 1964 to 1968, there was another significant drop in the birth rate, with the lowest level of TFR (total fertility rate) at 5.3 in 1967. This phenomenon coincides with the height of the Cultural Revolution, during which there was great social and political upheaval in China, particularly in the urban areas.

Fertility declined sharply in China during the 1970s. This dramatic fertility reduction is largely attributable to a strong birth-control policy. The decline in overall fertility that did occur was due almost entirely to a decrease in births of third and higher orders.(3)

The lowest level of fertility was recorded in 1984, when the TFR was 1.8. It then began to take an upward turn to an estimated TFR of 2.5 in 1987. Thus, for example, although we observe a natural increase of only about 12 million in 1983, 1984 and 1985, this figure rose to 15 million in 1986 and then to 16 million in 1987.(4) Although the government reiterated the one-child policy in 1984, the policy, nonetheless, allows a second child for some of the populace under prescribed conditions.(5) This could be interpreted as a slight relaxation of the one-child policy, and it is interesting to note that the recent fertility increase follows closely upon these 1984 policy statements.

V. Shifts in Population Policy, 1949-88

Except for the 1959-62 period, when the Great Leap Forward brought great economic difficulties to China, and also the 1980s, the natural increase in population has been explosive. Beginning with an estimated 540 million in 1949, almost half a billion has been added to the population since the founding of the People's Republic. In 1963,

for example, the birth rate was 43.4 per thousand--a natural increase rate of 3.3 percent, adding about 23 million annually.

The PRC was officially committed in the mid-1950s to a policy promoting birth control. If Chinese leaders had heeded the policy recommendations of their foremost demographer and economist, Ma Yin Chu in 1957, when the population was about 600 million, and implemented a population policy comparable to that of today, China could have contained its population at a level significantly below 1 billion.(6) But in the absence of clear, long-range guidelines, the policy shifted between leftist and rightist lines up to the 1970s, reflecting the continuing political and ideological struggles over the issue of population control.

The first birth-control campaign in the 1950s was soon halted by the Great Leap Forward and the prevailing leftist view that an increasing population was an asset rather than a liability. The second campaign began in the early 1960s, but it made no progress after the Cultural Revolution started in 1966. Only towards the end of the Cultural Revolution, in 1976, did a fundamental change take place in the leadership's perception, when the issue of overpopulation began to assume significance for modernization and development policy.

In 1979, the Chinese government launched its ambitious policy of the one-child family. In 1981, the PRC State Council reaffirmed that the essence of China's policy is to control population growth and raise the quality of life of the populace. The Chinese Communist Party Congress took the position that solving the population problem was an integral part of socioeconomic development in China, and established the goal to limit the population to 1.2 billion by the year 2000. This is reflected in the revised constitution, in which family planning is advocated for purposes of reducing the rate of population growth appropriate to socioeconomic development.

Subsequently, however, there has been much debate in China about the one-child policy. Many feel that it is too strict and therefore should be relaxed. As a result, in 1986, the wording of the goal was modified. Originally, the goal was to keep the population <u>within</u> 1.2 billion, but this has now been changed to keeping the population <u>around</u> 1.2 billion. This change of a single word has aroused considerable interest among demographers around the world. During the past few years, fertility has actually increased rather than decreased. During

the seventh National People's Congress, which was concluded in April 1988, the party reaffirmed its position on implementing the one-child policy by trying to extend a strong program to rural areas.

VI. Observations on the One-Child Policy

Various recommendations have been made to justify relaxing the one-child policy. For example, a paper by John Bongaarts and Susan Greenhalgh was published in the Population and Development Review in 1985 under the title "Alternatives to the One-Child Policy in China".(7) The authors' basic argument is that China can afford to relax the one-child policy and still achieve the target of not surpassing 1.2 billion. They propose a two-child policy. They argue that delays in bearing two children can be as successful as a one-child policy in attaining the population target.

The specific formula proposed by these two authors is as follows --and I quote from their paper:

> "Probably the simplest and most equitable approach would be to set a minimum age for the first birth and a minimum interval for spacing between the first and second births. In general, the higher the minimum age at the first birth and the longer the spacing interval, the greater the impact on period fertility."

No matter how convincing their argument may be in theory, however, it is not as easy, as Bongaarts and Greenhalgh suggest, to regulate the time at which a woman has her first and second births. To the contrary, it would be extremely difficult, if not impossible, to impose such a specific pattern of time-referent behavior across such a vast country, where different regions are still at substantially different levels of economic development and where the majority of the populace in rural areas still have a relatively low level of literacy and maintain a strong cultural outlook on marriage and children.

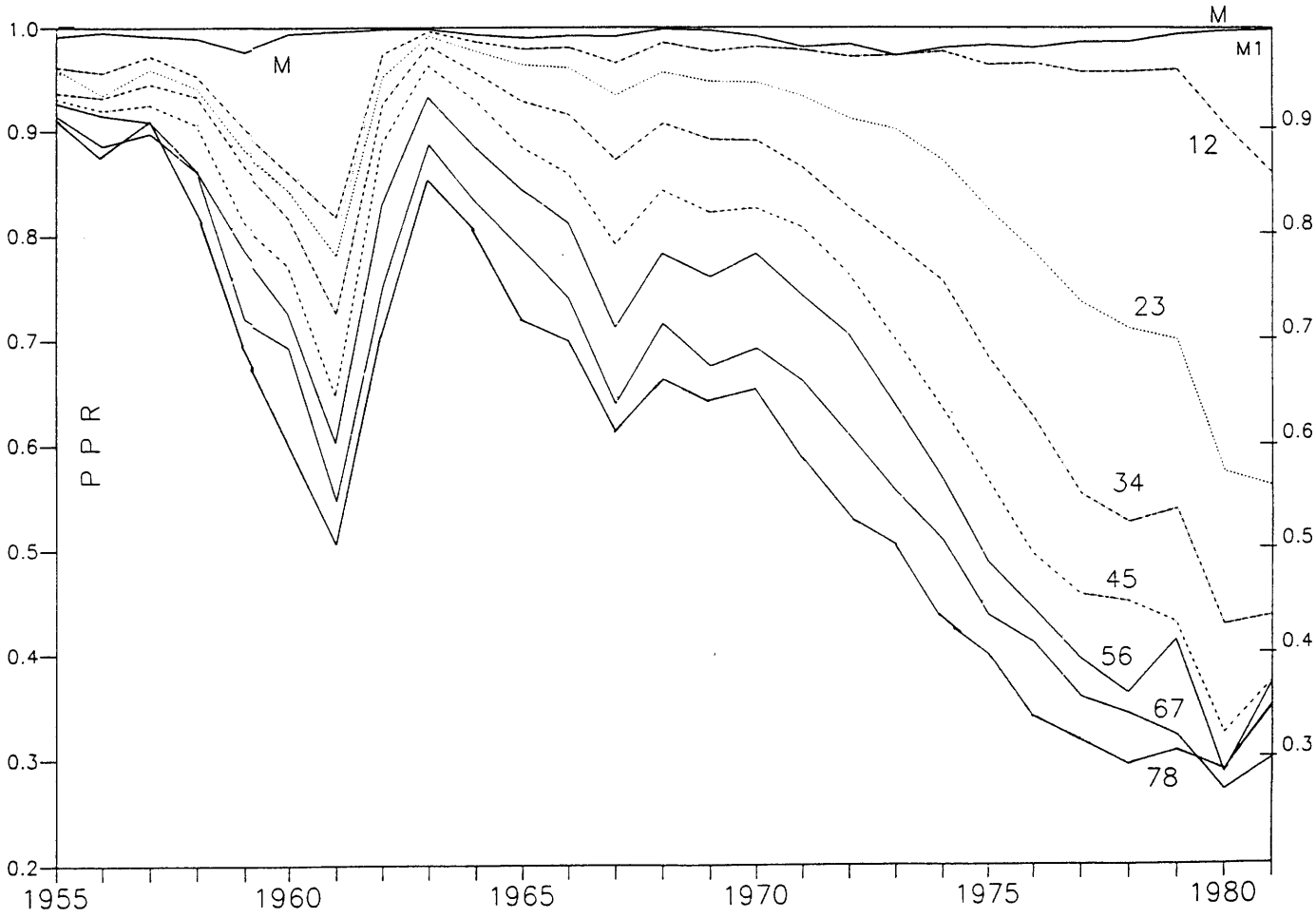
A major flaw in their approach arises from the failure to take

culture-bound behavior into consideration. In those countries that have historically been under Chinese cultural influence, there is the phenomenon of "universal marriage." From 1955 to 1981, the proportion of women ever marrying was practically constant in China, at a level between 98 percent and 100 percent (Feeney and Yu, 1987; see Figure 3). During the same period, the proportion of women in China who progressed to a first birth after marriage was high and stable at a level close to 100 percent. The average interval between marriage and first birth in North China is 16.3 months, and in Taiwan the trend has been an even shorter interval of 12.2 months.[8] We see a very different phenomenon in western Europe and the United States, on the other hand, where about 25 percent of the populace never marry and (according to a recent Gallup poll) about one-third of the married women 30-35 years old do not want children.

In East Asia, there is a strong traditional value attached to marriage and establishing a family. A woman who fails to marry is looked upon as a person whose life is "lacking" something, and hence she is not accepted as a full-fledged member of society. In the same way, society looks upon a childless marriage as being "incomplete," since the couple have not fulfilled the expected social behavior of producing a child.

The exceptionally strong family and social pressures make it almost impossible for women to postpone either marriage or childbearing to a certain age. This pressure is especially strong in rural areas. In China, as well as Korea, the typical pattern is for pregnancy to follow almost immediately after marriage, because of the strong cultural value placed upon producing a child and thereby demonstrating to parents, other family members and friends that the marriage couple are "whole" persons. This is borne out by the recent Mainichi Shimbun survey of families in Japan. The notion, therefore, that the first birth must be delayed and an interval must be observed prior to the second birth somehow runs against the ingrained sense of obligation to fulfill family and social expectations at the beginning of the marriage. In view of the pressure to have children immediately, how could the government hope to convince newly wed couples to wait? It is worth noting, however, that the government has made an effort to get people to delay marriage, which is easier to accept than postponing births. One reason why many couples want to

Figure 3. China Period Parity Progression Ratios



SOURCE: Griffith Feeney and Yu Jingyuan, "Period Parity Progression Measures of Fertility in China," Population Studies 41, pp. 77-102.

have their first child immediately is the uncertainty about when and how the official policy may change. The couple may assume that there is some possibility of a two-child policy five years hence, and so they will be better off if they have the first birth right away. Alternatively, they may fear an even stricter policy, and do not want to miss their chance. This dilemma is a little bit reminiscent of the old adage: "A bird in the hand is worth two in the bush."

The "time consciousness" of these rural people, in particular, is a major barrier to the implementation of this type of two-child policy. To put it more simply, rural people with a low level of literacy cannot be bothered about careful timing, whether short-term (such as counting days in the menstrual cycle) or long-term (such as observing the requisite long interval between births). In this regard, the Korean government found during the 1960s that the birth-control pill was the least accepted method in rural areas, because rural women had difficulty in calculating and then following a timetable for taking the pill. By contrast, intra-uterine devices (IUDs) were more successful in contributing to the decline of fertility in Korea, because the IUD could literally be forgotten after insertion. The same pattern has emerged more recently in China, where the IUD is the more popular method of birth control.

When the Chinese government established the so-called "one-child policy," policymakers in no way expected that every woman in China would be producing only a single child. One child per couple was merely a target by which the government was trying to reduce the level of fertility as low as possible. The ways that governments formulate policy and attain objectives in countries with the common heritage of Chinese Confucian culture (including Korea and Japan) are similar. In 1985, Korea likewise initiated a one-child policy. This does not mean, however, that Korean government planners expect every Korean woman to have only a single child. The theory is simply that, by setting an ambitious target, you can achieve a fairly realistic objective.

Therefore, although China officially adheres to a one-child goal, the realistic expectation is, in fact, slightly more than one child on average among urban dwellers (who make up only about 20% of the populace) and two children per couple in the rural areas. This urban-rural differential is unavoidable in practice, since the government

has considerably less leverage and control over the populace in rural areas than in the towns and cities. In this way, the government could expect to reduce the level of fertility to below replacement level, but by implementing a policy that is more realistic than the two-child policy proposed by Bongaarts and Greenhalgh.

VII. Projections of Future Population

Chinese demographers have taken the one-child policy most seriously in the context of future population growth. They feel, for example, that the last 13 years of the present century--that is, from 1988 through the year 2000--will be a critical period in which the Chinese government must take firm, consistent policy actions in order to achieve the eventual stabilization of the population around the level of 1.2 billion.

For example, Han Jingqing has made a series of projections based on the TFR during the coming 30-year period beginning with 1988. (9) If China's TFR is 1.95 during this 30-year period, then China's population at the end of the next century will be more than 1.5 billion. If the TFR is held at 1.75, the population will be 1.24 billion in the year 2000, reach a peak of 1.4 billion during the twenty-first century and decline to 1.3 billion at the end of the century . If the TFR is held at 1.5 during the coming 30 years, the population will be 1.21 billion in the year 2000, peak at 1.3 billion and be 1.07 billion at the end of the next century. Finally, if the TFR is only 1.35, then the populace will be 1.19 billion in the year 2000, peak at 1.23 billion and then reach 0.93 billion at the end of the next century.

Han's argument is that, in order to control the peak within 1.4 billion, the TFR during the critical period of roughly 1990 to 2020 cannot exceed 1.73. Alternatively, if the population is to be held within 1.3 billion, then the TFR cannot exceed 1.52. In practical terms, this means that if the population is indeed to be held within 1.2 billion by the year 2000, more than half of the women of child-bearing age will have to forego the second birth. The sobering fact is, however, that since 1982 the TFR has been rising and was 2.56 in 1987.

Why are the next 13 years so important? Because the post-1962 baby boom will be entering childbearing age during this very period. On the basis of these projections, Han argues that during the next decade or more, China needs to be strict and stringent in its implementation of population policy. His projections show clearly that if the figure of 1.2 billion in the year 2000 is exceeded by as much as 50 million, the growth consequences for the succeeding generation will be far more serious than will be the case if the target of 1.2 billion is achieved.

VIII. Urbanization in China

During the 1950s, the growth of cities was very rapid and the urban populace of China grew by 8 percent a year. But in the 1960s and early 1970s, strict migration controls were in effect, and the urbanization rate slowed to only 2 percent per year. Since 1977, urban growth has accelerated to more than 5 percent, primarily as a result of relaxation of immigration controls into urban areas and the emphasis on small-town development. Planners in China are, therefore, projecting that the urban populace will double within the next 15 years.

Underemployment has always been a problem in rural China. The successes with rural reforms and increased agricultural productivity since 1979 have pushed more labor away from farmlands. One estimate puts surplus agricultural labor at 200 million by the year 2000. This is indeed a gigantic number--roughly as large as the entire labor forces of the United States and Japan combined. A portion of this labor surplus will be absorbed through diversification of the rural economy, but the majority will move to cities or small towns for employment.

There are two demographic facts that are expected to intensify further the severity of this problem. One is the population increase of at least another 200 million by the year 2000. The other is the substantial increase in the proportion of the working-age populace due to rapid fertility changes. Thus, during the next two decades, China not only will have to accomodate surplus rural labor from farm areas but also must create employment for the overall increase in

population.

The consequences of rapid urbanization are already viewed as very serious. The current official policy is to promote smaller rural market towns as well as the rational development of small- and medium-size cities, while maintaining stricter control over the growth of the large metropolises. There is continuous debate within China whether this policy is wise and feasible. If the small-town policy is not successful, large cities will be flooded by a massive influx of migrants.

Indeed, a few major metropolises have already begun to cope with a growing number of temporary residents. Shanghai and Beijing each already has more than 1 million of these temporary residents today. The system of temporary-residence permits attempts to regulate and regularize some of the inevitable movement into the biggest cities, but the system unfortunately denies to new immigrants from the farmlands many subsidized rations, housing and other services that are available to regular urban residents.

If urbanization doubles -- and, therefore, reaches the level of 40 percent--by the year 2000, both the urban system and the whole of Chinese society will undergo major changes in appearance and in structure. Whether a much healthier urban society will successfully evolve in China will depend on economic reform and the concomitant development of urban policy.

IX. PRC Population Data and Research

The first scientific census of all China was carried out in 1953. The details of this census, and those of the second census in 1964, remained classified information and were not available for analysis until the basic tabulations were published at the time of the third census in 1982. The third census was the biggest operation in population data collection ever undertaken anywhere in the world. The third census provided the first opportunity for a full assessment of the demographic situation in China, and it was welcomed by demographers, planners and scholars both inside and outside China.

According to my own experiences with censuses in the Asia-Pacific region, the predominant factor for achieving success is the thorough-

ness of the government in supervision and in getting public cooperation. The data collection in China in 1982 is an example of a successful census, facilitated by a strong central government, a highly regimented society and a long, historic tradition of census-taking. This census was conducted, moreover, with unusually low error rates.

The 1-per-1,000 national fertility survey was conducted in conjunction with the 1982 census. This survey, especially with respect to birth histories of women up to age 67, provided valuable data on which extensive and intensive demographic analysis was made possible. The East-West Population Institute has collaborated with the State Family Planning Commission in China in the cooperative analysis of the 1-per-1,000 survey, and this collaboration has resulted in numerous publications. To cite but a few of the publications of the Population Institute, there are estimates of fertility in China from the 1940s to the 1980s by Ansley Coale and Chen Shengli, parity progression ratios by Griffith Feeney, Yu Jingyuan and Chi-hsien Tuan, a study of sex preference, fertility and family planning by Fred Arnold and Liu Zhaoxiang, and numerous others.(10)

The East-West Population Institute is continuing its cooperative work in this area under an agreement with the State Statistical Bureau of China. Work is now in progress on the data gathered by the In-Depth Fertility Survey that was carried out, in 1985 and 1987, in nine provinces and the 1 percent census carried out in 1987. In addition, there have been a number of ad hoc population surveys, such as the Jilin survey (Jilin provincial government and NUPRI) and the Korean minority fertility survey.

X. Future Challenges for the PRC

To conclude, I would like to offer a personal view on five major challenges facing the PRC during the next few decades. The success or lack of success by the Chinese leadership in meeting these challenges will have a profound impact on China's economy and society during the next century.

1. Consistent and long-term policy implementation

It is very difficult to implement a consistent population policy over a period of many years, and we rarely observe successful, long-term implementation anywhere in the world. Nonetheless, if China is to solve her population problem, she needs to carry out a population policy that is consistent over a long period of time--not for just 2 or 3 years but rather for decades. It goes without saying that the policy also must be appropriate to socioeconomic development and modernization.

Whether or not the changing leadership in Beijing can maintain a consistent historical perspective on the role of the government in solving the population problem is an important challenge. To demonstrate the difficulty of maintaining consistency, we can simply cite the policy positions taken at the World Population Conference in Bucharest in 1974 and contrast them with the positions taken in Mexico City in 1984. In 1974, the PRC took the view that higher population growth was the best path for economic growth, whereas the United States advocated family planning as a better option. By 1984, the two views were totally reversed, with China advocating a strict population program while the U.S. reverted to a more conservative view. Here we have the perfect example of a complete reversal in policy by two of the most populous nations on earth and within only a single decade. China has now reached a point where she can no longer afford to waver. Consistency in the long-term implementation of population policy is of vital importance to the future well-being of the populace.

2. Collective system versus individual responsibility system: emerging conflict for fertility control

Rural areas of China are currently being subjected to two opposing forces that make it increasingly difficult to achieve further reductions in fertility. On the one hand, the implementation of a strong birth-control program has been facilitated in several ways by the commune or collective system. Limitations on births may be translated directly into material benefits provided to one-

child families within the commune. The collective setting also makes it easier to monitor fertility behavior of each member and to apply peer-group influence, especially if strong punitive sanctions are administered.

On the other hand, we see an opposing force emerging, as China makes the transition from the collective system to the system of individual responsibility. Farmers are now allowed to engage in a certain amount of cultivation, animal raising and other economic activities on their own account, thus giving them an incentive to raise production and thereby increase personal income. Although it has been shown that individual farmers will achieve a higher productivity under an incentive system, the present stumbling block is the physical means of expanding their production. Mechanization is less feasible for individual farmers than for the commune, where investment in farm machinery and other heavy equipment is possible collectively. Increasing agricultural productivity by applying modern technology is only a limited option for most individual farmers.

Their only immediate solution is to have more bodies available to work the land in the time-honored tradition of manual labor, using relatively simple tools. For these reasons, greater value is now placed on having a larger family, in anticipation of greater income in the near future. This trend is further increased by the preference in rural areas for male offspring.

China's recent experiments have demonstrated that success in raising agricultural productivity requires decentralization, whereas family planning needs centralization. There is a danger, therefore, that the birth-control programs that worked in a collective setting may end up in conflict with the push toward increased agricultural productivity. The traditional value placed on having many children, particularly in agricultural communities, is thus re-emerging, and the potential consequences for fertility can be serious.

3. Urbanization

I have already touched upon the third great challenge--urbanization--which will change the face of China within the next century. China, like the U.S., has a vast territory. But unlike

the U.S., where a large proportion of the land is arable, the pressure on agricultural land in China is many times more severe than in the U.S. Only 7 percent of China's territory is suitable for cultivation. And yet, about three-quarters of China's people (more than three times the U.S. population) still live in rural areas. Rural labor productivity continues to be relatively low, contributing to the substantial differences in the level of economic development in different parts of China. One result of increased agricultural productivity in China's rural sector, thanks to recent reforms, has been a serious increase of surplus rural labor and a consequent migration to urban areas. This trend poses enormous challenges for the creation of new employment and the planning of expansion in urban areas.

4. Age dependency and family structure

The fourth challenge that I would like to mention is the future increase in the proportion of the older population and possible changes in family structure. The dramatic decline in fertility during the late 1970s and early 1980s, which is unprecedented in Chinese history, will bring about dramatic changes in age structure within the first several decades of the twenty-first century and will create an imbalance between the working-age population and the elderly dependent population. It will be a major challenge for China to bring about rapid economic development, thereby generating sufficient economic resources to care for the increasing older population. Associated with this process will be the need for creative institutional development, in order to maintain harmony within society, as the balance between the working population and the dependent older population changes.

If China really were to succeed in implementing the one-child policy, at least in a fairly large portion of the country, the consequences would be serious in terms of family structure. First, only one child would be available to take care of the parents in old age. Second, children without siblings or cousins may experience greater difficulties in child socialization, and the spoiling that tends to occur when an only child receives an inordinate amount of

attention will place greater stress on family relationships. Third, the cohesiveness of the extended family would disappear entirely in the next generation--that is, the generation of the offspring of the one-child families. These grandchildren would grow up without aunts, uncles or cousins, and there would thus be a sudden and radical shift away from extended family relationships and towards a nuclear-family structure. Fourth, the patrilineal nature of the traditional Chinese family would have to change, since half of all fathers would have no son to carry on the family name. It seems unlikely that such radical changes will materialize. But if they did occur, they would pose the additional challenge of maintaining the traditional value of harmony, upon which Confucian culture has always placed great value--not only harmony between parents and children and other relatives, but also among all members of the community at large.

This brings us to the fifth and final challenge, which is the need to improve the quality of the population, in terms of better standards of education and discipline among the new cohorts of the younger generation.

5. Education and discipline

The modern communist ideology is alien in many ways to traditional Chinese values based on Confucianism, Taoism and Buddhism. An attempt has been made to supplant the traditional values and norms of Chinese society among the younger generation of today by new values, norms and ethos deriving from the Marxist ideology of the West. This process was forced upon the absolute majority of the Chinese populace during the era of the Communist Revolution. Traditional Chinese values and socialization, however, remain firmly imbedded in the value system of the older generation--that is, those who are now in their late forties, fifties and older, especially in the rural areas. The new, imported value system has not completely changed their attitudes or behavior, and they still retain a sense of being traditional Chinese.

The younger generation, on the other hand, has lost the old values to a great extent, mainly as a result of the communist system of education. They have tried to acquire new values based on the

prevailing ideology. But, since the education system has not been consistent for any great length of time, the purity of the ideology based on the early revolutionary spirit has deteriorated. Examples of this are provided by the emergence of overbureaucratization, laxity and erosion of discipline in government, and the excesses of the Cultural Revolution between 1966 and 1976. As a consequence, the education system has caused the younger generation to retain many of the bad values of the old, feudal society while at the same time losing the good values that evolved over a long period of history.

All this has happened without providing the younger generation with the means of acquiring the healthy, rational values of the West that should be inherent in Marxism. The great push for collectivism provides a good example. The Confucian value of harmony could have strengthened the process of collectivism by providing a modern, institutionalized system for group solutions to particular problems. But this is not what happened. Instead, the useful good value inherent in Confucian philosophy was thrown out. Yet, nothing was substituted in its place to promote the development of new institutions. There was, for example, a lot of pressure on younger people to imitate "model" members of collective society. But the outward enthusiasm for self-sacrifice and self-abasement quickly deteriorated. Young people submitted to the "regimentation" of collectivism, but this is not the same as 'institutionalization.' The new ideology made the situation even worse by discarding the traditional respect for elders and especially for parents. The younger generation began to lose its sense of place within an orderly society. The eventual result was a severe reaction against collectivism and the creation of a young generation of individualists, many of whom looked only for the benefits that they could get out of the new system.

The end product is a generation of self-centered and selfish individuals who have not acquired any of the rational elements of Western Marxism in their behavior. Perhaps the greatest challenge of all for China, therefore, is to provide the present school-age generation not only with a better education but also to inculcate in them more appropriate standards of discipline. Only in this way, through the development of a more strictly disciplined society, can China produce a high-quality work force for future economic growth and modernization.

Notes

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4. Griffith Feeney and Jingyuan Yu, "Period Progression Measures of Fertility in China," Population Studies 41/1, March 1987, pp.77-102.

5. The prescribed conditions for a second birth were too complicated for practical implementation. They soon degenerated into a rule that any rural woman whose first child is a girl is entitled to a second birth. This was further simplified to a two-births-per-couple policy.

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