

Swings in Fertility Limitation in Iran

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Abstract

A rapid and continuous mortality decline accompanied by a high level of fertility in Iran has resulted in an unprecedented population boom during the last fifty years. The average annual rate of population growth was around 3 percent in this period, resulting in a four-fold population increase. While public support for family planning began in 1967, a pronatalist atmosphere prevailed following the Islamic Revolution of 1978-9 and governmental family planning programs came to a halt. The population boom of the 1976-1986 inter-census period was the consequence of such an atmosphere (supplemented by a refugee influx). By 1987, the recognition was made of the consequences of the pronatalist orientation and public support programs for family planning were resumed in 1988. The abrupt change in government views and policies resulted in a dramatic reduction of fertility during the 1990s.

Keywords

fertility, mortality , population growth , family planning , transition , population policy

Introduction

The issue of demographic transition has become a principle preoccupation of demographers during the last few decades. As explained by

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some scholars², the omnipresent differentials in the trends and determinants of transition warrant separate and detailed studies in various regions and countries in order to obtain a better understanding of the issue. In this paper, an attempt is made to elaborate on the recent trend of fertility and its determinants in the Islamic Republic of Iran. After a brief introduction to the general demographic characteristics of the country, a discussion is provided on fertility limitations in the past and Islamic views on the issue of birth control. Subsequently, swings in fertility limitation in the last three decades and the determinants of those swings are elaborated.

Demographic characteristics

Based on rough estimates, Iran's population was about 10 million in the beginning of the 20th century. Considering that Iran's current population of more than 60 million, the country's population has increased six-fold in less than a century. The growth rate of the population was not high during the first half of the 20th century. Thus, the main increase in the population occurred during the last five decades. The average annual growth rates of the population of Iran during the first half and the second half of the 20th century were 0.75 percent and 3.0 percent per annum, respectively. The population pressure in Iran has been further heightened by the influx of refugees during the 1980's. According to various estimates, the country has between 2.5 and 4.5 million refugees, of whom more than 80 percent are from Afghanistan. The proportion of people living in urban areas almost doubled during the last few decades, increasing from 32 percent in 1956 to more than 60 percent in 1996. Hence, internal migration is also becoming an increasingly important factor in the redistribution of the population.

Estimates of basic demographic indices such as population, population density, crude death rate, crude birth rate, infant mortality rate and life expectancy at birth for the period 1956- 1996 are provided in Table 1. The table clearly shows the rapid population growth during the last half a century. Mortality declined rapidly and continuously, while as of 1986 fertility was still at a very high level and the country's total fertility rate was more than 6. From 1988 onwards, there has been an appreciable decline in the level of fertility (of which more later).

² Scholars such as David Glass, Ansely Coale, John Caldwell, John Knodel, and Ettiene Van de Walle may be named among the pioneers who reconsidered the demographic transition.

Table 1: Estimates of Demographic Indices, I. R. of Iran, 1956- 2001

Year	Population (million)	Population Per km ²	CBR	CDR	IMR	e0
1959	19	12	50	25	200	37.5
1966	26	16	46	16	165*	47.5
1976	34	20	42	14	112	56.0
1986	49	30	43	11	65	59.0
1991	56	34	34	7	50	63.0**
1996	60	36	25	5	35	67.0
2001	66	40	18	6	30	70.0

* This estimate is for 1961

** The Statistical Centre of Iran's estimate.

Sources of the data:

Population: Statistical centre of Iran, Population and Housing Censuses; NIR: annual rate of the inter-census natural increase; CDR: for each year is computed on the basis of CBR and NIR; IMR: 1956 figure from Keyfitz, N., *World Population*, Chicago, 1968, p. 661, 1976 figure from Statistical Center of Iran, Abridged Life Table for Iran 1977, figures for 1961, 1986, and 1991 are the author's indirect estimates from the corresponding censuses; e0: Mirzaie, M., "Mortality and Development: A Conceptual Framework", *University of Tehran Journal of Social Science*, Vol. 1, No.1, 1989; 1996 figures are estimates based on the primary results of the 1996 Census with some adjustments for fertility and mortality indices, and 2001 figures are from "World Population Data Sheet",

Fertility Limitation in the Past

Presumably, all societies were in favor of high fertility in the past (pre-modern era). Such an attitude was basically due to the prevalence of a very high mortality rate everywhere in the world. Whether there was any intentional birth control among the populations in the past is a question which has preoccupied some scholars. There is a general and plausible view that, because of the very low rate of population growth which prevailed in the past, there were no social and economic grounds for intentional fertility limitation. Various religions have been in favor of marriage and procreation. Up to the time of Malthus, there were no direct and explicit objections to the growth rate of population from social and economic points of view.

Nevertheless, it is naïve to think that contraception was not practiced in the past. Knowledge about contraception was available in ancient times. There are firm grounds for the sanction of contraception in Islamic Jurisprudence from the beginning that allowed *coitus interruptus* to be practiced in Islamic societies. Bassim Musallam, in his in-depth research on contraception and birth control in pre-modern populations, concludes that contraception was permitted in Islam:

Medieval Arabic discussion of contraception and abortion in Islamic jurisprudence, medicine, material medica, belles lettres, erotica, and popular literature show that birth control was sanctioned by Islamic law and opinion. The sanction had wide distribution and was articulated in terms of social, economic, personal and medical needs (Musallam 1983:vii).

Almost all religious leaders of sufficiently high status to issue sanctions (fatwa), whether Shi'i or Sunni, have allowed the use of contraception before conception. Considering the favorable attitudes of Islamic cultures towards contraception, and, that the sanction of *coitus interruptus* for birth control was a fact of Islamic law, the practice of birth control by traditional methods in pre-modern times in Iran cannot be ruled out. However, until the last decade, the level of fertility in Iran was quite high by modern standards. The total fertility rate was as high as 7 up to 1967 (the year for the introduction of modern family planning programs in Iran). Considering the universality of marriage and the low age at marriage prevailing in the country, a magnitude higher than 7 for the total fertility rate can be expected under a natural fertility regime. With a total fertility rate of 7, assuming an average of 20 years of marital fecund life for each woman, the mean birth interval becomes 3 years. An average birth interval of three years may be an indication of the practice of traditional methods of contraception to some extent. Breastfeeding for as long as two years was very common, and that can account for a motivation to postpone the subsequent pregnancy to a period after the completion of breastfeeding. Concubinage is allowed in Islamic jurisprudence which may account for birth control motivations. Men very often preferred not to have children from concubines for social and economic reasons. There are indications that *coitus interruptus* was practiced during the period of breastfeeding. Musallam argues that the experience of *coitus interruptus* sustained the Islamic sanction of contraception:

It was the medieval experience of this method of birth control that sustained the general Islamic permission of

contraception and, at the same time, coitus interruptus was also the source of the legal problems which muslim jurists faced in their justification of contraception (Musallam 1983:28).

Recent Swings in Fertility Limitation

Rapid and continuous decline in mortality has resulted in a rapid increase in the population of Iran during the last 50 years. The average annual growth rate of population during this period has been 3 percent. Until the 1960s, there were no explicit government policies with regard to reduction of fertility, although it is possible to assume that a marginal proportion of more educated people were intentionally controlling their fertility. When, for the first time, the issue of government intervention in the reduction of fertility was raised in the general assembly of the United Nations in 1962, Iran was among the countries which voted against such interventions. Out of 97 countries participating in that session, the number of countries which voted yes or no to the motion or abstained were 32, 30, and 35 respectively (Sauvy 1963:185-187). Thus it becomes clear that by 1962 the general attitude of the Iranian government towards population was pronatal.

1967- 1978: Beginning of Family Planning Programs

The pro-natalist views mentioned above did not last long and, surprisingly, a few years later the position of the Iranian government totally changed. In 1966, an undersecretary for family planning was appointed in the Ministry of Health, and the governmental family planning program got underway in 1967. Also, in 1967, Iran joined 29 other countries in signing a declaration on population, which was presented to the United Nations Secretary General. The question that comes to mind here is what happened between 1962 and 1967 which resulted in such a drastic change in government policy? Among other things, it seems that an average annual rate of population growth of 3 percent between 1956 and 1966, which was declared after the second Iranian Census in 1966, was an important factor in the shift of government policy. Thus, the year 1967 can be considered as the beginning of modern family planning programs in Iran. Also, this date may be considered as the beginning of direct government intervention in the reduction of fertility in order to moderate the high population growth rate which prevailed in the country. Family planning programs were in place until the Islamic Revolution of 1978-9. In 1972 the Director General of family planning declared that:

The overall goal of the family planning program over the next five years [that is, by the end of the pre-revolutionary Fifth Five-Year Plan in 1978] is to reduce the present fertility rate of 48 per thousand to 40 per thousand. In order to accomplish this, the program will have to provide contraceptive services to 3.6 million women and avert approximately 1 million births (Zahedi 1974:315).

The third Iranian census of population and the first census after the introduction of family planning programs took place in 1976. There were indications of a minor reduction in fertility according to the census data, especially for the years immediately before the census. Such indications are apparent from the various fertility indices shown in Table 2, such as the crude birth rate, total fertility rate, general fertility rate, child women ratio³, and women's mean age at first marriage. Although there was a minor reduction in fertility by 1976, the extent of the reduction and, by implication, the extent of the success of the family planning programs in the first decade of its implementation were below expectations. A review of the programs conceived in 1967 indicates that their major emphasis was on training medical and paramedical personnel and general services. A lesser emphasis was placed on understanding and solving the cultural, social, and economic barriers to birth control. Such negligence can be considered a major shortcoming of the pre-revolutionary family planning programs.

Table 2: Fertility Indices, I.R. of Iran, 1956- 1996

Year	CBR	TFR	GFR	CWR1	CWR2	MAFM*
1956	50.2	7.2	227	0.794	0.732	18.0
1966	45.7	7.0	220	0.851	0.910	18.4
1976	41.8	6.3	190	0.733	0.844	19.7
1986	43.3	6.5	205	0.865	0.860	20.0
1991	33.7	4.7	155	0.668	0.896	21.0
1996	22.6	2.9	93	0.420	0.714	22.0

* Women's mean age at first marriage:

Note: Figures are estimated by non-conventional methods, using raw population census data of the consecutive Iranian censuses. The PAS (population analysis spreadsheet) computer package was used for the computation of CBR, TFR, and

³ Although the child women ratio is a proxy measure and rough estimation of fertility, it provides useful indications. For instance, in Table 2, the reduction in fertility during the years immediately before 1976 and elsewhere may be inferred from CWR1. Interestingly, CWR2 which implies the fertility situation during 5-9 years before the census does not show a declining trend in 1976 or 1991.

GFR. CWR1 is computed by dividing 0-4 year old population by females aged 15-49. CWR2 is computed by dividing 5-9 years old population by females aged 20-54. MAFM is computed by Hajnal method.

1978- 1988: Post-Revolutionary Shifts

After the Islamic revolution, family planning programs came to a halt for almost a decade. During this period a pro-natalist atmosphere again prevailed and the fertility indices increased (Table 2). Indeed, political, social, and economic changes resulting from the Islamic revolution brought about behavioral changes of which the rise of fertility was one consequence. Among the most important factors in the rise of fertility in Iran during the 1980s were: 1) Abolition of laws regarding minimum age at marriage, a tendency to get married at an earlier age, and a rise in the rate of marriages⁴, 2) introduction of laws and regulations in favor of high fertility which encouraged families, especially those poor and desperate, to have more children⁵, 3) expectations that the revolutionary government would provide for children's needs, especially for their nutrition, health, and education, and 4) the imposed war and its social and psychological impacts on demographic issues.

After 1988: Reintroduction of Family Planning Programs

The fourth consecutive Iranian census and the first one after the Islamic revolution was conducted in 1986. The primary results of the census showed that the country's population stood at about 50 million and was expanding with an unprecedented annual natural increase rate of 3.2

⁴ According to the Statistical Centre of Iran's figures, the crude marriage rate rose from 5 per thousand in the immediate years before the Revolution to more than 8 per thousand in the years immediately after the Revolution (Statistical Yearbooks.) There are indications that in the early 1980's, that is, the first few years after the revolution, fertility increased rapidly and reached a peak, after which point it decreased slightly up to 1988.

⁵ During the War period, basic needs were rationed on the basis of the number of members of each family without any qualifications. This system of rationing allowed more shares and more coupons to the large families. A newly born child was not in need of many goods, such as meat, rice, sugar, cooking oil, etc., at least during the breastfeeding period (which, very often, takes as long as two years). Yet the child was receiving coupons right after his or her birth. Thus, by having more children, families could get more coupons. Selling coupons to opportunists became a way of making money for poor and desperate families.

percent.⁶ The trend raised fears about the future of population growth. Growing concerns among government planning authorities about the high and unprecedented rate of population growth resulted in nationwide actions towards its moderation. The end of the imposed 8-years war created more favorable grounds for such actions in 1988.

The Plan and Budget Organization (now, Management and Planning Organization) organized a nationwide conference in the city of Mashhad in September 1988 with the assistance of academicians which brought the issue of the population problems to the fore. This pioneering conference was followed by several other seminars. Discussions on the consequences of rapid population growth began to occupy primetime on radio and television programs. The country was at a social and economic threshold which meant that exposing the issues in these ways worked well. After reaching a better understanding of the consequences of rapid population growth, many people who were undecided about the necessity of the reduction of the skyrocketing population growth rate were convinced. Also, the government created a population committee in 1988 with representatives from the related ministries and institutions. The commitment of the government to reduce the population growth rate is reflected in the strategies adopted in the First Development Plan after the Islamic Revolution (1988-93). Since the beginning of the plan, the family planning programs were incorporated into the primary health care system. Further, a new Office of Population and Family Planning was established in the Ministry of Health and Medical Education in 1988.

The results of the 1991 census indicated that fertility had reduced substantially. Fertility indices for the year 1991 (Table 2) clearly shows that the country had reached the take-off point in its fertility transition. The support and commitment of the government to further moderate population growth rate continued in the Second Development Plan (1993-98) and the reduction of fertility continued during the 1990s.⁷ The more recent figures

⁶ Due to the huge influx of refugees from Afghanistan and Iraq between 1976 and 1986, the average annual rate of inter-census population growth was 3.97 percent, from which 3.2 percent related to natural increase and 0.8 percent to the migration of the refugees.

⁷ Had it not been for the post-revolutionary pro-natalist atmosphere, presumably, fertility would have continued to decline during the period 1978-1988. Therefore, although actions on the moderation of the population growth rate were reinforced after 1988, the huge reduction in fertility during the 1990s should not be totally attributed to the programs conducted in that particular decade. What happened was the resumption of the trend of fertility which had been reversed for a decade as a result of the Islamic

declared by Iranian authorities indicate that the crude birth rate has reached a level well below 30 per thousand (ESCAP 1997:7). After several decades of very high population growth rate which resulted from the high fertility and rapidly declining mortality, finally, a rapid fertility decline took its turn in the context of the social and economic development. Such a drastic decline in fertility makes the last decade a turning point in the history of Iran's demographic transition. Trends of the annual rate of natural increase and its two component measures, that is, the crude birth rate and the crude death rate for the period 1956- 1996 are shown in Figure 1.

Determinants of Recent Fertility Decline

Reduction of fertility is an outcome of social and economic development. In what follows, an attempt is made to elaborate on a number of factors which contributed to the reduction of fertility in the Islamic Republic of Iran, namely, reduction of the infant mortality rate, rise of the relative cost of children, increase in the literacy and urbanization rates, public awareness about the population problems, and a government family planning program which is legitimized by religious authorities and is supported by international organizations.

Rapid Decline of Infant Mortality Rate

Even as of 1976, the infant mortality rate was well above 100 per thousand, whereas by now it is well below 50 per thousand (Table 1). The fact that the infant mortality rate decreased to less than half during the last two decades has been very important in convincing families that more children are surviving and families can reach their desired number of children with a lower level of fertility.⁸ Figure 2 shows the trends in infant mortality rate and a fertility index, namely, the general fertility rate for the period 1956-1996. The continuous decline in mortality is associated with a subsequent decline in fertility. Drastic decline in the infant mortality rate in Iran has been an outcome of increased emphasis placed on rural development in the post-revolutionary era. Provision of the primary sanitary measures such as access to safe water (see Table 3), especially in remote

Revolution. Hence, some credit should be given to previous actions (before 1988) for the remarkable decline of fertility during the 1990s.

⁸ Using Easterlin's fertility framework terminology, the supply of children (Cn) exceeds the demand for children (Cd); hence, motivation for fertility limitations (Lasterlin 1975:54-64.)

and disadvantaged areas, and an emphasis on preventive health were essential in the reduction of infant mortality.⁹

Rise in Relative Cost of Children

Increasing attention to the quality of children's upbringing, health and education, which was accompanied by a decline in per capita income and very high inflation rates, increased the relative cost of children substantially.¹⁰ This has reduced the number of children desired by families.

Increase in Literacy and Urbanization Rates

The rate of literacy and the proportion of population living in the urban areas were both below 50 percent at the time of the Islamic Revolution (Table 3). The extent of increases in both measures has been considerable during the last two decades. The literacy rate increased to 75 percent in 1991. According to the results of the 1996 census, the literacy rate has increased to the appreciable level of 80 percent. The inverse relationship between the literacy rate and fertility has been documented in numerous studies in Iran and other countries.¹¹ Such an inverse relationship has been more pronounced for countries undergoing their fertility transition, as is the case with Iran at the present time.

Table 3: Selected Socioeconomic Characteristics of Iran, 1956- 2001

Year	Literacy %	Urbanization %	Access to safe water %	Contraceptive prevalence rate ^a
1956	15	32	-	-

⁹ Immediately after the Islamic Revolution, a popular movement for the reconstruction of the rural areas began. Also, the Ministry of Construction Jihad (campaign) was established to pursue rural development. This newly-born institution, which was fresh and not entangled with the cumbersome bureaucracy of old ministries, made significant contributions to rural development. Appreciable activities of the Ministry of Construction Jihad along with the preventive and curative health measures provided by Village Health Houses of the Ministry of Health were crucial in the reduction of infant mortality.

¹⁰ For the period 1980- 1991, the average annual GNP growth rate of the country was - 1.3 percent and its average annual rate of inflation was 14 percent.

¹¹ The following are a few examples of fertility surveys, conducted in various parts of Iran, which indicated an inverse relationship between the literacy rate and fertility: Amani, and Mirzaie (1991), Amani (1974), Paydarfar and Aghajanian (1975).

1966	30	39	-	-
1976	48	47	34	36
1986	62	54	-	-
1991	75	57	89	65
1996	80	61	-	-
2001	83	64	93	73

^a Percentage of currently married women using method.

.Sources: Literacy and urbanization rates were computed from consecutive census data; Access to safe water was taken from UNICEF (1994); Contraceptive prevalence rates: figure for 1976 is from Statistical Centre of Iran's Survey, and those KAP Study.

The percentage of population living in urban areas increased to 54 percent in 1986 and to 61 percent in 1996. In Iran, like other countries of the world, fertility in urban areas has been lower than in rural areas.¹² Thus, an increase in the rate of urbanization has had a reducing impact on fertility.

Public Awareness of Population Problems

As mentioned, after a decade of stagnation in dealing with the population problems there was a radical shift in 1988. From then onwards, conferences and seminars were held and the issue of the population problems was continuously raised by the mass media; several projects were implemented with the aim to find appropriate methods of including general population concepts in the school curriculum; and teaching of demography and population studies found a more receptive environment in universities and

¹² The magnitudes of CWR2 index for urban and rural areas of Iran during the 1986-1996 period are provided in the table below. The measures indicate that fertility in the urban areas has been appreciably lower than the rural areas.

	1986	1991	1996
Urban areas	0.752	817	.638
Rural areas	1.008	1.019	.851

research institutions. All these contributed to increased public awareness of population issues which resulted in actions towards fertility limitation.

Family Planning Programs

The post-revolutionary family planning programs, which started after 1988, have been an integral part of development planning. Due to the close collaboration of the religious authorities with the government, religious barriers to these programs were to a large extent removed (in contrast to the case of pre-revolutionary programs). Indeed, after the Islamic Revolution, state and religion were integrated and key governmental positions were held by religious authorities. This gave an inherent legitimacy to the programs to pursue their objectives smoothly. Another important factor, which eased financial difficulties of family planning programs was international assistance especially that of the UNFPA. The contraceptive prevalence rate rose from 35 percent in 1976 (the peak rate for the pre-revolution family planning program) to 65 percent in 1991 (Table 3) and it has been increasing ever since. This indicates the success of the recent family planning programs.

Conclusion

The rapid and continuous mortality decline which was accompanied by a high level of fertility resulted in an unprecedented population boom in Iran during the last half a century. The average annual rate of population growth during this period was 3 and the population increased four-fold. Whereas the use of contraceptives have been sanctioned in Islamic jurisprudence, only towards the end of the 1960s did the view of the Iranian government changed in favor of family planning programs. The 1976 census showed minor indications of reduction in fertility. A pronatalist atmosphere prevailed after the Islamic Revolution of 1978-9 and the governmental family planning programs were shut down. A population growth rate of 4 percent for the 1976-1986 period was a consequence of this atmosphere. The associated problems of rapid population growth gave rise to a firm reaction and by 1988 family planning programs were reinstated. The policy turn resulted in a dramatic reduction in fertility during the 1990s. Rapid decline in the infant mortality rate, rise in the relative cost of children, increases in the literacy and urbanization rates, public awareness of the population problems, and, finally, a newly-revived family planning program legitimized by religious authorities and supported by international organizations were the factors which contributed to the reduction of fertility

in Iran during the last decade. Although data on population and fertility are debated by various organizations, there is a wide consensus that the country is undergoing a rapid fertility transition.

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Figure 1. Crude Birth Rate, Crude Death Rate and Natural Increase Rate, Iran, 1956-1996

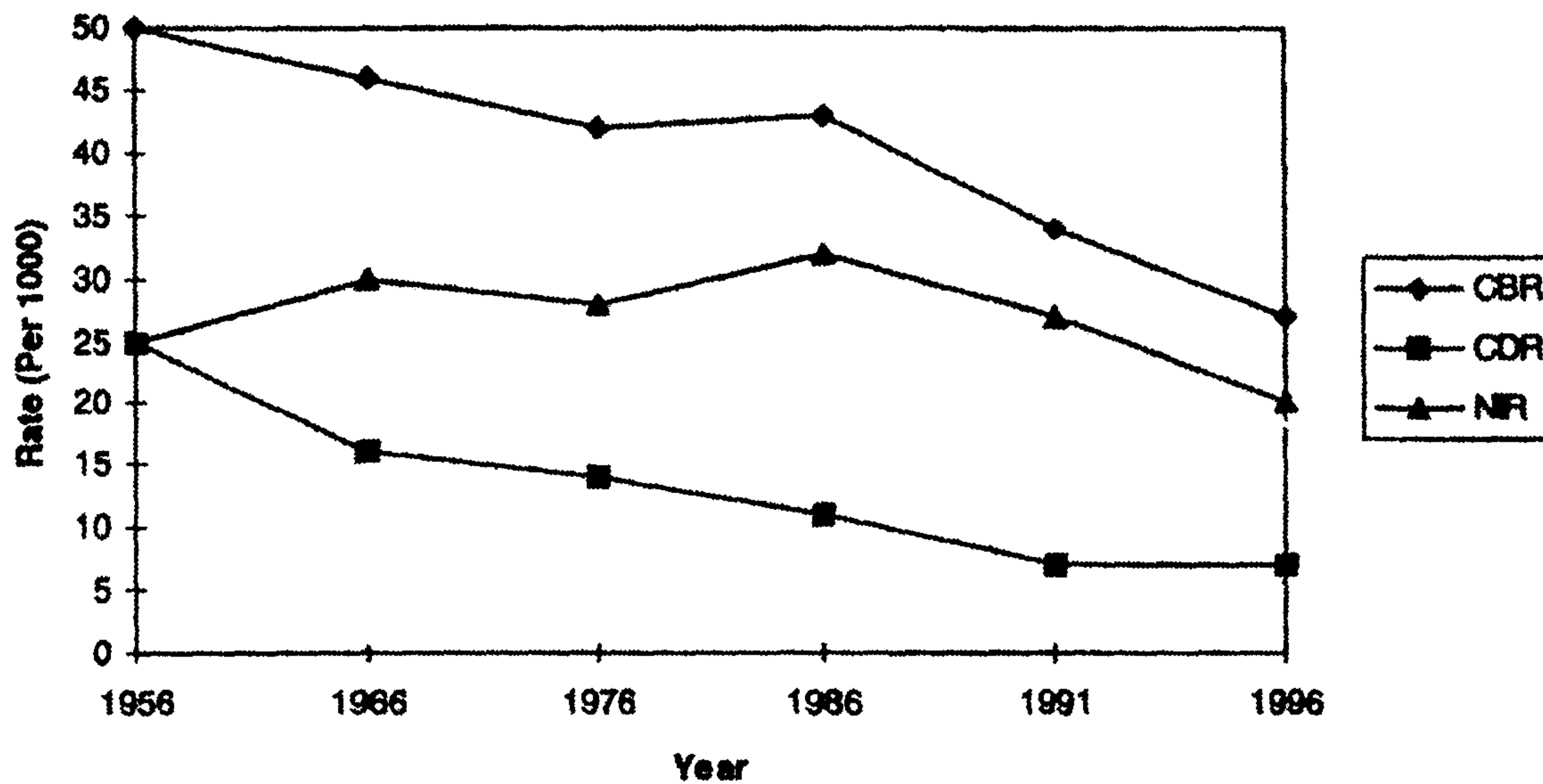


Figure 2. General Fertility Rate and Infant Mortality Rate, Iran, 1956-1996

