The Ireland of Asia: Trends in Marriage Timing in Sri Lanka

By W. Indralal De Silva *

* Professor in Demography, Demographic Training and Research Unit, University of Colombo, P.O. Box 1490, Colombo 3, Sri Lanka. This article was written during the author's one-year term at the Harvard University School of Public Health in Boston, United States, as a Takemi in International Health.

To lower the incidence of abortion, the national family planning programme needs to provide servicesalso for the unmarried young

Fertility is a complex process which is affected by several socio-economic, cultural and biological variables. One of the latter is fecundity, which starts with the onset of menarche and ends with menopause. Among socio-economic and cultural variables is the prevalence of early and universal marriage, which is of great demographic, social and economic significance, especially in those countries that are characterized by high fertility and a low average age at marriage. Postponement of marriage contributes substantially towards a reduction in the level of fertility by shortening the total reproductive span of the female, which in turn, owing to a cumulative effect, influences the size of individual families as well as the population growth rate of the country. Davis (1963) identified reductions in proportions married, along with emigration and declines in marital fertility, as being a multiphasic response to population pressure. Therefore, changes in marriage and particularly marriage patterns have been extensively studied in the context of the demographic transition. In many developing countries, especially in Asia where significant declines in fertility are being experienced, reductions in the proportions married have often coincided with or, as in the case of Sri Lanka, preceded declines in marital fertility.

During the present century, female age at marriage in Sri Lanka has increased by almost seven years. The delays in marriage and their impact on the birth rate led Kird (1969) to refer to Sri Lanka as "the Ireland of Asia". Caldwell and others (1989) identified Sri Lanka as the leader in third world Asia's change in marriage patterns; by the mid-1970s Sri Lankan females were marrying not at puberty but a decade after puberty.

There have been several studies of age at marriage, or its relative contribution to lower fertility in Sri Lanka (Fernando, 1976; Wright, 1968, 1970; Smith, 1980; Trussell, 1980; Immerwahr, 1981; Langford, 1981; McCarthy, 1982; Smith and others, 1983; Caldwell and others, 1989). Alam and Cleland (1981) indicated that up to 1970 about 60 per cent of the decline in fertility in Sri Lanka was attributable to postponement of marriage, but in the period 1971-1975 the contribution of changes in nuptiality to the decline in the total fertility rate fell to 46 per cent.

Unlike in the West where marriage is not necessarily the precursor of childbearing, any upward or downward trend in nuptiality in Sri Lanka would influence the fertility of women, as procreation is almost entirely within marriage in this country. Therefore, it is important to inquire whether the age at marriage of Sri Lankan women is continuing to increase or has stabilized at the pre-existing high level. One reason why this is important is that the number of women entering the reproductive age group in Sri Lanka during the present decade will be much larger than that during the previous decade. Further, the stated population policy of the Sri Lankan Government in 1991 established the target of attaining replacement level fertility (total fertility rate of 2.1 children per woman) by the end of this decade. In view of these factors, an examination of marital behaviour would be useful for policy makers and planners to monitor its impact on fertility decline.

Data

The study analyses data primarily from the 1987 and 1993 Sri Lanka Demographic and Health Surveys (SLDHSs). The sample in the 1987 survey is a multi-stage stratified probability sample representative of the whole country, excluding the Northern and Eastern provinces owing to civil disorder in that region. According to the latest population census, the two provinces excluded in the survey comprised in 1981 only 14 per cent of the total population of Sri Lanka.

There are two sources of data on marriage provided by the SLDHSs. The first, called the household questionnaire, was used to list all usual household members and any visitors who slept in the household the night preceding the survey. In the 1987 SLDHS, a total of 8,119 households were listed in the sample areas, but not all of these turned out to be valid households: the completion rate (response rate) at the household level was 96.3 per cent. The household survey of 20,232 women contains information on all female members of each household selected in the sample, including the current marital status of females aged 15 years and older. The second source of data on age at first marriage is the individual questionnaire, which was used to interview ever-married females aged 15-49 years in each selected household. Respondents eligible for interview included females in the aforementioned age group currently married, divorced, separated, or widowed who had slept in the household the previous night. From the selected households, 6,170 eligible respondents were identified and interviews were completed among 5,865 ever-married females for a response rate of 95.1 per cent (Department of Census and Statistics [DCS], 1988).

The enumerated sample size in the 1993 SLDHS is larger than that of the 1987 survey. During the enumeration stage of the 1993 survey, 9,230 households were identified and of them 98.9 per cent were successfully enumerated. From the selected households, 7,078 women were identified and interviews were conducted among 6,983 ever-married females, with the response rate being 98.7 per cent (DCS, 1995).

Nuptiality trends in Sri Lanka were examined by using the published data of the population censuses from 1946 to 1981, but no specific attempt has been made to compare these results with the estimates of the 1987 and 1993 SLDHSs. However, it should be noted that the 1981 population census was the latest in the series; no date has yet been set for the population census that should have been conducted in 1991.

Table 1: Percentage of Sri Lankan never-married females by age at selected years

Age	1946 Census	1953 Census	1963 Census	1971 Census	1975 Census	1981 Census	1987 SLDHS	1993 SLDHS
15-19	75.3	75.7	85.0	89.5	93.2	90.1	92.7	92.9
20-24	29.4	32.5	41.3	53.1	60.6	55.3	57.1	61.2
25-29	11.6	12.8	17.1	24.6	31.9	30.4	30.0	33.7
30-34	6.6	7.5	8.3	10.9	13.7	15.8	14.2	17.7
35-39	4.3	5.4	4.8	5.6	5.8	8.9	9.1	11.1
40-44	4.1	5.0	4.3	4.3	4.6	5.9	6.2	9.2
45-49	3.4	4.4	3.9	3.6	2.1	4.5	3.5	5.2

Sources: Data for 1946, 1953, 1963 and 1971 are from United Nations (1976); data for 1975, 1987 and 1993 are from Department of Census and Statistics (1978, 1988 and 1995); and data for 1981 are from Fernando (1985).

Trends in nuptiality

Although Sri Lanka is located in South Asia, which is noted for its universal and early marriage of females, in Sri Lanka marriage occurs very late and may no longer be considered universal. As observed in the 1987 SLDHS, 9 per cent and 5 per cent of females in the age groups 40-44 and 45-49 years, respectively, were never married and the general trend shows an upward movement of these proportions (table 1).

As observed in the 1981 census of Sri Lanka, rates of divorce and widowhood among the population 15 years and older are low; the prevalence of divorce was only 0.3 per cent among both sexes, while 2 per cent of males and 8 per cent of females were reported as widowed (DCS, 1986). The incidence of widowhood, or the number of widows and widowers, has been declining noticeably in the latter half of this century, reflecting the country's on-going mortality reduction. The incidence of divorce and widowhood is low particularly during the childbearing years and what does occur is largely compensated for by remarriage. In Sri Lanka, almost 98 per cent of all marriages take place between bachelors and spinsters (see appendix). Yet, in recent years, an increasing number of divorced men have been remarrying spinsters and divorced women. Thus, it should be noted that the census data on the divorced population do not give an accurate picture of the prevalence of divorce in the country.

Although marriage is still a very common institution, nuptiality trends have changed significantly over the last four decades. For quite some time, there has been a steady increase in the proportion of never-married. Thus, as illustrated in table 1, the proportion of never-married females in the age group 15-19 years increased from the already high figure of 75 per cent in 1946 to 93 per cent in 1993. The next age group saw a sharper increase in the proportion of never-married women which rose from 29 per cent to 61 per cent over the same period.

Of South Asian countries, the proportion of never-married females in the age group 15-19 years is highest in Sri Lanka. In Bangladesh, only 31 per cent of females in the same age group were never married (table 2). In Sri Lanka, virtually all males in the age group 15-19 years were never married, while in Nepal only 74 per cent in the same age group were never married. Sri Lanka is the only country in South Asia which shows many parallels with Ireland regarding marriage timing: a very small proportion of males and females in the age group 15-19 years were ever married and the average age at first marriage of Sri Lankans is fairly comparable with the corresponding estimates for Ireland.

Table 2: Percentage of never-married youth aged 15-19 years, and average age at first marriage by sex for selected countries

| Country | Year of census or survey | Percentage never married at ages 15-19 | | Average age a first marriage | |
		Males	Females	Males	Females
Bangladesh	1981	93.3	31.2	23.9	16.7
India	1981	87.5	55.8	23.4	18.7
Maldives	1985	89.8	48.8	22.1	17.9
Nepal	1981	74.1	49.2	21.5	17.9
Pakistan	1981	92.5	68.9	24.9	19.8
Sri Lanka	1981	99.0	90.1	27.9	24.4
Ireland	1988	99.9	99.3	26.7	25.3

Sources: United Nations (1991).

As Davy (1983) observed, in nineteenth century Sri Lanka "old bachelors and old maids" were rarely to be seen among the Sinhalese; almost every man married, and married young, and the wife was not of his own choice but that of his father. However, there was no evidence of any pattern of child marriage as was common in neighbouring India. The singulate mean age at marriage (SMAM) of Sri Lankan females in 1901 was 18.3 years, a level higher than that found by the World Fertility Survey in contemporary Bangladesh or Nepal and only a little below that recorded for Indonesia or Pakistan (Smith, 1980). Of registered marriages in 1901, the average age at marriage for Sri Lankan women was 21.0 years, or almost three years above the SMAM figure (Abhayaratne and Jayawardena, 1967), at a time when registered marriages made up only a fraction of all marriages compared with over 95 per cent of them as currently is the case (Nadarajah, 1986).

Table 3: Trends in singulate mean age at marriage in Sri Lanka by sex at selected years

Year	Males	Females	Average annual % change for females over preceding period	Difference between males and females (Years)
1901	24.6	18.3	-	6.3
1911	26.5	20.8	+0.25	5.7
1921	27.0	21.4	+0.06	5.6
1946	27.0	20.7	-0.03	6.3
1953	27.2	20.9	+0.03	6.3
1963	27.9	22.1	+0.12	5.8
1971	28.0	23.5	+0.18	4.5
1975 (SLWFS)	28.2	25.1	+0.40	3.1
1981	27.9	24.4	-0.12	3.5
1987 (SLDHS)	-	24.8	+0.07	-
1993 (SLDHS)	-	25.5	+0.12	-

Sources: Data for 1901-1971 are from Department of Census and Statistics (1974); data for 1975, 1987 and 1993 are from Department of Census and Statistics (1978, 1988 and 1995); and data for 1981 are from Fernando (1985).

The SMAM of females increased by almost seven years from 18.3 years in 1901 to 25.1 years in 1975, but during this period there was only a 3.5-year increase for males (table 3). Since the increase in the male age at marriage has been less rapid, the sex differential has dropped from over six years in 1901 to three years in 1975. However, once the period from 1975 to 1981 is considered, a declining trend in the SMAM for both sexes is apparent (Sri Lanka World Fertility Survey of 1975 and census estimate of 1981).

Between 1971 and 1981 the female SMAM increased annually by 0.12 years per annum, in contrast to the 0.4 years recorded by the Sri Lanka World Fertility Survey (SLWFS) for the first four years of the period (table 3). The 1975 SLWFS estimates of SMAM (28.2 years for males and 25.1 years for females) appear aberrant, but an explanation for these findings is probably that the survey had been held at the end of a period of unusual economic hardship culminating in the famine of 1974. Since independence, the Sri Lankan economy has been marked by periods of economic stagnation. Consequently, many families found it difficult to finance the cost of a wedding and the other expenses associated with a marriage; thus, many couples were unable to even consider taking on the additional

financial responsibility of supporting a family. The major expense in this regard is usually the dowry. This expense can be a heavy burden, and in many cases does delay marriage.

From 1981 to 1993, female SMAM increased by over one year: i.e. increasing from 24.4 years to 25.5 years. Thus, Sri Lanka may be referred to as "the Ireland of Asia" because of its delayed age at marriage; it now shows a level of female SMAM almost identical with that of Ireland.

Singulate mean age at marriage, which was employed in previous surveys to examine trends in the pattern of marriage, may not be a very precise measure when nuptiality patterns are changing (United Nations, 1983). Therefore, measures of the central age at first marriage such as median age were used in the 1987 and 1993 SLDHSs to analyse recent nuptiality trends.

The percentage distribution of age at first marriage and median age of ever-married women in different cohorts are shown in table 4. As the trend has been towards a later age at first marriage, the relationship between current age and median age at first marriage is an inverse one. Women who are currently between the ages of 25 and 39 got married at an older age than women who are currently aged 40 and older. The median is not shown for the two youngest cohorts (15-19 and 20-24) because in each of these age groups over 50 per cent of the females had not been married (tables 1 and 4). The median estimates of age at marriage show a significant increase from older ages to younger ages of women (last column of table 4).

Table 4: Percentage distribution of all women according to current age and age at first marriage, 1987 and 1993 SLDHSs

| Current age | Age at first union | | | | | | Weighted | Median |
	<17	18-19	20-21	22-24	25-27	28+	N	age
1987 SLDHS								
15-19	5.7	1.6	0.0	0.0	0.0	0.0	134	*
20-24	13.9	14.3	10.5	4.3	0.0	0.0	723	*
25-29	14.4	15.9	14.6	16.0	8.5	0.7	1,113	23.1
30-34	13.7	15.2	16.8	18.1	12.2	9.8	1,203	22.6
35-39	17.6	12.6	12.8	20.0	12.7	15.2	1,131	23.1
40-44	26.4	14.3	13.5	16.3	11.1	12.2	922	21.4
45-49	33.5	16.3	13.1	13.2	9.0	11.4	639	20.0
Total	15.6	12.2	10.9	11.5	6.7	5.7	5,865	
1993 SLDHS								
15-19	5.6	1.6	0.0	0.0	0.0	0.0	2,056	*
20-24	12.1	11.9	9.3	5.6	0.0	0.0	1,935	*
25-29	12.3	14.2	11.4	17.8	9.8	0.8	1,727	24.0
30-34	13.7	14.5	12.8	17.1	12.3	11.9	1,643	23.6
35-39	12.7	14.4	14.9	19.2	11.8	15.9	1,434	23.2
40-44	15.0	14.5	14.9	17.4	12.7	16.3	1,382	23.0
45-49	23.7	14.1	13.1	16.7	10.7	16.4	1,118	21.8
Total	12.8	11.6	10.2	12.4	7.4	7.5	11,295	

Source: 1987 and 1993 SLDHS data.

Note: * Omitted due to censoring.

Examination of the percentage distribution of age at first marriage of ever-married women is useful to compare cohort trends, specifically the percentage of women who have married by a certain age in all cohorts who have passed that age. For instance, as noted from the 1987 SLDHS data, the percentage of women married by age 20 in the age cohorts 20-24, 25-29, 30-34 and 35-39 has remained approximately the same at 30 per cent (table 4). Among the cohorts aged 40-44 and 45-49, the proportion that had married by age 20 is much higher at 41 (26.4 + 14.3) and 50 (33.5 + 16.3) per cent, respectively. Taking into consideration the unusually high female age at marriage in Sri Lanka, when the pivotal age is shifted to 25 years, the percentage who had married before that age declines steadily from 76 per cent for the 45-49 cohort to 61 per cent for the 25-29 cohort. More women in the younger cohorts appear to have delayed their marriages than women in older cohorts, thus age at marriage shows an increasing trend.

The measures discussed so far, including the truncated data approach (using those women of current age 25 and older women married before age 25), cannot make a complete analysis of age at marriage, which requires the

observation of a birth cohort through its entire life-span. Among young age groups, a considerable number of women were still unmarried at the time of the 1987 survey and it is a difficult task to determine exactly when they would marry (Trussell, 1980). In an attempt to overcome these difficulties resulting from the truncation procedure, an attempt has been made to fit Coale's nuptiality model (Coale, 1971) to the SLDHS data to obtain a better analysis of the age pattern of first marriage in Sri Lanka.

Coale's nuptiality model

The original nuptiality model is a function of three parameters: a, the age at which a substantial number of first marriages begin to occur, k, the speed at which marriages take place, and c, the proportion who eventually marry (Coale and McNeil, 1972). Rodriguez and Trussell (1980) modified the first two parameters so that they are more readily interpretable, and provide the mean and standard deviations; they also have written a software package (NUPTIAL) for finding maximum likelihood estimates of the three parameters. This program has been used in this study to examine marriage timing in Sri Lanka.

Table 5: Coale-McNeil estimates of the mean, standard deviation and standard error of age at first marriage for ever-married women in Sri Lanka, 1987 SLDHS

Age cohort	Mean	Standard error	Standard deviation	Standard error	Goodness of fit (P-value)
20-24	24.2	0.532	6.2	0.432	0.594
25-29	24.1	0.384	6.7	0.309	0.187
30-34	23.2	0.376	7.2	0.310	0.041 *
35-39	24.3	0.219	7.1	0.215	0.469
40-44	21.6	0.214	5.7	0.216	0.031 *
45-49	20.8	0.207	5.2	0.198	0.548

Source: 1987 SLDHS raw data.

Note: * Test for homogeneity of cohorts reveals that the group is not homogeneous.

Estimates derived from the model, mean, standard deviation and standard errors of age at first marriage for ever-married women in Sri Lanka are shown in table 5. The mean increased from 20.8 years in the oldest cohort to 24.3 years for the cohort aged 35-39. However, interestingly the mean estimates of women aged less than 35 years would indicate that age at marriage in Sri Lanka is stabilizing at a level which is below the 24.3 years recorded by the 35-39 cohort. Although the estimated mean for the 20-24 cohort may not be very accurate because of the large standard errors, still the 30-34 cohort demonstrates a declining trend in mean age at marriage compared with the estimate of its older cohort. If the mean estimate of the 35-39 cohort is excluded, then the rest shows a smooth increasing trend in mean age at marriage.

Why is such a smooth trend disturbed at the cohort 35-39 (table 5)? It could be speculated whether or not the model fits the Sri Lankan data well. There is no way to decide unambiguously whether the true nuptiality pattern conforms more with the observed data or the model. However, a test of fit, integrated in the model by Rodriguez and Trussell (1980), indicates that the model fits well the 1987 SLDHS data. Trussell (1980), using the 1975 SLWFS, indicated that individual data produced very low p-values and the model itself fit poorly; only the cohort 20-24 showed a better fit despite having a higher standard deviation and errors.

Economic hardship, directly linked with finding enough money for the dowry, housing, or for the wedding ceremony or, on the other hand, an increasing occurrence of deaths in their families, forced women in the middle half of the 1970s to postpone their marriage for some time, probably between one and three years. Research findings show that around 1974 mortality, especially infant and child mortality, rose considerably compared with earlier levels (Gajanayake, 1988; De Silva, 1990). In Sri Lanka when there is a death among immediate family members or among close relatives then marriage is usually delayed for cultural reasons for as long as over one year. However, when the overall economy improved from 1977, most of the women who had delayed their marriage entered the marriage market and rushed into marriage (De Silva, 1990). The likelihood of these women being observed in the age group 35-39 at the time of the 1987 SLDHS is quite possible. Since these women had postponed marriage until a little later than they had anticipated (compared with the older cohort), the mean age at first marriage of women currently 35-39 years old has been inflated to an artificially higher level, which is not anticipated by their younger counterparts. Simply stated, among the younger cohorts, there was no real decline but rather the mean has gradually increased. Therefore, it is reasonable to believe that the female age at first marriage in contemporary Sri Lanka has risen steadily to almost 26 years, a level which is exceptionally high for a developing country, and even higher than that of some developed countries.

Discussion

What are the determinants of late marriage in Sri Lanka? Two explanations have been put forward for the rise in the female age at marriage, namely a "marriage squeeze" and socio-economic change. The marriage squeeze explanation is based on the principle that, under certain conditions, the numbers of marriageable males and females will not be equal. Numerical imbalance between males and females of marriageable age can reduce the chances of marriage for the more numerous group. The classic situation has been observed in countries where a war has decimated the male population who make up the armies, as happened in some European countries after the Second World War. It should be noted here that numerical imbalance between marriageable men and women could occur even under conditions of balanced overall sex ratios. For instance, in 1981 the overall sex ratio for Sri Lanka was 104 males per 100 females, but between marriageable ages there was a shortage of males. Over the last many decades, the sex ratio at birth in Sri Lanka ranged between 103 and 105, which does not differ compared with the sex ratio of the enumerated population in the 1981 population census. The total number of live births in Sri Lanka increased to its highest level of 423,793 by 1981 from its past low values, but since 1981 the total number of live births shows a steady decline.

Marriage squeeze

If women are expected to marry men older than themselves, in a growing population there can be more women in a cohort than the men they are eligible to marry in, say, a cohort five years older than themselves. For example, most males aged 25-29 years will choose their partners from females aged 20-24. Since the age structure of the population is pyramidal, the number of males aged 25-29 will in general be smaller than the number of females aged 20-24. This would give rise to a surplus of marriageable females in relation to marriageable males in the corresponding ages. Even with a growing population, a marriage squeeze on women would not occur if there existed higher female mortality, a higher proportion of widow remarriage, sex-selective migration (female dominated) and polyandry (a woman having more than one husband simultaneously).

Table 6: Ratio of males per hundred females in Sri Lanka by various age groups at selected years

Sex and age	1953 Census	1963 Census	1971 Census	1981 Census	1987 SLDHS	1993 SLDHS
M(20-24)/F(15-19)	116.4	87.7	95.3	96.9	95.3	90.5
M(25-29)/F(20-24)	99.7	84.7	75.9	83.8	83.1	80.7
M(30-34)/F(25-29)	84.5	95.3	79.5	89.4	82.6	86.6
M(35-39)/F(30-34)	124.1	107.3	104.2	75.9	84.5	80.1
M(40-44)/F(35-39)	86.5	83.4	87.7	86.2	82.4	90.5
M(20-34)/F(15-29)	100.2	88.9	84.2	90.2	87.6	85.8
M(20-44)/F(15-39)	101.7	91.0	87.5	87.1	86.5	85.1

Sources: Data for 1953 to 1971 are from United Nations (1976); data for 1981 are from Department of Census and Statistics (1997); data for 1987 and 1993 are from SLDHS data.

In Sri Lanka where a major anti-malaria campaign in the late 1940s brought about a dramatic decline in mortality, the crude death rate fell from 20.2 per thousand in 1946 to 14.3 per thousand in 1947 (Fernando, 1975). The result was that during the period 1942-1946 there were 608,799 male live births, whereas during the period 1947-1951 there were 721,175 female live births, a discrepancy subsequently widened by the higher mortality rates that males were subject to during their initial years when high mortality still prevailed.

In Sri Lanka, most females marry for the first time between the ages of 15 and 29, and most males between the ages of 20 and 34. When late first marriages are also taken into account, two other age groups, namely females 15-39 and males 20-44 may be used. Thus, ratios of M(20-34)/F(15-29) and M(20-44)/F(15-39) may be used to examine the marriage squeeze. Allowance has also been made in the computation of these ratios to take into account marriages in which the brides are older than the grooms, although such marriages are believed to be rare.

In 1953, there was no marriage squeeze; both rates, M(20-34)/F(15-29) and M(20-44)/F(15-39), show perfect balance of males and females in the marriageable ages. After 1953, the squeeze emerged; by 1971, the data indicate a significantly strong imbalance. However, during 1971 and 1981, the squeeze relaxed.

The 1981 ratio of 90.2 for the broad age group of M(20-34)/F(15-29) is the best that has been achieved after the year 1953 (table 6). Interestingly, after 1981 the marriage squeeze re-emerged. Both the 1987 and 1993 estimates of broader age groups clearly indicate a worsening trend. More importantly, between 1981 and 1993 for the youngest age groups, M(20-24)/F(15-19) and M(25-29)/F(20-24), the squeeze seems to have worsened.

Table 7: Ratio of never-married males per hundred never-married females in Sri Lanka by various age groups at selected years

	1963	1971	1981	1987

Sex and age	Census	Census	Census	SLDHS
M(20-24)/F(15-19) 88.0	92.3	89.7	88.2
M(25-29)/F(20-24) 103.5	76.0	78.1	73.6
M(30-34)/F(25-29) 146.4	82.6	73.3	68.9
M(35-39)/F(30-34) 173.5	128.2	60.2	52.6
M(40-44)/F(35-39) 177.8	138.7	80.4	58.9
M(20-44)/F(15-39) 102.1	88.5	82.1	78.6

Sources: Data for 1963 to 1981 are from Department of Census and Statistics (1986) and data from 1987 are from SLDHS data.

Sex ratios computed here are based on all males and all females and thus do not provide a comparison of marriageable persons. Therefore, in such comparisons it is necessary to consider the ratios of never-married males in a particular age group to those of the never-married females in the younger age group. Those ratios shown in table 7 are even smaller, indicating that the shortage of males is even more serious than suggested by the overall sex ratios. There are only 79 single males per 100 single females in the popular age group of M(20-44)/F(15-39). This shortage of single men seems to be related largely to the emigration to the Middle-East in the late 1970s of more single men than single women in search of employment. This shortage of men could also be related to the male-dominant repatriation of Indian Tamils to India under the Sirima-Shastri Pact of 1964. That arrangement involved 313,000 Indian Tamils, mostly labourers in the plantation sector.

The marriage squeeze can be overcome by a large number of women not marrying at all, or by a reduction in the age gap between the two sexes at marriage, or by a mixture of these two phenomena. A reduction in the age gap would reduce the influence of the increase in the size of age cohorts between the births of males and of females. This phenomenon can be illustrated from the figures from the 1981 census, in which there were 739,555 single women between the ages of 20 and 39. If these women were to find marriage partners five years older than themselves, only 553,329 single men between the ages of 25 and 44 would be available, or more simply, for every 100 single women only 75 bachelors would be available. However, if a reduction to three years in the average age difference of marriage is achieved, the imbalance would be completely eliminated as there should then be about 754,000 single males aged 23-42 years, producing a ratio of 102 single males for every 100 single females aged 20-39 years. Thus, if females married males of almost the same age, the problem would not exist. While this demographic constraint is likely to be marginal in the near future, socio-economic changes seem to be influencing female age at marriage towards further delay.

Education and marriage change

Changes in many socio-economic variables, such as education, status of women and employment, seem to have influenced female age at marriage in Sri Lanka. Because of the society's relative openness and relatively higher status of women than is usual in South Asia, Sri Lankan women have emerged as readily as men to participate in the country's massive expansion of educational opportunities. This contrasts sharply with such countries as Bangladesh and India, where so far relatively few women have taken, or been permitted to take, advantage of an educational system that has long been free up to the secondary level.

The progress that Sri Lanka has made in female literacy is quite remarkable; among females 10 years of age or older, literacy increased from 3 per cent in 1881 to 83 per cent in 1981 (DCS, 1986). During the same period, the literacy level of males rose from the already considerable level of about 30 per cent to 91 per cent. However, since the early 1960s, male literacy was slow in making further advances, whereas female literacy continued to rise rapidly. Thus, the difference in literacy levels between men and women has dropped from 34 percentage points at the turn of the century to the current level of only 8 percentage points.

The establishment of government schools and their expansion throughout the country over the past several decades have made it possible for an increasing proportion of females to gain access to education. Currently there are virtually equal numbers of males and females at all levels of higher education. By contrast, in 1942 only 10 per cent of university students were female. At the university level, the principle of equal access was restored from 1965 by the National Council of Higher Education. As a result, the percentage of women students enrolled in universities increased from 31 per cent of the total student body in 1960 to 43 per cent in 1966, a level which remains relatively unchanged (table 8).

Table 8: Student enrolment in Sri Lankan universities at selected years

Year	Total	Female	Percentage female
1942	904	91	10.1

1960 3,684   1,136   30.8
1966 10,723 4,579   42.7
1972 12,835 5,428   42.3
1975 12,648 5,252   41.5
1985 18,217 7,802   42.8
1990 28,260 12,089 42.8

Source: University of Colombo Grants Commission.

Attendance at an educational institution can influence female age at marriage in a number of ways. First, attendance at school, or a higher educational institution such as a university, can delay marriage because a girl generally does not marry while she is studying at such an institution. Second, literacy and education can influence attitudes and norms regarding expectations concerning marriage and the choice of a partner; this can also lead to a delay in contracting a marriage. Third, while studying at a higher educational institution, students tend to develop friendships and have love affairs among themselves, and therefore marriage usually would be delayed while they assess the desirability of making such relationships permanent. The modern Sri Lankan marriage pattern has not just recently emerged, as is evident by the fact that one quarter of pre-war unions were love marriages rather than arranged marriages. The 1985 Sri Lanka Contraceptive Survey found that love marriages made up 52 per cent of all marriages reported in that survey. Even though a couple may be in love, however, because of the high rate of unemployment among young educated males and females, in many instances the marriage gets delayed.

The average age at which men are employed has risen, because education currently is much longer in duration than it was previously. For instance, because of civil disturbances in some parts of the country and student strikes at higher educational institutions, general degree candidates have had to spend about five years in university before getting their degree instead of only three years as would be the case under normal conditions. Not only does the longer period of education delay the search for a job, but the more highly educated graduates seek jobs which are more difficult to get.

Employment and marriage change

Sri Lankan data show that early marriage -- and sometime any marriage -- is less feasible now than previously for both men and women. As Dixon (1970) pointed out, "... marital postponements and in some cases permanent celibacy have been increasingly necessary throughout the country because of pressures on scarce land and employment .... Both men and women must wait longer to accumulate the necessary resources to set up an independent household". In Sri Lanka, the patriarchal joint family is not the favoured marriage model; young couples tend to establish separate households usually after an initial residence with the family of one of the spouses.

Marriageability for men in Sri Lanka is largely related to their employment status; first, whether or not a man has a job and second, the status of the job (whether or not it is "permanent"). Less important is his age or educational achievement. The emphasis on the need for a prospective groom to be employed is seen as a new constraint on marriage. When Sri Lanka had a more agrarian economy, the unemployment issue did not arise because the family of the bride or the groom was able to provide the young couple with a suitable livelihood. Even without family support, employment was not a problem in the past.

Although the proportion of women employed in professions such as medicine has increased, an overwhelmingly large proportion of women are concentrated in low-income jobs at the bottom of the employment ladder, i.e. in semi-skilled and unskilled labour in agriculture, industry and manufacturing. With the opening up of Free Trade Zones in Sri Lanka since 1978, many young unmarried females were able to obtain employment in manufacturing and service industries. However, many local and foreign entrepreneurs in these zones unfortunately wanted their female work force to remain single, because they believe that with marriage the production capacity of the women might drop. As a result, the situation had become notorious with many female workers in Free Trade Zones allegedly being involved in pre-marital sex and, after becoming pregnant, having induced abortions. A likely consequence is that the majority of these women may remain single permanently.

With the introduction of an open economic policy in 1977, the rate of unemployment decreased sharply from about 24 per cent in 1973 to about 12 per cent in 1981/82. However, subsequent civil disturbances and untoward political and economic events have had adverse effects on the growth of the economy, and unemployment again became significant by 1986. The working age population was estimated to be 6.25 million in the 1985/86 Labour Force and Socio-economic Survey (DCS, 1991). Of that number, 1.26 million, or 16 per cent, were identified as unemployed. Even though overall unemployment figures do not seem particularly high by international standards, all estimates since 1971 have indicated that approximately 80 per cent of the unemployed are between the ages of 15 and 29 years.

Table 9: Unemployment rates of males in Sri Lanka by selected age groups at selected years

Age	1963 Census	1971 Census	1981 Census	1985/86 L.F. Survey
20-24	16.0	29.8	27.6	37.8
25-29	6.7	14.5	14.0	15.4
30-34	3.5	7.6	7.4	7.0

Sources: Data for 1963 and 1971 are from the Department of Census and Statistics (1976); data for 1981 are from Department of Census and Statistics (1986) and data for 1985/86 are from Department of Census and Statistics (1991).

Men are unlikely to marry until they find employment to earn sufficient income to support a family. Thus, a high level of prolonged unemployment could lead to postponement of marriage among young men. This in turn could create a shortage of eligible marriage partners for the women of corresponding ages. And that is exactly what has happened in Sri Lanka. Apart from the demographic constraint, an increasing proportion of males aged 20-24 and 25-29 are becoming unemployed; in 1985/86 over one-third of men in the age group 20-24 were unemployed compared with only 16 per cent in 1963 (table 9). Even in the age group 25-29, more than 15 per cent of males were identified as unemployed. Further, the type of education being provided in Sri Lanka hardly enables the employment of such persons. The large number of "educated unemployed" gives a special character to the problem. In the course of the 1971 insurgency and during the uprising in the 1987-1989 period, this phenomenon was recognized as an important issue. Further, more than 100,000 people in northern Sri Lanka have lost their employment owing to the prolonged civil conflict there.

Although Sri Lanka's population growth rate has declined to about 1.0 per cent per year (ESCAP, 1997) and is expected to decline further, the numbers entering the labour force each year are staggering. Estimates place the number of people entering the labour force at about 150,000 persons annually. This is a very large number when institutional labour absorption is only around 40,000 persons per year (De Silva, 1994a). Population and labour force projections indicate an increase in the size of the labour force until the year 2010 (De Silva, 1994b). As a result of the civil disturbances over the past decade, Sri Lanka's economic performance has not been adequate for providing sufficient employment for male youths, particularly educated youths. And, as has been discussed previously, employment of the man is the most important requirement for his entering into a formal marriage.

The prolonged civil conflict has caused another setback for the marriage market in Sri Lanka. Apart from the marriage squeeze, owing to their involvement in the war and especially to land-mine injuries, a considerably large number of unmarried males have become disabled in recent years. Even though the total number of such persons in Sri Lanka are not known, their numbers are certainly on the rise and they are less likely subsequently to get married (De Silva and Amarabandu, 1993).

Conclusion and policy implications

Apart from the marriage squeeze, the increasing emphasis on individual attributes, especially education, has had the general effect of pushing up the age at marriage in Sri Lanka. Education and a suitable occupation in the country's current context take time to acquire. At the same time, the pursuit of an education is also likely to have another delaying impact on marriage as educated children are likely to want a say in deciding who and when they will marry. Thus, it is possible that there will be a further trend towards increased age at marriage in Sri Lanka, as may be observed in the case of Ireland. In fact, the 1993 SLDHS reported that female age at marriage (SMAM) had risen to almost 26 years.

One of the most conspicuous single changes regarding marriage has been Sri Lanka's transformation from a society in which marriages were arranged by families to one in which marriages are based on the individuals' own selection. The individual attributes that were regarded as important in the past, such as the acceptance of the primacy of family interest and hard work, have been replaced by new attributes more relevant to the nuclear family. An educated woman is, therefore, regarded as one with the potential for making a better mother than would an illiterate woman. Clearly, with regard to rearing children, general maturity is regarded as necessary nowadays for wives as well as for husbands; because of rapid modernization, all aspects of life have become more complicated.

The changes in Sri Lanka's socio-economic and cultural environment have become exceptionally significant and have made a great impact on adolescents, particularly with regard to preparations for marriage. As a result of the changes in nuptiality, the proportion of unmarried youth continues to rise. Changing sexual behaviour and unwanted pregnancies of the unwed are emerging policy concerns in Sri Lanka. The national family planning programme usually targets married couples only. However, unmarried females represent one of the "unreached" groups that are at great risk of becoming pregnant owing to changes in sexual behaviour; almost all unwanted pregnancies among this group are terminated by induced abortion. A significant minority of married women in Sri Lanka reported pre-marital pregnancies, which they carried to full term after getting married. Even though no direct information is available from the 1987 SLDHS, the data indicate that, prior to marriage, a significant minority of women in Sri Lanka had sexual intercourse with the men who are currently their spouses. One in six married women, aged 20-24

years at the time of the survey, had a first birth that was pre-maritally conceived. This phenomenon has been observed not only in Sri Lanka but also in a number of East and South-East Asian countries where pre-marital sexual activity is not as uncommon as had once been believed.

A SMAM as high as 26 years means a lengthy period of exposure to potential sexual activity before getting married. Therefore, the national family planning programme should strongly consider including services for the unmarried portion of the adolescent and young adult population (De Silva, 1997). This group should seriously be considered as one having unmet needs for family planning. Even though Sri Lankan society frowns on casual male-female relationships and pre-marital sex, the changes that have occurred in the socio-economic and political environment during recent years certainly present the opportunity for a higher incidence of pre-marital sex and unwanted pregnancies outside marriage. Therefore, unless the programme is carefully planned to address this issue and successfully implemented to reach the unmarried young age group concerned, the most likely outcome will be heavy reliance by unwed females on induced abortion to terminate their unwanted pregnancies.

Appendix: Marriages in Sri Lanka by civil condition: 1983, 1985 and 1987

Civil condition	1983		1985		1987	
	%	N	%	N	%	N
Bachelors who married:						
Spinsters	97.5	(120,688)	97.5	(125,677)	97.6	(122,967)
Widows	0.5	(614)	0.4	(467)	0.4	(524)
Divorced women	0.3	(337)	0.3	(393)	0.3	(405)
Widowers who married:						
Spinsters	0.8	(938)	0.7	(845)	0.6	(778)
Widows	0.2	(305)	0.3	(436)	0.2	(227)
Divorced women	0.1	(77)	0.1	(65)	0.1	(82)
Divorced men who married:						
Spinsters	0.5	(616)	0.6	(717)	0.6	(703)
Widows	0.0	(34)	0.0	(63)	0.0	(58)
Divorced women	0.1	(122)	0.1	(195)	0.2	(252)
Total	100	123,731	100	128,858	100	125,996

Source: Registrar General's Department.

References

Abhayaratne, O.E.R. and C.H.S. Jayewardene (1967). Fertility Trends in Ceylon (Colombo: The Colombo Apothecaries).

Alam, I. and J.C. Cleland (1981). Illustrative Analysis: Recent Fertility Trends in Sri Lanka, World Fertility Survey Scientific Report No. 25 (Voorburg: International Statistical Institute).

Caldwell, J.C., I. Gajanayake, B. Caldwell and P. Caldwell (1989). "Is marriage delay a multiphasic response to pressures for fertility decline? The case of Sri Lanka" Journal of Marriage and Family 51:337-351.

Coale, A. and D.R. McNeil (1972). "The distribution by age at first marriage in a female cohort" Journal of the American Statistical Association 67:743-749.

Coale, A.J. (1971). "Age-pattern of marriage" Population Studies 25(2):193-214.

Davis, K. (1963). "The theory of change and response in modern demographic history" Population Index 29(4):345-366.

Davy, J. (1983). An Account of the Interior of Ceylon: And of Its Inhabitants with Travels in That Island (Colombo: Tisaro Prakasakayo; first published in 1821).

Department of Census and Statistics (DCS) (1997). Changing Role of Women in Sri Lanka, Colombo.

_____ (1995). Demographic and Health Survey 1993 Sri Lanka, Colombo.

_____ (1991). Labour Force and Socio-economic Survey 1985/1986 Sri Lanka, Labour Force: Final Report, Colombo.

_____ (1988). Demographic and Health Survey 1987 Sri Lanka, Colombo.

_____ (1986). Sri Lanka Census of Population and Housing 1981, General Report, Vol. 3, Colombo.

_____ (1978). World Fertility Survey - Sri Lanka, 1975 First Report, Colombo.

_____ (1976). Census of Population 1971, Vol. II: All Island Tables, The Economically Active Population, Colombo.

_____ (1974) CICRED, The Population of Sri Lanka, Colombo.

De Silva, S. (1994b). Population and Labour Force Projections for Sri Lanka 1991-2031 (Colombo: Department of Census and Statistics).

De Silva, W.I. (1997). "The practice of induced abortion in Sri Lanka". Paper presented at the Harvard School of Public Health, Harvard University, Boston, MA, 21 April.

_____ (1994a). "Population pressures on the economy" Economic Review 20(8):12-14.

_____ (1990). "Age at marriage in Sri Lanka: stabilizing or declining?" Journal of Biosocial Science 22 (4):395-404.

De Silva, W.I. and W.P. Amarabandu (1993). "Physically disabled in Sri Lanka". Proceedings of the Forty-ninth Annual Session of the Sri Lanka Association for the Advancement of Science, Colombo, pp. 245-246.

Dixon, R.B. (1970). The social and demographic determinants of marital postponement and celibacy: a comparative study. Ph.D. dissertation, University of California, Berkely.

ESCAP (1997). "1997 ESCAP Population Data Sheet" (Bangkok: Economic and Social Commission for Asia and the Pacific).

Fernando, D.F.S. (1985). "Changing nuptiality patterns in Sri Lanka between the censuses of 1971 and 1981". In International Population Conference, Florence, 1985, vol. 3, Liege: International Union for the Scientific Study of Population, pp. 285-292.

_____ (1976). "Fertility trends in Sri Lanka and future prospects" Journal of Biosocial Science 8(1):35-43.

_____ (1975). "Changing nuptiality patterns in Sri Lanka 1901-1971" Population Studies 29(2):179-190.

Immerwahr, G. (1981). Contraceptive Use in Sri Lanka. World Fertility Survey Scientific Report No. 18 (Voorburg: International Statistical Institute).

Kirk, D. (1969). "Natality in developing countries: recent trends and prospects". In S.J. Behrman, L. Corsa and R. Freedman (eds.) Fertility and Family Planning: A World View (Ann Arbor: University of Michigan Press), pp. 75-98.

Langford, C.M. (1981). "Fertility change in Sri Lanka since the war: an analysis of the experience of different districts" Population Studies 35(2):285-306.

McCarthy, J. (1982). Differentials in Age at First Marriage, World Fertility Survey Comparative Studies: Cross-National Summary No. 19 (Voorburg: International Statistical Institute).

Nadarajah, T. (1986). "Marital status". In Census of Population and Housing, 1981: General Report (Colombo: Department of Census and Statistics), pp. 90-110.

Rodriguez, G. and J. Trussell (1980). Maximum Likelihood Estimation of the Parameters of Coale's Model Nuptiality Schedule from Survey Data, World Fertility Survey Technical Bulletin No. 7 (Voorburg: International Statistical Institute).

Smith, D.P. (1980). Illustrative Analysis: Marriage Dissolution and Remarriage in Sri Lanka and Thailand, World Fertility Survey Scientific Report No. 17 (Voorburg: International Statistical Institute).

Smith, P.C., M. Shahidullah and A.N. Alcantara (1983). Cohort Nuptiality in Asia and the Pacific: An Analysis of WFS Surveys, World Fertility Survey Comparative Studies, No. 22 (Voorburg: International Statistical Institute).

Trussell, J. (1980). Illustrative Analysis: Age at First Marriage in Sri Lanka and Thailand, World Fertility Survey Scientific Report No. 13 (Voorburg: International Statistical Institute).

United Nations (1991). United Nations Nuptiality Chart 1991, New York.

_____ (1983). Manual X: Indirect Techniques for Demographic Estimation, New York (United Nations publication, Sales No. E.83.XIII.2).

_____ (1976). Population of Sri Lanka, Country Monograph Series, No. 4 (Bangkok: Economic and Social Commission for Asia and the Pacific).

Wright, N.H. (1968). "Recent fertility change in Ceylon and prospects for the national family planning program" Demography 5(2):745-756.

_____ (1970). "The relationship of demographic factors and marital fertility to the recent fertility decline" Studies in Family Planning 59:17-20.

Determinants and Consequences of EarlyMarriage in Java, Indonesia

By Rini Savitridina *

* The author of this article is a staff member of the Demography and Manpower Bureau, Central Bureau of Statistics, Jakarta.

A greater proportion of the national budget should be allocated to education and parents should be encouraged to give equal opportunities for gaining a higher education to daughters as well as sons

The study of marriage as a characteristic of a population has long been a part of demographic analysis. Most attention focuses on the formation of unions, with particular emphasis on first marriage. First marriage has been considered relevant for public policy because of its impact on fertility which in turn is related to population growth. Cross-national differences in marriage patterns and prevalence are large. For example, in developed countries the age at first marriage for women and the proportion of women single are generally higher than in developing countries. Although age at first marriage is increasing in most countries, marriage in some developing countries still occurs at very young ages. Indonesia is one example of a country characterized by relatively young age at marriage for females. According to Palmore and Singarimbun (1992), the age at marriage in Indonesia is lower than in some neighbouring countries such as the Philippines and Thailand.

In Indonesia, where the demographic transition is still under way, marriage norms have been uniformly very favourable to high marriage prevalence and early marriage. Marriage is almost universal in Indonesia, both for males and females. This is reflected by the high proportion (98 per cent) of the population who were ever married in the age group 45-49 years (Central Bureau of Statistics [CBS], 1992). Recent data indicate that 98.3 per cent of women aged 45-49 years in Indonesia were ever married (CBS, 1995). Among the regions of Indonesia, Java, which consists of five provinces (Metropolitan Jakarta, West Java, Central Java, Jogyakarta and East Java), has the lowest age at first marriage. The median age at first marriage for women in Java-Bali in 1994 was 17.5 years (CBS, 1995), and it is believed that the figure for Java itself is lower than that. Median ages of marriage vary by province from 17.0 years in West Java to 20.3 years in Jogyakarta (CBS, 1995). Interestingly, in contrast with other regions of Indonesia, the island of Java is the most advanced in terms of economic and social development. Java accounts for about 7 per cent of the countrys total land area but is home to 67 per cent of the Indonesian population (CBS, 1992), which is the fourth most populous country in the world.

Various studies have tried to determine why some women in Java marry early. Javanese society is very traditional, and parents can influence the timing of marriage. Java itself is characterized by many cultural differences. There are at least four major ethnic groups on this island: first, the Batavians who are the natives of Jakarta; second, Sundanese from West Java (the Sundanese themselves comprise many different ethnic groups, ranging from the Baduy in Banten to the Cirebonese who live on the border between West and Central Java); third, the Javanese, who are scattered throughout Central Java, Special District of Jogyakarta and parts of East Java; and fourth, the Maduranese, a specific ethnic group from Madura island located in the northern part of East Java.

Studies have shown that the age at first marriage for most Sundanese and Javanese reflects the cultural view that a girl who is not yet married by age 17 is an "old maid" who will disgrace her parents (Rochim, 1984). Moreover, this view is influenced and supported by prevalent religious views which encourage parents to marry off their daughters soon after first menstruation. (This is also the case for girls in Malaysia where marriage is often more in the interests of family honour than consideration of the girls' welfare [Jones, 1992].)

Nevertheless, there has been some change in the situation, and the increase that has taken place in age at first marriage is due mostly to improvements in educational attainment (CBS, 1995; Hull and Hatmadji, 1990). It is also a product of changes in the institution of marriage, which is evolving from a traditional pattern of arranged marriages to a modern one characterized by self-selection of one's mate. Further, the implementation of a marriage law has resulted in the postponement of marriage. The Indonesian Marriage Law, which was ratified in 1974, restricts the age at marriage to no earlier than 16 years for females and 18 years for males. This Marriage Law has also brought about some improvements for women with regard to choosing their own spouse.

Another important issue related to early marriage revolves around evidence which suggests that marrying at an early age in many parts of rural Java leads to higher rates of divorce (Jones, 1992). A comparison among Indonesian ethnic groups noted that Sundanese and Javanese women were more likely to have their marriages dissolved compared with women from other ethnic groups (Guest, 1991). The high incidence of divorce on the North Coast of West Java is particularly startling because of the perception that more frequently divorced women are more attractive to men (Widayatun, 1991).

For women, early marriage has more negative than positive effects. From a demographic perspective, early marriage lengthens the duration of the period a woman is at risk of getting pregnant (McDonald and others, 1980). In the absence of contraception -- one of the proximate determinants of fertility -- early marriage equates with the large

1

number of children a woman may have. In some studies, early marriage has also been associated with maternal, infant and child mortality. Maternal factors, such as age of the mother, parity and birth interval, constitute just one of the proximate determinants of child mortality proposed by Mosley and Chen (1984). These maternal factors are associated with child survival. Further, age at marriage is one of the numerous factors related to the likelihood of divorce and separation. Those who marry at younger ages are more likely to part ways (VandenHeuvel and McDonald, 1994). For example, in Australia, the cumulative divorce rates for the 1977-1994 synthetic first-marriage cohorts have been far higher for those marrying as teenagers than for those marrying when older (Carmichael and others, 1996).

Most studies have focused on the impact of early marriage on fertility rather than its impact on other aspects related to work status or marital dissolution. The results of this study should help readers and policy makers to understand better how to solve the issue of early marriage in Java. This is important as increases in the age at first marriage can be viewed as an intervention to improve the status of women both in the household and in the society.

This study has three main objectives. It aims, first to investigate the determinants of early marriage in Java by focusing on demographic and socio-economic factors; second, to analyse the patterns of early marriage by current residence; and third, to explore the consequences of early marriage on marital dissolution, work status and occupation, migration patterns and the use of contraception.

Data and methodology

The data for this study come from the Indonesian Demographic and Health Survey (IDHS) which was undertaken in 1991. The survey collected data at both the household and individual levels. The individual data were confined to ever-married women aged 15-49 years at the time of the survey. The 1991 IDHS sample was drawn from the 5 per cent sample of the 1990 population census. All provinces in Indonesia were covered; in most of them, a two-stage sampling procedure was employed. In the first stage, enumeration areas were selected with probability proportional to size within urban and rural domains in each province. In the second stage, individual households were selected from the household listings for each enumeration area. In six other areas (six remote provinces), a three-stage procedure was used. First, regencies (kabupaten, the next level of administration below a province) were selected. Next, within the regencies, enumeration areas were selected; then households were selected from each enumeration area.

Ultimately, 22,909 interviews were successfully completed. The number of eligible respondents, ever-married women aged 15-49 years, was 7,303 for Java. For the purpose of this study, the analysis has been restricted to ever-married women aged 25-49 years, the total number being 5,816. However, females aged 15-24 years were excluded from the analysis to avoid a censoring bias due to the definition of early marriage. Since the 1991 IDHS included only ever-married women aged 15-49 years at the time of the survey, the experience of young women who were not married has not been included in the survey. Consequently, young married women are over-represented in the subset of the sample. Hence, the levels of age at marriage based on the survey are subject potentially to an upward bias. The 15-24 age group experienced most of the change. During the period 1980-1990, the proportion married in this age group decreased from 53 to 40 per cent (CBS, 1983 and 1992). This would affect (upwardly bias) the "true" mean age at marriage of the population. One strategy for minimizing the potential bias is to restrict the analysis to ever-married women above certain ages beyond which the majority of women have been married (Thapa, 1989). Another limitation with respect to the quality of data is that the current age of respondents, as well as the age and date of marriage, are often known only approximately (Smith and others, 1984). Misreporting, or age heaping, for dates of first union is common in Indonesia, particularly among the oldest cohort who live in rural areas. While some older women under-report their age in order to seem younger, some younger women over-report their age at first union. Younger women tend to manipulate their age upwards in order to get married. This leads to a misstated duration of marriage, biasing the rates of dissolution.

This study classifies age at first marriage into two categories. First is early marriage: women who marry before 20 years of age; second, late marriage: women who marry at age 20 and older. In the literature, there is no specific definition for early or late marriage. Most United Nations publications refer to early marriage for women as approximating a singulate mean age at marriage (SMAM) of 21 years or younger (United Nations, 1990). Singulate mean age at marriage is an estimate of the mean age at marriage for a given population in a period of time which is derived from the estimation of never-married women from survey or census data. Early marriage patterns vary in every part of the world, depending on which country is being observed. There are at least two reasons why this study defines early marriage as marriage of a female younger than age 20. First, by age 19, they hopefully would have finished their secondary education or, at the very least, junior high school. Second, in relation to the first reason, these groups of women may have a larger variation in occupational pattern; thus, it is possible to compare the occupational pattern between early marriage subjects and late marriage ones.

The analysis is also broken down into three types of residence. The first is residence in five cities, namely Jakarta, Bandung, Semarang, Jogyakarta and Surabaya. These five cities represent a similar situation in terms of development, i.e. women living in these cities experience basically the same patterns with regard to education and

marriage. The second type of residence is townships, including small cities (regencies) and other urban areas. The third category is rural areas. This classification may help to explain the different patterns of early marriage in Java.

The determinants of early marriage investigated in this article include the following variables: the educational attainment level of the respondent and her husband, occupational status of the husband, religion, current and childhood residence, work status before marriage, exposure to the mass media and literacy. The consequences of early marriage studied include variables such as marital status, current work status, occupational status, contraceptive use and migration patterns.

The bivariate analysis has been broken down into two parts. The first part examines the determinants of early marriage. Determinants of early marriage are based on the demographic and socio-economic characteristics of respondents and their husbands. The second part of the bivariate analysis examines the consequences of early marriage. The multivariate analysis carried out in the study determines, first, the net effect of the explanatory variables of early marriage, and second, the net effect of age at first marriage and other explanatory variables on marital dissolution.

Results and discussion

Determinants of early marriage

Age of respondents

Table 1 shows that 70 per cent of ever-married women in Java married early, with age at first marriage increasing from the older cohort to the younger cohort. The higher percentage in the youngest cohort (25-29 years) is the result of a censoring error due to the definition of early marriage. Moreover, since the proportion of women who were not yet married is not available in this data set, it is difficult to present figures that show that there has been a decrease in the proportion of women who married early in this age group.

Table 1: Percentage of women aged 25-49 years who were married early, by respondents' and husbands' characteristics and current residence in Java, 1991

| Characteristics | Current residence | | | | |
	Big city	Town	Rural	Total %	N
Respondent characteristics					
Age group	56.0	66.0	80.4	70.0	5,813
25-29	52.1	64.5	78.2	67.2	1,486
30-34	54.2	60.7	76.7	65.8	1,411
35-39	52.8	64.4	81.4	68.5	1,157
40-44	9.9	76.6	85.0	75.4	861
45-49	68.3	76.6	83.6	78.2	898
Childhood residence					
City	51.8	46.3	69.4	51.8	1,107
Town	49.5	61.7	65.1	55.8	769
Village	68.5	72.5	81.2	77.9	3,930
Education					
No education	86.9	83.4	85.3	85.3	1,129
Some primary	83.1	81.3	82.9	82.7	1,859
Completed primary	71.5	75.1	82.4	77.6	1,260
Secondary	39.3	45.6	54.1	43.6	1,331
Academy/university	4.9	*	*	5.1	234
Religion					
Muslim	63.8	69.2	80.8	73.7	5,321
Protestant	22.8	48.6	71.8	35.6	225
Catholic	20.2	29.6	63.3	30.5	151
Others	21.0	-	-	19.0	116
Work status before marriage					
Worked	43.5	55.5	73.3	61.3	2,972
Not worked	66.8	78.6	89.1	79.2	2,841

Exposure to mass media					
All media	44.8	54.0	97.9	52.2	1,678
At least one of the media	62.0	69.8	80.4	72.4	2,305
Not at all	66.7	80.6	79.2	77.9	263
Literacy * *					
Literate	77.4	79.6	82.4	80.5	2,685
Illiterate	84.9	80.4	85.0	84.3	1,561
Husband's characteristics					
Education					
No education	84.6	81.8	81.8	82.1	430
Some primary	80.1	78.0	81.3	80.6	1,123
Completed primary	73.5	76.9	76.2	75.5	1,197
Secondary	44.8	48.9	64.1	50.3	1,479
Academy/university	21.3	20.9	30.4	22.2	424
Occupation					
Agricultural worker	73.6	64.4	79.9	78.2	1,448
Industrial worker	52.3	64.7	71.3	61.2	345
Sales, services,others	58.8	70.2	73.9	65.7	1,903
Manager, professional,administrative worker	36.3	40.2	59.5	42.3	951

Source: Computed from 1991 IDHS data set.
Notes: - Data not available;
* No. of cases <5; and
* * only for women with no education + primary.

Current residence

Early marriage is more common in rural areas than in urban areas, in this case in big cities and small cities/towns. Although the proportion of women who married early is higher in the big cities and towns than in rural areas, this could be explained by the number of women who migrated from rural to urban areas. Migration can occur before marriage, or soon after marriage, or long after marriage. Many studies have found that in Indonesia age at marriage is always higher in urban areas than in rural areas (Palmore and Singarimbun, 1992; CBS, 1992 and 1995). This phenomenon is a possible consequence of modernization which usually starts in urban areas before spreading its influence gradually into rural areas. A cross-national study by the United Nations (1988) also indicates the same patterns of timing of marriage, i.e. marriage took place earlier in rural than in urban areas. Because, at the individual level, urbanized, modernized population subgroups and individuals have better economic conditions which are associated with changes in marriage norms, they tend towards later marriage.

Childhood residence

Childhood residence refers to the place where the respondent spent the longest period of time until reaching the age of 12. Childhood residence also has an effect on age at marriage. Those who were brought up in villages were more likely to have married early. Almost 80 per cent of ever-married women in Java brought up in villages married early. The highest proportion of those who married early occurred among women who were brought up in villages and still lived in rural areas (81.2 per cent). The sample reveals that 68 per cent of the women aged 25-49 years in Java were brought up in villages.

Respondents' education

Most ever-married women in Java attained a low level of education. Almost 54 per cent of these respondents had obtained some education, or completed primary school, but 20 per cent never had any formal education. Education seems to have a positive linear relationship with the age at marriage. As expected, the results demonstrate that, as school attendance increased, the proportion of women who married early became lower. There is not much difference in the proportion of women who married early among women with no education, some primary education and completed primary education. Increased schooling is not an impediment to early marriage if it entails only just finishing primary school (United Nations, 1988). But the analysis shows a significant difference in the proportion of women with primary education (77.6 per cent) and secondary education (43.6 per cent) who married early. The smallest proportion is found among those with tertiary/university education, in which group only 5.1 per cent of the women married early. The relationship between education and the timing of marriage is not clear, because many factors are involved besides education alone. However, the relationship may also be explained by the longer period of time spent at school and the subsequent late entry into the so-called "marriage market".

In Indonesia, it is possible for women to gain tertiary education after marriage, but there are restrictions on such married females attending academic institutions at lower levels. If such a student marries, she has to leave school. So, in such instances, it can be said that women with tertiary education who marry early may continue to study after marriage. This is because, at age 19, these women have just finished their senior high school education. Secondary education in Indonesia consists of two levels: junior high school (three years of education) and senior high school (also three years of education). The pattern of early marriage according to education is similar for all types of residence. One interesting result is that a higher proportion of women with low education married early in big cities and towns. The explanation for this could be related to migration. Migration among this group of women is mostly from rural areas to big cities. Towns are not the preferred destination of migrants, as more job opportunities are available in big cities.

Religion

Religion has a significant effect on age at first marriage. Compared with women in other religious groups, Muslims are more likely to marry early. The data show that 74 per cent of Muslim women in Java married early, compared with about 30 per cent and 19 per cent for Protestants and Catholics, and other religions, respectively. The category "other religions" includes Buddhists and Hindus. In Indonesia, more than 90 per cent of the population are Muslim. Although Muslim parents tend towards marrying off their daughters early (some as soon as after first menstruation), the high proportion of Muslim females who marry at a young age is a consequence of lower educational attainment for Muslim females in general than for their non-Muslim counterparts. The data indicate that only 20 per cent of Muslim women attained secondary education compared with three times that number (60 per cent) for non-Muslim women. Only 3 per cent of Muslim women received a tertiary education compared with 15 per cent of non-Muslim women -- a five-fold differential. This also seems to be the case in other Muslim countries such as Bangladesh and Pakistan, where the low age at marriage for females is not due to religious differentials, but rather to low female literacy rates (DSouza, 1979).

Work status before marriage

In terms of employment status, women who did not work before marriage were more likely to have married early. Seventy-nine per cent of women who married early in Java did not work before marriage. In contrast, 61 per cent of women who worked before marriage married early. Controlling for education gives more interesting results for this explanation. It seems that women who worked before marriage had a higher education than women who did not work before marriage. This assumes that women with higher education are more likely to work. This relates back to the point that women with higher education tend to delay marriage. Through education and employment, women prolong their duration of being single.

Exposure to mass media

"Exposure to the mass media" refers to a combination of three variables: whether the respondents listened daily to the radio, whether the respondents watched television once a week, and whether the respondents read a newspaper once a week. Exposure to mass media has a significant effect on age at marriage. Women with no access to any of the mass media were more likely to have married early compared with those who had access to all three of the media or at least one of them. The age at marriage, according to media exposure in big cities and towns, was similar; however, some differences prevail in rural areas. The proportion of women who married early compared with those who had no access to mass media is slightly lower than for those who had access to at least one medium. For rural residents, radio was the most popular by far of the three media forms. In theory, however, it is possible that the radio may have no impact on listeners, as their understanding and motivation to take action would depend on what programmes they listened to. For example, radio listeners may not have tuned in to informative features, news broadcasts or campaigns aimed at delaying marriage.

Literacy

The question on literacy was asked only of women with no education, some primary education and completed primary education. Analysis of their responses shows that illiterate women married earlier than those who were literate. However, the difference is not very significant: 84 per cent for the former compared with 80 per cent for the latter. The patterns of women who married early and the literacy levels according to type of residence are similar. The proportion of illiterate women who married early was higher in big cities than in towns. This result again suggests that, among the less educated women, there is a high incidence of migration to big cities compared with small ones.

Husbands' education

The data on educational attainment for the respondents and their husbands demonstrate that the level of the husband's education generally exceeds that of the respondent's. This is a very common situation as most men look for women who have an education that is lower than or equal to that of their own education. A relatively high

proportion of women who married early, married husbands who had achieved a high level of education. Twenty-two per cent of women who married early had husbands with a tertiary level of education. These women had at least completed their senior high school education. Men with a tertiary education were less likely to have chosen women with a low level of education, such as junior high school or primary education. Although, compared with women in cities and towns, rural women were more likely to have married early a man with a tertiary education, caution needs to be exercised in interpreting this figure as the number of cases is relatively small.

Husbands' occupation

To test the hypothesis that women of lower occupational status tend to marry early, this study employs four groups, ranging from the lowest to the highest level of occupational status. The results show that women were more likely to have married early when their husbands worked in the agricultural sector. The proportion of women who married early is also high for husbands who worked in sales and services, compared with women whose spouses worked in the industrial sector. Included under the category of sales occupations would be small traders (retailers), and informal-sector workers, whereas service occupations could include those providing domestic services (houseboys/servants). These occupations are characterized by low education and an unskilled work-force. The percentage of women who were married early to husbands who worked as managers/professionals is quite high (42 per cent). The high proportion of women in big cities who were married early to husbands working in the agricultural sector is interesting. One possible reason is suggested, i.e. women frequently migrate to cities to find work, leaving their husbands and children behind in the villages (Singarimbun, 1992).

Consequences of early marriage

Marital dissolution

Divorce rates have decreased gradually in Java and in Indonesia as a whole (Jones, 1994; Palmore and Singarimbun, 1992). This decline is due mostly to the increase in age at first marriage and free choice in mate selection. Early marriage has a significant effect on divorce and remarriage. Owing to the lack of information on ever-divorced women, this analysis recodes marital status into two categories. The first category refers to women who were still in their first marriage; the second categorizes divorced, widowed and remarried females as women who were no longer in their first marriage.

Table 2 shows that marital dissolution is more common among women living in rural areas. The data indicate that 31 per cent of women living in rural areas were no longer in their first marriage, while the figures for women living in big cities and towns were 20 and 23 per cent, respectively. The tendency for marital dissolution increases from the lowest level in cities to the highest level in rural areas, regardless of whether women married early or late. One-third of all women who married early experienced dissolution of their first marriage. Women who married early were three times more likely (32.5 per cent) to find their first marriage dissolved than women who married later (11.2 per cent).

Table 2: Demographic and socio-economic characteristics of women aged 25-49 years, by first marriage, Java, 1991

Explanatory variables	First marriage		Total	
	Early marriage	Late marriage	%	N
Percentage of women aged 25-49 who were no longer in first marriage				
Current residence	32.5	11.2	26.1	5,813
Big city	29.2	8.9	20.3	1,890
Town	29.5	10.5	23.2	1,069
Rural	35.0	15.2	31.1	2,854
Length of marriage	32.5	11.2	26.1	5,813
1-5 years	-	3.0	3.0	268
6-10 years	15.8	8.6	11.3	848
11-15 years	21.5	12.4	18.5	1,241
16-20 years	29.1	9.6	24.3	1,099
21-25 years	32.3	20.2	30.0	914
26-30 years	38.9	31.6	37.9	746
31-35 years	48.0	-	47.9	491
36-40 years	62.7	-	62.7	102
Percentage of women aged 25-49 who were currently working				
Current residence	66.8	63.8	65.8	4,177

Big city	63.0	60.4	61.8 1,211
Town	64.5	68.9	66.1 768
Rural	68.9	64.8	68.0 2,198
Education	66.8	63.8	65.8 4,177
No education	76.1	69.6	75.0 873
Some primary	63.9	61.3	63.4 1,386
Primary	61.1	54.1	59.3 853
Secondary	66.5	64.3	65.1 871
Academy/university	81.8	73.2	73.7 194
Percentage of women aged 25-49 who had ever used contraception			
Children ever born	73.9	77.9	75.1 5,813
0-1	39.5	54.7	47.4 1,141
2	77.9	90.0	82.7 1,263
3	84.0	89.8	85.7 1,115
4-5	80.7	91.2	82.6 1,400
6+	73.8	84.1	74.6 894
Percentage of women aged 25-49 living in current residence and brought up in rural areas			
Current residence			
Rural	71.8	58.7	69.2 2,862
Urban	28.2	41.3	30.8 2,947

Source: Computed from 1991 IDHS data set.

Notes: - Data not available; the category "no longer in first marriage" includes currently divorced women and those currently widowed.

To explore in more detail the relationship between age at first marriage and marital dissolution, controlling for duration of marriage is applied. The duration of marriage is grouped into five-year age groups so as to make visible the pattern of marital dissolution between early and late marriage in every duration of marriage. In general, the percentage of women whose marriages broke up is highest for those who had been married the longest. Besides the effect of divorce and remarriage, the increased number of widows also plays an important role. The probability of a woman becoming a widow increases the longer she has been married. The results indicate that by controlling for duration of marriage, the difference is also significant, particularly for marriage durations of 16-20 years. The percentage of women who married early and were no longer in their first marriage is 29 per cent, whereas for women who married late the figure is just 9.6 per cent. There is a truncation in the trend of marital dissolution among women who married late for durations of marriage 16-20 years. It begs the question whether divorce actually decreased among the women who married between 1970 and 1975, or whether reporting errors exist with regard to marital status and women who had remarried. Another possibility is that the result may also be due to the small size of the sample.

Work status after marriage

The effect of age at marriage on current working status is not significant. The difference in the percentage of women who were currently working is not large, regardless of whether they married early or late. In general, the percentage of working women who married early and late is almost the same, although overall the percentage of women working who married earlier is higher than the figure for women who married late. This is a result of the high proportion of women who married early working in rural areas and towns. Residential differences indicate that the percentage of rural women who were working is higher than for women in big cities and towns. This could be explained by the fact that the rural women were engaged mostly in the agricultural sector as family or unpaid workers.

Although the education of respondents was used as a controlling variable, the pattern of working status between early and late marriage is not significant. The pattern for working women decreases until the primary school level, when the percentage goes up, until the secondary and tertiary levels. The single most important factor which determines whether or not a woman works after marriage is education. It does not matter whether they married early or late; if they were educated, they preferred to work outside the home. This is reflected in the large difference in the proportion of women with secondary and university-level education who were currently working. It is also interesting to note that the proportion of working women with a university education is much higher for those who married early. This difference may be due to domestic factors. In the same cohort, women who married late had younger children than women who married early. To see the pattern for work in more detail, controlling the age of

the youngest child can be taken into account.

Contraceptive use

Variable contraceptive use refers to whether the respondent had ever used contraception. The results show that women who married early were less likely to use contraception, even if children ever born is applied as a controlling variable. This is because women who married late have a better knowledge of contraception as a result of having had a higher education. Education exposes women to family planning knowledge, attitudes and practices (Selvaratnam, 1988). In general, the data prove that a high proportion (80 per cent) of women in Java had ever used contraception. The contraceptive prevalence rate in Indonesia is high, reflecting the success of the family planning programme. Since 1971, the Indonesian Government has made a strong commitment to the implementation of the National Family Planning Programme to lower fertility rates by promoting the use of modern contraception and by increasing the age at first marriage for women to a minimum of 20 years of age nation-wide. The success of this programme has contributed to a significant decline in fertility, i.e. from an average of 5.6 births per woman in the 1960s to 2.6 births in 1997 (CBS, 1995; ESCAP, 1997).

Migration

The women who married late were more mobile than women who married early. Forty-one per cent of the women who married late and who had been reared in rural areas were found to have migrated to towns and big cities, whereas only 28 per cent of the women who married early were living in urban areas at the time of the survey. Migration may occur before or after marriage. Women married later in life may migrate to urban areas to gain more education or employment, with their husbands sometimes following later. Mobility is one indicator of modernization, and mobility is sometimes related to the status of women (Hagul, 1985). Women who migrate from rural to more urbanized places generally have a higher education and employment status than those who never moved. In the case of Javanese women, migration is correlated with the improved welfare of families, and with a womans enhanced autonomy and welfare. A study by Williams (1989) found that post-marriage residential mobility can increase womens decision-making power, as can less frequent contact with parents on both sides of the family.

Occupational status

Women with the same level of education will have better employment status in big cities, quite simply because more jobs are available. It is not meaningful to differentiate occupation by residence. The data prove that more than 75 per cent of women who were working in big cities had high employment status. Fifty per cent worked in the sales and services sector, while 25 per cent were managers, professionals and administrative workers. The study verifies the hypothesis that the more women work outside the family circle or non-agricultural sector before marriage, the later their age at first marriage seems to be (United Nations, 1990; McDonald, 1985).

Table 3: Percentage of women aged 25-49 years in current occupation, by first marriage, Java, 1991

Controlling variables	First marriage												N
	Early marriage Occupation				Late marriage Occupation				Total Occupation				
	1	2	3	4	1	2	3	4	1	2	3	4	
Current residence													
Big city	2.4	25.6	64.9	7.1	*	19.8	34.5	45.0	1.6	22.9	50.3	25.2	1,212
Town	17.0	24.1	56.2	2.7	10.4	13.5	45.3	30.8	14.5	20.1	52.1	13.3	766
Rural	67.0	7.8	24.0	1.2	51.8	11.6	24.4	12.2	63.6	8.6	24.1	3.6	2,198
Total	12.1	17.5	51.7	18.7	5.4	15.4	31.3	48.0	36.6	14.9	36.9	11.7	4,176
Education													
No education	60.6	7.6	31.8	-	55.0	10.7	34.2	-	59.7	8.1	32.2	-	875
Some primary	45.5	14.6	39.4	0.4	40.6	17.7	41.0	*	44.5	15.2	39.7	0.5	1,384
Primary	39.9	21.1	38.2	0.8	31.2	28.4	38.5	*	37.7	23.0	38.3	1.1	852
Secondary	12.1	17.5	51.7	18.7	5.4	15.4	31.3	48.0	7.9	16.2	39.0	36.9	871
Academy/ university	-	-	45.5	54.5	-	*	19.7	79.2	-	*	21.1	77.8	194
Total	44.0	14.6	38.7	2.8	21.2	15.5	33.1	30.1	36.6	14.9	36.9	11.7	4,176

Source: Computed from 1991 IDHS data set.
Notes: - Data not available; * No. of cases <5; 1 = agricultural worker; 2 = industrial worker; 3 = sales, services, others; 4 = manager, professional, administrative worker.

Although women who married later are more likely to have higher occupational status, this is due mostly to the differences in educational attainment between women who married late and those who married early. This can be seen from the differences in occupations between early and late married women at the secondary and university levels of education. Forty-eight per cent of women with secondary education who married late fit into the fourth category. Seventy-nine per cent of women with a university education worked as managers, professionals and administrative workers. At the same level of education, there is a much higher proportion of superior status jobs occupied by women who married late. The reason for this is that women who marry later in life are generally better established in their careers than women who marry early.

Table 4: Percentage of women aged 25-49 in current occupation, by secondary education (junior high school) and first marriage, Java, 1991

| Occupation | Junior high school education | | | | | |
| | Not finished | | Finished | | Total | |
	EM	LM	EM	LM	EM+LM	N
Agricultural worker	22.6	15.4	10.6	12.0	14.2	53
Industrial worker	16.7	35.9	20.6	28.7	23.7	88
Sales, services, others	59.5	48.7	57.4	44.4	53.2	198
Manager, professional, administrative worker	1.2	0.0	11.3	14.8	8.9	33

Source: Computed from 1991 IDHS data set.
Notes: EM = early marriage; LM = late marriage.

The analysis further compares in more detail the occupational status of women who married early and had finished/not finished junior high school, with women who married later and similarly had finished/not finished junior high school (table 4). The analysis is based on the assumption that attendance at junior high school is critical for women with respect to marriage and employment status. There is only a slight difference in occupational status between women who married early and those who married late, but there is a big difference between those who did not finish junior high school and those who did. At least 11 to 15 per cent of women who finished junior high school worked in fourth category jobs compared with only 1 per cent of those who did not finish. In general, the jobs undertaken by women with junior high school education were concentrated in sales and services. Unfortunately, the analysis cannot be separated into current residence owing to the small number of cases. However, migrant women were predominant in the sales and service sectors. A study by Jones (1992) found that migrant women were much more heavily concentrated in services, particularly domestic services and trade, than those women born locally.

Multivariate analysis

Logistic regression analysis was carried out in two parts. The first logistic regression includes variables which are significantly related to early marriage in the bivariate analysis. The second logistic regression examines the variables which relate to marital dissolution. Age at marriage and marital status are treated as dichotomous variables. Age of the respondent is treated as an interval variable, while other variables are treated as categorical variables. The results are displayed in tables 5 and 6.

Table 5: Multivariate logistic regression coefficients of early marriage, by demographic and socio-economic factors, Java, 1991

| Explanatory variables (1) | Base category model | Logistic regression model |
	Odds (2)	Coefficients (3)
Age of Respondents	-	0.0149
Respondent's education		
No education	1.00	1.0827
Some primary	0.9947	1.0774
Completed primary	0.7798	0.8339
Secondary	0.2360	-0.3612
Academy/university	0.0243	-2.6328
Work status before marriage		
Worked	1.00	-0.5560
Not worked	3.0407	0.5560
Husbands education		
No education	1.00	0.3121

Some primary	1.0493	0.3602
Completed primary	0.8501	0.1497
Secondary	0.6017	-0.1959
Academy/university	0.3913	-0.6261
Current residence		
City	1.00	-0.1758
Town	1.1420	-0.0430
Village	1.4839	0.2188
Constant		-0.1578

Source: Computed from 1991 IDHS data set.

The respondents education, work status before marriage, husbands education and current residence are significant as predictors of early marriage. The odds ratios of the base category model are presented in table 5 (column 2). Odds ratios estimate the likelihood of early marriage for each explanatory variable which is referred to in the base category. The base category is the first category in every explanatory variable. The odds ratio for women with a university education is 0.0243, which means that educated women were 41 times less likely to have married early than women with no education. Women who did not work outside the home before marriage were three times more likely to have married early than those who did work for a salary. Women whose husbands had a tertiary education were three times less likely to have married early. But women whose husbands' education was at least some primary school education were only slightly (1.04 times) more likely to have married early than those with husbands having no education. Rural women were 1.5 times more likely to have married early than women living in big cities. The second model of logistic regression (column 3) constructs the calculation of the probability of a woman marrying early. Among these four variables, education of respondents seems to be the strongest predictor of early marriage for women in Java. This can be seen from the coefficient for each category of education. There is a wide range in the coefficients between those who had a tertiary level of education and those with no education. Although husbands education indicates a strong effect, this is related to the respondents education, as previously discussed. From all the possible combinations in this model, the highest probability for women marrying early can be found among the uneducated, unemployed, rural women whose husbands had some primary education. At the opposite end of the scale, the lowest probability for a woman to marry early occurred when both the woman and her husband had a tertiary level of education, worked before marriage and lived in an urban area.

Table 6: Multivariate logistic regression coefficients of women no longer in first marriage, by demographic and socio-economic factors, Java, 1991

Explanatory variables (1)	Base category model Odds (2)	Logistic regression model Coefficients (3)
Age of Respondents	-	0.0475
Respondent's education		
No education	1.00	0.8992
Some primary	0.8727	0.7630
Completed primary	0.5410	0.2848
Secondary	0.2618	-0.4410
Academy/university	0.0902	-1.506
First marriage		
Early marriage	1.00	0.4181
Late marriage	0.4334	-0.4181
Religion		
Muslim	1.00	0.1615
Protestant	0.7562	-0.1179
Catholic	0.9381	0.0976
Others	0.7388	-0.1412
Current residence		
City	1.00	0.0792
Town	0.8509	-0.0822
Village	0.9267	0.003
Constant		-3.5675

Table 6 presents the logistic regression model, which is constructed to estimate the probability of women having their first marriage dissolved. The base category model shows that the odds ratio for women with a university education is 0.0902, which means that these women were 10 times less likely to dissolve their marriage compared with women having no education. Women who married later were 2.3 times less likely to experience a break-up in their marriage than those who married early. Non-Muslim women were 0.8 times less likely to dissolve their marriage than Muslim women. Those who lived in towns were 0.85 times less likely to dissolve their marriage than women in big cities. The logistic regression model in table 6 (column 3) proves that a respondents education is the most significant factor in explaining the difference in marital dissolution in Java. There is a wide range in the probability of marital dissolution among non-educated women compared with those who had a high level of education. This is less significant in marital dissolution among those who married early and those who married late. From all the possible combinations of this model, the highest probability of women having a dissolved marriage is found among uneducated, early married, Muslim women living in big cities. By contrast, the lowest probability of this occurring is among Buddhist or Hindu women who married late, lived in a small city and had received a tertiary level of education.

Conclusion

Early marriage among women in Java is most pronounced in rural areas. The patterns of early marriage by age of the respondents, education, employment and occupational status, religion, literacy and exposure to the mass media indicate mostly similar patterns in big cities, towns and rural areas. The higher proportion of uneducated women who had married early and were living in big cities compared with small ones is a reflection of a high level of migration among this group of women from rural areas to big cities. Jones (1992) called this kind of migration "circular or temporary migration". A particular feature of Indonesians, especially the Javanese, has been non-permanent migration to cities of both men and women to engage in trade and other occupations.

Although women who marry early in Java are quite likely to have their first marriage dissolved, the effect of education on the probability of marital dissolution is very strong in explaining the range of marital dissolution. The findings of our study show that education is the most significant factor in explaining both the high incidence of early marriage and marital dissolution among women in Java, because those who have the lowest education are more likely to marry early and dissolve their marriage. These findings lead to the question of why most women in Java are characterized by low levels of education, 20 per cent of them having no education, 50 per cent of them having only a primary level of education, and 30 per cent having only a secondary level of education. Low education levels among these women have resulted in their taking low-status occupations, with many being involved in agriculture. Further, as long as they work in the agricultural sector, they will be categorized as economically inactive, because they work as an unpaid or family worker.

Although the enrolment rate in primary school for the age group 7-12 years in 1994 reached 91.4 per cent, enrolment in secondary school remained low, with roughly 50 per cent in the age group 13-18 years being enrolled (CBS, 1995). The high enrolment rate in primary school is a result of primary education being compulsory for children aged 7-12 years. Since 1984, the Indonesian Government has actively enforced its policy of encouraging parents to send their children to school, which at the primary level is free of cost. However, success in increasing the enrolment rate has not been followed by a decreasing drop-out rate. Another issue is that the Indonesian Government seems to give more priority to the quantity than to the quality of education. The school drop-out rate should become a major concern in efforts to improve the quality of education. Improvements in education will not be achieved by focusing only on the quantity of schooling.

The 1994 Indonesian Demogaphic Health Survey reports that, of the women aged 15-24 years who had ever attended school, 46 per cent left school for economic reasons. Lack of funds to support higher education was reported by one in three primary school drop-outs, and by six in ten women who completed primary school (CBS, 1995). This information gives the picture that most women who dropped out of school did so because their families could not afford the cost of education.

The following recommendations may therefore be made for general policy interventions to be put forward for the Government's consideration in increasing the age at marriage and decreasing the incidence of divorce in Java:

Allocate a greater proportion of the national budget to education, and include educational facilities also for the secondary level;
Provide access to post-primary education, particularly at the secondary level (junior high school and senior high school);
Facilitate access to informal education, particularly for women. This can be achieved by promoting the involvement of women's organizations such as the Family Welfare Movement (PKK);
Provide more job opportunities for paid employment for women;
Promote regular mass media campaigns for delaying marriage, utilizing in particular the radio;

Reduce the number of deviations in the implementation of the Marriage Law, such as those allowing marriage under the legal age, and promote equal rights for women with regard to divorce;

Encourage parents to give equal opportunities to daughters as well as sons in gaining higher education; and

Encourage young women to continue their education to as high a level as possible. Educated women have better access to information, grasp new ideas, learn self-reliance, change their perspectives on health, all of which generally leads to greater economic productivity. Education provides women with greater decision-making power within the family and enhances their status in society.

Acknowledgements

References

Carmichael, G.A., A. Webster and P.F. McDonald (1996). "Divorce Australian style: a demographic analysis" Working Papers in Demography No. 61 (Canberra: Research School of Social Sciences, Australian National University).

CBS (Central Bureau of Statistics) (1983). Population of Indonesia: Result from the 1980 Population Census (Jakarta: Government Printers Office).

_____ (1992). Population of Indonesia: Result from the 1990 Population Census (Jakarta: Government Printers Office).

_____, National Family Planning Coordinating Board, Ministry of Health and DHS Macro International Inc. (1992). Indonesia Demographic Health Survey 1991 (Jakarta: Government Printers Office).

_____ (1995). Indonesia Demographic Health Survey 1994 (Jakarta: Government Printers Office).

DSouza, S. (1979). "Nuptiality pattern and fertility implications in South Asia". In L.T. Ruzicka (ed.) Nuptiality and Fertility (Liege: International Union for the Scientific Study of Population).

ESCAP (1997). "1997 ESCAP population data sheet" (Bangkok: Economic and Social Commission for Asia and the Pacific).

Guest, P. (1991). "Marital dissolution and development in Indonesia", Working Papers in Demography No. 24 (Canberra: Research School of Social Sciences, Australian National University).

Hagul, P. (1985). Penelitian tentang Kependudukan dan Status Wanita di Indonesia (Research on Population and Women's Status in Indonesia) (Yogyakarta: Pusat Penelitian Kependudukan Universitas Gadjah Mada).

Hull, T.H. and S.H. Hatmadji (1990). "Regional fertility differentials in Indonesia: causes and trends" Working Papers in Demography No.22 (Canberra: Research School of Social Sciences, Australian National University).

Jones, G.W. (1992). "Divorce in Islamic South-East Asia" Working Papers in Demography No. 36 (Canberra: Research School of Social Sciences, Australian National University).

_____ (1992). "The role of female migration in development" Working Papers in Demography No. 33 (Canberra: Research School of Social Sciences, Australian National University).

_____ (1994). Marriage and Divorce in Islamic South-East Asia (Kuala Lumpur: Oxford University Press).

McDonald, P.F. (1985). "Social organisation and nuptiality in developing societies". In J. Cleland and J. Hobcraft (eds.) Reproductive Change in Developing Countries (Oxford: Oxford University Press), pp. 87-144.

_____, L.T. Ruzicka and J.C. Caldwell (1980). "Interrelation between nuptiality and fertility: the evidence from the World Fertility Survey", World Fertility Survey Conference 1980, London.

Mosley, W.H. and L.C. Chen (1984). "An analytical framework for the study of child survival in developing countries" Population and Development Review, No. 10, Supplement: 25-45.

Palmore, J.A. and M. Singarimbun (1992). "The conflicting effects of delayed marriage and declining divorce rates on cumulative fertility in Indonesia" Asian and Pacific Population Forum 6(1):5-14.

Rochim, A. (1984). "Pola fertilitas di D.I. Yogyakarta". In S.H. Hatmadji and S.I. Achmad (eds.) Analisa Fertilitas di Indonesia Berdasarkan Sensus Penduduk 1980 (Fertility Analysis in Indonesia Based on the 1980 Population Census) (Jakarta: Biro Pusat Statistik).

Selvaratnam, S. (1988). "Population and status of women" Asia-Pacific Population Journal 3(2):3-28.

Singarimbun, M. (1992). "Ibu-ibu adalah para wanita perkasa" (Mothers _____), Renungan dari Jogya (Contemplation from Jogya), (Jakarta: Balai Pustaka).

Smith, D.P., E. Carrasco and P.F. McDonald (1984). Comparative Studies: Marriage Dissolution and Remarriage (London: World Fertility Survey).

Thapa, S. (1989). "The ethnic factor in the timing of family formation in Nepal" Asia-Pacific Population Journal 4 (1):3-34.

United Nations (1988). First Marriage: Patterns and Determinants (New York: United Nations).

_____ (1990). Patterns of First Marriage: Timing and Prevalence (New York: United Nations).

VandenHeuvel, A. and P.F. McDonald (1994). "Marriage and divorce". In D. Lucas and P. Meyer (eds.) Beginning Population Studies (Canberra: National Centre for Development Studies, Australian National University), pp. 69-79.

Widayatun (1991). "Women's status and child survival in West Java, Indonesia" Asia-Pacific Population Journal 6 (1):3-24.

Williams, L.B. (1989). "Postnuptial migration and the status of women in Indonesia" Journal of Marriage and the Family 51(11):895-905.

Age at First Marriage in Viet Nam: Patterns and Determinants

By Nguyen Huu Minh *

* The author prepared this article while at the Center for Studies in Demography and Ecology, Department of Sociology, University of Washington, Seattle, WA 98195-3340, United States.

The long war for independence left noticeable impacts on age at marriage of certain groups of young men and women

It is well-known that age at first marriage has a direct bearing on fertility behaviour (Davis and Blake, 1954; Coale, 1971). In Asia, age at first marriage has become the focus of attention of scholars and policy makers because early and universal marriage are believed to contribute to high fertility levels (Hirschman, 1985).

In most developing countries, especially in Asia, there has been a transition from traditional to modern patterns of marriage. A major characteristic of this process is the trend towards later marriage and higher rates of celibacy in many Asian countries (Smith, 1980; Xenos and Gultiano, 1992). During the first half of the twentieth century until 1970, in most Asian countries, the typical pattern was one of early and universal marriage, especially among women. Since 1970, however, Asia has experienced a trend towards later age at marriage. In all Asian countries, except most of those in South Asia, the current female singulate mean age at marriage (SMAM) is over 20 years (United Nations, 1990; Xenos and Gultiano, 1992).

There have been many attempts to explain the change in the pattern of age at marriage. Goode's modernization theory (1963) emphasizes the impact of industrialization on marriage patterns. It is argued that modernization operates at both societal and individual levels by affecting marriage timing. Among the most important "modern forces" are the expansion of educational opportunities, changes in workforce and occupational activities, and urbanization. In Goode's analysis, arranged marriage is the key factor which mediates the effects of social changes and social status of brides and grooms on marriage timing. Modernization theory hypothesizes that, in the process of modernization, individuals with higher social status (more education, modern occupational roles etc.) want more freedom, and thus tend to marry later in life. Place of residence is another factor. People reared in urban areas are exposed to more diverse life-styles and to weaker social controls than those who are reared in rural areas or small towns. Accordingly, individuals growing up in or near large cities are more likely to marry later than those living in rural areas.

Empirical studies in developing countries in general, and in Asia in particular, basically support Goode's explanation (Smith and Karim, 1980; Hirschman, 1985). At the aggregate level, there are fairly strong relationships between level of education, degree of urbanization, and rate of working outside familial agricultural pursuits, and the likelihood of young women delaying their first marriage (Smith, 1980; United Nations, 1986:53). The positive effects of modernization factors on later age at first marriage are also shown clearly at the micro level (United Nations, 1990; Hirschman, 1985). Among modernization factors, education appears to be the most important predictor of changing marriage patterns.

Although effects of modernization factors can be found everywhere, the degree of influence of each factor is not the same across countries and time. For example, sometimes the effect of education is confounded by the effect of other factors, such as marital law and period of marriage (Pasternak, 1986). The empirical relationship between female labour force participation and age at first marriage in Asia is not always clear either. In certain areas of South-East Asia, increased participation of women in the labour force is just a result of economic necessity and it does not always lead to delaying marriage (Hull, 1977:192). Smith and Karim (1980:23) suggested that the correlation between age at marriage and rural/urban current residence "at the ecological level exceeds that at the individual level". There is also noticeable variation in the pattern of age at first marriage in Asian countries, independent of the level of socio-economic development (Smith, 1980; Xenos and Gultiano, 1992; Hirschman, 1985). In addition to modernization, there are other influential factors affecting the pattern of age at marriage; for example, ethnicity in Malaysia and region in Thailand (Palmore, 1983; Von Elm and Hirschman, 1979).

Taking this reality into account, Dixon (1971) proposed a sociological framework in which she emphasizes the importance of three variables mediating the effects of social structure on observed marriage patterns: namely the availability, feasibility and desirability of marriage. According to Dixon, the availability of marriage is determined primarily by the balance of the age-sex ratio of persons of marriageable age within endogamous groups and by the method of mate selection (arranged or free choice). Dixon argues that, where there are severe imbalances in the age-sex ratio of the marriageable population, some marriages will be delayed; and where young people have the freedom to search for their own partners, marriage will occur later than where parents arrange a match for their children.

The feasibility of marriage primarily refers to the financial and social conditions required for the newly married couple to establish a household, such as obtaining land and a source of income. In the context where individuals are free to find their own mates, marriage occurs later where nuclear families are the norm than where extended families

are. This is because the new couple needs more time to establish a new household without support from members of the extended family. Dixon also suggests that family economy may be more important in rural than in urban areas. In rural areas marriage may, in part, be seen as an economic association between families, but in urban areas the greater emphasis is on individual responsibility before marriage. This situation affects the feasibility of marriage differently in rural and urban contexts. People in urban areas need to develop skills, gain resources and achieve maturity to manage an independent household, and therefore delay marriage.

Desirability of marriage is determined by social pressure as well as by individual motivation to marry. Social pressure includes not only social rewards, such as recognition for maintaining lineage, economic support, affection, and perceived happiness at old age, but also social sanctions, such as social isolation and stigma for childlessness or remaining in a single state beyond a certain age. If social rewards for remaining single at certain ages are more than social sanctions for being in that state, marriage could be delayed. The strong point of Dixon's approach is that she emphasizes the effects of social institutions, such as the family system and marriage norms and customs as well as factors such as warfare, which may affect the age-sex ratio.

Smith (1980) suspects that marriage norms are likely to remain important in the Asian context in the future, and the strength of traditional marriage norms may diminish the effect of modernization factors on age at marriage. Although arranged marriage is an important factor affecting age at marriage, the relationship between type of marriage decision-making and age at first marriage is not always the same across cultural contexts (Cheung and others, 1985).

Goode's and Dixon's approaches can be used for studying the pattern and determinants of age at marriage in Viet Nam. Like most other developing countries in South-East Asia, Viet Nam has a low level of socio-economic development and traditional norms of early and universal marriage for both sexes. However, Vietnamese society also has unique characteristics which may make the pattern of age at marriage and its determinants distinct from those of its neighbours in the region. These characteristics are: (a) a centralized socialist state, which can strongly affect marriage patterns through marriage and family policies, (b) higher levels of education than might be expected from a country with such a low level of economic development and (c) a long period of warfare for independence (1945-1975). Therefore, the questions to be addressed are: (a) does the pattern of age at first marriage in Viet Nam share common characteristics with the general marriage transition in Asia? (b) do modernization forces such as increasing educational attainment, growing urbanization and expansion of working opportunities outside agriculture have significant influences on the postponement of marriage in Viet Nam? and (c) what is the role of arranged marriage and the long war in mediating the effect of modern forces to shape the pattern of age at first marriage in Viet Nam?

The topic of age at first marriage has not yet been the subject of systematic sociological research in Viet Nam. The 1989 population census and the 1988 Viet Nam Demographic and Health Survey (VNDHS), which were the first national data sources with information on marital status, reported only a few aspects regarding age at marriage (General Statistical Office [GSO], 1991; and the National Committee for Population and Family Planning [NCPFP], 1990). Age at marriage is typically mentioned in other studies only in passing (Nguyen, 1979; Nguyen and others, 1993). The purpose of this study is to analyse patterns of age at first marriage in Viet Nam for males and females with data from the 1991 Viet Nam Life-History Survey (VNLHS).

Socio-economic changes and traditional marriage

With a population of 75 million in 1996, Viet Nam is the second most populous country in South-East Asia, surpassed only by Indonesia, and it is the thirteenth most populous country in the world (United Nations, 1996). With 80 per cent of the population living in rural areas, Viet Nam is primarily an agricultural country.

In the traditional Vietnamese family prior to the twentieth century, marriage was an especially important matter, not only because of its relationship to the lifetime happiness of the couple, but also because of its effect on the extended family and the kin network (Tran, 1991). Among the most important aspects of marriage was the function of producing male offspring to assure continuity of the patrilinage and to perform ancestor worship, which is the highest expression of Confucian filial piety. Because of the importance of marriage for the continuation of the family line, marriage was usually arranged by parents or elderly persons in the family; love was not a consideration for marriage. Intervention by the family of origin in the marriage of young couples was even acknowledged by feudal law.1 There was also strong pressure towards early marriage in the family and kin network (Phan, 1990), especially when a specific regulation about legal age at marriage was lacking.2 The traditional family, as briefly described above, survived with few changes until 1945. Since then, traditional marriage norms have been undermined as the result of dramatic socio-economic changes and turbulent political events. There are a number of important factors which have helped to transform the entire value system governing marriage and the family. Of particular importance has been the development of the educational system. After 1945, the government placed high priority on education and developed an extensive network of schools. Millions of people have also benefitted from adult literacy courses. Data from the 1989 population census (GSO, 1991) indicate that the percentage of the population that had ever attended school gradually increased over time and reached a peak for the age group 25-34. Almost the entire urban

population has attended school, particularly males. The level of literacy is far higher for younger persons than those in the older age groups. Increasing educational attainment has helped to spread new ideas about marriage and the family, especially concerning marriages based on love.

Expansion of work opportunities outside of agriculture, especially for women, has substantially increased the individual's economic independence from parents, thereby helping young couples to determine their own marriage mate. Almost three quarters of the population aged 13 and older, are economically active. Among females aged 13 and older, 71.3 per cent are economically active; the figure among females aged 20-49 is more than 80 per cent (GSO, 1991).

Although the proportion of urban population to the total population is still low, fundamental differences between rural and urban areas with regard to some major demographic and socio-economic indicators have been observed. For example, the patterns of sex ratios in rural areas and urban areas are very different for the age group 40-64. There is a wide gap in educational levels between urban and rural areas. The prevalence of the nuclear family system, looseness of the kinship system, diversity of economic activities outside the home, and higher educational levels in urban areas have affected the way people look at marriage and the family. The difficulties associated with job opportunities and living conditions in recent years have also contributed to delays in marriage for many people living in urban areas and may widen the discrepancy of age at first marriage between people living in urban areas and rural areas.

One of the most important factors influencing age at marriage has been a series of recent legal reforms which sanction free choice of marriage partners and equal rights between males and females. During the 1950s, the government in the northern part of the country strongly attacked the custom of "child marriage", which was considered a relic of the feudal past. The absolute right of parents and the elderly in the family to decide on their children's marriage was no longer accepted, and marriages based on love and mutual respect between the bride and groom were supported. The Marriage and Family Law of 1959 (enforced initially in the northern part of the country, and after 1975 applied to the whole country) and the 1986 revised version of this law stipulate that the minimum legal age at marriage is 18 for women and 20 for men (Nguyen, 1988). The free choice of a marriage partner is a legal norm. In addition, the national family planning campaign encourages marriage at later ages (26 for males and 22 for females).

All these factors have led to new attitudes among youth about marriage and the family. The traditional Vietnamese family has gradually lost its tight control over individual members. Today, the youth enjoy greater self-determination with regard to marriage. Although parents in rural areas still have some influence in many instances on the marriage decisions of their children, the strength of tradition has greatly diminished.

It is generally believed that the long period of war (1945-1975) has left a strong imprint on all aspects of Vietnamese society. With regard to marriage patterns, warfare might have had an important effect on the delay of marriage owing to males' military service and the high death rates among potential male marriage partners. As a direct result of the war, the sex ratio3 among those of marriageable age in Viet Nam is smaller than that of other developing countries. The 1989 population census shows that, while there is no shortage of male children, there is an abnormal deficit of males compared with women in the 35-60 age group. The sex ratio for age groups from 35-39 to 55-59 is between 80 and 88 per cent. Most of the "missing" males in these groups were lost due to death or emigration associated with the war and other turbulent events in the previous decades (GSO, 1991). Hirschman and his colleagues (1995:805), using 1991 VNLHS data, estimate that during the most intense period of war in Viet Nam from 1965 to 1975 "the risk of dying for young men [Vietnamese] age 15-29 was more than seven times higher than the `normal level' of non-war mortality; for men age 30-44 the comparable figure was about 2.5 times greater". Another negative consequence of the long war is that it created a great number of disabled persons (Banister, 1993). The ability of severely disabled people to take part in a marriage was strongly reduced. Many of them therefore delayed their marriages.

The family and marriage patterns in northern and southern Viet Nam are different in terms of the degree of "traditionality" due to each region's cultural heritage. In the southern area, where the kinship system and village are weaker institutions than they are in the northern area, the marriage pattern tends to be more flexible (Do, 1991). Southern Viet Nam was subjected to more direct French administration and influence than the northern part of the country; therefore, there may have been more assimilation of Western values. Moreover, different laws were applied in the northern and southern parts of the country regarding marriage and family life. Under the 1883 Short Civil Law, applied to southern Viet Nam, the minimum ages at marriage for males and females were 16 and 14, respectively, whereas under the 1931 Civil Law, applied to the northern part of the country, the minimum ages were 18 for males and 15 for females. The 1959 Family Law Code in southern Viet Nam allowed males aged 18 and females aged 15 to get married, and it required the approval of parents for their children's marriage.

The pattern of age at first marriage in Viet Nam, therefore, has been formed under the impact of modernization factors and governmental policies on traditional marriage norms, regional differences and the impact of the long war.

3

Patterns of age at first marriage

The 1988 VNDHS was the first survey to collect nationally representative data on current marital status and on age at first marriage for Vietnamese women (NCPFP, 1990).4 Data from the 1988 VNDHS show that marriage is virtually universal for the Vietnamese (table 1). For the country as a whole, more than 90 per cent of women aged 30 and older have been married. The figure for the age group 45-49 in 1988 was as high as 98.5 per cent. There is a considerable difference between rural and urban areas. At every age, the proportions of ever-married women for urban areas are considerably lower than for rural areas. With regard to differences between the northern and southern parts of the country, the latter has significantly lower proportions of ever-married women for all age groups, especially for the younger age groups. Comparison across cohorts does not reveal a consistent trend towards later age at marriage. For the whole country, the proportions of total women who married before ages 18, 20, 22 and 25, as well as the median age at first marriage, fluctuate throughout the age groups from 25-29 to 40-44. The trend is clearer when these two age groups are combined and compared with the age group 45-49. Women in the age groups 35-39 and 40-44 in 1988 in the northern part of the country and in rural areas have unexpectedly low proportions ever married before ages 20, 22 and 25, and have a higher median age at first marriage compared with those in the 30-34 age group. The reason could be that these women were growing up during the period 1965-1975, when the war was intense, and perhaps the war contributed to the delay in female marriage. The same pattern is, however, not observed in the southern part of the country.

Table 1: Proportion of total women ever married and medianage at first marriage by age group, rural/urbanplace, and geographic regions, 1988 VNDHS

Current age group	Ever married	Proportion of total women who married before specific age				Median age at first marriage
		Before 18	Before 20	Before 22	Before 25	
Whole country						
20-24	53.8	9.4	31.1	-	-	*
25-29	85.8	12.4	36.7	57.2	78.7	21.3
30-34	91.2	12.9	37.4	59.4	78.5	21.2
35-39	94.6	12.3	36.6	57.1	80.0	21.3
40-44	95.3	14.8	38.5	56.8	78.2	21.3
45-49	98.5	23.7	51.7	70.0	85.3	19.9
Urban areas						
20-24	31.9	5.1	17.0	-	-	*
25-29	70.4	7.1	19.9	33.6	57.1	20.9
30-34	80.5	9.5	24.4	39.3	61.3	23.4
35-39	83.2	13.3	24.5	37.1	59.5	23.7
40-44	89.6	10.4	25.2	40.0	61.7	23.4
45-49	92.6	16.1	39.6	50.7	69.2	21.9
Rural areas						
20-24	58.8	10.4	34.2	-	-	21.8
25-29	89.1	13.6	40.4	62.4	83.3	20.9
30-34	94.2	13.8	41.0	65.1	83.3	20.8
35-39	97.1	12.0	39.8	62.4	85.2	20.9
40-44	98.2	16.2	43.2	62.7	84.3	20.7
45-49	98.2	24.8	53.2	72.6	87.1	19.8
Northern Viet Nam						
20-24	66.5	10.3	38.8	-	-	21.1
25-29	90.4	9.6	35.0	59.0	84.0	21.3
30-34	93.4	9.9	37.8	61.2	81.7	21.1
35-39	97.2	5.7	29.4	55.4	82.9	21.6
40-44	96.7	11.9	33.2	49.8	78.2	22.0
45-49	98.2	24.1	51.8	69.5	85.4	19.9
Southern Viet Nam						
20-24	42.5	8.6	24.2	-	-	*
25-29	79.9	15.6	38.4	54.7	71.9	21.4
30-34	88.7	15.5	36.4	57.0	74.9	21.3

35-39	91.0	18.2	42.8	58.1	76.3	20.9
40-44	94.6	17.2	43.1	62.8	78.3	0.7
45-49	96.8	22.7	50.2	68.4	83.0	20.0

Note: * No median age is provided since the median falls within this age group.

For the whole country, a considerable proportion of women married before age 18 in all age groups. There are also substantial proportions of women who married after age 25. If there is a wider variance in age at first marriage in Viet Nam than elsewhere in Asia, this result could mean looser norms concerning the timing of marriage.5 The 1989 population census data support the main observations obtained from the 1988 VNDHS, i.e. that marriage in Viet Nam is universal and there is a large difference between urban and rural populations in terms of proportions of ever-married people and the singulate mean age at first marriage. On average, urban males married 3.1 years later than rural males. The gap between urban females and rural females is 2.0 years. In table 2, some major demographic indicators relating to the pattern of age at first marriage in Viet Nam in 1989 are compared with indicators for other Asian countries.6 The results from table 2 suggest that, for several census indicators, the Vietnamese male population displays a pattern of earlier marriage timing in comparison with other countries in South-East and East Asia. The indexes for the Vietnamese male population, such as singulate mean age at first marriage, the earliest age at which marriages begin to occur (a[0]), and percentage of single men in the age group 15-19, are somewhat lower than most countries of South-East Asia, and its proportion ever married is highest in the subregion. For females the results are reversed. The Vietnamese female population's singulate mean age at marriage, and percentage of women in the age group 15-19 who are still single, rank third among similar indexes for South-East Asian countries, i.e. behind Malaysia and Singapore.

Figure1: Proportion of Vietnamese single by age and sex, 1989
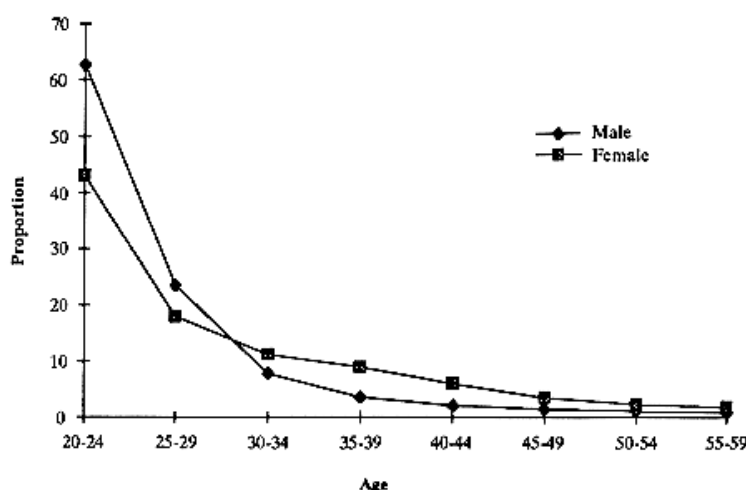
Source: Detailed analysis of sample results 1991.

Table 2 and figure 1 also show a considerable difference between males and females in terms of major demographic indicators related to the pattern of age at first marriage. In table 2, the proportion ever married for females is lower than for males, with values of 0.965 and 0.998, respectively. The sex difference in terms of the percentage never-married is very clear in figure 1. In the age groups under 30, the proportion of never-married males is higher than that of females. After age 30, there is a lower proportion of never-married males in comparison with never-married females. One reason for the relatively low age at marriage for males and high age for females, as well as lower proportions of females ever-married mentioned in table 2 and figure 1, may be a "marriage squeeze" resulting from the warfare between 1945 and 1975. Most eligible partners of women aged 30 and older are believed to have participated in that warfare.

Table 2: Census indicators of nuptiality for Viet Nam and some other countries and areas of Asia: males and females

Socio-economic characteristics	Percentage married before age 20 (N = people aged 20 and older)				Mean age at first marriage among ever-married persons, (N = people aged 25 and older)			
	Male	(N)	Female	(N)	Male	(N)	Female	(N)

5

Total	9.4	(361)	29.9	(438)	24.6		(297) 21.8	(333)
Age group								
20-24	6.8	(44)	19.0	(63)	-		- -	-
25-34	10.0	(100)	26.7	(146)	23.2		(81) 21.7	(120)
35-49	6.0	(133)	27.7	(141)	25.8		(132) 22.4	(126)
50-66	15.5	(84)	46.6	(88)	24.1		(84) 20.9	(87)
Region of birthplace								
Northern Viet Nam	8.5	(176)	30.4	(207)	24.3		(157) 21.9	(168)
Southern Viet Nam	10.6	(180)	29.3	(229)	25.0		(135) 21.6	(163)
Parents' employment status								
One or both parents work for government	7.2	(69)	17.2	(93)	25.4		(51) 23.3	(64)
Neither parent works for government	9.7	(267)	33.2	(298)	24.4		(224) 21.3	(232)
Eldest son								
Eldest son	9.6	(177)	-	-	24.8		(149) -	-
Not eldest son	9.2	(184)	-	-	24.4		(148) -	-
Total (for married persons)	11.1	(307)	37.0	(354)	24.6		(297) 21.8	(333)
Years of school before marriage								
0 to 4	16.7	(54)	56.2	(121)	23.1		(53) 20.2	(120)
5 to 7	12.2	(115)	38.3	(115)	23.9		(108) 21.6	(105)
8 to 10	10.3	(78)	20.0	(65)	25.2		(77) 23.0	(58)
11 or more	5.0	(60)	11.3	(53)	26.4		(59) 24.3	(50)
Occupation before marriage								
Professional/manager/clerical	5.9	(34)	6.3	(48)	26.6		(33) 25.0	(48)
Sales/service/other workers	6.9	(159)	28.7	(150)	25.5		(154) 22.4	(140)
Agricultural	18.4	(114)	54.5	(143)	22.7		(110) 20.1	(135)
Migration								
Born in rural/living in rural area	13.9	(199)	45.7	(199)	23.2		(189) 20.5	(189)
Born in rural/living in urban area	3.0	(33)	8.5	(45)	27.7		(32) 25.1	(45)
Born in urban/living in urban area	7.7	(78)	32.7	(104)	26.7		(74) 22.8	(96)
Birthplace and occupation before marriage								
Born in rural area/farmer	18.8	(112)	55.1	(136)	22.5		(108) 19.9	(129)
Born in rural area/non-farmer	6.1	(114)	17.3	(104)	25.2		(112) 23.2	(100)
Born in urban area/non-farmer	7.6	(79)	32.7	(107)	26.7		(75) 22.7	(98)
Military service								
Did not serve in military	14.0	(200)	-	-	24.3		(190) -	-
Began service in military after marriage	20.0	(30)	-	-	22.3		(30) -	-
Began service in military before marriage	0.0	(77)	-	-	26.1		(77) -	-
Marriage arangement								
Parent arranged	25.0	(72)	54.5	(99)	21.9		(70) 19.9	(95)
Individuals' decision	6.8	(235)	30.2	(255)	25.5		(227) 22.5	(238)
Total (for married persons * *)	-	-	-	-	24.8		(217) 21.5	(208)
Spouse's years of schooling before marriag								
0 to 4	-	-	-	-	22.8		(70) 20.5	(35)
5 to 7	-	-	-	-	24.5		(73) 20.8	(76)
8 to 10	-	-	-	-	26.9		(44) 22.2	(55)
11 or more	-	-	-	-	27.2		(30) 22.6	(42)
Spouse's occupation before marriage								
Professional/manager/clerical	-	-	-	-	28.0		(28) 23.1	(20)

Independent variables										

	Sales/service/other workers	-	-	-	-	26.4		(93)	22.1	(116)

Sales/service/other workers   -   -   -   -   26.4   (93) 22.1 (116)

Agricultural   -   -   -   -   22.4   (96) 20.2 (72)

Husband's military experience

Husband did not serve in military   -   -   -   -   -   - 21.5 (125)

Husband served in military after marriage   -   -   -   -   -   - 19.1 (22)

Husband served in military before marriage   -   -   -   -   -   - 22.4 (61)

Source:

1) Xenos and Gultiano (1992)
2) United Nations (1990)
3) General Statistical Office (1991)
Notes: * Five per cent sample data.
* * Based on the 1/100 sample survey (unpublished tabulation).
SMAM = Singulate mean age at marriage.
a(0) = The "onset" or earliest age at which marriages begin to occur.
C = The maximum level or proportion ever marrying.

The 1988 VNDHS and the 1989 census have provided some general information about the transition of age at first marriage in Viet Nam towards later marriage, and allow for a simple comparison with other Asian countries. While the general pattern of first marriage in Viet Nam is similar to other countries in Asia, there are some important differences, such as higher singulate mean age at first marriage for Vietnamese women compared with women in other countries. The largest difference between males and females in the proportion ever married in Viet Nam is evident. The pattern of age at first marriage in Viet Nam, therefore, may be caused by factors other than conventional modernization factors found in other countries. However, the 1988 VNDHS and 1989 census do not provide enough information to answer questions on determinants of age at marriage in Viet Nam. This is the question that the author addressed with data from the 1991 VNLHS.

The 1991 VNLHS was carried out collaboratively by Hirschman and the Institute of Sociology at Hanoi.7 The 1991 VNLHS gathered retrospective data on a number of life-course domains, including mortality, marriage, fertility, family structure, migration, educational attainment and occupational patterns. Although this survey did not focus directly on family formation, it is one of the few surveys which contain detailed information relating to various aspects of the respondents' lives from their birth until the time of the interview. Of particular interest is the information about the respondents' social and economic status before and after marriage. This information provided data necessary for our analysis of the effects of socio-economic factors on age at first marriage. It should be pointed out that one disadvantage of the survey is the small size of its sample.

Age at first marriage is measured by questions about the year when the respondent first married and the respondent's year of birth. To avoid the situation where older respondents might not accurately recall marriage dates or age, interviewers were asked to check the answers by referring to the list of lunar years and western years. Although the data for the oldest cohorts should be interpreted cautiously, the responses appear to be reliable and can be used to analyse general trends of age at first marriage.

Table 3 presents the percentage of those who married before age 20 among all respondents and the mean age at first marriage among ever-married persons aged 25 and older for different categories of independent variables. For some socio-economic characteristics, all never-married persons are included in the denominator; for others, only those who ever married are included.

Table 3: Percentage of Vietnamese who married before age 20 and mean age at first marriage by socio-economic and demographic characteristics *

Independent variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Age group										
25-34	-2.0 * *	-.2	-2.1 * *	-.2	-2.1 * *	-.2	-2.3 * * *	-.2	-2.2 * * *	-.2
35-49 (Ref. cat.)										
50-66	-1.3 *	-.1	-.9	-.1	-.03	-.003	.4	.04	1.5	.1

7

Parents'employment status										
One or both parents work for government	.6	.1	.5	.04	.3	.03	.3	.02	-	-
Neither parent works for government										
Region of birthplace										
Northern Viet Nam										
Southern Viet Nam	.7	.1	1.1	.1	1.0	.1	1.2 *	.1	1.6 * *	.2
Eldest son										
Eldest son	-.3	-.03	-.4	-.04	-.5	-.05	-.5	-.05	-	-
Not eldest son										
Birthplace and occupation										
Rural and farmer	-2.5 * * *	-.2	-2.1 * *	-.2	-1.1	-.1	-.5	-.05	-1.1	-.1
Rural and non-farmer (Ref. cat.)										
Urban and non-farmer	1.3	.1	1.5 *	.1	2.1 * *	.2	2.0 * *	.2	1.8 *	.2
Military service										
Did not serve (Ref. cat.)										
Served after marriage	-	-	-1.3	-.1	-1.0	-.1	-.8	-.05	-.3	-.02
Served before marriage	-	-	2.0 * *	.2	2.3 * * *	.2	2.1 * *	.2	2.0 * *	.2
Years of school before marriage	-	-	-	-	.32 * * *	.2	.28 * * *	.2	.04	.03
Arranged marriage										
Parents arranged										
Individuals' decision	-	-	-	-	-	-	2.5 * * *	.22	.2 * *	.2
Wife's years of schooling before marriage	-	-	-	-	-	-	-	-	.33 * * *	.3
Constant	25.8	-	25.0	-	21.9	-	19.9	-	19.6	-
Adjusted R sq. (%)	12.33	-	15.83	-	19.59	-	23.12	-	33.43	-
Number of cases	297	-	297	-	297	-	297	-	217	-

Note: * There are some missing cases for each specific category; therefore, the number of cases for each variable is not equal to the total sample.
* * Estimated for those whose year of first marriage is equal to their spouse's year of first marriage.

Data presented in table 3 support the modernization hypotheses that modern forces have a clearly positive relationship on age at first marriage. For example, association of educational attainment before marriage with age at first marriage is monotonic for both sexes. The same results are found for different occupational groups before marriage. Those engaged in non-agricultural occupations, such as professionals, managers and clerical workers, on average, married later than farmers. They also had a lower percentage of people getting married before age 20. The hypothesized differences between those who were born in rural areas and those who were born in urban areas are also supported. Males born in urban areas on average got married 2.8 years later than those males who were born in rural areas. The figure for women is 1.3 years.

Migrants from rural to urban areas are more likely to get married later, and have a lower percentage of marriages before age 20, than those who stay in rural areas. The data also show an interesting difference between ages at first marriage of rural-to-urban migrants and those born and living in urban areas. The age at first marriage of the migrants is higher than the non-migrants. The reason may be due to selective migration. Migrants usually have a higher education and are more likely to work in modern occupations in urban areas.

As expected, the type of mate selection and family background have a positive association with age at marriage. For example, 25 per cent of arranged marriages of males take place before age 20, whereas the figure for free-choice marriages is only 7 per cent.

The impact of military service (one indirect effect of the war) is also shown in table 3. Men who began service in the military after marriage married about two years earlier than those who never served in the military, whereas those men who began service in the military before marriage married about 1.8 years later than those who never served in the military. Those women whose husband served in the military before their marriage married about one year later than those whose husband did not serve in the military, and married about 3.3 years later than those whose husband

served in the military after their marriage.

Average age at marriage and proportion married before age 20 vary considerably by age. Those in the age group 35-49 have a higher age at marriage (and a lower proportion of marriages before age 20) compared with those older and younger. The region of birth and being the eldest son do not have a strong relationship with age at first marriage.

Determinants of age at first marriage

While the bivariate analysis discussed above is very useful in providing a general picture about the relationship between modern forces and the pattern of age at marriage, the effects of socio-economic and other factors on the pattern of age at marriage are complex and should be studied using multivariate methods.

Given the socio-economic features of Vietnamese society as described previously, the effects of modernization factors should be analysed simultaneously with other key explanatory factors which may be important in Viet Nam: the socio-economic and cultural differences between the northern and the southern parts of the country, the maintenance of traditional marriage norms, and war mobilization. The purpose of this section is to test hypotheses drawn from Goode's modernization theory and other previous studies that the trend towards later marriage in Viet Nam is a result of the rise of educational levels, the expansion of employment opportunities in the modern sector (particularly for women), and the diffusion of new ideas about courtship and family life in urban areas. Because of data limitations, not all critical explanatory variables can be included in the analysis (e.g. the impact of divorce and the legal system). However, it is possible to measure the impact of family background, residence, education, premarital work, military service and arranged marriage on the age at which people marry. The units of analysis in this study are individual men and women.

The timing of marriage is affected not only by the individual's characteristics but also by pressure from the family and the potential partner. Therefore, the effect of modernization factors are tested not only through individual characteristics but also through his/her family background and his/her partner's characteristics. Figure 2 presents a model of determinants of age at first marriage in Viet Nam.

Figure 2: Model of age at first marriage in viet Nam
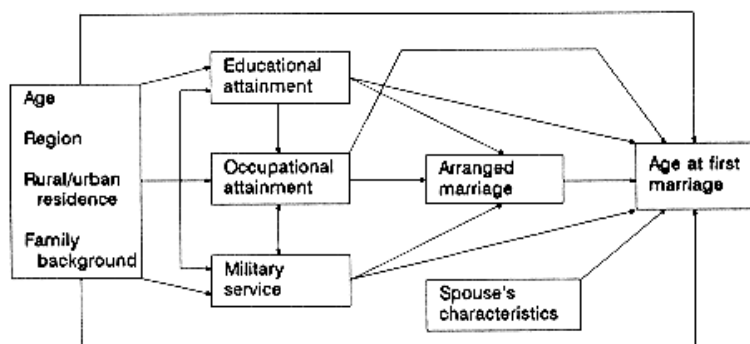
Linear multivariate regression models are used to estimate and test the relationships between the independent variables and age at first marriage because a dependent variable is measured as a continuous variable. Respondents aged 15-24 are excluded, because many of them are still unmarried.[8] The 1991 VNLHS sample of ever-married persons includes 297 ever-married males and 333 ever-married females. The independent variables used in the multivariate regression are: age, parent's employment status, birth place, occupation before marriage, years of schooling before marriage, arranged marriage, eldest son, military service (for males), wife's years of schooling before marriage, husband's years of schooling before marriage, husband's military service. In this study, the method of pair-wise deletion of missing cases is used. The advantage of this procedure is to minimize the loss of cases with missing data (Bohrnstedt and Knoke, 1988).

Tests of multicollinearity among independent variables, potential interactions[9] and non-linearity were conducted prior to the formulation of the final models. The results show that multicollinearity is not a problem. Based on the tests of linearity, years of schooling before marriage is better coded as a continuous variable, while current age of the respondent is better coded as a categorical variable. There are no significant interactions among the independent variables. There are two steps for testing the effects of the independent variables on the patterns of age at first marriage. First, all variables related to individual characteristics and parents' characteristics are included in the multivariate analysis. Second, spouse's characteristics will be added in the best model (including only significant factors from the last model) to determine what are the effects of the variables after controlling for the spouse's characteristics. The reason for dividing the study into these two steps is that we can study the effects of spouse's characteristics only for those couples in which both the husband and wife were among our respondents. Therefore, it

reduces substantially the effective sample size. The results of the multivariate analysis are shown in tables 4 and 5.

Table 4: Effects of social variables on age at first marriage of married men, aged 25-66, in Viet Nam, 1991

Independent variables	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Age group								
25-34	-1.2 *	-.1	-1.4 * *	-.2	-1.5 * *	-.2	-1.3 * *	-.2
35-49 (Ref. cat.)								
50-66	-1.2 *	-.1	-.1	-.1	.2	.02	.6	.1
Parents' employment status								
One or both parents work for government								
Neither parent works for government	1.4 *	.1	.7	.1	.7	.1	-	-
Region of birthplace								
Northern Viet Nam								
Southern Viet Nam	-.5	-.1	-.4	-.05	-.2	-.02	-	-
Birthplace and occupation before marriage								
Rural and farmer	-2.9 * * *	-.3	-2.2 * * *	-.3	-1.9 * * *	-.2	-1.4 *	-.2
Rural and non-farmer (Ref. cat.)								
Urban and non-farmer	.1	.01	.03	.003	-.02	-.002	.9	.1
Years of school before marriage	-	-	.32 * * *	.3	.3 * * *	.3	.31 * * *	.3
Arranged marriage								
Parents arranged								
Individuals' decision	-	-	-	-	1.1	.1	-	-
Husband's years of schooling before marriage	-	-	-	-	-	-	.1	.1
Husband's military service								
Did not serve	-	-	-	-	-	-	Ref.cat.	-
Served after marriage	-	-	-	-	-	-	-1.4	-.1
Served before marriage	-	-	-	-	-	-	.94 *	.1
Constant	23.6	-	21.2	-	20.3	-	19.48	-
Adjusted R sq. (%)	14.97	-	20.04	-	21.12	-	30.07	-
Number of cases	333	-	333	-	333	-	208	-

Note: * Significant at .05; * * Significant at .01; * * * Significant at .001.

Table 5: Effects of social variables on age at first marriage of married women, aged 25-66, in Viet Nam, 1991

Independent variables	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Age group								
25-34	-1.2 *	-.1	-1.4 * *	-.2	-1.5 * *	-.2	-1.3 * *	-.2
35-49 (Ref. cat.)								
50-66	-1.2 *	-.1	-.1	-.1	.2	.02	.6	.1
Parents' employment status								
One or both parents work for government								
Neither parent works for government	1.4 *	.1	.7	.1	.7	.1	-	-
Region of birthplace								
Northern Viet Nam								
Southern Viet Nam	-.5	-.1	-.4	-.05	-.2	-.02	-	-
Birthplace and occupation before marriage								
Rural and farmer	-2.9 * * *	-.3	-2.2 * * *	-.3	-1.9 * * *	-.2	-1.4 *	-.2
Rural and non-farmer (Ref. cat.)								
Urban and non-farmer	.1	.01	.03	.003	-.02	-.002	.9	.1
Years of school before marriage	-	-	.32 * * *	.3	.3 * * *	.3	.31 * * *	.3

Arranged marriage								
Parents arranged								
Individuals' decision	-	-	-	-	1.1	.1	-	-
Husband's years of schooling before marriage	-	-	-	-	-	-	.1	.1
Husband's military service								
Did not serve	-	-	-	-	-	-	Ref.cat.	-
Served after marriage	-	-	-	-	-	-	-1.4	-.1
Served before marriage	-	-	-	-	-	-	.94 *	.1
Constant	23.6	-	21.2	-	20.3	-	19.48	-
Adjusted R sq. (%)	14.97	-	20.04	-	21.12	-	30.07	-
Number of cases	333	-	333	-	333	-	208	-

Note: * Significant at .05; * * Significant at .01; * * * Significant at .001.

For both sexes, years of schooling is the most important variable affecting age at first marriage. Educational attainment has both direct effects and indirect effects through birthplace (rural versus urban) and parental involvement in the choice of mate. The results also show that in general the effect of male education is less important than the effect of female education on age at first marriage. However, the findings challenge the prediction drawn from the economic perspective (Smith and Karim, 1980) of a negative effect of increased education on age at first marriage for men. In fact, the data show that the impact of male education on age at first marriage is positive.

Urbanization measured in terms of place of birth has significant effects on age at first marriage for males, but the effect is unclear for women. In general, those males who grew up in cities tend to marry later than those males who grew up in the countryside. The hypothesized difference in age at first marriage by occupation prior to marriage is supported for females but not for males. Rural-born women from agricultural households tend to marry considerably earlier than rural-born non-agricultural women. The reason may be that rural-born women who did not work as farmers may have lived mostly in urban areas before marriage. Such women probably have high educational attainment and high aspirations towards family life. Therefore, they might delay their marriage in order to seek an appropriate partner and financial conditions necessary for living in urban areas. However, one should be cautious in interpreting the results for males, because the relationship between occupation and age at first marriage is poorly measured here (only farmers and non-farmers born in rural areas are examined in this study). If occupational effects on marriage are largely a function of education, this may explain the results of the insignificant difference in age at first marriage between farmers and non-farmers among males in rural areas. Owing to the small sample, the effect of other occupational roles cannot be examined here.

The hypothesized difference in age at first marriage between those who grew up in northern Viet Nam and those who grew up in southern Viet Nam is supported for males. Overall, birth in the southern part of the country means a late age at marriage. Thus, because of a long history of separation in terms of socio-economic and cultural development, regional characteristics still have an effect on age at first marriage. However, it still remains unclear why the effect of growing up in the northern or in the southern part of the country is not significant for females.

Consistent with findings from other studies in Asian countries, this study finds that those whose marriage was arranged by parents tend to get married earlier (United Nations, 1988), and that the effects of parental involvement in mate choice are especially strong for males. This finding should not be explained solely in terms of economic reasons. Traditional customs, prevalence of marriage in society, parents' desire to secure continuity of patrilinage (through sons), as well as parents' desire that daughters will not remain single are important reasons for parents' involvement in their children's marriage. Findings also show that the effects of parental involvement in mate choice on age at first marriage are stronger for males than for females. Men usually are under a greater pressure from the family in marriage matters, such as whom to marry, when and how. Perhaps this is a transitional form of the old practice, according to which the family of a young man should be the one who initiates the marriage process and "chooses a good bride" for the man and the family.10

Contrary to expectation, being the oldest son in the family does not make any difference in terms of male average age at first marriage. The effects of parents' employment status on the couple's age at first marriage are not significant either. This finding suggests that characteristics of family background are not important in shaping the pattern of age at first marriage. However, family background may affect age at first marriage indirectly via the respondent's education. Parents' employment status positively affects the child's education (results are not shown), and education in turn positively affects age at marriage.

This study suggests that, although a high probability of homogamy in marriage is observed, the effects of the spouse's socio-economic characteristics should not be ignored. The most important spouse characteristics are wife's education before marriage and husband's military experience in time of war. However, in view of the lack of data, it is difficult to draw any conclusive answers regarding the real mechanisms affecting the relationship between the

spouse's characteristics on age at marriage.

The findings of this study partially support the hypothesis that war affects the pattern of age at first marriage for both males and females. Those males who joined the military usually married later than those who were not in military service. Those who postponed marriage before joining the military delayed their marriage even more. Women whose husbands had served in the military also delayed their marriage considerably compared with those whose husbands had not served in the military. Although the data suggest that the war accelerated marriage timing in some instances by inducing young males to get married earlier to be certain of having descendants to continue their lineage, the general effect of military service during the war was to delay marriage.

Thus, war perhaps produces special intermediating effects for marriage patterns in Viet Nam and makes the country a special case in the transition of the marriage pattern in Asia. It can be said that, in the Vietnamese context, the war was the key factor leading to a later age at marriage. The effects of war will decrease as life continues to return to its normal path in peacetime. It is expected that the abnormalities in age at marriage observed during the war will also gradually disappear. In view of the effects of war after one-third of a century, it can be predicted that a more thorough study of marriage trends in Viet Nam in recent years may show a decline in age at first marriage among young age groups compared with the age group 35-49, in spite of the increasing impact of modernization factors.

Conclusions and policy implications

Under the impact of socio-economic and political changes during the last few decades, the patterns of age at first marriage in Viet Nam have been transformed from a traditional to a modern context. Age at first marriage has increased significantly over the last few decades.

As in other Asian countries, expansion of educational attainment, urbanization and working opportunities in the modern sectors are key factors shaping the new pattern of age at marriage in Viet Nam. Those who are more educated, who live in urban areas and who work in modern sectors tend to get married later in life than those who are in other social groups. At the same time, the data reveal diversity in the way modernization factors affect age at first marriage. As expected, the long war for independence also left noticeable impacts on age at first marriage of certain groups of young men and women. The effects of the long war on the pattern of age at marriage have made Viet Nam a special case in South-East Asia.

There are several policy implications. As indicated elsewhere, increased age at first marriage is considered an important measure of national policy for population control (Bongaarts and Greenhalgh, 1985). This study shows that, since the high age at marriage in Viet Nam is partially due to postponement resulting from effects of the war, when those effects fade away, age at first marriage will decline. In addition, as the data have shown, many early marriages take place in rural areas and among less educated people. Thus, although women's age at first marriage in Viet Nam has increased significantly over the last few decades, there remain factors with the potential to further increase age at marriage. Among these factors one could consider the role of modern forces. While policies cannot change birth cohorts or where people were born, policies can help to improve educational attainment, develop occupational opportunities outside agriculture, and help young people to increase their ability to make their own decisions concerning marriage.

More studies need to be conducted to understand the impacts of factors which are not examined fully in this article, such as migration, occupation and government policies, on age at first marriage in Viet Nam.

Acknowledgments

Notes

1. Involvement of the family in a member's marriage was accepted by the feudal laws, from Hong Duc Law and Gia Long Dynasty Law to three Civil Codes applied to three regions in Viet Nam before 1945 (Vu Van Mau, 1962). Article No. 94 of the Gia Long Dynasty Law stipulated: "The marriage is meaningful only if the senior of the kinship approves" (Trinh Thi Quang, 1984).

2. In Viet Nam's feudal laws from independence (939 A.D.) until the Short Civil Code (1883) in the southern part of the country, there was no regulation about legal age at marriage (Phan Huy Chu, 1992; Vu Van Mau, 1962).

3. Estimated as the ratio of males per 100 females for each age group.

4. This survey was conducted in May and June 1988 and collected data on fertility, family planning, and a few indicators of child and maternal health. A total of 4,806 households and 4,172 ever-married women in the reproductive age group (15-49 years) were interviewed.

5. In Pakistan, the proportion of women married by age 18 is more than two times higher than the same indicator in Viet Nam, and the proportion of women married by age 25 is only a little higher (Pakistan National Institute of Population Studies, 1992). In the Philippines, the proportion of women married by age 18 in 1993 is slightly higher than the pattern in Viet Nam, but the proportion of women married by exact age 25 is lower than the pattern in Viet Nam (Philippines National Statistics Office, 1994).

6. Although the data for Viet Nam and other countries refer to different time periods, they nevertheless can be used for a rough comparison. It is believed that the conclusion will not be very different if the data were for the same period.

7. The survey, conducted in the period January-March 1991, sampled about 100 households from each of four areas in Viet Nam: a medium-sized northern city (Hai Duong), a rural northern village (Tien Tien), a medium-sized southern city (Can Tho), and a rural southern village (Long Hoa). Two types of questionnaires were used. Household questionnaires were used to collect information about living conditions in the household, and individual questionnaires were used to interview all available adults aged 15 to 66 (about 220 to 240 persons in each of the four areas). In total, 403 households and 921 individuals were interviewed. The effective sample included 307 ever-married men and 354 ever-married women between the ages of 20 and 66. The author was a participant in the survey as a supervisor and an interviewer.

8. Using the group of people aged 25 and older in the analysis is based on studies in selected ESCAP countries (United Nations, 1983), and based on data from the 1989 census, 1988 DHS and 1991 VNLHS. Around 80 per cent of people aged 25 and older, both males and females, have been married. However, because the marriage patterns are still being formed for this group, their marriage patterns may not be well defined. We have replicated the analysis for the group of people aged 30 and older. The results are the same as those described from the analysis of people aged 25 and older.

9. The following are the potential interactions tested: years of schooling before marriage and age; years of schooling before marriage and arranged marriage; years of schooling before marriage and birthplace; and occupation before marriage.

10. There is a wise old saying which, when translated into English, means "a daughter-in-law of a family is considered as a real daughter of that family, whereas a son-in-law is just a guest of the family". Therefore, parents pay more attention to the marriage of a son (in order to bring a "real daughter" home) than the marriage of a daughter who will anyway go to live with another family.

References

Banister, Judith (1993). Vietnam: Population Dynamics and Prospects (Berkeley: University of California, Institute of East Asian Studies).

Bohrnstedt, George. W and David Knoke (1988). Statistics for Social Data Analysis Second edition. F.E.Peacock Publishers, Inc.

Bongaarts, John and Greenhalgh (1985). "An alternative to the one-child policy in China" Population and Development Review 11(4):585-617.

Cheung, Paul, Josefina Cabigon, Aphichat Chamratrithirong, Peter F. McDonald, Sabila Syed, Andrew Cherlin and Peter C. Smith (1985). "Cultural variations in the transition to marriage in four Asian societies". In International Population Conference, Florence, 1985, Vol. 3 (Liege, Belgium: International Union for the Scientific Study of Population), pp. 293-308.

Coale, A. (1971). Age patterns of marriage" Population Studies 25(2):193-214.

Davis, Kingsley and Judith Blake (1956). "Social structure and fertility: an analytic framework" Economic Development and Cultural Change 4(3):211-235.

Dixon, Ruth (1971). "Explaining cross-cultural variations in age at marriage and proportions never marrying" Population Studies 25(2):215-233.

Do, Thai Dong (1991). "Modifications of the traditional family in the south of Vietnam". In Rita Liljestrom and Tuong Lai (eds.) Sociological Studies on the Vietnamese Family (Hanoi: Social Sciences Publishing House), pp. 69-

83.

General Statistical Office (GSO) (1991). Detailed Analysis of Sample Results. Vietnam Population Census 1989, Hanoi.

Goode, William (1963). World Revolution and Family Patterns (New York: Free Press).

Hirschman, Charles (1985). "Premarital socioeconomic roles and the timing of family formation: a comparative study of 5 Asian societies" Demography 22(1):35-59, February.

_____ Samuel H. Preston and Vu Manh Loi (1995). "Vietnamese casualties during the American war: a new estimate" Population and Development Review 21(4):783-812.

Hull, Valerie J. (1977). "Fertility, women's work and economic class: a case study from Southeast Asia". In Stanley Kupinsky (ed.) The Fertility of Working Women: A Synthesis of International Research (New York: Prager) pp. 35-80.

National Committee for Population and Family Planning (NCPFP) (1990). Demographic and Health Survey 1988, Hanoi.

Nguyen, Huu Minh (1979). Nhung khia canh nhan khau xa hoi cua gia dinh doi voi van de ke hoach hoa xay dung va phan phoi nha o [Socio-demographic aspects of the family affecting plans of housing construction and distribution]. Unpublished paper, Institute of Sociology, Hanoi.

Nguyen, Luc and others (1993). "Selected determinants of fertility in Vietnam: age at marriage, marriage to first birth interval and age at first birth" Journal of Biosocial Science 25(3):303-310.

Nguyen, The Giai (1988). Luat Hon Nhan Va Gia Dinh Voi Thanh Nien [The Marriage and Family Law, and Young People] (Hanoi: Youth Publishing House).

Pakistan National Institute of Population Studies (1992). Pakistan Demographic and Health Survey 1990/1991, Islamabad (Pakistan) and Maryland (United States).

Palmore, A. James (1983). "The country effect: a six nation overview of the determinants of nuptiality and cumulative fertility". In Multivariate Analysis of Nuptiality and Fertility for Selected ESCAP Countries (Bangkok: United Nations), Asian Population Studies Series No. 59, pp. 6-11.

Pasternak, Burton (1986). Marriage and Fertility in Tianjin, China: Fifty Years of Transition. Papers of the East-West Center Population Institute (Honolulu, Hawaii), No. 99, July.

Phan, Huy Chu (1992). Lich Trieu Hien Chuong Loai Chi, Vol. 2 (Hanoi: Social Sciences Publishing House).

Phan, Ke Binh (1990). Vietnam Phong Tuc [Vietnamese Customs] (Dong Thap: Universal Printing House).

Philippines National Statistical Office (1994). National Demographic Survey 1993, Manila (Philippines) and Maryland (United States).

Smith, D.P. (1980). "Age at first marriage". In World Fertility Survey Comparative Studies -- Cross National Summaries No. 7 (Voorburg, The Hague: International Statistical Institute), April.

Smith, Peter C. (1980). "Asian marriage patterns in transition" Journal of Family History, 5(1):58-96.

_____ and Mehtab S. Karim (1980). Urbanization, Education, and Marriage Patterns: Four Cases from Asia. Papers of the East-West Population Institute, No. 70, December, (Honolulu, Hawaii).

Tran, Dinh Huou (1991). "Traditional families in Vietnam and the influence of Confucianism". In Rita Liljestrom and Tuong Lai (eds.) Sociological Studies on the Vietnamese Family (Hanoi: Social Sciences Publishing House), pp. 25-47.

Trinh, Thi Quang (1984). "May van de quan he than toc o nong thon [Some problems of the kinship relation in the rural areas]" Tap Chi Xa Hoi Hoc [Sociological Review], Hanoi, No. 2, pp. 47-52.

United Nations (1996). "World Population 1996" data sheet (New York: DESIPA).

_____ (1990). Patterns of First Marriage: Timing and Prevalence (New York) ST/ESA/SER.R/111.

_____ (1988). First Marriage: Patterns and Determinants (New York) ST/ESA/SER.R/76.

_____ (1986). Nuptiality: Selected Findings from The World Fertility Survey Data (New York).

Vietnam National Study Project on Housing (1985). Nhung Khia Canh Xa Hoi Cua Van De Nha O [Social Aspects of Housing], Hanoi.

Von Elm, Barbara and Charles Hirschman (1979). "Age at first marriage in Peninsular Malaysia" Journal of Marriage and the Family 41(4):877-891.

Vu, Van Mau (1962). Vietnam Dan Luat Luoc Khao. Quyen 1, Gia Dinh. [Review of Vietnam Civil Codes. Volume 1, Family]. In lan thu 2, Bo Quoc Gia Giao Duc, Saigon, Viet Nam.

Xenos, Peter and Socorro A. Gultiano (1992). Trends in Female and Male Age at Marriage and Celibacy in Asia. Papers of the Program on Population No. 120, East-West Center, Program on Population (Honolulu, Hawaii).

Timing of Family Formation in Ethnic Mosaic Nepal: A District-Level Analysis (Demographers' Notebook)

By Shyam Thapa *

* Senior Scientist, Family Health International, North Carolina, United States. Currently he is serving as Technical Adviser, Family Health Division, Ministry of Health, and Population Division, Ministry of Population and Environment, Kathmandu, Nepal. E-mail: sthapa@fhi.wlink.com.np

Marriage marks the beginning of socially sanctioned exposure to pregnancy and sets the course of subsequent childbearing. Thus, the age of a woman at marriage is one of the most important proximate determinants of the aggregate level of fertility (Bongaarts and Potter, 1983). Age at marriage is also an important indicator of women's status (Safilios-Rothschild, 1986). An increase in the age at marriage also means minimizing first births to teenage mothers, which is known to carry a higher risk for the mother and child (Hobcraft, 1987). Because of its role in determining the fertility level, improving women's and children's health, and enhancing women's status, increasing age at marriage has been an important domain of public policy-making (Henry and Piotrow, 1979). Most countries, for example, have imposed legal sanctions on age at first marriage. The identification of factors affecting the age at marriage is therefore of paramount interest for multiple reasons.

Age at marriage, or the timing of family formation, is generally known to be positively associated with socio-economic development. Besides development, ethnicity has also been found to be an important factor affecting the timing of family formation and entry into motherhood. Ethnic group identification represents a sub-system within a society and reflects variations in institutional arrangements concerning the "starting" pattern of reproduction. Even in a highly industrialized and urbanized society such as the United States, ethnic differentials continue to remain important in all the processes of family formation, including the timing of marriage (Kobrin and Goldscheider, 1978).

Similarly, studies on several Asian countries with diverse socio-economic conditions have found that the ethnicity factor significantly affects the timing of marriage and the time of first birth, independent of socio-economic factors (Hirschman, 1985; Hirschman and Rindfuss, 1980 and 1982; Rindfuss and Hirschman, 1984; Rindfuss, Parnell and Hirschman, 1983). Congruent with these findings, the ethnic factor has been found to be a major determinant of the timing of family formation in Nepal as well (Thapa, 1989).

Previous research on Nepal focused on individual-level data from the mid-1970s. The purpose of this paper is to extend the previous research in order to analyse the district-level variations in the timing of family formation in Nepal. The main hypothesis examined is that the district-level variations in the timing of family formation are determined principally by ethnicity, independent of socio-economic factors. It is surmised, therefore, that the district-level variations are not randomly distributed among sub-populations but are differentiated by ethnic characteristics in the districts.

Data and methodology

The measure of the timing of family formation used in this analysis is female singulate mean age at marriage (SMAM). SMAM refers to the mean number of years spent in the single (never married) state by those in the hypothetical cohort who marry by age 50 (Hajnal, 1953). The SMAM values are computed by applying Hajnal's technique to the 1991 census data for each of Nepal's 75 districts (CBS, 1995:167-203). In computing the SMAM values for Nepal, it is assumed that no female marries before age 10.

Ethnic group membership, the main explanatory variable, is defined by self-identification. Although surveys have collected information on ethnicity, the 1991 census was the first census to collect data on ethnicity for the country.

Nepal's population is truly an ethnic mosaic. According to the 1991 census there are at least 60 ethnic groups (CBS, 1993); the 60 groups include those based on the Hindu caste system and religion. Each may be considered an ethnic group in that it represents a sub-system of institutional arrangements, values and norms. While many of the groups tend to be concentrated in certain ecological regions, several of the groups are scattered throughout the country. Some ethnographic information on many of these groups has been reported by Bista (1972) and Gautam and Thapa-Magar (1994).

The "control variable" in this analysis is the level of development in each district. Development is measured by the "Human Development Index" (HDI). HDI is a measure proposed by UNDP (1990) which

comprises three components: expectation of life at birth ("longevity"), literacy ("knowledge") and a modified measure of per capita income ("resource access"). The index values for each dimension are expressed in terms of the relative distances between the lowest and highest observed values on each indicator, ranging from 0 to 1.

The values for each of the three components and the composite index (HDI) for the 75 districts are given in Thapa (1995). HDI is highly correlated with many other indicators of socio-economic development, such as communication, roads, urbanization, health services utilization and population growth (Thapa, 1995). This implies, therefore, that the HDI is also a proxy for many other dimensions of development.

The main techniques of data analysis used are simple correlation coefficients and the multiple regression. The unit of analysis is district, not individuals. In this sense, it is "ecological" research. One limitation of ecological research is that inferences about individuals cannot be made without committing what is known as an "ecological fallacy". However, the previous research (Thapa, 1989) focused on individual-level variations. The present research complements the previous research and seeks to examine whether the results based on individuals also hold at the aggregate, district level.

Results

Table 1 presents data on SMAM for females in Nepal's 75 districts. The national average SMAM is 18, ranging from a low of 15.1 years (in the districts of Bara, Kapilvastu and Parsa) to a high of 23 years (Mustang District) or a difference of nearly eight years among the 75 districts. Fourteen districts have SMAM of 20 and higher years. Another 17 districts have SMAMs of less than 17. In the remaining 44 districts, the SMAM values range between 16.6 and 19.9.

Table 1: Female singulate mean age at marriage (SMAM), 75 districts, Nepal, 1991

District	SMAM	District	SMAM
Mustang	23.0	Makwanpur	18.2
Manang	22.9	Sindhupalchowk	18.1
Taplejung	21.7	Pyuthan	18.1
Teharathum	21.3	Dang	18.1
Panchthar	21.1	Dhading	18.0
Solukhumbu	21.0	Rukum	17.9
Bhojpur	20.9	Salyan	17.8
Dhankuta	20.9	Nuwakot	17.7
Ilam	20.8	Mugu	17.6
Sankhuwasawa	20.7	Arghakhachi	17.5
Kathmandu	20.5	Surkhet	17.5
Lalitpur	20.3	Achham	17.4
Khotang	20.2	Bajura	17.4
Jhapa	20.1	Bardiya	17.3
Dolpa	19.9	Nawalparasi	17.2
Okhaldhunga	19.8	Jajarkot	17.1
Lamjung	19.6	Dailekh	17.1
Myagdi	19.5	Kanchanpur	17.1
Bhaktapur	19.4	Kailali	17.1
Kaski	19.3	Doti	17.0
Gorkha	19.2	Bajhang	16.8
Morang	19.1	Banke	16.6
Udayapur	19.1	Jumla	16.5
Ramechhap	19.1	Dadheldhura	16.5
Parbat	19.0	Darchula	16.5
Dolkha	19.0	Kalikot	16.5
Syanja	18.9	Baitadi	16.3
Humla	18.9	Rupandehi	16.3
Sindhuli	18.8	Sarlahi	16.2

Tanahu	18.8	Saptari	15.9
Sunsari	18.7	Mahotari	15.7
Rolpa	18.7	Dhanusha	15.7
Palpa	18.6	Siraha	15.3
Baglung	18.6	Rautahat	15.2
Chitwan	18.6	Bara	15.1
Kavre	18.5	Kapilbastu	15.1
Gulmi	18.5	Parsa	15.1
Rasuwa	18.3		
		All Nepal	18.1

Source: CBS (1995).

Note: The districts are listed according the SMAM values in descending order.

There has been a gradual but slow increase in SMAM over the years in Nepal (CBS, 1995:181). In 1961, the national average SMAM for females was 15.4. It increased to 16.8 and 17.2 in 1971 and 1981, respectively, and 18.1 in 1991. Thus, there has been an increase of only three years over the 30-year period. Similarly, there has been a slow change in the age differentials between males and females. In 1961, the male SMAM was 4.1 years higher than the female SMAM; in 1991, the difference was 3.3 years.

The ethnic composition of the country's total population is shown in table 2. The groups are listed in descending order according to the percentage share of the total population. The census identified 60 ethnic groups. Besides these 60 groups, additional unspecified groups are listed under "other" in each of the three ecological regions (Mountain, Hill and Terai, which refers to the plain belt in the southern part of the country), accounting for 4.4 per cent of the total. The foreigners (without ethnic identification) and "not stated" categories constitute 0.05 per cent of the total.

Table 2: Ethnic composition of the population of Nepal, 1991

Ethnic group	Per cent	Number	Ethnic group	Per cent	Number
Chetri	16.05	2,968,082	Dhobi	0.41	76,594
Hill Bahun	12.92	2,388,455	Kumhar	0.39	72,008
Magar	7.24	1,339,308	Kanu	0.38	70,634
Tharu	6.46	1,194,224	Khatway	0.36	66,612
Newar	5.63	1,041,090	Rajput	0.30	55,712
Tamang	5.51	1,018,252	Majhi	0.30	55,050
Kami	5.21	963,655	Kayastha	0.29	53,545
Yadav	4.14	765,137	Danuwar	0.27	50,754
Muslim	3.53	653,055	Haluwai	0.24	44,417
Other *Terai*	3.39	627,514	Sunuwar	0.22	40,943
Rai	2.84	525,551	Chepang	0.20	36,656
Gurung	2.43	449,189	Rajbhar	0.18	33,433
Dami	1.99	367,989	Marwari	0.16	29,173
Thakuri	1.62	299,473	Gangain	0.12	22,526
Limbu	1.61	297,186	Thami	0.10	19,103
Sarki	1.49	276,224	Dhimal	0.09	16,781
Teli	1.36	250,732	Thakali	0.07	13,731
Kushwha	1.11	205,797	Bhote	0.07	12,463
Chamar	1.10	203,919	Darai	0.06	10,759
Other Hill	1.00	184,216	Shikh	0.05	9,292
Sanyasi	0.98	181,726	Bengali	0.04	7,909
Kurmi	0.90	166,718	Wadi	0.04	7,082
Terai Bahun	0.88	162,886	Bote	0.04	6,718
Sudhi/Kalwar	0.88	162,046	Jirel	0.03	4,889

Musahar	0.77	141,980	Lepcha	0.03	4,826
Dhanku	0.74	136,944	Gaine	0.02	4,484
Mallha	0.60	110,413	Raji	0.02	3,274
Sherpa	0.60	110,358	Raute	0.02	2,878
Bania	0.55	101,868	Churoute	0.01	1,778
Kewat	0.55	101,482	Other Mountain	0.01	1,741
Dhusadh	0.50	93,242	Foreign	0.02	2,951
Rajbansi	0.44	82,177	Not stated	0.03	4,858
Kumal	0.41	76,635			
			Total	100	18,491,097

Source: CBS (1993).

Note: The ethnic groups are listed according to the percentage share in the total population.

The 60 identified ethnic groups also include those based on language, religion and the Hindu caste hierarchy system. Of all the groups, Bengali is the only linguistic group, representing 0.04 per cent of the population. The non-Hindu religious groups include Muslim, Churaute (Hill Muslim), Marwari and Sikh. These four ethnic sub-groups represent 3.8 per cent of the total population.

The groups based on the four-fold Hindu caste system include (a) Bahun (13.8 per cent), (b) Chetri and Thakuri (17.7 per cent), (c) Newar (5.6 per cent) and (d) Kami, Damai, Sarki and Gaine, known as "lower caste" (8.7 per cent). They represent 45.8 per cent of the country's total population.

The various other groups represent a total of 46.0 per cent of the population (excluding "other" and unspecified categories). Some of these ethnic groups may be Hindus and Buddhists by religion, while others follow tribal-based religion. (Some of the Newars also belong to a non-Hindu, Buddhist group, but the census does not distinguish between them.)

The correlation coefficients between the ethnic groups and SMAM are presented in table 3. In the table, two types of correlations are presented. The first column shows simple correlation or Pearson r, which is a linear correlation between each ethnic group and SMAM. The second column, on the other hand, refers to the correlation after controlling for the possible effects of development (that is, the Human Development Index). Thus, while the first column shows the degree of "gross" association, the second column shows the degree of "net" association between each ethnic group and SMAM. The comparison between the two correlation values, therefore, indicates the effect of the development factor on SMAM. In the table, the groups are arranged in four blocks according to the direction and strength of the simple correlation values.

Table 3: Correlation coefficients between ethnic groups and female singulate age at marriage (SMAM), Nepal, 1991: district-level results

| | Correlation coefficients | | | Correlation coefficients | |
Ethnic group	Simple	Partial[+]	Ethnic group	Simple	Partial[+]
Gurung	0.501 * *	0.468 * *	Tharu	-0.274 *	-0.253
Rai	0.463 * *	0.411 * *	Marwari	-0.101	-0.315 * *
Sherpa	0.445 * *	0.446 * *	---		
Limbu	0.424 * *	0.365 * *	Sunuwar	0.210	0.184
Thakali	0.326 *	0.320 * *	Lepcha	0.150	0.173
Other Mountain	0.293 *	0.249 * *	Hill Bahun	0.143	0.003
Newar	0.276 *	0.059	Rajbansi	0.124	0.055
Bhote	0.261	0.259 *	Tamang	0.123	0.120
---			Dhimal	0.117	0.036
Chamar	-0.614 * *	-0.610 * *	Magar	0.115	0.091
Kayastha	> -0.602 * *	-0.598 * *	Other Hill	0.112	0.137
Dhobi	-0.575 * *	-0.586 * *	Damai	0.108	0.244
Kumhar	-0.573 * *	-0.563 * *	Gangaini	0.077	0.005
Muslim	-0.559 * *	-0.571 * *	Majhi	0.077	0.047
Yadav	-0.557 * *	-0.553 * *		0.060	0.045

			Thami		
Teli	-0.556 * *	-0.562 * *	Bengali	0.044	-0.063
Mallha	-0.535 * *	-0.540 * *	Jirel	0.042	0.024
Bania	-0.523 * *	-0.540 * *	Churoute	0.038	-0.067
Sudhi	-0.518 * *	-0.518 * *	Darai	0.018	-0.048
Dhusadh	-0.508 * *	-0.503 * *	Chepang	0.007	-0.015
Kurmi	-0.505 * *	-0.498 * *	--		
Terai Bahun	-0.489 * *	-0.489 * *	Thakuri	-0.235	-0.007
Rajput	-0.487 * *	-0.502 * *	Wadi	-0.204	-0.086
Kushwha	-0.487 * *	-0.487 * *	Kami	-0.174	0.046
Other *Terai*	-0.486 * *	-0.519 * *	Raji	-0.142	-0.072
Dhanku	-0.419 * *	-0.425 * *	Raute	-0.114	0.007
Kanu	-0.402 * *	-0.398 * *	Chetri	-0.097	0.120
Mushar	-0.384 * *	-0.410 * *	Shikh	-0.091	-0.166
Kewat	-0.348 * *	-0.367 * *	Sanyasi	-0.084	0.005
Rajbhar	-0.329 *	-0.356 * *	Danuwar	-0.066	-0.066
Haluwai	-0.327 *	-0.358 * *	Kumal	-0.034	-0.085
Khatway	-0.319 *	-0.327 * *	Gaine	-0.023	-0.062
			Bote	-0.021	-0.089
			Sarki	-0.005	0.050

Notes: * * p<.001, * p<.01.

+ Refers to the coefficients after controlling for the effect of the level of development (Human Development Index).

The ethnic groups in each block are listed in descending order according to the simple correlation values.

Three main findings emerge from the results. First, of the several groups, only eight are significantly and positively associated with higher SMAM at the district level. These groups represent 13.3 per cent of the total population. Four groups (Gurung, Rai, Sherpa and Limbu) have a correlation ranging between 0.42 and 0.50. The remaining four groups have a relatively weak, but statistically significant, correlation.

Twenty-five groups, representing 30.2 per cent of the total population, are negatively correlated with SMAM. The first two groups (Chamar and Kayastha) have the highest degree of correlation. An additional 10 groups have correlations between -0.51 and -0.58. The Tharu group has the weakest correlation.

Second, some of the larger groups such as Chetri, Bahun, Tamang and Magar are not significantly correlated with SMAM. This means the district-level SMAM does not vary significantly, regardless of the districts these groups live in. The 30 groups with no statistically significant association with SMAM represent the largest percentage, 56.5 per cent, of the total population.

Third and most important, the level of development is not the principle reason for the variations in district-level SMAM. Even after controlling for the effects of the level of development, most of the correlation values remain largely intact, as indicated by the partial correlations. Development affects the degree of association in a significant way only for two groups, Newar and Marwari. In the vast majority of the cases, ethnicity has an independent strong association with the district-level variation in SMAM.

In further analysis, the data on ethnic groups were pooled that (a) are significantly (at p<.01) associated with SMAM and (b) have the same direction of relationship; then multiple regressions were carried out in order to assess the magnitude or strength of the relationship between SMAM and ethnicity. The main advantage of doing so is to reduce the number of regressions and, at the same time, obtain robust estimates. The results are presented in table 4.

Table 4: Regression results of the effects of ethnicity and development on female singulate age at marriage (SMAM), Nepal, 1991: district-level results

Independent variable	Beta coefficient	R^2	F

Development	.049		
Eight ethnic groups[+]	.833 * *		
		.733	98.71 * *
Development	.419 * *		
Twenty-five ethnic groups[++]	-.614 * *		
		.550	44.08 * *
Development	.124 *		
Eight ethnic groups[+]	.666 * *		
Twenty-five ethnic groups[++]	-.374 * *		
		.850	134.17 * *

Notes: Development refers to the Human Development Index.

+ As listed in the first block of table 3.

++ As listed in the second block of table 3.

* * p<.001, * p<.01.

The eight ethnic groups and the development variable explain 73 per cent of the district-level variation in SMAM (as indicated by the results in the first panel of the table). The development variable is not statistically significant, however. This implies that regardless of the level of development, a district would have a higher SMAM if these groups are present.

The results in the second panel of the table indicate that, when the 25 ethnic groups are considered, the level of development also has an independent significant effect on the district-level variation in SMAM. However, the level of development has only a secondary effect; it accounts for about one-third of the total variance explained by the model (as indicated by a "step-wise" regression, not shown in the table). The total variance explained by the two variables, development and ethnicity, is 55 per cent.

Finally, the results in the bottom panel of the table include both types of ethnic sub-groups (positively as well as negatively related ethnic groups to the SMAM) and the development variable in a single multivariate equation model. The three variables explain fully 85 per cent of the total district-level variations in SMAM; only 15 per cent of the variance remains unexplained. The eight ethnic groups are the most important in explaining the higher SMAM values, and the 25 ethnic groups are inversely related to SMAM. The level of development also has an independent, but relatively weak, association with the district-level SMAM. The results confirm that ethnicity is the principle factor in determining the district-level variations in SMAM.

Discussion and conclusion

Nepal's population represents an ethnic mosaic. The 1991 census provided, for the first time, data on ethnic groups in the country. It identified at least 60 ethnic groups. The data afford the opportunity to analyse the role of the ethnic factor in socio-economic development as well as reproductive patterns at the aggregate, district level in Nepal. This research sought to examine the role of the ethnic factor in the "starting" pattern of reproduction.

Nepal has a relatively low singulate mean age at marriage (a national average of 18 years for females, according to the 1991 census). Furthermore, it is a common norm and practice for couples to have the first birth without delay or any form of volitional control. The parents and the society at large expect new couples to have their first child soon after cohabitation begins. Thus, there are strong cultural as well as gerontocratical pressures on the reproductive process of the newly-weds. Marriage therefore also marks the beginning of the entry into motherhood in Nepal.

The analysis found that the starting pattern of reproductive behaviour in Nepal's 75 districts is closely related to ethnic group membership. The level of socio-economic development also influences the timing of family formation, but this has only a secondary effect. These results confirm those based on the individual-level analysis of the data from the mid-1970s (Thapa, 1989). They are also similar to the findings from other countries (Kobrin and Goldscheider, 1978; Hirschman, 1984; Rindfuss, Parnell and

Hirschman, 1983).

In the 75 districts, the presence of eight ethnic groups (namely, Gurung, Rai, Sherpa, Limbu, Thakali, Bhote, Newar and "other" groups living in the Mountain region) is associated with significantly higher age at marriage, although they represent only about 13 per cent of the total population in the country. Most of the groups, except Newar, are concentrated in the Mountain and upper Hill regions of the country. Culturally, these groups generally have much more relaxed views on marriage than the other more dominant groups, such as Chetri and Bahun (Bista, 1972; Gautam and Thapa-Magar, 1994; Thapa, 1989). Remarriage, for example, is not necessarily a social taboo. Furthermore, courtship before marriage is also permitted and not looked down upon. Marriage by mutual consent, as opposed to an arranged marriage, is also common among these groups.

Perhaps more important is the fact that the women in these groups have higher social status than in the other groups. For example, households headed by females (largely on account of out-migration of the males) are also common. Women's involvement in business activities is a socially accepted norm. They have considerably less restriction on travel and interacting with people than the dominant groups. In fact, many of them work outside homes (not confined to farming) and generally have more control over household economic resources and decision-making.

The other 25 groups, representing 30 per cent of the population, that are significantly related to the lower age at marriage in the districts, are largely concentrated in the Terai ecological region. The cultural norms and practices are heavily influenced by the Hindu culture of northern India (Bista, 1972; Gautam and Thapa-Magar, 1994; Thapa, 1989). In contrast to the previous groups, the women belonging to the 25 groups are generally confined to farming; they have considerably less control over economic resources and household decision-making. Women are typically considered as an economic burden. Premarital courtship or marriage by consent are generally not accepted. Marriages are usually arranged by parents at an early age. The joint family institution is a common characteristic of many of these ethnic groups. The patriarch generally assumes the full authority.

The early and late age at marriage are thus closely tied to values, norms and institutional arrangements specific to certain ethnic groups. Nepal has an early pattern of timing of family formation mainly because the groups that have higher age at marriage represent a smaller share of the total population. The timing of family formation can be expected to increase significantly only when the cultural norms and institutions of the larger ethnic groups change.

Since changes in normative and institutional practices are often a slow process, it is not surprising that the mean age at marriage (female) has increased only slowly over the decades, from about 15 years in 1961 to 18 years in 1991. Clearly, bringing about significant increases in age at marriage is a colossal process. Owing to weak implementation and monitoring systems, the enforcement of the legal age at marriage (for females, 16 years of age with parental consent and 18 years without) remains difficult. Marriages below the legal age tend to occur frequently in Nepal.

A significant reduction in fertility, improvement in women's and children's health, and the enhancement of women's status by raising the age at marriage through legal means remain difficult tasks unless strong implementation and monitoring systems are developed in the Nepalese context. Multi-sectoral approaches such as increasing female literacy, eliminating legal discrimination against property rights, encouraging non-agricultural employment for women and raising social awareness may be some of the effective ways to bring about normative and structural, as well as institutional changes, at the societal level.

Unless such inputs are introduced on a massive scale, the results of this study clearly suggest that a mere linear improvement in the level of socio-economic development cannot be expected to significantly increase the timing of family formation in Nepal. Ethnic institutions and social networks remain key determinants of the initiation of reproductive behaviour. The timing of family formation may change considerably only when the legal, social and economic programmes are able to affect and mobilize the vast majority of the ethnic groups in the country.

Acknowledgements

References

Bista, Dor Bahadur (1972). People of Nepal (second edition) (Kathmandu: Ratna Pustak Bhandar).

Bongaarts, John and Robert G. Potter (1983). Fertility, Biology, and Behavior: An Analysis of the Proximate Determinants (New York: Academic Press).

CBS (1993). Population Census 1991: Social Characteristics Tables (Vol. 1, Part VII) (Kathmandu: Central Bureau of Statistics [CBS]).

_____ (1995). Population Monograph of Nepal (Kathmandu: Central Bureau of Statistics).

Gautam, Rajesh and Asoke K. Thapa-Magar (1994). Tribal Ethnography of Nepal (2 volumes) (Delhi: Book Faith India).

Hajnal, John (1953). "Age at marriage and proportions marrying" Population Studies 7(2):111-136.

Henry, Alice and Phyllis T. Piotrow (1979). "Age at marriage and fertility" Population Reports, Series M, No. 4.

Hirschman, Charles (1985). "Premarital socio-economic roles and the timing of family formation: a comparative study of five Asian societies" Demography 22(1):35-59.

_____ and Ronald Rindfuss (1982). "The sequence and timing of family formation events in Asia" American Sociological Review 47(5):660-680.

Hobcraft, John N. (1987). Does family planning save children's lives? Technical background paper (unpublished) prepared for the International Conference on Better Health for Women and Children through Family Planning, Nairobi, Kenya, 5-9 October.

Korbrin, Frances E. and Calvin Goldscheider (1978). The Ethnic Factor in Family Structure and Mobility (Cambridge, MA: Ballinger Publishing Co.).

Rindfuss, Ronald and Charles Hirschman (1984). "The timing of family formation: structural and societal factors in the Asian context" Journal of Marriage and the Family 46(1):205-214.

Rindfuss, Ronald, A. Parnell, and C. Hirschman (1983). "The timing of entry into motherhood in Asia: a comparative perspective" Population Studies 37(2):253-272.

Safilios-Rothschild, Constantina (1986). Socio-economic Indicators of Women's Status in Developing Countries, 1970-1980 (New York: Population Council).

Thapa, Shyam (1995). "The Human Development Index: a portrait of the 75 districts in Nepal" Asia-Pacific Population Journal 10(2):3-14.

_____ (1989). "The ethnic factor in the timing of family formation in Nepal" Asia-Pacific Population Journal 4(1):3-34.

UNDP (1990). Human Development Report 1990 (New York: Oxford University Press).