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LONG TERM MARRIAGE PATTERNS
IN THE UNITED STATES FROM
COLONIAL TIMES TO THE PRESENT

Michael R. Haines

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ABSTRACT

Marriage in colonial North America was notable for being early (for women) and marked by low percentages never marrying. This was different from the distinctive northwest European pattern of late marriage and high proportions never married late in life. But the underlying neolocal family formation behavior was the same in both colonial North America and the areas of origin of this population. Thus, Malthus was correct. Abundant resources rather than basic behavioral differences made early and extensive marriage possible in the colonies.

Between 1800 and the present there have been long cycles in nuptiality. Since about 1800, female age at first marriage rose from relatively low levels to a peak around 1900. Thereupon a gradual decline commenced with a trough being reached about 1960 at the height of the baby boom. There then began another, and rapid, upswing in female marriage age. Proportions never married at ages 45-54 replicated these cycles with a lag of about 20-30 years. Since 1880 (when comprehensive census data became available), male nuptiality patterns have generally paralleled those of women. Male marriage ages were higher than those of females with proportions never marrying also usually higher. Considerations of differentials by race and ethnicity are important in looking at the American experience over time. Black ages at marriage have, for example, moved from being lower to being higher than those for whites. More work is needed in the period 1800 to 1880 when we lack comprehensive census, vital, and other data.

Michael R. Haines
Department of Economics
Colgate University
13 Oak Drive
Hamilton, NY 13346
and NBER

INTRODUCTION

Certain aspects of the demographic history of the United States distinguish it from the experience of many other presently developed nations. This would include the early fertility decline from very high levels, the delayed mortality transition, heavy net in-migration, and considerable ethnic and racial heterogeneity. To this should be added the reputation for early and nearly universal marriage, which was a pattern quite different from western and northern Europe in the late 18th and 19th centuries. Indeed, nuptiality in the British North American colonies and later the United States more closely resembled behavior in eastern Europe and the Balkans, territory east of the "nuptiality boundary" running from Trieste to St. Petersburg [Hajnal, 1965]. It should be emphasized, however, that similarity of outcomes certainly does not imply similarity of causation. The societies of colonial North America were different from those in eastern Europe and the Balkans in the 18th and 19th centuries and were more similar to those of northwest Europe in the same period. Daniel Scott Smith [1993] has made the essential point that the defining rule of the northwest European marriage and household formation system, neolocal household formation (with children separating from parents upon marriage), was also true for colonial North America. "Early America was part of the northwest European household formation system with respect to the fundamental rule that newly married couples departed from the households of their parents and set up householding on their own. Everyone knew that 'a man [shall] leave father and mother, and shall be joined unto his wife, and they shall be one flesh.'" [Smith, 1993, p. 399.] Thus the emphasis would be on the less binding resource constraints of the colonial environment rather than on fundamental differences in the underlying behavioral parameters.

Contemporary observers in the 18th and early 19th centuries commented on nuptiality patterns in the colonies. Frequently cited are Benjamin Franklin's remarks:

"Tables of the proportion of Marriages to Births, of Deaths to Births, of Marriages to the number of inhabitants, &c., form'd on observations made upon the Bills of Mortality, Christenings, &c., of populous cities will not suit countries; nor will tables form'd on observations made in

full settled old countries, as Europe, suit new countries, as America.

2. For people increase in proportion to the number of marriages, and that is greater in proportion to the ease and convenience of supporting a family.....which charges are greater in the cities, as Luxury is more common: many live single during life, and continue servants to families, journeymen to Trades, &c., hence cities do not by natural generation supply themselves with inhabitants; the deaths are more than the births.

4. In countries full settled, the case must be nearly the same; all Lands being occupied and improved to the height; those who cannot get land must labour for others that have it; when laborers are plenty, their wages will be low; by low wages a family is supported with difficulty; this difficulty deters many from marriage, who therefore long continue servants and single. Only as the Cities take supplies of people from the country, and thereby make a little more room in the country; Marriage is a little more encourag'd there, and the births exceed the deaths....

7. Hence marriages in America are more general and more generally early, than in Europe. And if it is reckoned there, that there is but one marriage per annum among one hundred persons, perhaps we may here reckon two; and if in Europe they have but four Births to a marriage (many of the marriages being late) we may here reckon eight, of which one half grow up, and our marriages are made, reckoning one with another at twenty years of age our people must be at least doubled every twenty years." [Franklin, 1755, quoted in Grabill, Kiser, and Whelpton, 1958, pp. 5-6.]

A French consular official in the United States, Chevalier Felix de Beaujour, wrote in 1814:

"Every thing in the United States favours the progress of population; the emigration from Europe, the disasters of the European colonies, but, above all, the abundance of the means of subsistence. Marriages are there easier than in Europe, births more multiplied, and deaths relatively less frequent. It is calculated that out of sixty individuals, two are married annually, that one is born out of every twenty, and that the proportion of deaths is only one in forty. This last report, founded on careful observations, seems incredible in a country so recently cleared and naturally not healthy; but it is nonetheless true, because it accords with the number of births, which there is greater than in Europe. In the United States, more children are necessarily born than among us, because the inhabitants, in such an extent of country, finding the means of subsistence more abundant, marry at an early age. No human consideration there operates as a hindrance to reproduction, and the children swarm on the rich land in the same manner as do insects." [de Beaujour, 1814, quoted in Grabill, Kiser, and Whelpton, 1958, p. 6.]

The latter quote was probably partly based on the early statistical study of the United States by Samuel Blodgett, published in 1806 [Blodgett, 1806, pp. 72-79]. This implies a crude birth rate of about 50 per 1000 population, a crude death rate of about 25, and a crude marriage rate of about 33. Contrast this with a crude marriage rate of 12.0 for the United States in 1920 [U.S. Bureau of the Census, 1975, Series B 216] or 19.6 in Massachusetts in 1856/60 [Abbott, 1897, p. 724]. Overall, then, contemporaries felt that

marriage age was young, marriage was nearly universal, and that the marriage rate was high in the colonial and early national periods.

This did not remain so over time, however. Briefly, the events were a slow increase over the 19th century in the age at marriage and probably the proportion of the population never having married by about age 50. The age at marriage peaked around 1890 or 1900, followed by a slow decline until World War II. The decline then accelerated during the postwar "baby boom". The trough came about 1960, approximately at the peak of births during the boom (1957-1961). Thereafter another reversal took place as the age at first marriage began to rise again for both men and women. The trend in permanent non-marriage (as measured by the proportion never married at ages 45-54) followed that trend with about a 30 year lag, pointing to strong cohort effects in marriage age.²

This increase in marriage age continues through the present. By 1990, ages at first marriage had reached levels comparable to those at the previous peak in 1890 for white males. White females had first marriage ages well above that seen at the turn of the century and possibly never seen before for the nation as a whole (as opposed to marriage ages for regions or subgroups). The recent results for the black population are even more startling. Ages at marriage, which had historically been below those for the white population, rose so rapidly from the 1950s for both males and females that the ages were well above those for the white population and comparable to some of the most extreme cases of late marriage found in the recent history of western Europe [Tucker and Mitchell-Kernan, 1995]. Documenting and discussing these long cycles in nuptiality in the United States will constitute the substance of this paper.

DATA

Nuptiality is measurable by both stock and flow data. The flow data, information from registration systems on marriages, remarriages, divorces, and separations, can provide useful insights, particularly if the information is broken down along such dimensions as age, occupation, race, ethnicity,

residence, and occupation of grooms and brides. It is best when available as microdata or in highly disaggregated form. Unfortunately, often only aggregates of marriages are reported, and a crude marriage rate, such as cited above for the early 19th century, is not especially informative.

For the United States, efforts at collection of nationwide data on marriages began in 1887/88 when the office of the U.S. Commissioner of Labor under Carroll Wright prepared estimates of marriage and divorce for the period 1867 to 1886 [U.S. Commissioner of Labor, 1897]. This was followed by a second national survey covering the period 1887 to 1906 [U.S. Bureau of the Census, 1909], a special study for 1916 [U.S. Bureau of the Census, 1916], and annual surveys for 1922 to 1932 [U.S. Bureau of the Census, 1925-1934]. Further efforts were made in cooperation with states, but full and consistent coverage would only be possible with marriage and divorce registration areas. The Marriage Registration Area was finally formed in 1957 and included 30 states plus Alaska, Hawaii, Puerto Rico, and the Virgin Islands. It currently includes 42 states and the District of Columbia, although the remaining states do contribute data, sometimes incomplete. The Divorce Registration Area was finally put together in 1958 with 14 states, Alaska, Hawaii, and the Virgin Islands. It now comprises 31 states and the Virgin Islands, with other states contributing. [Carter and Glick, 1976, ch. 1.] Consistent long term historical series of marriages and divorces are only reported from 1920 onwards [U.S. Bureau of the Census, 175, Series B 214-220].

Given the spotty nature of the vital registration data on marriages and divorces and also the inherent difficulties in using these data, information on stocks holds more promise for a long term historical overview of nuptiality in the United States. This would include information from censuses and from reconstructions of populations from parish records, genealogies, and family reconstitutions [Wells, 1992]. For the 19th century, censuses constitute the major source, although study with genealogies has been done [e.g., Bean, Mineau, and Anderton, 1990, ch. 4]. The federal census is, of course, the main resource, although state and local censuses can be used. Questions on

marriages in the year prior to the census were asked in the censuses of 1850 to 1890. But the information was not extensively tabulated, and its quality was in question. For example, the implied crude marriage rate for the United States in 1850 was only 9.9 per 1000 population, clearly too low [DeBow, 1854, p. 111].²

More pertinent was the question on marital status, first asked in 1880 but first tabulated for publication in 1890. Since 1890, we have extensive published tabular material on the population by age, sex, marital status, race, and nativity for states and cities (or rural/urban divisions) at ten year intervals. The current availability of the 1880 Public Use Microsample (PUMS) of 502,913 individuals has allowed access to the untabulated data for that census [Ruggles and Menard, 1994]. For the period since 1947, annual estimates of the population by age, sex, and marital status have been produced by the Census Bureau's "Current Population Survey." In short, there are good national data on the marital status structure of the population since 1880.

For the earlier part of the 19th century, we are forced to rely on estimates and other scattered sources. A portion of this paper will be devoted to a discussion of the period 1800-1880, which constitutes a considerable gap in our knowledge, particularly since age at marriage was rising significantly during that time.

MEASUREMENT

Given the concentration on census-type measures of nuptiality, a selection has been made of several of the most common and useful for presentation here. The first is the singulate mean age at marriage (SMAM) for both males and females. It was first suggested by Hajnal [1953] and has the virtue of being independent of the age structure, since it relies on proportions single by age. It is analogous to an expectation of life as a single person in a life table and is a robust measure of the age at first marriage. A second measure is a simple and parallel indicator of early or late marriage -- the proportion married at ages 20-24. A third metric is the proportion of both men and women who, at the end of the usual childbearing period, remain never-married. It is

taken here has the proportion single at ages 45-54.

Finally, the last two measures used are those made popular in recent years by the European Fertility Project, namely Coale's indices of proportions married, I_m and I_m' [Coale, 1967]. They are measured as:

$$I_m = \text{index of proportions married} \\ = \frac{\sum F_i m_i}{\sum F_i w_i}$$

where w_i = total women in the i th age group in the population studied (using five year age groupings)

m_i = total married women in the i th age group in the population studied (using five year age groupings)

F_i = births per woman in the "standard" population in the i th age interval (married Hutterite women in the 1920s)

I_m' = adjusted index of proportions married

$$= \frac{\sum F_i (m_i/w_i)}{\sum F_i}$$

I_m is sensitive to variations in the age structure of women in these age groups, while I_m' avoids that problem since it deals only with age-specific proportions. It thus embodies only differences in age-specific propensities to marry and does not confound changes in age structure.³

COLONIAL BRITISH NORTH AMERICA

Data on first marriage ages for both men and women has been collected by Wells [1992, Table 1] from a number of population reconstructions in the 17th and 18th centuries. That evidence, presented here in Table 1, does provide support for the view that marriage was relatively early in the British North American colonies, especially for females. Women first married, on average, in their late teens or early twenties. Men married older, in the range 25-26 years. The age of marriage rose from the 17th century to late 18th century for females but not for males. Women's age at marriage appeared to be higher in New England than for the Middle Colonies and the South, but there were no apparent differences for men.

These last results are more subject to question because of the composition

of the sample. More of the studies described New England, which had only about one third of the white population of the colonies in 1770 [U.S. Bureau of the Census, 1975, Series Z 1-19], so the degree of representativeness may be questioned. More particularly, most reconstitution studies for colonial North America cover older settled communities rather than newer frontier communities where female age at marriage was likely lower [Lockridge, 1968; Smith, 1975, 1993]. Since the age of marriage is usually calculated in these studies by subtracting date of birth from date of marriage, a lack of birth dates (for in-migrants) often renders it difficult or impossible to calculate marriage ages for the newest settled areas. On the other hand, family reconstitutions in older settle areas likely understate marriage ages because of truncation bias from the differential outmigration of single young people [Ruggles, 1992]. Thus the direction of the overall bias from the results in Table 1 is less clear.

More to the point is that the ages at first marriage were generally lower than those in England in that era. For instance, in 1666 the female SMAM for England was estimated at 26.6 years and at 26.2 years for a sample of 13 parish family reconstitutions for the period 1650-1699. Similarly, it has been estimated at 24.1 years for 1766 for all England and at 24.0 years for the 13 parishes for 1750-1799. In 1816, female SMAM was placed at 25.5 years. [Schofield, 1985, Table 1; Wrigley and Schofield, 1983]. The last panel of Table 1 provides some summary estimates of male and female SMAM based on various studies in France, Germany, and England covering the period 1600 and 1850. Male SMAM ranged from 27.7 to 28.5 years while female SMAM varied between 24.4 and 26.6 years [Gaskin, 1978].

One additional point can be made. The male SMAM in colonial British North America was somewhat closer to the western European levels than that for females. For the early 18th century, the ratios were 92% for males and 83% for females (of the colonial level to the English level). This had converged by the late 18th century (to ratios of 92% for males and 90% for females). This may have been due to a more unbalanced sex ratio (i.e., an excess of

males) in the prime marriage ages (e.g., 15-35) in the colonies which gradually abated as colonial natural increase rather than immigration came to dominate the population age/sex structure.

From this it is obvious that the population of British North America was different from western Europe with its distinctive pattern of late marriage and extensive non-marriage (identified by Hajnal [1965]). Wells was led to conclude that "population patterns in England were not recreated in the colonies. Women married earlier and had more children [in the colonies]." [Wells, 192, pp. 101-102.] The pattern of early and extensive marriage continued past the creation of the new nation, though the age at marriage had begun to rise in the antebellum period.

THE MODERN PERIOD: 1880 TO THE PRESENT

As already mentioned, the data for the period between independence and the 1880 federal census are fragmentary. So the discussion will begin with the most recent data. From 1880 it is possible to provide firm estimates of nuptiality for the nation as a whole. The basic information for the modern period is presented in Table 2 and Figures 1-4. The figures are only for the white population. Table 2 contains the five basic census measures for the total, white, and nonwhite populations. Data for the black population separately are available for all dates except 1940 to 1960. At those dates, however, most of the nonwhite population was black (95.6% in 1940 and 92.1% in 1960). In addition, information for native-born and foreign-born whites and for native-born whites of native and foreign or mixed parentage are given to the date (1930) at which reporting ceased. Finally, a short panel is included for the Spanish origin population for 1970 to 1990.

Figure 1 also presents some longer term data for the female SMAM. Data points are included for the early 18th century (21.2 years centered at 1730) and the late 18th century (22.7 years centered at 1780), taken from Table 1. Also included are the estimates of Sanderson [1978, 1979] for 1800 to 1920 made using the Coale [1971] nuptiality specification. The Sanderson estimates themselves are given below in Table 4.

Several salient points emerge. First, there seems to have been significant cycling in both female and male SMAM. After 1880, the age at first marriage rose from 26.5 years for males and 23.0 years for females to a peak in 1890 at 27.6 for males and 23.6 for females). There then commenced a decline (slightly interrupted in 1930 for males and 1940 for females) until a low point in 1960 at the peak of the baby boom. Annual data on median ages at marriage, calculated from 1947 from the Current Population Survey, place the minimum in 1956 [U.S. Bureau of the Census, 1975, Series A 158-159]. The census SMAM in 1960 was at 23.4 years for males and 20.3 years for females. These were ages reminiscent of the colonial period for women and even lower for men. There then began a sharp rise to the present. In 1990, SMAMs had risen to 27.6 years for males and 25.4 years for females, well above the previous peak for women and close to it for men. This cycle is approximately (though not exactly) inversely mirrored in the percent married at ages 20-24.

A second point would note that the same cycle appears with a 20 to 30 year lag in the percentage never-married at ages 45-54. There the peak came in 1930 and the trough in 1980. This should not be surprising if marriage behavior contains important cohort as well as period effects. It remains to be seen whether the recent upturn in the proportion never married since 1980 is a permanent phenomenon, but it is consistent with the changes in nuptiality for the cohorts marrying in the late 1950s and the 1960s, at the end of the baby boom and the beginning of the baby bust.

The modern swings in nuptiality are only modestly reproduced in the Coale index I_m' (see Figure 4). I_m' captures the sharp nuptiality adjustment during and after the baby boom but not the earlier decline in age at marriage. This is traceable to the substantial role played in the nuptiality changes by younger women (aged 20-29) who receive a large weight in the Coale index. A look at the I_m and I_m' columns of Table 2 reveals that female age structure played less of a role over time. I_m showed some increase between 1890 and 1940, but I_m' (not affected by age structure) moved much less. From 1940 onwards, however, both measures changed closely together.

The role of age structure was also apparently not important in influencing the marriage market for the native born. The last column of Table 2 provides the sex ratio (males per 100 females) for the crucial age group 20-29, when most first marriages occurred. The declining female marriage age between 1900 and 1960 was accompanied by a declining sex ratio at those ages, which should have acted to raise the female marriage age all other things held constant. It did not. The sex ratio was influenced by the declining birth rate and by migration swings. For the foreign born, however, the high male and low female SMAMs were influenced by the very high sex ratios which were, in turn, driven by the differential net in-migration of young single males.

A third major point concerns differentials. Historically, ages of marriage for blacks were less than those for whites. This remained true up to about 1950, when the SMAM for nonwhites experienced its trough. (The minimum for whites was to be in 1960.) Thereafter the pattern was reversed. By 1990, ages at marriage in the black population (29.7 years for males and 28.7 years for females) was as high as that in western Europe in the 19th century (see Table 3). Values of I_m below .400 were seen on a prolonged national basis only in the extreme case of Ireland between 1881 and 1936. American blacks now have an I_m value of .351 in 1990. Fewer than 20% of women are married at ages 20-24. This is, of course, a reflection of the changing nature of the black family with, for example, 66.7% of all births occurring to unmarried black women and 44% of all black households headed by females in 1990 [U.S. Bureau of the Census, 1994, Tables 72 and 97.] The changing residential location of the black population was certainly salient. In 1880, 87% of the black population was living in rural areas where marriage was earlier and more extensive [U.S. Bureau of the Census, 1975, Series A 73-81]. By 1980, 82% of the black population was living in urban places [U.S. Bureau of the Census, 1985, Table 22].

Further results on nativity and ethnicity show that, for females, there were younger marriage ages and more complete nuptiality among the foreign born. Among native-born women, the oldest marriage ages were among the second

generation foreign born (i.e., native born of foreign or mixed foreign/native parentage). This likely reflects the greater likelihood that these women, in contrast to native-born women of native parentage, lived in urban areas and outside the South. For males, the same patterns did not hold. First and second generation foreign-born men married later than their native-born counterparts. This was partly a consequence of the less favorable marriage market for them, given the age- and sex-selectivity of migration. In 1900, for example, the sex ratio (males per 100 females) was 101 for the native white population and 109 for the foreign-born white population.

Unfortunately, the census ceased to report information on marital status by age and sex classified by nativity after 1930, partly as a consequence of reduced international migration.* One additional category, "Spanish origin" population, was added in 1970. This group has more resembled the white than the black population in nuptiality behavior over the past several decades.

A final point needs to be made about marriage in the United States in comparison with Europe, the area of origin for the white population and also an area for which nuptiality calculations are possible historically. Some of these data are set forth in Table 3, which contains estimates of SMAM and I_n , largely gleaned from the European Fertility Project monographs. Overall, in the late 19th and early 20th centuries the United States resembled only France within western and northern Europe in terms of age at marriage. Even France had lower I_n values than those for the white population of the United States. On the other hand, American white women did not marry as completely or as early as those in Eastern Europe (e.g., Russia or Bulgaria). The similarities to France are striking, however, and lend credence to the view that the early and prolonged fertility decline in both areas created the possibility of this earlier marriage [Haines, 1990].

THE 19TH CENTURY: 1800-1880

This crucial period in American demographic history suffers from being statistically less well documented [Haines, forthcoming]. There have been efforts to fill in the gaps, and some of these results are collected in Tables

4-6. Some comparative SMAM and I_w values are given in Figures 1 and 4, respectively.

Table 4 gives Sanderson's [1978, 1979] estimates of SMAM based on his application of the Coale [1971] model of nuptiality. The model sets up a relationship characterized by three parameters: $a(0)$, the age at which female marriage begins (e.g., 14 years); "c", a scale factor measuring the proportion of women who never marry; and "k", a parameter describing the pace of entry into marriage relative to a standard marriage schedule. Coale took his standard as Sweden, 1865/1869. SMAM may then be calculated from the simple relationship: $SMAM = a(0) + 11.37*k$. This relationship was used to translate Sanderson's reported nuptiality parameters into female ages at first marriage. The estimation methods reported by Sanderson [1978] remain tentative. Figure 1 makes it clear that his implied estimates of SMAM track the pattern from 1880 to 1920 but that his level is too low. At the 1900 peak it is off by about one year. If that constant difference prevailed throughout the 19th century, it would point to a white female SMAM of 20.5 years in 1900 instead of the 19.5 years reported. That was still quite a low age at marriage by western European standards, and it would still have been below the 18th century results reported in Table 1 (giving an average SMAM of 22.7 years by about 1780).⁵

It is possible then that the Sanderson estimates of age at marriage should be adjusted upwards by even more than the additional one year implied by the 1880 to 1920 overlap period. On the other hand, the greater representation of New England and the Middle Colonies in the average in Table 1 for 1780 likely imparted an upward bias. Daniel Scott Smith [1993, p. 396] proposes a compromise of 21 years for the white female SMAM in 1800. Once the western areas of the new nation were opened for settlement after the 1780s, age at first marriage might have fallen for the Old Northwest and the western South. Data are absent from Table 1 for much of the South, especially the lower South. We need additional information.

Some of this additional information is assembled in Tables 5 and 6 and is

graphed in Figure 4. Table 5 presents the standard census nuptiality measures calculated from a sample of 16,360 individuals in seven upstate New York counties from the New York State census of 1865 [Haines, 1995]. This census reported on marital status directly, although the published volume provided no tabulations of marital status by age and sex. Table 5 shows a female SMAM of 23.7 years, a bit above that for the white population of the United States in 1880 (23.3 years). The male SMAM for New York in 1865 is calculated at 26.5 years, close to the 26.8 years for the American white male population of 1880. The New York State census of 1865 also yields a I_n^* of .613 which fits in line with the trend of that nuptiality measure for 1825, 1845 and 1890 reported in Table 6. There is a fairly steady decline in I_n^* for the period 1825 to 1890, and the result for 1865 is on the trend (see Figure 4).

Much of the data in Table 6 were originally reported by Yasuba [1962, Table IV-7]. He made estimates of proportions married by age from some state censuses during the 19th century. He contrasts these to 1890 results from the federal census. The information from the Pennsylvania anthracite coal mining counties 1850-1900 and for Philadelphia 1850-1890 are taken from previous work using federal manuscript censuses. The comparable measures reportable are the proportion married at ages 20-24 and I_n^* . In terms of levels of nuptiality, the values of I_m^* for Michigan in 1854 (.708) and for New York State in 1825 (.660) and 1845 (.627) point support the possibility that the level of SMAM of 22.7 for white females in about 1780 was too high. The compositional effect of the opening of western territory could also have contributed to this outcome. Certainly, the moderate I_n^* values for the populous and long settled eastern seaboard cities of Boston, Charleston, and Philadelphia around 1850 (.513, .517, and .545, respectively) are consistent with such a compositional possibility that age at marriage might have fallen between 1780 and the early 19th century and have been quite young in 1800.

Table 6 does yield evidence for a rising age at marriage over the course of the 19th century. In addition to the data for New York State already mentioned, the results for Michigan, the anthracite mining counties of

northeastern Pennsylvania, and the cities of Boston and Philadelphia (for whites) all show declining levels of I_m and marriage at ages 20-24 for women. The more ambiguous data for Connecticut and New Hampshire point to declines in nuptiality between the 1770s and 1890, though the trends in between these widely separated dates is unknown. In general, the evidence from Tables 5 and 6 and in Figure 1 would confirm the trend in the Sanderson estimates, though the level was likely higher by one to two years.

CONCLUDING COMMENTS

In this overview of long term trends in nuptiality in the United States, it is apparent that there have been significant cycles in age at marriage and the proportion of persons never marrying. This has been confirmed directly and indirectly by measures such as I_m and I_m' . There was a peak in the age at marriage at the end of the 19th century, and it appears that we are headed to another one soon. Significant troughs in the age at marriage occurred during the baby boom years and also probably around 1800, at least for females. Colonial data suggest a rising marriage age during the 17th and 18th centuries for females, but not for males. A real possibility is that the opening of western lands and areas following the American Revolution permitted age at marriage to fall in the 1790s and early 1800s.

For the period since 1800, when we have reliable data, permanent non-marriage, reaching the ages 45-54 without having ever been married, also follows the cycle of the age at marriage. There is, not surprisingly, a lag of about 20-30 years. Since a large proportion of marriages occur between the age of 20 and 30, this outcome shows strong cohort effects.

The low point in female marriage age around 1800 was probably not as low a level (19.5 years) as the Sanderson results show. These data should be shifted upward by one to two years in the 19th and early 20th centuries. This would create a much better fit at the point of overlap with reliable census-based measures of SMAM. Doing that also has implications for Sanderson's assertion that about 45% of the American white fertility decline between 1800 and 1890 was due to nuptiality adjustment [Sanderson, 1979, Table 2]. If the

upward adjustment in the age at marriage was substantially less, then the adjustment in nuptiality would have accounted for less than that 45% and the role for reductions in marital fertility increased. Nonetheless, comparisons to data for western Europe (except France) in Table 3 suggest that Benjamin Franklin and Chevalier Felix de Beaujour were correct in their assessment that early marriage in the British North American colonies and later in the United States was a substantial contributor to high fertility and rapid population growth via high rates of natural increase. Male ages at marriage in the United States were, on the other hand, closer to those in western Europe and less important to fertility in any event.

What are we to make of these results? The historically low female marriage ages were undoubtedly related to greater access to economic opportunities in the colonies and later the new federal nation. And this did not include just rural and agrarian opportunities, although lower urban nuptiality in the 19th century (see Tables 5 and 6) suggests that access to land and farms or potential farm sites and the related value of children was very important [Yasuba, 1962; Forster and Tucker, 1972; Schapiro, 1986]. The role of increasing opportunities in local urban labor markets also likely played a role [Sundstrom and David, 1988].

In short, the same hypotheses that have been advanced to explain the decline in the fertility of the American white population in the 19th century can be tailored to fit the nuptiality transition which took place over the same period. The early female age at marriage at the beginning of the 19th century could reflect the opening of new opportunities in the West combined with a relatively favorable marriage market as expressed in a surplus of males over females in the prime marriage ages. As the frontier gradually shrank and as age- and sex-selective migration came to play less of a role in determining the population structure, average marriage ages rose. In the 20th century, as opportunities in urban areas continued to expand and, more importantly, as contraceptive technology made control of fertility within marriage easier and cheaper [David and Sanderson, 1987], age at marriage could begin to fall.

This process accelerated during the baby boom when three and four child families became more popular. More recently, more difficult labor markets for younger workers; improved access to employment opportunities for women; better, less expensive, and more accessible contraception; and changing views on the family have contributed to delayed marriage and increased permanent non-marriage. The process has been more extreme in the black population.

Historically, male nuptiality patterns have been less at variance with those in western Europe. This likely was a consequence of the American marriage market, which was more favorable to females. But American males still married earlier than most of their European counterparts in areas which sent many migrants to North America.

Other changes have accompanied the long cycles seen here. The historically lower marriage ages of the black population (in relation to the white population) has been reversed in recent years both for men and for women. The male-female marital age differential has been reduced. From an absolute difference for the white population of 3.5 years in 1880, this had fallen to 2.8 years in 1940 and to 2.4 years by 1990. The shift for the black population has been even more striking: from 4.0 years in 1880 to 2.7 years in 1940 to 1.7 years in 1990 (see Table 2). Overall, marriage behavior has been far from unchanging over the past three centuries. Although the United States has had a number of unusual elements in its demographic history, study of it can reveal much about demographic processes in general.

FOOTNOTES

1. The incidence of permanent non-marriage is sometimes known as "permanent celibacy". The term permanent non-marriage will be used here in preference for greater clarity, despite the awkwardness of the term. Further, the term single will be taken to mean never-married and not currently married (which would include widowed and divorced persons as well).

2. It appears that the census question on marriage with the prior year was at least 40% undercounted [Steven Ruggles, personal communication]. Nonetheless, the availability of the Public Use Microsample (PUMS) data for 1850 and 1880 does afford the opportunity to study nuptiality on a national level in some detail. The 1850 PUMS contains 1,990 cases of marriage with the census year, and the 1880 PUMS has 2,936 such cases.

3. I_n is a frequently used nuptiality measure. It also helps "close" the system of Coale indices and allows allocation of fertility decline to shifts in marriage versus shifts in marital and nonmarital fertility. It is widely reported in connection with the European Fertility Project [e.g., Watkins, 1986]. I_n' is preferable as a nuptiality index because of its independence from age structure.

4. The published census also did not report separately results for different immigrant groups, who did have differences in nuptiality behavior. This is where census microsamples can play a role. For example, based on the use of the enumerators' manuscripts, the following results were calculated from Philadelphia in 1880:

	SMAM		% Single Aged 45-54	
	Male	Female	Male	Female
Native White	27.2	24.8	10.4	14.5
Irish	29.3	27.3	6.9	13.8
German	26.1	24.2	5.7	2.2
Black	26.6	23.9	13.4	16.3

Obvious and important differences existed between the native and foreign-born white populations as well as between blacks and whites. Much can be learned here.

5. The factual basis for Sanderson's choice of 19.5 years as the female SMAM in 1800 is not entirely clear. There is an appeal to authority. Coale

and Zelnik [1963, p. 37] assumed a linear increase in SMAM from 20 in 1800 to the census estimate from 1890. Smith [1993, p. 396] found the unweighted average of community studies of 23.4 for the female SMAM too high and the Sanderson estimate of 19.5 years too low. He settled on a compromise of 21 years. For 1890, the Sanderson result of a female SMAM of 22.4 years in 1890 is closer to the median age at first marriage of 22.0 years calculated from census data [U.S. Bureau of the Census, 1975, Series A 158-159] than it is to the SMAM of 23.6 years calculated by Hajnal's method from the 1890 census.

REFERENCES

- Abbott, Samuel W. 1897. "The Vital Statistics of Massachusetts: A Forty Years' Summary, 1856-1895." Twenty-Eighth Annual Report of the Massachusetts State Board of Health. Public Document No. 34. Boston.
- Bean, Lee L., Geraldine P. Mineau, and Douglas L. Anderton. 1990. Fertility Change on the American Frontier: Adaptation and Innovation. Berkeley, CA: University of California Press.
- Carter, Hugh, and Paul C. Glick. 1976. Marriage and Divorce: A Social and Economic Study. Revised edition. Cambridge, MA: Harvard University Press.
- Coale, Ansley J. 1967. "Factors Associated with the Development of Low Fertility: An Historic Summary." In United Nations. World Population Conference: 1965. Vol. II. New York: United Nations. pp. 205-209.
- Coale, Ansley J. 1971. "Age Patterns of Marriage." Population Studies. Vol. 25, No. 2 (July). pp. 193-214.
- Coale, Ansley J., and Roy Treadway. 1986. "A Summary of the Changing Distribution of Overall Fertility, Marital Fertility, and the Proportion Married in the Provinces of Europe." In Ansley J. Coale and Susan Cotts Watkins, eds. The Decline of Fertility in Europe. Princeton, NJ: Princeton University Press. pp. 31-181.
- Coale, Ansley J., and Melvin Zelnik. 1963. New Estimates of Fertility and Population in the United States: A Study of Annual White Births from 1855 to 1960 and of Completeness of Enumeration in the Censuses from 1880 to 1960. Princeton, New Jersey: Princeton University Press.
- David, Paul, and Warren Sanderson. 1987. "The Emergence of a Two-Child Norm among American Birth Controllers." Population and Development Review. Vol. 13, No.1 (March). pp. 1-41.
- de Beaujour, Chevalier Felix. 1814. Sketch of the United States of North America. London.
- DeBow, J.D.B. 1854. Statistical View of the United States. Washington, DC: G.P.O.
- Forster, Colin, and G.S.L. Tucker. 1972. Economic Opportunity and Whiter American Fertility Ratios, 1800-1860. New Haven: Yale University Press.

Franklin, Benjamin. 1755. "Observations Concerning the Increase of Mankind, The Peopling of Countries, &c." The Magazine of History, with Notes and Quotes. Extra Number No. 63.

Grabill, Wilson H., Clyde V. Kiser, and Pascal K. Whelpton. 1958. The Fertility of American Women. NY: Wiley.

Gaskin, Katherine. 1978. "Age at First Marriage in Europe before 1850." Journal of Family History. Vol. 3, No. 1 (Spring). pp. 23-36.

Haines, Michael R. 1979. Fertility and Occupation: Population Patterns in Industrialization. New York: Academic Press.

Haines, Michael R. 1990. "Western Fertility in Mid-Transition: A Comparison of Fertility and Nuptiality in the United States and Selected Nations at the Turn of the Century." Journal of Family History. Vol. 15, No. 1 (March). pp. 21-46.

Haines, Michael R. 1995. "Fertility and Marriage in New York State in the Era of the Civil War." National Bureau of Economic Research Working Paper Series on Historical Factors in Long Run Growth. Historical Paper No. 70. (July).

Haines, Michael R. Forthcoming. "The American Population, 1790-1920." In Stanley Engerman and Robert Gallman, eds., The Cambridge Economic History of the United States. Vol. 2.

Hajnal, John. 1953. "Age at Marriage and Proportions Marrying." Population Studies. Vol. 7, No. 3. pp. 111-136.

Hajnal, John. 1965. "European Marriage Patterns in Perspective." In D. V. Glass and D. E. C. Eversley, eds. Population in History. London: Arnold. pp. 101-143.

Knodel, John. 1974. The Decline of Fertility in Germany, 1971-1939. Princeton, New Jersey: Princeton University Press.

Lesthaeghe, Ron J. 1977. The Decline of Belgian Fertility, 1800-1970. Princeton, New Jersey: Princeton University Press.

Livi-Bacci, Massimo. 1977. A History of Italian Fertility During the Last Two Centuries. Princeton, New Jersey: Princeton University Press.

Lockridge, Kenneth A. 1968. "Land, Population, and the Evolution of New

England Society, 1630-1790." Past and Present. Vol. 39. pp. 62-80.

Monahan, Thomas P. 1951. The Pattern of Age at Marriage in the United States. Philadelphia: Stephenson Brothers. Vols. I & II.

Ruggles, Steven. 1992. "Migration, Marriage, and Mortality: Correcting Sources of Bias in English Family Reconstitution." Population Studies. Vol. 46, No. 3 (November). pp. 507-522.

Ruggles, Steven, and Russell R. Menard. 1994. Public Use Microdata Sample of the 1880 United States Census of Population: User's Guide and Technical Documentation. Minneapolis, MN: Social History Research Laboratory, University of Minnesota.

Sanderson, Warren C. 1978. "New Estimates of the Decline in the Fertility of White Women in the United States, 1800-1920." Stanford University. Center for Research in Economic Growth. Memorandum No. 225. (August).

Sanderson, Warren C. 1979. "Quantitative Aspects of Marriage, Fertility and Family Limitation in Nineteenth Century America: Another Application of the Coale Specification." Demography. Vol. 16, No. 3 (August). pp. 339-358.

Schapiro, Morton Owen. 1986. Filling Up America: An Economic-Demographic Model of Population Growth and Distribution in the Nineteenth-Century United States. Greenwich, CT: JAI Press.

Schofield, Roger. 1985. "English Marriage Patterns Revisited." Journal of Family History. Vol. 10, No. 1 (Spring). pp. 2-20.

Smith, Daniel Scott. 1975. "Underregistration and Bias in Probate Records: An Analysis of Data from Eighteenth-Century Hingham, Massachusetts." William and Mary Quarterly. 3rd series. Vol. 32. pp. 100-110.

Smith, Daniel Scott. 1993. "American Family and Demographic Patterns and the Northwest European Model." Continuity and Change. Vol. 8, No. 3. pp. 389-415.

Sundstrom, William A., and Paul A. David. 1988. "Old-Age Security Motives, Labor Markets, and Farm Family Fertility in Antebellum America." Explorations in Economic History. Vol. 25, No. 2 (April). pp. 164-197.

Taeuber, Conrad, and Irene B. Taeuber. The Changing Population of the United States. New York: Wiley.

Teitelbaum, Michael S. 1984. The British Fertility Decline: Demographic

Transition in the Crucible of the Industrial Revolution. Princeton, New Jersey: Princeton University Press.

Thompson, Warren S., and P. K. Whelpton. 1933. Population Trends in the United States. New York: McGraw-Hill.

Tucker, M. Belinda, and Claudia Mitchell-Kernan, eds. 1995. The Decline in Marriage among African Americans. New York: Russell Sage Foundation.

U.S. Bureau of the Census. 1909. Marriage and Divorce, 1867-1906. Washington, D.C.: G.P.O.

U.S. Bureau of the Census. 1916. Marriage and Divorce, 1916. Washington, D.C.: G.P.O.

U.S. Bureau of the Census. 1925-1934. Marriage and Divorce, Annual Reports, 1922-1932. Washington, D.C.: G.P.O.

U.S. Bureau of the Census. 1975. Historical Statistics of the United States: Colonial Times to 1970. Washington, D.C.: G.P.O.

U.S. Bureau of the Census. 1985. Statistical Abstract of the United States 1986. Washington, D.C.: G.P.O.

U.S. Bureau of the Census. 1994. Statistical Abstract of the United States 1994. Washington, D.C.: G.P.O.

U.S. Commissioner of Labor. 1897. Marriage and Divorce in the United States, 1867 to 1886. First Special Report of the Commissioner of Labor. By Carroll D. Wright. Washington, D.C.: G.P.O.

Van de Walle, Etienne. 1974. The Female Population of France in the Nineteenth Century: A Reconstruction of 82 Departements. Princeton, New Jersey: Princeton University Press.

Vinovskis, Maris A. 1978. "Marriage Patterns in Mid-Nineteenth Century New York." Journal of Family History. Vol. 3, No. 1 (Spring). pp. 51-61.

Watkins, Susan. 1986. "Regional Patterns of Nuptiality in Europe, 1870-1960." In Ansley J. Coale and Susan Cotts Watkins, eds. The Decline of Fertility in Europe. Princeton, NJ: Princeton University Press. pp. 314-336.

Wells, Robert V. 1992. "The Population of England's Colonies in America: Old English or New Americans?" Population Studies. Vol. 46, No. 1 (March). pp. 85-102.

Wrigley, E. A., and R. S. Schofield. 1981. The Population History of England, 1541-1871: A Reconstruction. Cambridge, MA: Harvard University Press.

Yasuba, Yasukichi. 1962. Birth Rates of the White Population of the United States, 1800-1860: An Economic Analysis. Baltimore: The Johns Hopkins University Press.

TABLE 1. MEAN AGE AT FIRST MARRIAGE. BRITISH NORTH AMERICA
& UNITED STATES, 1610-1800. WESTERN EUROPE, 1600-1849.

LOCATION/DATE	MALES	FEMALES
Ipswich, MA		
1652-1700	27.2	21.1
1701-1725	26.5	23.6
1726-1750	24.0	23.3
Sturbridge, MA		
1730-1759	24.8	19.5
1760-1779	25.5	21.6
1780-1799	25.6	23.6
Northampton, MA		
Before 1700	26.1	20.6
1700-1749	27.6	23.9
1750-1799	28.5	25.5
Nantucket, MA		
1680-1739	24.1	20.0
1740-1779	23.1	20.9
1780-1839	25.0	22.6
Deerfield, MA		
1721-1740	---	19.9
1741-1760	---	21.1
1761-1780	---	23.1
1781-1800	---	23.9
Hingham, MA		
1701-1720	27.8	24.3
1721-1740	26.3	23.3
1741-1760	25.7	22.5
1761-1780	24.9	23.2
1781-1800	26.3	24.5
Bristol, RI		
Before 1750	23.9	20.5
After 1750	24.3	21.1
Quakers		
Born by 1730	26.5	22.0
1731-1755	25.8	22.8
1756-1785	26.8	23.4
Maryland		
1650-1700	---	16.8
1700-1750	---	18.6
1750-1800	---	22.2
Virginia gentry		
1710-1759	---	20.9
1760-1799	---	20.3

TABLE 1. MEAN AGE AT FIRST MARRIAGE. BRITISH NORTH AMERICA
& UNITED STATES, 1610-1800. WESTERN EUROPE, 1600-1849.

LOCATION/DATE	MALES	FEMALES
Chesapeake immigrants Born by 1700	30.2	---
Maryland immigrants East Shore, 1610-1658	29.2	24.7
Charles County, MD Immigrants, 1610-1659	30.3	25.0
Natives, 1640-1693	24.1	17.8
Somerset County, MD (natives)		
1648-1669	23.1	16.5
1670-1711	22.8	17.0
1700-1740	24.1	19.0
Middlesex County, VA Natives born by 1700	24.7	20.6
Maryland, western shore natives		
1680-1699	23.1	18.2
1700-1719	23.7	18.5
1720-1749	25.9	21.4
AVERAGES		
Before ca. 1700	26.1	19.8
Early 18th century	25.4	21.2
Late 18th century	25.6	22.7
New England	25.6	22.3
Middle & South	25.7	20.3
COMPARATIVE EUROPEAN DATA (England, France, Germany)		
1600-1649	28.5	26.6
1650-1699	27.7	24.4
1700-1749	27.6	25.5
1750-1799	27.8	25.1
1800-1849	28.1	25.7

SOURCE: Wells [1992], Table 1. Gaskin [1978], Table 3.

TABLE 2. NUPTIALITY MEASURES. UNITED STATES. 1880-1 90.

GROUP/YEAR	SMAM		% MARRIED 20-24		% SINGLE 45-54		Im	Im*	SEX RATIO AGE 20-29
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE			
TOTAL									
1880	26.80	23.08	22.8	50.7	7.8	6.7	0.588	0.641	103.9
1890	27.57	23.61	18.9	46.7	9.1	7.0	0.573	0.624	103.2
1900	27.43	23.65	21.3	46.6	10.4	7.8	0.574	0.615	101.7
1910	26.73	23.14	24.0	49.7	11.1	8.5	0.596	0.631	104.9
1920	25.92	22.50	28.3	52.3	12.0	9.6	0.622	0.643	97.5
1930	25.56	22.32	28.1	51.6	11.4	9.1	0.628	0.651	97.0
1940	25.60	22.74	27.4	51.3	11.1	8.7	0.627	0.645	96.5
1950	23.79	20.83	39.4	65.6	8.5	7.8	0.727	0.721	94.3
1960	23.38	20.33	45.9	69.5	7.4	7.0	0.740	0.746	95.8
1970	23.51	21.46	42.9	60.5	6.4	5.5	0.665	0.706	94.5
1980	25.20	23.32	29.5	44.4	6.0	4.6	0.579	0.608	98.3
1990	27.60	25.36	19.6	32.1	6.8	5.6	0.535	0.525	102.1
WHITE									
1880	27.00	23.27	20.6	48.9	8.1	7.0	0.585	0.639	104.7
1890	27.77	23.81	17.0	45.2	9.2	7.3	0.572	0.622	104.1
1900	27.64	23.85	19.6	45.2	10.4	8.1	0.574	0.613	102.3
1910	26.93	23.35	22.4	48.4	11.4	8.9	0.594	0.629	106.5
1920	26.06	22.70	26.5	50.8	12.4	10.0	0.620	0.640	98.3
1930	26.67	22.51	26.5	50.2	11.7	9.6	0.627	0.650	97.7
1940	25.70	22.86	26.1	50.3	11.1	9.0	0.626	0.645	97.7
1950	23.78	20.80	39.4	65.6	8.6	8.2	0.731	0.723	95.3
1960	23.18	20.18	46.3	70.5	7.2	7.2	0.749	0.755	96.9
1970	23.39	21.27	43.5	61.7	6.1	5.4	0.678	0.718	95.8
1980	25.00	22.95	30.6	46.7	5.6	4.2	0.602	0.628	100.0
1990	27.26	24.84	20.4	34.1	6.1	4.6	0.566	0.550	102.5
NATIVE-BORN WHITE									
1880	26.44	23.28	19.2	45.4	6.8	8.2	0.553	0.615	103.1
1890	27.65	23.71	17.5	45.4	8.4	8.2	0.554	0.619	100.8
1900	27.61	23.88	20.0	45.1	9.9	8.9	0.555	0.606	101.1
1910	26.75	23.41	23.3	47.3	11.3	9.8	0.571	0.619	99.1
1920	25.86	22.82	26.9	49.4	12.4	11.1	0.594	0.628	96.9
1930	25.46	22.40	27.1	50.3	11.5	10.5	0.610	0.645	97.6
NATIVE WHITE-NATIVE PARENTAGE									
1880	25.96	23.09	22.2	48.2	6.8	7.8	0.585	0.625	103.0
1890	27.14	23.02	20.2	50.3	8.0	8.1	0.593	0.643	102.4
1900	26.95	23.07	23.1	49.8	9.0	8.5	0.585	0.635	102.8
1910	26.19	22.75	26.5	51.8	9.8	8.5	0.604	0.650	100.6
1920	25.44	22.43	30.4	53.4	10.6	9.2	0.620	0.653	97.7
1930	25.07	22.10	30.9	54.4	9.9	8.8	0.633	0.667	98.0
NATIVE WHITE-FOREIGN/MIKED PARENTAGE									
1880	28.48	23.44	10.9	35.8	6.1	11.1	0.424	0.581	98.7
1890	28.81	25.40	10.8	33.9	11.8	8.7	0.451	0.557	97.1
1900	28.91	25.57	12.7	34.3	14.0	10.7	0.485	0.540	97.2
1910	28.23	25.02	15.2	36.2	15.1	13.2	0.493	0.546	95.4
1920	27.02	23.93	18.0	39.6	17.1	15.3	0.530	0.565	94.9
1930	26.52	23.26	17.2	40.3	16.1	14.8	0.551	0.591	96.5

TABLE 2. NUPTIALITY MEASURES. UNITED STATES. 1880-1990.

GROUP/YEAR	SMAM		% MARRIED 20-24		% SINGLE 45-54		Im	Im*	SEX RATIO AGE 20-29
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE			
FOREIGN-BORN WHITE									
1880	28.18	23.48	14.7	43.7	7.3	4.7	0.686	0.638	112.7
1890	28.31	23.94	14.9	44.6	10.6	5.3	0.650	0.631	118.4
1900	27.89	23.57	17.0	45.8	11.5	6.0	0.669	0.640	108.8
1910	27.51	22.83	19.0	54.2	11.6	6.1	0.702	0.670	141.9
1920	26.87	21.64	23.7	61.6	12.2	6.8	0.762	0.707	110.3
1930	27.19	22.91	18.1	47.4	12.1	6.3	0.758	0.667	98.3
NONWHITE									
1880	24.85	20.89	35.2	59.4	6.4	7.9	0.597	0.637	98.5
1890	25.99	22.24	32.6	57.3	8.7	4.8	0.579	0.635	97.2
1900	26.01	22.40	32.5	55.0	10.1	5.0	0.568	0.614	97.8
1910	25.20	21.81	36.7	59.2	8.8	4.6	0.608	0.642	93.2
1920	24.82	21.32	42.1	63.1	8.6	4.8	0.639	0.664	87.9
1930	24.98	21.37	39.6	60.7	9.1	4.5	0.631	0.653	93.0
1940	24.84	22.10	38.7	59.6	10.8	5.2	0.631	0.647	87.3
1950	23.86	21.21	43.9	65.7	7.7	4.6	0.698	0.702	86.8
1960	24.16	21.49	42.4	62.3	8.7	6.0	0.675	0.686	88.2
1970	24.36	22.67	38.7	52.4	9.0	6.6	0.582	0.628	85.8
1980	26.11	24.92	24.4	34.8	9.0	7.2	0.475	0.515	90.5
1990	28.81	27.12	17.0	25.6	10.8	10.4	0.426	0.434	100.6
BLACK									
1880	24.15	20.85	36.2	59.7	5.5	7.9	0.597	0.637	92.8
1890	25.54	22.25	33.4	57.3	6.4	4.8	0.579	0.635	93.1
1900	25.77	22.48	33.6	54.6	7.2	5.1	0.563	0.610	92.9
1910	25.14	21.84	37.8	59.0	6.8	4.7	0.606	0.640	89.7
1920	24.72	21.36	43.0	62.8	7.8	4.9	0.636	0.661	86.6
1930	24.54	21.40	42.8	60.4	8.1	4.6	0.625	0.646	86.3
1940									
1950									
1960									
1970	24.19	22.70	40.3	52.8	8.9	6.7	0.574	0.622	84.9
1980	26.63	25.84	20.9	29.4	9.8	7.9	0.421	0.466	87.0
1990	29.73	28.72	13.9	18.8	13.1	12.3	0.351	0.358	92.8
SPANISH ORIGIN									
1970	23.09	21.22	48.6	63.3	6.2	6.1	0.669	0.705	90.1
1980	24.56	22.47	36.1	51.2	6.5	6.4	0.592	0.628	100.3
1990	27.02	24.33	24.8	40.8	8.6	7.8	0.537	0.550	117.7

SOURCE: (a) 1880. Public use micro sample, 1880 U.S. Census.
 (b) 1890-1990. Various volumes, published U.S. Census.
 (c) SMAM (Singulate Mean Age at First Marriage). Calculated by the procedure of Hajnal [1953]. Im (Coale's Index of Proportions Married): Coale [1967].

TABLE 3. COMPARATIVE NUPTIALITY MEASURES. UNITED STATES & SELECTED EUROPEAN NATIONS. 1830-1990.

APPROXIMATE YEAR	MALE:					FEMALE:					
	U.S. (White)	GERMANY	ITALY	BELGIUM ENGLAND/WALES	U.S. (White)	GERMANY	ITALY	BELGIUM ENGLAND/WALES	SCOTLAND	FRANCE	
1830											23.4
1840											23.4
1850				30.5	27.0			28.6	25.8	26.0	23.5
1860				30.0	26.5			28.0	25.4	26.0	23.5
1870		28.8			26.5				25.2	25.8	23.6
1880	27.0	28.1		28.6	26.6	26.3			25.3	25.6	23.3
1890	27.8	28.1		27.6	27.1	23.8		26.7	25.9	26.5	23.5
1900	27.6	27.8	27.5	27.3	27.3	23.9	23.9	25.7	26.2	26.6	23.7
1910	26.9	27.9	27.1	27.3	27.7	23.4	23.6	25.2	26.3	26.6	23.6
1920	26.1	27.5	28.9	27.5		22.7	23.4	25.6	25.7	26.3	23.4
1930	26.7	28.3	27.4	26.6	27.0	22.5	23.9	24.2	25.7	26.3	22.6
1940	25.7	28.2	28.3			22.9	24.9				
1950	23.8	27.7	28.9	26.3	26.0	20.8	25.1	23.4	22.1		23.2
1960	23.2	26.2	28.6	24.9	25.1	20.2	24.9	22.4	21.3		23.3
1970	23.4	26.7	27.9	23.9	23.9	21.3	24.3		21.1		23.1
1980	25.0			25.4		23.0			23.1		23.1
1990	27.3					24.8					

APPROXIMATE YEAR	MALE:					FEMALE:					
	U.S. (White)	GERMANY	ENGLAND/SCOTLAND/WALES	IRELAND	FRANCE	BELGIUM	SWEDEN	DENMARK	ITALY	NETHERLANDS	
1830											
1840											
1850			0.483		0.514						
1860			0.502		0.516						
1870		0.472	0.509	0.405	0.526	0.375		0.436	0.560	0.406	
1880	0.585	0.501	0.501	0.370	0.531	0.366		0.469	0.568	0.438	
1890	0.572	0.497	0.477	0.336	0.529	0.403		0.447	0.549	0.469	
1900	0.574	0.513	0.476	0.324	0.538	0.435	0.409	0.456	0.549	0.450	
1910	0.594	0.524	0.479	0.339	0.540	0.436	0.421	0.468	0.549	0.450	
1920	0.620	0.490	0.489	0.362	0.543	0.479	0.411	0.471	0.549	0.450	
1930	0.627	0.534	0.503	0.399	0.591	0.517	0.409	0.486	0.534	0.469	
1940	0.626	0.590	0.441	0.399	0.534	0.501		0.488	0.495	0.482	
1950	0.731				0.613	0.602	0.422	0.505	0.513	0.499	
						0.617	0.629		0.519	0.538	

1960	0.749	0.699	0.656	0.513	0.646	0.705	0.626	0.660	0.578	0.630
1970	0.678					0.703				
1980	0.602									
1990	0.597									

SWITZER- PORTUGAL SPAIN EUROPEAN BULGARIA
LAND RUSSIA

1860	0.388	0.424								
1870	0.418		0.696							
1880	0.446	0.452								
1890	0.433	0.456	0.575							
1900	0.445	0.460	0.559	0.737						
1910	0.463	0.471	0.545							
1920	0.420	0.455	0.504							
1930	0.437	0.474	0.504	0.750						
1940	0.483	0.481	0.422	0.649						
1950	0.525	0.513								
1960	0.570	0.556	0.553	0.581	0.776					

SOURCE: (a) U.S. 1880. Public use micro sample, 1880 U.S. Census.
 (b) U.S. 1890-1990. Various volumes, published U.S. Census.
 (c) Other nations. Coale & Treadway [1986]. Knodel [1974]. Teitelbaum [1984]. Livi-Bacci [1977].
 Lesthaeghe [1977]. Wrigley & Schofield [1981]. van de Walle [1974]. Calculations by author.
 (d) SMAM (Singulate Mean Age at First Marriage). Calculated by the procedure of Hajnal [1953]. Im (Coale's Index of Proportions Married): Coale [1967].

TABLE 4. SANDERSON'S NUPTIALITY ESTIMATES,
FEMALES, UNITED STATES, 1800-1920. (a)

YEAR	a(0)	k	c	Est. SMAM
1800	14.0	0.481	0.870	19.47
1810	14.0	0.497	0.868	19.65
1820	14.0	0.516	0.863	19.87
1830	14.0	0.538	0.859	20.12
1840	14.0	0.563	0.855	20.40
1850	14.0	0.590	0.851	20.71
1860	14.0	0.621	0.846	21.06
1870	14.0	0.655	0.840	21.45
1880	14.0	0.691	0.838	21.86
1890	14.2	0.719	0.833	22.38
1900	14.0	0.775	0.823	22.81
1910	14.4	0.697	0.821	22.32
1920	14.3	0.674	0.824	21.96

(a) a(0) is the estimated age at which female marriage begins
"k" is the pace of entry into marriage relative to a
standard schedule (Sweden, 1865/69). "c" is the proportion
of women who ultimately do not marry.

SOURCE: Coale [1971]; Sanderson [1978, 1979].

TABLE 5. SELECTED NUPTIALITY MEASURES BY SEX, RESIDENCE, NUPTIALITY,
& LOCATION. SEVEN NEW YORK COUNTIES, 1865. (a)

	SMAM		% MARRIED AGE 20-24		% SINGLE AGE 45-54		Im	Im*
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE		
TOTAL	26.5	23.7	20.0	46.4	6.3	7.7	0.579	0.613
RURAL	26.5	23.2	20.4	50.4	6.5	7.0	0.603	0.641
URBAN	26.5	24.2	19.6	42.1	6.1	8.6	0.552	0.583
NATIVE	26.7	23.6	20.6	47.4	6.0	8.8	0.559	0.608
FOREIGN	26.1	24.3	17.0	41.5	7.1	3.8	0.655	0.625
COUNTY								
ALLEGANY	26.1	22.6	24.2	39.1	5.5	8.1	0.607	0.632
DUTCHESS	25.8	23.2	17.2	46.2	10.6	16.7	0.541	0.568
MONTGOMERY	27.2	24.8	15.0	42.0	6.1	3.0	0.555	0.616
RENSSELAER	26.3	24.5	18.7	44.8	8.5	6.5	0.558	0.590
STEUBEN	27.0	23.6	21.6	49.7	1.3	2.3	0.624	0.664
TOMPKINS	27.4	24.1	20.9	48.7	5.4	8.6	0.576	0.603
WARREN	25.4	22.2	30.0	60.9	4.3	5.3	0.624	0.624

(a) The nuptiality measures are the singulate mean age at first marriage (SMAM), the percentage married at ages 20-24, the percentage single (never married) at ages 45-54, and Coale's indexes of proportions married (Im & Im*).

SOURCE: Sample of census enumerators' manuscripts.

TABLE 6. DATA ON FEMALE MARITAL STATUS. SELECTED PLACES IN THE U.S., 1773-1900.

AREA	YEAR	PROPORTION MARRIED BY AGE(a)							Im*
		15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Boston, MA	1845	0.062	0.339	0.598	0.694	0.688	0.648	0.604	0.513
	1890	0.029	0.264	0.511	0.634	0.664		0.601	0.461
Charleston, SC (Whites)	1848	0.094	0.451	0.657	0.638	0.591	0.563	0.510	0.517
Connecticut (Whites)	1774	0.070	0.545	0.733	0.816	0.841	0.840	0.819	0.656
	1890	0.043	0.326	0.605	0.729	0.766		0.712	0.541
New Hampshire (Whites)	1773	0.141	0.552	0.728	0.797	0.832	0.836	0.817	0.660
	1890	0.081	0.397	0.636	0.727	0.776		0.733	0.570
New York	1825	0.137	0.545	0.734	0.815	0.831	0.824	0.798	0.660
	1845	0.113	0.479	0.704	0.794	0.812	0.803	0.775	0.627
	1865	0.089	0.464	0.696	0.748	0.813	0.810	0.796	0.613
	1890	0.054	0.368	0.638	0.748	0.764		0.703	0.561
Michigan	1854	0.137	0.563	0.802	0.879	0.896	0.890	0.869	0.708
	1890	0.090	0.496	0.772	0.860	0.878		0.829	0.673
Pennsylvania Anthracite Counties	1850	0.113	0.547	0.832	0.873	0.917	0.874	0.847	0.708
	1860	0.092	0.578	0.861	0.920	0.869	0.878	0.872	0.719
	1870	0.085	0.557	0.865	0.889	0.894	0.865	0.810	0.711
	1880	0.079	0.537	0.768	0.897	0.892	0.841	0.857	0.686
	1900	0.090	0.473	0.711	0.840	0.832	0.845	0.855	0.642
Philadelphia (Whites)	1850	0.073	0.389	0.620	0.706	0.746	0.684	0.637	0.545
	1860	0.079	0.394	0.629	0.698	0.727	0.710	0.675	0.548
	1870	0.063	0.378	0.608	0.700	0.751	0.699	0.680	0.541
	1880	0.043	0.336	0.577	0.730	0.724	0.707	0.690	0.525
	1890	0.042	0.338	0.596	0.695	0.707		0.630	0.519
Philadelphia (Blacks)	1850	0.052	0.355	0.563	0.599	0.603	0.564	0.486	0.467
	1860	0.048	0.304	0.477	0.561	0.578	0.447	0.503	0.417
	1870	0.054	0.349	0.508	0.523	0.555	0.504	0.455	0.427
	1880	0.094	0.382	0.564	0.612	0.605	0.514	0.443	0.475
	1890	0.064	0.350	0.583	0.634	0.581		0.433	0.474

(a) For 1890, the proportions married are for age groups 35-44 and 45-54.

SOURCE: Yasuba [1962], Table IV-7. Pennsylvania anthracite counties, Haines [1979]. Philadelphia, unpublished data from the Philadelphia Social History Project. Data for New York State for 1865 are taken from census manuscripts. All data for 1890 are taken from the U.S. Census of Population, 1890.

Figure 1

Female Age at First Marriage U.S. Whites, 1730-1990

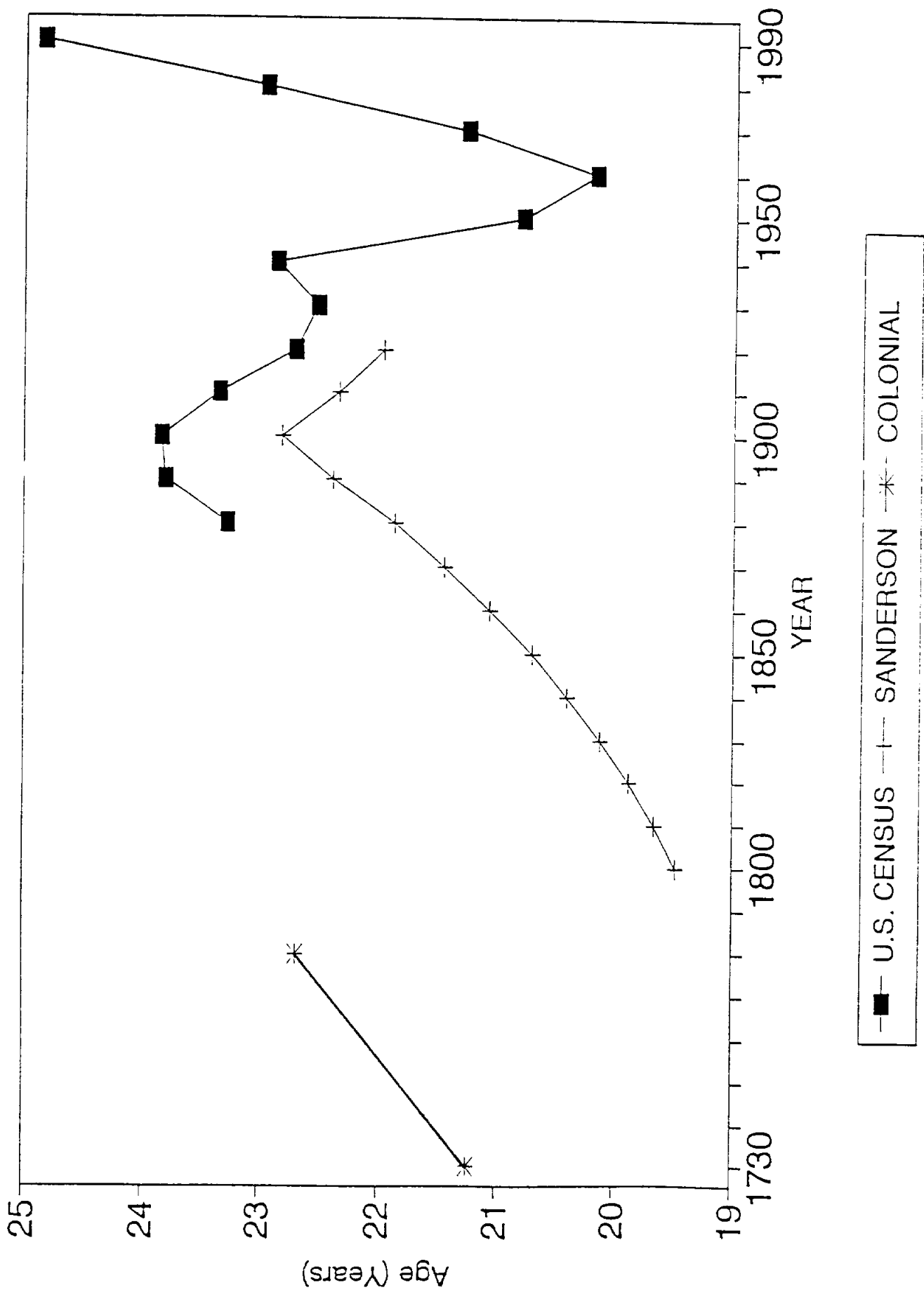


Figure 2

Age at First Marriage U.S. Whites, 1880-1990

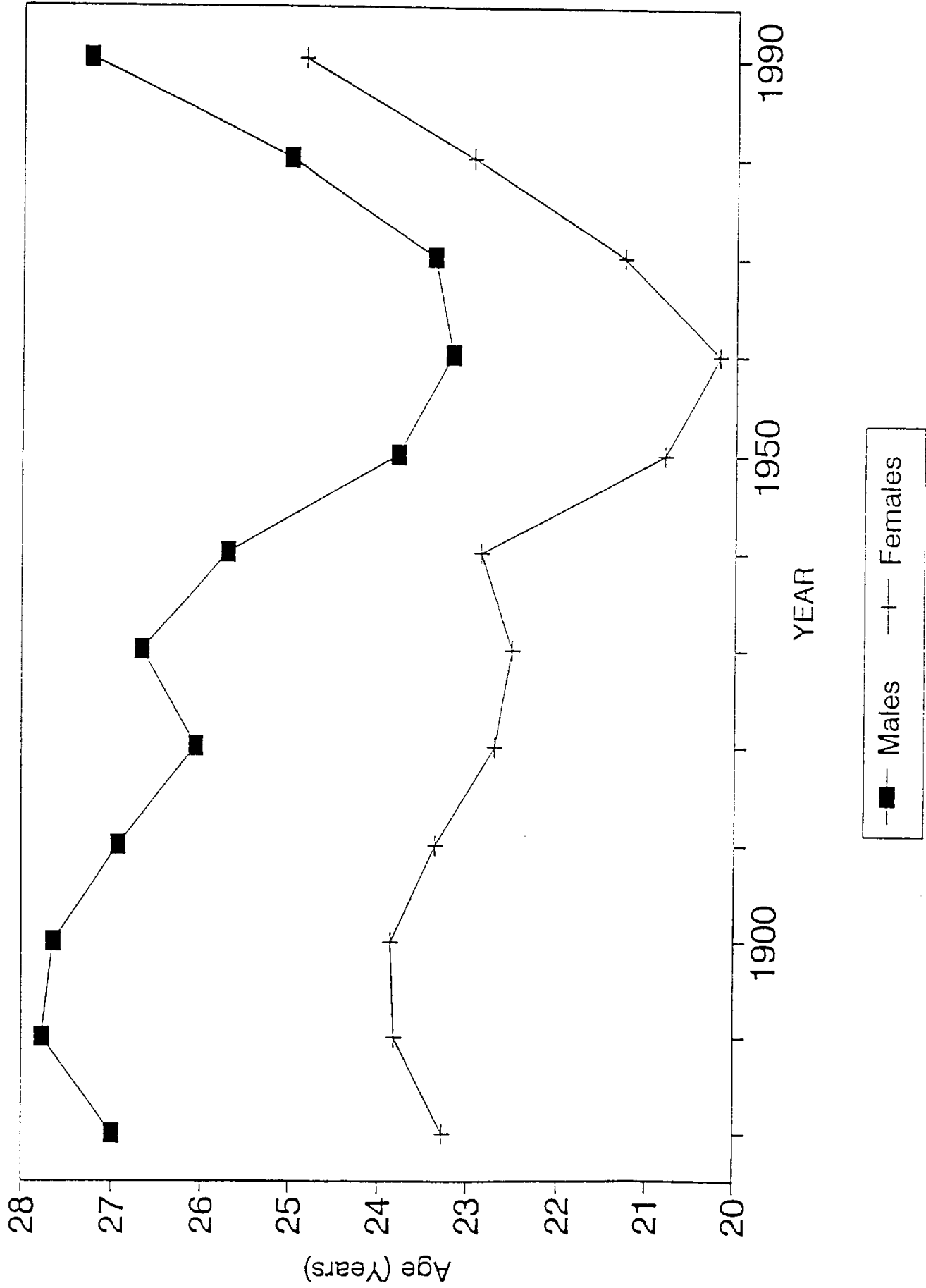


Figure 3

% NEVER MARRIED AGED 45-54

U.S. Whites, 1880-1990

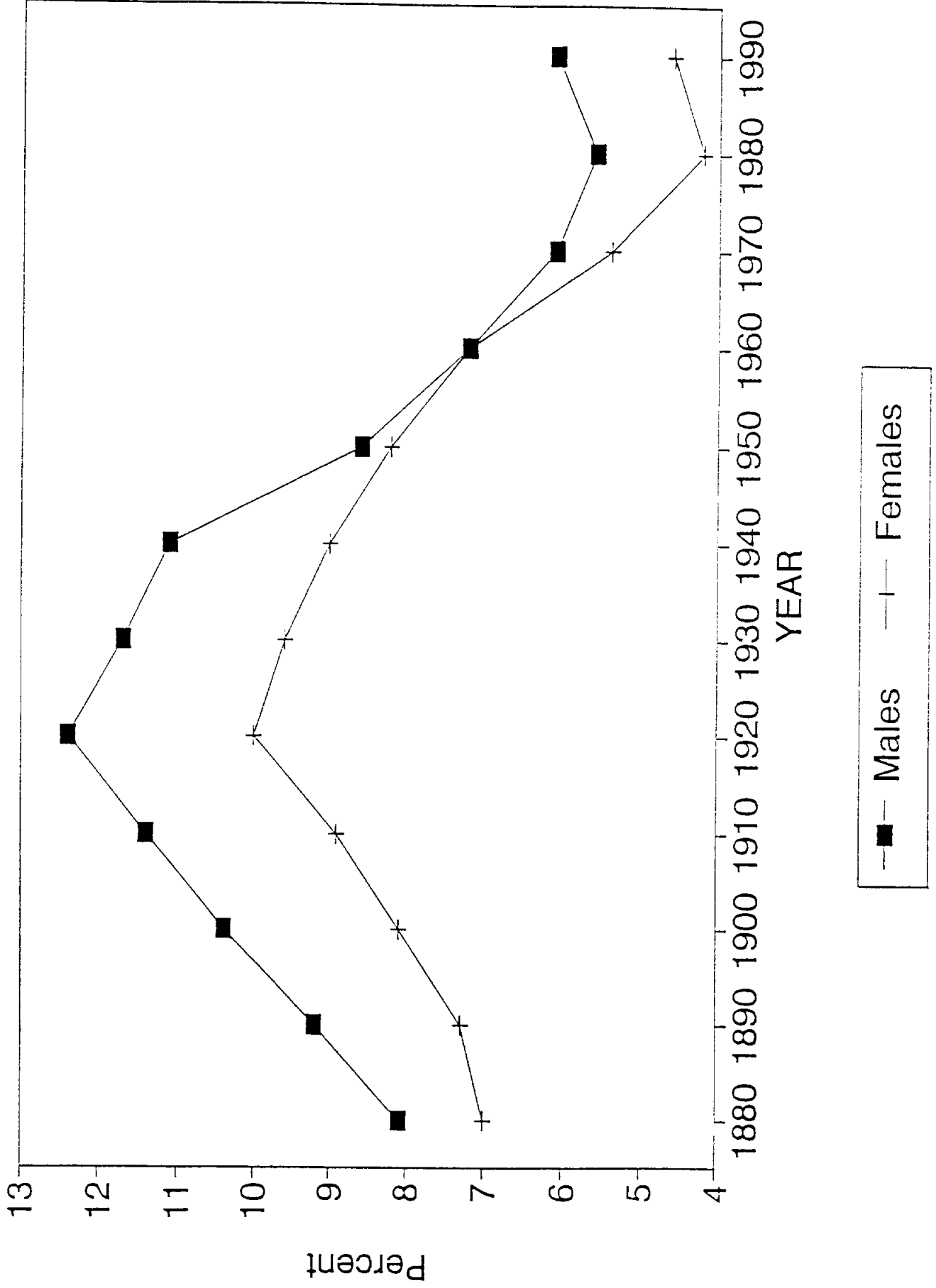


Figure 4

COALE'S INDEX I_m^*
U.S. Whites, 1825-1990

