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ABSTRACT

The growing education and employment of women are usually cited as crucial forces behind the decline of marriage since 1960. However, both trends were already present between 1900 and 1960, during which time marriage became increasingly widespread. This early period differed from the post-1960 decades due to two factors primarily affecting men, one economic and one demographic. First, men's improving labor market prospects made them more attractive as marriage partners to women. Second, immigration had a dynamic effect on partner search costs. Its short-run effect was to fragment the marriage market, making it harder to find a partner of one's preferred ethnic and cultural background. The high search costs led to less marriage and later marriage in the 1890s and 1900s. As immigration declined, the long-run effect was for immigrants and their descendants to gradually integrate with American society. This reduced search costs and increased the marriage rate. The immigration primarily affected the whites' marriage market which is why the changes in marital behavior are much more pronounced among this group than among blacks.

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1. Introduction

The decline of marriage since the 1950s has attracted, and continues to attract, considerable attention of social scientists (Becker, 1993; Sussmann et al. 1999; Oppenheimer, 2000; Blau et al., 2000; Cherlin, 2005; Greenwood and Guner, 2005; Stevenson and Wolfers, 2007; Lundberg and Pollak, 2007). What frequently escapes the analysis, however, is that the trends of the second half of the 20th century were, in many respects, a reversal of the movements of the first half. For example, the men's estimated median age at first marriage declined from 1890 to 1950 but had increased back to 1890 levels by 1990 (Cherlin, 2005: Figure 1). The same pattern applies to the age at first childbirth or the rates of lifetime singlehood (Fitch and Ruggles, 2000). Far from representing new heights, the 1990s marriage statistics have merely returned to where they had been in the 1890s.[1] It was the 1950s, with their early and near-universal marriage, that were the exceptional times and a turning point, not the late 20th century.

What led the American marriage to that exceptional state? What were the forces behind those six decades of spreading marriage ending around 1960? Existing research into the post-1960 marriage looks for, and finds, considerable explanatory power in the changes that occurred in women' lives.[2] The secular increase in their educational attainment and labor market involvement over the course of the 20th century regularly feature as the underlying forces behind the diminishing gains from marriage, whether it be through falling fertility, evaporating economies of scale in household operation, or reduced scope for specialization. But women's fortunes did not start turning in the 1950s. Their schooling and job prospects had already been changing in the first half of the 20th century when

[1] It should be stressed that, similarities aside, there remain many important differences between the demographics of marriage in the 1890s and 1990s. The late 20th century has seen an increase in cohabitation (Raley, 2000) which is perhaps more prevalent than common-law marriage was a hundred years before. Divorce has been continuously getting easier at least since the 1920s (Jacobson, 1959) and certainly more prevalent (Preston and McDonald, 1979).

[2] See Stevenson and Wolfers (2007) for an overview of the changes in late 20th century American marriage and the potential causes.

marriage age was falling and marriage rate rising. Why did the same forces lead to such divergent developments in the two halves of the 20th century?

A potential answer lies in the changes occurring to men. First, their career prospects (as measured by their occupational score) gradually improved in the early 20th century. This made them more attractive as marriage partners to women who were, simultaneously, becoming more selective in their partner choice thanks to their growing economic independence both in and out of marriage. [3] The second big effect was the dynamic of immigration which peaked in the opening decades of the century and which was significantly skewed towards men (Haines, 1996). Immigration's immediate effect was to fragment the marriage market as the diversity of immigrants clashed with their (and their descendants') preference for ethnic endogamy. The resulting high costs of finding a desirable partner led to the high ages at marriage and high non-marriage in the 1890s and 1900s. In the long run, however, as the stream of newcomers dried up and the second- and third-generation immigrants integrated into the American society, the search costs declined which contributed to the downward trend in marriage age lasting until 1950s.

2. Historical overview

A wide range of evidence points to the 1890s and early 1900s as a period of change in American marriage. Figure 1 shows that a gradual post-Civil War spread of lifetime singlehood was reversed right before the turn of the century and the proportion never married subsequently fell. At the same time, marriage rate increased by early 1920s, in fits and starts, from about 65 to above 80 marriages per 1000 eligible women (Jacobson, 1959).[4] Similar pattern is visible in other statistics, such as the indirect median age at marriage which peaked in 1900 at 26.0 for white men and at 22.1 for white women, and declined for both thereafter. In fact, Fitch and Ruggles (2000: Table 4.1) show that the

[3] For example, the employment during singlehood allowed even poor women, who otherwise would have no dowry, to accumulate at least some meager savings before setting up their own household after marriage and starting a family.
[4] By "eligible women", I mean those who were unmarried and of age. The marriage rate is very similar when calculated per 1000 eligible men.

whole marriage age distribution shifted, not just the median. The changing marriage behavior had a strong cohort component: lifetime-singlehood rate (among whites) was the highest for the birth cohort born around 1870 (who would be getting married in the 1890s and early 1900s), reaching 12.4% for men and 10% for women (Haines, 1996). Both preceding and subsequent generations had lower rates of lifetime non-marriage. The first half of the 20th century was therefore a time of a renewed interest in marriage, starting a trend that would last until the 1960s (albeit with some variation during the years of the Great Depression and the Second World War). Comparing figures 1 and 2 shows that the trends were somewhat different for whites and for blacks in the early part of the 20th century. First, blacks had lower rate of lifetime celibacy in all decades before 1960. Second, while black and white men's marriage seemed to move roughly in parallel (with the exception of the 1940 readings), black women followed a pattern contrary to what we see among white women.

Apparently, some forces affected both black and white marriage markets equally while others asserted themselves only in one market, and not the other. The more universal forces include rising educational attainment, high and increasing labor force participation of single women (Goldin, 1990) or growing ease of geographic mobility. Figures 3 and 4 suggest that improving men's labor market situation was also among them.[5] Even though black men's OCCSCORE means were lower and more variable than white men's, both groups shared in the gradual steepening of the age-OCCSCORE profile from census to census and the values they reached by their late 20s also increased across census years. In other words, men were climbing the occupational ladder faster in 1930 than they had in 1880

[5] The OCCSCORE is a constructed variable in the Integrated Public Use Micro Sample (Ruggles et al, 2008). It assigns to each occupation recorded in the 1880 – 1930 censuses the value of median annual income (in $1000s) earned in that occupation in 1950. As a direct measure, or even a proxy, of actual income earned in various occupations in 1880 – 1930, the variable is inevitably afflicted by a good deal of measurement error but then the burdens placed on it in the present analysis are much more modest: it is employed here, and its values in the pre-1950 period are interpreted, as a signal of a man's potential life time earnings and of his 'economic rank' (in term of his job) relative to other men. It is, for example, not likely that a black man and a white man in the same occupation would earn the same amount but note that the purpose of the comparison here is not to compare white men to black men but to compare each group across years. Note that, throughout the period, information on a person's occupation (on which OCCSCORE is based) was recorded even for those currently unemployed at the time of census. It is therefore not a measure of current labor market status but more of a career indicator. It also allowed several non-occupational responses, such as "student".

and reached higher. Both changes are consistent with spreading education: not only did a growing (if still small) proportion of men stay longer in school to earn a high school diploma, entering the labor market at a later age (and depressing the OCCSCORE values in ages 16 – 18), but they also entered it with greater skills which brought them faster advance.

The force most obviously affecting only the white marriage market but not black is immigration. Some 10.1 million Europeans arrived in the U.S. in the peak decade of 1905 – 1914, with six out of those ten years witnessing an influx exceeding 1 million (U.S. Immigration and Naturalization Service, 2000: Table 1).[6] The First World War brought an abrupt end to immigration and, with the exception of a brief spurt in 1921, the annual inflow stayed well below half a million through most of the 1920s, declining continually. The immigrants were overwhelmingly white with over 90% of them coming from Europe or Canada. They were also predominantly male. Haines (1996: Table 2) reports that there were 140 men per 100 women among immigrants aged 20-29 arriving in 1900 – 1910.

The hypothesis suggests itself that the labor market forces produced the similarities between black and white marriage markets while immigration drove for the differences. Tables 1 and 2 corroborate this impression. Using a simple logit model, the probability of being ever married in a given census year is estimated on the 1% census sample of men under 31 and women under 26.[7] The explanatory variables include age and indicators of literacy and nativity.[8] Several patterns emerge from the tables. First, the coefficient and the mean marginal effect of age increase from 1900 onwards for white men and women. This reflects the decline in age at first marriage mentioned previously. The right-most column of Table 1 shows the χ^2-test of equality of each variable's coefficients across years. For age, the test overwhelmingly rejects equality: the age gradient was indeed getting steeper. A marginal effect of 0.051 (as appears for white men in 1900) implies that one year of age would increase the probability

[6] For comparison, the total US population was 76.2 million in 1900 (US Census Office, 1901).
[7] This way the models are estimated from data on those men and women who either still are on the marriage market or have been there recently
[8] Fixed effects for individual states and population size of one's location were also included (not reported).

of a person being married by about 5.1%. So, assuming linearity over the relevant age range, a man's likelihood of being married would increase between age 20 and age 25 by 25.5% in 1900 but by 27.5% in 1930, ceteris paribus. The difference of two percentage points is equivalent to the average 25-year old white man getting married about 5 months sooner in 1930 than he would have in 1900.[9] Since, during the same three decades, the median age at marriage for white men declined from 26 to about 24.6 years (Fitch and Ruggles, 2000, Table 4.1), the age variable in this bare-bones logit model captures about a third of that decline. For white women, the situation is very similar. For black men and women, however, this pattern is considerably weaker. The mean marginal effect of age for black women increases from 0.72 to 0.75 and for black men from 0.56 to 0.58. This means that we see a slight steepening of the age gradient for black men while for black women, the χ^2-test of equality cannot reject the null that the coefficients are in fact equal across years.

Second, the fixed effects for the second generation immigrants among the whites is negative, meaning that this group seemed to get married at a slower pace. First-generation immigrants, however, show a negative coefficient for men and positive for women, potentially reflecting the skewed sex ratio in this particular demographic in favor of women. The blacks, again, are distinct from whites in that the coefficients on immigrants of either generation are not statistically significant, reflecting the fact that there was generally very little black immigration from which these effects could be precisely estimated.

Naturally, this bare-bones model does not quantify the relative importance of the labor market trends vis-à-vis immigration, nor does it specify the causal mechanism. In case of the men's job prospects, the causality is perhaps relatively straightforward: better-earning men are more attractive marriage partners, ceteris paribus. The impact of immigration, however, is more complicated because it is not limited to just how many men and women crossed the Atlantic but it also must account also for

[9] The calculation is that if one year adds about 5% to the probability of getting married, then 2% represents about 2/5 = 0.4 of a year which is a few days short of five months.

what kind of people arrive (e.g. in terms of ethnicity, age composition etc.). Many women discovered that the trans-oceanic ships brought over a disproportionate number of suitable potential matches – but also scores of other people among whom the suitable matches were somewhat harder to find. In other words, the influx of immigrants affected not only the intensity of competition through the changing sex ratio but also the costs of partner search.

3. Theoretical considerations

Becker et al. (1977) distinguish between extensive and intensive search costs, corresponding to how difficult it is to meet new people and how hard it is to get to know them well. Extensive search costs will be high if it is difficult to encounter the suitable partners (for example, due to high segregation by gender). They will also be high if a person looks for a spouse with a particular trait that is rare in a population, such as finding a high-earner in a poor neighborhood. In such instances, a person will be willing to accept a match with a suitor farther away from the "optimal" trait, entering a marriage with a lower expected benefit. The extensive search cost therefore affects the mean (the expectation) of gains from marriage.

Intensive search costs, on the other hand, affect the variance of potential marriage outcome (as well as the mean). Even a partner who is currently a high earner may not turn out to be such in the future. For example, marrying a medical student may carry the prospect of *potentially* high earnings but, of course, the actual outcome will depend on how good or bad a doctor the medical student turns out to be eventually. While it may be easy to meet and become acquainted many medical students in a brief period of time (low extensive search costs), it will likely be harder to establish how well remunerated they will eventually be (high intensive search costs). Another example, perhaps even more relevant for marriage, is physical attraction: finding a person with attractive features is a matter of extensive search because physical features (such as face, height and bodily constitution) are relatively easy to observe. However, finding out whether a couple is mutually sexually compatible is not immediately observable

and is a matter of intensive search. The costs of such search (along both the extensive and the intensive margin) change through time, for example as clothing becomes more revealing and the costs associated with premarital sex (risk of pregnancy, STDs or loss of reputation etc.) decline.

Both extensive and intensive search are important because the quality of a match is an 'input' into the overall utility from marriage. This in turn determines how valuable a marriage is relative to the outside options.

How do these theoretical considerations bear on the question at hand? The declining age at marriage in early 20th century suggests that men and women were done searching at ever younger ages. The increase in marriage rate implies that the expected gains from marriage relative to alternatives must have increased. Such a development is possible if the extensive search costs fall and men and women are better able to find a partner who is close to their "ideal". Earlier marriage is also consistent with an increase in intensive search costs. If intensive search becomes more costly, less of it will be undertaken. Since a major component of intensive search is time (or more precisely the duration of a relationship before marriage),[10] the result will be shorter courtship and earlier marriage.[11] If the expected gain from marriage is positive but the variance around the expectation cannot be reduced much through further intensive search (due to its high cost), then any postponement of marriage would be a net loss. In short, the hypothesized link between partner search and age at marriage was that, throughout the early 20th century, it was either getting ever easier to match with a partner on the observables or ever harder to get a reliable reading (even after a time of courtship) on the unobservables (or both).

[10] A decline in age at marriage may also reflect a greater frequency of dating: if that was the case, then of course, short duration from first date to marriage would not represent a decline in intensive search. However, with the exception of a (small) increase in pre-marital sex, I am not aware of any evidence that the dating practice of the early century grew any more intensive. Moreover, some aspects of a prospective partner's personality, such as one's susceptibility to alcoholism, may just require time, regardless of how often the partners date.

[11] Koller (1951: Table 2) shows that the number of suitors seriously considered by women as potential husbands did not change significantly between the 1890s and the 1940s, with 80-90% of women across all generations in his sample claiming to have seriously considered no more than two men. At the same time, however, in all three generations he studies, the women's first date with their future husband occurred at about the same age (19) but in each generation, the marriages occurred, on average, earlier than in the previous one.

Naturally, none of this should be taken to imply that search costs are the whole story. The discussion of the marriage market in terms of search costs should not obscure the importance of labor market factors in marriage behavior. The above example with the future earning power of a medical student is a good illustration that the partner search factors and the labor market factors may, in fact, overlap to some degree. The combined importance of the labor market factors and the partner search factors is a reflection of marriage serving a 'double duty' both as an economic institution and as an arrangement for human companionship. Its changes are unlikely to be adequately explained by only one set of determinants while ignoring the other.

4. Measures of the marriage market

4.1. Defining the marriage market

Constructing a good measure of a person's search costs requires defining, as accurately as possible, one's relevant marriage market. For although the law may allow marriages across races, nationalities, education levels or wide geographic areas, the partner search in reality takes place within a considerably narrower pool of potential suitors. Tables 3 and 4 show that a vast majority of men and women search for and find a partner that is an exact match to them along several dimensions. A clear example is race.[12] In Table 3, the rows denoted "actual" show that 99.9% of all marriages of 5 years or less in duration had spouses of the same race.[13] High rate of homogamy is also achieved on the dimension of literacy. That this is not a product of random chance but a result of a conscious effort to match on these characteristics is clear from the contrast between the values in the "actual" rows and the "random cf." rows just below them. The random comparison values show what rate of matching would prevail if the same populations of men and women who together formed the observed marriages were

[12] The high rate of race homogamy was doubtless somewhat affected also by the existing miscegenation laws in some states but even in states which did not have such laws, interracial marriages were rare.

[13] The reason why only recent marriages were included in the calculation is that heterogamous marriages have a greater probability of disruption and this negative selection eventually produces greater homogamy among those who remained marriage than was the case at the time of marriage. This is also the reason why the table includes only values for 1900, 1910 and 1930 – these were the only censuses (in the relevant period) which provided any information about the duration of marriage.

randomly matched with each other. In all cells, the actual values are higher than the random values – a clear evidence of active matching on each of the characteristic individually and on all of them together.

The relative values of the random and actual match rates provide a rough gauge on the changing extensive search costs. For example, the spreading and, by 1930, near-universal literacy implied that with each decade it was getting easier to find a partner who was also literate – hence the convergence of the actual and random matching on literacy between 1900 and 1930. The extensive search costs on literacy were therefore falling. For other characteristics, however, the situation was different. The search on age seems to have been about equally costly across the three decades while random match rates on nativity fell first from 1900 to 1910 before they increased again to 1930.

Let us establish more precisely what constitutes, for the purposes of this paper, a match on age and nativity. An age match is defined to occur when the husband is between 0 and 10 years older than his wife. Table 3 shows that this definition easily captures over 80% of all marriages in any year. What constitutes a match on nativity is more difficult to establish because the immigration of the early 20th century produced a lot of variation in the US population's nativity. The definition used here is graphically illustrated in Figure 5. An analysis of marriages recorded in the census reveals that US-born Americans of American parentage (which includes those whose at least one parent was US-born) were mostly marrying other US-born, US-bred Americans but were also willing to look for partners among second-generation immigrants, regardless of the latters' exact ancestry. The Americans however, rarely chose partners from among recent immigrants. The marriage market of the second-generation immigrants consisted not only of Americans but also of other first- and second-generation immigrants from the same 'old country'.[14] Finally, the fresh immigrants, being mostly shunned from marriages with pedigreed Americans, married either compatriots among immigrants or second generation Americans from their own country of origin. In Figure 5, marriages falling into the shaded

[14] In other words, for example, Italian-Americans appear to be willing to marry into an American family, into another Italian-American family and into a family of Italian immigrants. Similarly for Irish-Americans, Polish-Americans etc.

areas would constitute a match on nativity according to the definition provided above. Table 4 shows that when this definition is applied to marriages recorded in the census, it produces a fairly high rate of matching, in spite of it being quite narrow along ethnic lines.[15] Immigrants were clearly the most willing to cross ethnic lines but even among them the match rate exceeds 80%. An overall match rate on nativity for all three groups combined is reported in the second column of Table 3. Note that the rate of matching on nativity (as defined here) increased continuously from 1900 to 1930 even though the large inflow of immigrants in early 20th century fragmented the marriage market so much so that random matching would have produced a lower match rates in 1910 than in 1900.

The final and most important lesson from Table 3, however, is that men and women sought to match on all of these characteristics simultaneously. Random assignment would have produced matches on race, nativity, literacy and age in only about 22 – 27% of marriages. The fact that 70% of marriages were matches along all of these dimensions shows that a person's marriage market was to a considerable degree defined and delimited by these characteristics. In light of this, my measures of partner search costs are based on marriage markets defined in this way. For race, nativity, literacy, I assume people wish to match perfectly: e.g. a black man wants a black woman, a literate woman seeks a literate man, etc. With respect to age, I apply the ten year interval mentioned above. Only rarely, however, does one's search for a partner encompass the whole country; more realistically, the marriage market is relatively local and so I limit it to the size of a county.

4.2. Partner search variables

To characterize each person's marriage market, I construct several variables. The variable *trait* is an indicator of the rarity of a given set of personal traits (race, literacy, nativity and age, as discussed in the previous section): it is computed as the proportion of all suitable matches in the total population of the county. The greater the value of *trait*, the greater are the chances of encountering a suitable match

[15] Note that Table 4 is not limited to recent marriages of under 5 years of duration and so the match rates may be inflated compared to what they would have been at the time of marriage due to selection.

in daily intercourse, all else equal.[16] The concept behind this variable comes directly from Becker et al. (1977) who argue that matching on a rarer trait constitutes a higher extensive search cost. Mathematically,

$$\text{for women } trait = \frac{\sum_{i=0}^{10} M_i}{Pop}\ ; \qquad \text{for men } trait = \frac{\sum_{i=0}^{10} W_{-i}}{Pop}$$

where M_i represents the number of suitable men (properly weighed by sampling weights) in the county who are i years older than the relevant woman; W_{-i} represents the number of suitable women who are i years younger than the relevant man, and *Pop* stands for the total population of the county. Table 5 provides a summary of how this variable changed between 1880 and 1930 for black and white men and women. For white women, the mean values of trait increased continuously from decade to decade. For white men, it increased only after 1910. The black marriage market, on the other hand, saw an increase in extensive search costs for both men and women, as the *trait* values by and large declined through the years.[17] Black *trait* values are naturally lower than white ones because, on average, the black population constituted a minority that was relatively dispersed, especially in the North. The standard deviation did not vary much across years, so Table 5 only reports one overall value across all years. Figures 6 and 7 show that the changes in the value of *trait* across years were not an artifact of changing age composition: the 1930 values for white men and for white women were higher than for earlier years across all ages. The fact that *trait* increases for men up to age 26 while it declines continuously for women is due to the constraint on age difference between spouses: a 16-year old man's marriage

[16] Ceteris paribus is an important qualifier here because, as a measure of rarity, *trait* is only one component of the extensive search cost. The mere presence of potential suitable matches in a population is not the same as being able to meet them. For example, in sparsely populated areas or in areas that lack the necessary infrastructure that facilitates such encounters (e.g. entertainment venues or outlets with personal ads) the same value of *trait* will be associated with higher extensive search costs and lower probability of being married than in densely settled areas. Thus, extensive search costs can decline in two ways: either the values of *trait* increase from year to year or the improving infrastructure makes meeting potential mates easier at any given level of *trait*. In the latter case, a decline in extensive search costs would imply a higher probability of getting married across the board, i.e. at any level of *trait*.

[17] The white immigration diluted the black population, increasing the denominator (but not the numerator) of *trait* for blacks.

market consists of only 16-year old women while a 26-year old man can search for a spouse among all the women aged 16-26.[18]

Another constructed variable is *sex ratio* which measures the intensity of competition. It is defined as a ratio of potential spouses over potential competitors. For example, a man of certain traits, aged 26, competes for women aged 16-26. But for women who are at the lower end of this range, say 16, he must compete against other men who are of his age and younger (i.e. aged 16 – 26) while for women who are at the upper end of the range (say 26), his competition will come from men who are his age and older (i.e. aged 26 – 36). The *sex ratio* reflects these shifting overlaps, being defined as

$$sexratio = \sum_{i \in M} \frac{1}{\#suitors}$$

where the summation is performed across the set *M* of all potential partners and *#suitors* is the number of all suitors (including himself) who too might potentially marry a given women in his set *M*. By this construction, the ratio captures local variation in the size of birth cohorts and racial and nativity groups. It can realistically reflect the different situation of, for example, two men who are otherwise the same but are five years apart in age but who would for that reason face very different marriage markets and command very different bargaining power with respect to potential spouses – even though they seem to compete over a pool of women that overlaps to a great degree. Note that the variable is defined as a ratio of the numbers of opposite sex to the numbers of one's own sex. Thus, both men and women consider higher ratios to be more favorable. Hence, the variable is expected to be positively correlated with marriage: the more eligible brides per prospective groom there are, the more likely a man will be to marry (and vice versa).

Table 5 suggests that the mean *sex ratio* moved very differently for white men compared to white women. White men's sex ratio deteriorated between 1880 and 1910 and improved thereafter – no doubt in response to the immigration flows with their highly skewed sex ratios. White women's sex

[18] Age 16 is here used as the age at which men and women have their *debut* and thus enter the marriage market.

ratio exhibits the opposite development, rising first and then falling after 1910 – likely due to the same causes. For blacks, the sex ratio does not exhibit any consistent long-term trend but it seems generally to be higher for men than for women. Moreover, men's and women's sex ratios are farther apart for blacks than for whites. This must have been a result of differential mortality between black men and women over their childhood and adolescent years because a simple analysis of sex composition of the black population reveals that women comprise 52% and men only 48% of blacks throughout this period. For whites, the shares are practically 50:50.

The remaining variables in Table 5 are intended to capture intensive search costs. They are based on the assumption that more in-depth knowledge of one's potential partner (which is the purpose of intensive search) is more relevant in circumstances when there exists greater *a priori* uncertainty about how one's marriage will operate. If, for example, a couple has a high probability that, once married, they will follow the traditional model of male bread-winner and female home-maker, then the woman will seek to get a better idea about her future mate's labor market potential while the man will want to gauge the woman's home-making skills. If, on the other hand, the couple's options are open in that the traditional model is just as likely as an arrangement with two breadwinners, then their pre-marital intensive search will also need to be broader in scope and its focus will not be on just one characteristic but on many. In short, the greater is the variance in potential household arrangements the costlier is the intensive search because the more characteristics it has to encompass. The *variance in the number of breadwinners* in Table 5 is constructed in this way. It is calculated from all the married couples of a given race in a given county where the wife is over 25 and the husband over 30 but both are younger than 40, i.e. from couples who are outside the analyzed sample but close to it in age.[19] The rising values of this variable in Table 5 therefore indicate rising intensive search costs as the traditional

[19] The implicit assumption is that for the young women under the age of 25 and men under 30 who are looking to get married, the marital arrangements of the closest older generation serve as an indication of what they themselves can expect in marriage. Note also, that since the variable is calculated on a county level (with a distinction by race), it will have the same value for all white women under 25 in a given county and another value for all black women in the county. Similarly for men.

model of complete specialization was gradually coming under pressure between 1880 and 1930 and getting an accurate reading on whether a person will be a good spouse was thus getting harder.

The other measure of intensive search costs, *variance in family size*, captures the variance in fertility arrangements by race and county. David and Sanderson (1987) document the spread of the two-child norm which accompanied the decline of traditional marital arrangements among Americans. Building on this idea, I divide families into 'modern' and 'traditional' based on whether they have two children or under ('modern') or more ('traditional'). The variable *variance in family size* is then calculated as the variance in this dichotomous indicator of modern vs traditional fertility by race and county. For whites, the value of this variable first increases and then, after 1910, declines again, as the proportion of families following the two-child norm increases from about 40% nationwide to about 60%. For blacks, the value monotonically increases reflecting the high prevalence of high fertility among black couples.

Since higher intensive search costs should lead to earlier marriage, the coefficients on both *variance in the number of breadwinners* and *variance in family size* are expected to be positive.

4.3. Labor market variables

The labor market variables are relatively straightforward. The variable *single women's labor force participation* is defined by county and race but does not vary with nativity, literacy and age of women (see Table 6). It is an indicator of the local labor market opportunities of never married women and therefore an index of their relative bargaining power vis-à-vis their suitors. It is arguably a better measure of this bargaining power than an individual-level employment status because even a non-working single woman can have a high threat-point in bargaining with a man, if she can credibly claim that employment is a viable alternative to marriage. The values in the white and black men's panels of Table 6 indicate the level of single women's employment the men faced on the marriage market where they searched for a wife.

Men's labor force participation and *married women's labor force participation* are defined similarly.[20] While men's labor market success can be expected to be positively related with marriage, the case is not as clear in case of married women. Their employment affects not only the size of the overall marital gains but also its distribution between spouses which may produce conflicting incentives for men regarding marriage.

One further measure of the labor market is the quality of men's job, measured by the IPUMS variable OCCSCORE and summarized in Figures 3 and 4. For women, the values are the average OCCSCORE of the pool of men that a woman of given traits may consider for marriage. Since older women choose husbands from among older men (who generally have a higher OCCSCORE than younger men), the values are higher for older women. Since men with better quality jobs are more attractive marriage partners, ceteris paribus, the expected effect of this variable on the probability of being married is positive.

All the defined and constructed explanatory variables have their share of shortcomings. The variable *trait* ignores many aspects on which men and women may match, such as physical attractiveness. The *sex ratio* implicitly imposes identical preferences on all men and women regarding the desired age difference between spouses. All variables ignore any migration, taking simply those individuals recorded in the census at a particular place as being or having been participants in the local marriage market. The variables are calculated from all men and women regardless of their current marital status. In my analysis which seeks to get at marriage formation, I naturally concentrate on young men and women who, even if they were married as of the time of census, must have married fairly recently and so the ratios and proportions calculated even with their inclusion should to some degree reflect what the marriage market had been when they were actually choosing their partners.

[20] The married women's labor force participation is, again, calculated for the age group 25 – 40, i.e. not the women in the estimation sample.

5. Results

The partner search and the labor market variables are now used to enrich the bare-bones logit model presented in Tables 1 and 2. The dependent variable is 0 if a person is never married/single and 1 otherwise (i.e. ever married).[21] As further individual characteristics I add age and dummy variables for nativity and literacy. Fixed effects for individual states are also included, as well as those for the size of township a person resides in, a categorical variable based on the IPUMS variable SIZEPL, controlling for the separate effect of urban environment. All the variables, except state fixed effects and size-of-place fixed effects are interacted with year of census so that the model can be estimated across years, but still allow variation in most coefficients between years.[22]

The coefficients and mean marginal effects of the relevant independent variables are reported in Tables 7 to 10. Generally speaking, the marginal effects have the expected signs: the probability of marriage increases with *sex ratio* (with the sole exception of white women in 1930), with *trait*, with men's labor force participation and their OCCSCORE, and with *age* but declines with single women's labor force participation (again, with a few exceptions). These results are mostly consistent across all four race-sex categories. Judging by the likelihood ratio index in the four tables, the independent variables have greater success explaining men's marital behavior than women's but both the labor market variables and the partner search variables are jointly significant in all the models (see the bottom two rows in each table). The coefficients are also relatively precisely estimated. The standard errors are consistently low across decades for both men and women. The marginal effects are also

[21] Preston et al. (1992) show that marital status, like many other census variables, was misreported. In particular, many deserted African-American women reported to be "widowed" when in fact they had been deserted (it is likely that many white women did the same). While this would be a problem if one wished to study marital disruption directly, note that the dependent variable is constructed such that this sort of misreporting has no effect: whether a deserted woman reported herself to be widowed or deserted, she is here correctly coded as "ever married". More problematic would be if young deserted women misreported themselves to be "single/never married" – how prevalent such misreporting was is anyone's guess.

[22] Running a separate estimation for each census year would also be possible but comparing logit coefficients and marginal effects across separately run estimations could be treacherous due to the arbitrary normalization in estimation of these models (Mroz and Zayats, 2008).

structurally quite stable from one decade to the next. This suggests that the variables are capturing some of the underlying mechanisms of the marriage market of the time.

How important are the constructed partner search and labor market variables in accounting for the declining age at marriage and rising incidence of marriage after 1900? Having a separate estimation for each of the four race-sex group (white and black men and women) allows us to compare to what extent the marriage markets were similar and along which lines they differed. Both the similarities and the differences are instructive and they reveal a great deal about the underlying forces that exerted their influence on American marriage during this time.

Let us start with the similarities. All four tables (7-10) suggest that the partner search and labor market variables are crucial in explaining the declining age at marriage. Recall that the stripped-down specifications presented in Tables 1 and 2 showed that the probability of getting married was increasing ever faster with age, decade after decade. In Tables 7 – 10, however, the inclusion of the explanatory variables led to a significant decline in the marginal effects of age which became practically flat across years.[23] In short, the root of the declining age at marriage lies in the joint effect of *sex ratio*, *trait* and the labor market variables.

One variable, OCCSCORE, emerges as a particularly strong determinant of marriage for both blacks and whites, and for men and women alike. It is clearly the most pervasive factor and one with considerable explanatory power in the cross-section. For white men (Table 7), an increase in the value of OCCSCORE by one standard deviation (1.19) increased the probability of getting married by 6.2 percentage points in 1930. Considering that the mean marginal effect of age was 0.039 (i.e. an extra year of age made marriage about 3.9% more likely), one standard deviation increased in OCCSCORE speeded up a young white man's marriage by 1.6 years in 1930. Moreover, the importance of the quality of men's job increased through time, as evidenced by its growing marginal effect in all four tables 7 – 10. Clearly, it made ever more of a difference for a man's marital success not just that he had

[23] This is most obvious in case of white men but other race-sex groups share in this, too.

a job but also what kind of job he had.[24] The estimation leaves little doubt that men's improving labor market outcomes throughout the late 19th and early 20th centuries acted powerfully towards encouraging early marriage.[25] It is quite intuitive that women will be more willing to marry when their potential husband's economic prospects look good. In that sense, the early 20th century provides the inverse of the explanation provided by Oppenheimer (2000) for the decline of marriage in late 20th century.

In contrast to that, however, the intensive search variables turn out to be practically weak and largely statistically insignificant across the board. The marginal effects of the *variance in the number of breadwinners* are rather small, so its explanatory power is limited. This is even more the case with the *variance in family size* whose coefficients are small (and of the wrong sign). The intensive search variables therefore fail to make an impact (and this is the case for all race-sex categories). This does not contradict the earlier assertion that the intensive search was in fact getting more difficult, as family arrangements grew more complicated and varied; but it suggests that intensive search was perhaps not the binding constraint when it came to marriage formation.

Next to the forces which were universal in their influence, there operated also those which had differential impact on men and women, regardless of race. Note that the likelihood ratio indexes (LRI) for men (0.302 for whites in Table 7 and 0.311 for blacks in Table 9) are appreciably higher than for women (0.207 for white women and 0.196 for black women). The model clearly has more success explaining the cross-sectional variation in marital outcomes for men than for women. The sexes also differ in that some variables, such as *single women's labor force participation*, make much more of an impact on women's probability of being married while others, e.g. *sex ratio*, are more influential for men. A summary of these cross-sectional effects (calculated, by way of example, for 1930) in Table 11

[24] There is a detectable difference in the relative importance of these two between the white and black marriage market: for whites, the increased importance of OCCSCORE is accompanied by a decline in the importance of *men's labor force participation*. Among blacks, this variable remains relatively important even as OCCSCORE becomes ever more powerful.
[25] Note that this is not equivalent to saying that marriage positively responded to economic growth. The variable OCCSCORE does not capture any change in income due to economic growth: each occupation is associated with the same, fixed value of 1950 median annual income, whether the occupation is recorded in 1880 or 1930.

highlights these gender differences. The table reports the changes in the imputed probability of being married by each race-sex group's median age at marriage[26] as one varies each explanatory variable between its 10th and 90th percentile while keeping all other variables at their means.[27] Variables *sex ratio*, *trait*, *single women's labor force participation* and *men's job quality* are the most powerful factors. Put together, they account for much more of the total cross-sectional variance for men than they do for women. While, in any given census year, the proportion of women ever married goes from virtually zero to about two thirds between ages 16 and 25, the cross-sectional variation accounted for by moving **all** the partner search and labor market variables from 10th to 90th percentile (an unlikely real-life scenario in itself) reaches 5.5 percentage points for white women and 4.1 for black women. In contrast, for men, of whom about two thirds get married by age 30, the same numerical exercise yields 30.9 percentage points for whites and 41.4 points for blacks. The main reason why the variables have such an impact for black men is that the explanatory variables display a much wider variance than is the case for white men (see Table 5). There is also a difference between men and women in the relative strength of the partner search variables and the labor market variables as a whole. For men, the partner search variables make much more of a splash.[28] This is because the impact of *average men's job quality* is offset by the *single women's labor force participation* for women while, for men, OCCSCORE dominates the labor market factors. For women, the labor market variables generate conflicting incentives regarding marriage.

Apart from the forces with a gender-specific effect, there are also some which produce differences across races. One noticeable difference from Table 1 in Tables 7 and 8 is that the coefficients for both second and first generation immigrants have increased; for the first-generation immigrant men they even flip from negative to positive. This suggests that the reason why immigrants

[26] The median age at marriage used for the calculations in the table is 25 years of white men, 22 for white women, 23 for black men and 20 for black women.
[27] The statistics are calculated for US-born, US-bred and literate persons, so nativity and literacy are fixed for all the calculations in Table 11.
[28] The values for individual variables do not add up when calculating the totals for groups of variables due to the non-linearity of the model.

and their immediate descendants married later and in smaller numbers than natives lay in the marriage market that they faced.[29] Their marriage markets were smaller and more constrained. Had it not been for that, their marriage rate would have been closer to that of natives (i.e. the marginal effects of nativity would be closer to zero). For example, in 1930, the mean marginal effect of being a second-generation white man on the probability of being married is -6.6% in Table 1 but only -2.1% in Table 7 where the other explanatory variables are included.

What is crucial to stress is that the changes in coefficients across time are significant for the white population but not for blacks. Whereas for white women, the partner search coefficients get bigger from year to year and become statistically different from each other, for black women only the coefficient on *average men's job quality* changes significantly.[30] The same distinction, by and large, applies to results for black versus white men. All genders and races equally share the increasing importance of men's occupation across the years and all except black men witness a growing (negative) impact of single women's labor force participation. But where the difference between white and blacks is most pronounced are the results for the partner search variables, *trait* and *sex ratio*. Clearly, the marriage markets of whites and blacks, while structurally similar, nevertheless worked with different demographic inputs which produced the differences between races. The obvious candidate for the differential input is the dynamic of immigration.

Immigration had a two-fold impact. The short-term impact was one of fragmenting the marriage market as the diversity of immigrants made it harder for everybody to find their match (see Table 3). This was particularly the case for immigrants and for the second-generation immigrants who had still relatively specific ethnic preferences regarding their partner. Table 12 shows that both the *trait* and *sex ratio* deteriorated with time for first and second generation immigrant men. Note that for women of

[29] The labor market variables are only race-county specific, not nativity specific (in line with the assumption that the labor market was probably less "segregated" than the marriage market along nativity divides), so they do not capture differences between various ethnic groups in the labor market conditions.
[30] Evaluated at $\alpha = 5\%$ level of significance.

these categories, only the *trait* declined while the *sex ratio* actually became somewhat more favorable in the first decade of the 20th century – no doubt a result of the highly skewed sex ratio among the immigrants. The US-born of US parentage were able to hold their own, partly because their marriage market only partly overlaps with that of immigrants but the presence of immigrants in the first decade of the 20th century was so strong that they were able to bring down the all-white men's average both for the *trait* and for *sex ratio*. The short-term impact of immigration was therefore to increase the extensive search cost and intensify the competition for white men in the form of higher sex ratio on the marriage market. These trends are mostly absent for blacks who saw no black immigration of comparable scale during this time.

The long-term effect of immigration, after it came to a halt with the beginning of the First World War, was one of integration. The children of the early 20th century immigrants became second-generation immigrants and the children of those, US-born Americans of American parentage. With the drying up of immigration, the fragmentation of the marriage markets was reversed. US-born men's *trait* and *sex ratio* increased again by 1930, signaling an improving situation on their marriage market and declining search costs.[31] While the values of immigrants kept on declining after 1910, they constituted an ever smaller fraction of the US marriageable population. Notice, again, that these trends are mostly absent among blacks, perhaps with the exception of a slight decline in *trait* for blacks which is a result of the dilution of the black population by the previous white immigration.

Compounding this effect of integration was the increasing impact which high values of *trait* had on the probability of being married (as documented by the increasing coefficient and marginal effect of this variable in Tables 7 and 8). Not only was the integration increasing the values of *trait* but marriage was also becoming ever more likely at high values of *trait*. The extensive search costs were therefore falling in two ways: the integration of immigrant families made suitable matches more frequent in the

[31] Other integration forces were clearly also at work, for example literacy became practically universal which would also lead to increase the value of *trait*, as defined here.

general population (raising *trait*) and at the same time the changing 'matching technology' (perhaps through the rise of dating or greater daily intercourse among adolescents thanks to the spreading high-school movement) made matches more likely at any given level of *trait*.

How strong were these changes in partner search costs relative to labor market factors in ushering in the decline in age at marriage and an increase in marriage rate? The shifts across time are harder to evaluate than cross-sectional variation because non-linear models do not lend themselves to the kind of decomposition often applied to linear models. A crude analogy is to evaluate the imputed probability of marriage at the means in each decade and then see how much of the change can be attributed to changes in means of explanatory variables and how much to changes in the coefficients. In Table 13, this exercise is attempted for white literate men aged 25. The top left value of 0.352 is obtained by predicting the probability of being married at the means of the explanatory variables in 1900. These means summarize the average marriage market and labor market conditions the 25-year old literate white man would face in 1900. As one moves across the table to the right, the means are kept unchanged but the coefficients are changed first for the partner search variables, then for the labor market variables and finally for all remaining variables (age, literacy, nativity and state and size-of-place fixed effects). The values show that simply switching the coefficients on the partner search variables to their 1930 values would increase the imputed probability by about 3.9 percentage points or, expressed multiplicatively, would raise the probability by a factor of 1.11. Switching the labor market coefficients to their 1930 values decreases the imputed probability by 1.2 percentage points. Bringing in the 1930 coefficients on all other variables raises the probability to 0.493. This implies that the impact is positive for the partner search variables and negative for the labor market variables but they are both relatively small compared to the effect of changing all coefficients at the same time.[32] Not surprisingly, the same result obtains if one follows the bottom line of Table 13 where the same exercise is applied to the 1930 means of the explanatory variables.

[32] This is the change from 0.352 to 0.493, or an increase by a factor of 1.40.

Moving vertically along the left-most column keeps the coefficient fixed at the 1900 values but changes the means in the evaluation. From the top cell to the one below it, the means on partner search variables are changed first which leads to an increase in imputed probability of 0.01. Changing also the means on labor market variables increases the imputed probability slightly to 0.364. Adjusting the remaining means reduces the probability to 0.350. So, over the 30-year period, the partner search variables were moving overall in a direction that favored marriage while the combined effect of labor market variables was negligible. This is doubtless the result of the offsetting pressures of single women's labor force participation on the one hand and rising OCCSCORE on the other.

Finally, along the diagonal, the coefficients and the means of a given set of variables are changed at the same time. For the partner search variables, this implies an increase in imputed probability of being married by over five percentage points because the shifts in means and the changes in coefficients complement each other. On the other hand, changes in coefficients and means of the labor market variables leads to a small decline in the imputed probability and this is clearly because the negative effect of the change in coefficient strongly dominates the slight positive effect of change in the means of variables. In other words, over the three decades the marriage market 'penalty' associated with single women's labor force participation increased faster than the premium of men's good job prospects. The remaining variables then bring the imputed value from 0.396 to 0.490. The tentative conclusion from this exercise is that, for white men, changes in partner search over the thirty years were much more important than labor market changes and that they possibly accounted for about one third of the overall change: the imputed probability went up by a factor of 1.39 (from 0.352 to 0.490) between 1900 and 1930, with the partner search alone pushing it up by a factor of 1.15 (from 0.352 to 0.404).

For white literate women of about median age at marriage (22), the same computations are repeated in Table 14. Many of the patterns observed in case of white men reappear here: changes in the labor market means bring the imputed probability down but changes in coefficients increase it both for

the partner search variables and for the labor market variables. The movement along the diagonal indicates that changes in both partner search and labor market contributed to the overall increase in the likelihood of marriage but that the labor market variables contributed the lion's share. Together, the partner search and labor market variables can account for practically the whole difference in imputed probability of ever being married that occurred for 22-year old literate white women between 1900 and 1930. With this overall probability increasing by a factor of 1.22, the labor market factors alone would multiply it by 1.14 and partner search factors by 1.08. So, again, the partner search contributes about a third of the overall change but, unlike in the case of white men, the labor market factors make up the remaining two thirds.

The conclusion about what caused the change in marriage behavior across the first three decades of the 20th century is therefore exactly opposite to what turned out to be crucial in the cross-sectional analysis (see Table 11). While the labor market variables cancelled out for women in the cross section, they were the prime movers in the change across time, and vice versa for men. For women, the partner search and labor market variables could only explain a small portion of the cross-sectional variation but they go a long way towards explaining the differences from 1900 to 1930. For men, the variables have more success cross-sectionally but prove much weaker in Table 13. The contradiction is more apparent than real, however. In the cross-sectional analysis, a fixed coefficient interacts with the relatively wide distribution of the explanatory variable: for example, a move from the 10th to 90th percentile of men's OCCSCORE in 1930 represents a change from 0.9 to 3.6, for single women's labor force participation the values are 20% and 74%. In the time-change analysis, however, it is the averages that change relatively little (e.g. mean OCCSCORE of men in Table 13 goes from 2.1 in 1900 to 2.3 in 1930; mean single women's LFP goes from 43% to 54%) but it is the changing coefficients that do most of the work (see Tables 7 and 8). If one may use a production function analogy with the explanatory variables such as *trait*, *sex ratio* etc as inputs and the coefficients and the functional form of the logit specifying the technology, then one could say that, over the period 1880 to 1930, men saw

greater changes in their values of inputs while for women the marriage market changed more through a change of technology.

6. Conclusion

The rising marriage rate after 1900 was the net result of several conflicting forces. While women's labor market involvement would have made marriage relatively less attractive, ceteris paribus, improving young men's job prospects apparently outweighed this negative influence and the falling extensive search costs produced a net effect in favor of earlier marriage. The intensive search costs, although they did increase during the period, did not make as much impact on the decision whether or not to get married. The declining extensive search made it easier to match with someone relatively close to one's ideal on the observable characteristics and to the extent that this increased the expected gains from marriage relative to remaining single, the opportunity cost of further intensive search (i.e. more dating before marriage) increased, leading to earlier marriage.

Ultimately, it is perhaps quite straightforward that, over time, labor market factors played relatively greater role in women's marital behavior while search factors in men's. After all, the early 20th century marriage market could still perhaps be characterized as one where men did the searching and women did the choosing – and there is no doubt that the economic prospects of their potential husbands weighed heavily in their decision-making. The changes in American society at the beginning of the 20th century were such that both men and women found their part of the process of courtship getting easier from decade to decade. Men could find a suitable match among women faster and, with their standing in the labor market improving, women found the option of marriage more acceptable. These new trends were set to continue, until they were yet again upset in the 1960s.

What is not so straightforward is to detect the influence of search costs on secular trends in marriage. Becker et al. (1977) make a persuasive theoretical case that they matter but their empirical identification requires fairly detailed data and careful analysis because the demographic forces which

determine these costs change slowly and in subtle ways.[33] The present results show, however, that the search aspect is an important part of the story. It may hold the key to other historical issues such as why the early 20th century grew not only more eager to get married but also more eager to get divorced. Could it have been that easier extensive search on the observables and harder (and shorter) intensive search on unobservables made lifelong marriage more attractive and at the same time less attainable?

[33] This is also the main reason why the present analysis stops in 1930: the 1940 census (and subsequent censuses) do not provide detailed information on the level of counties and the definition of several variables changes (e.g. labor force participation, education etc.).

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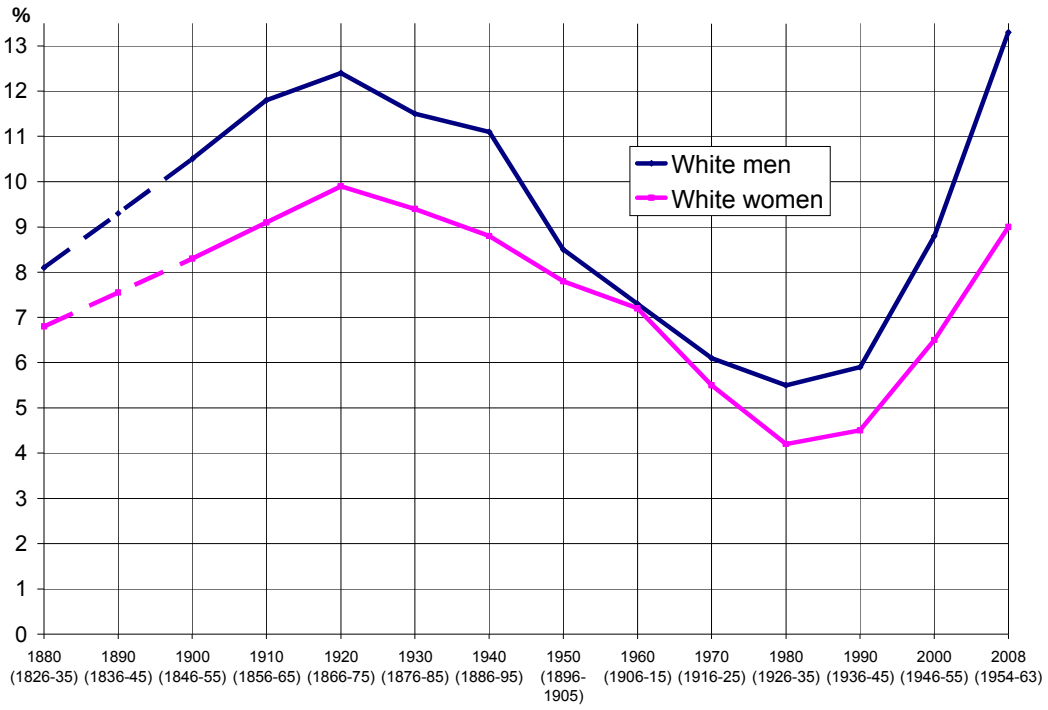
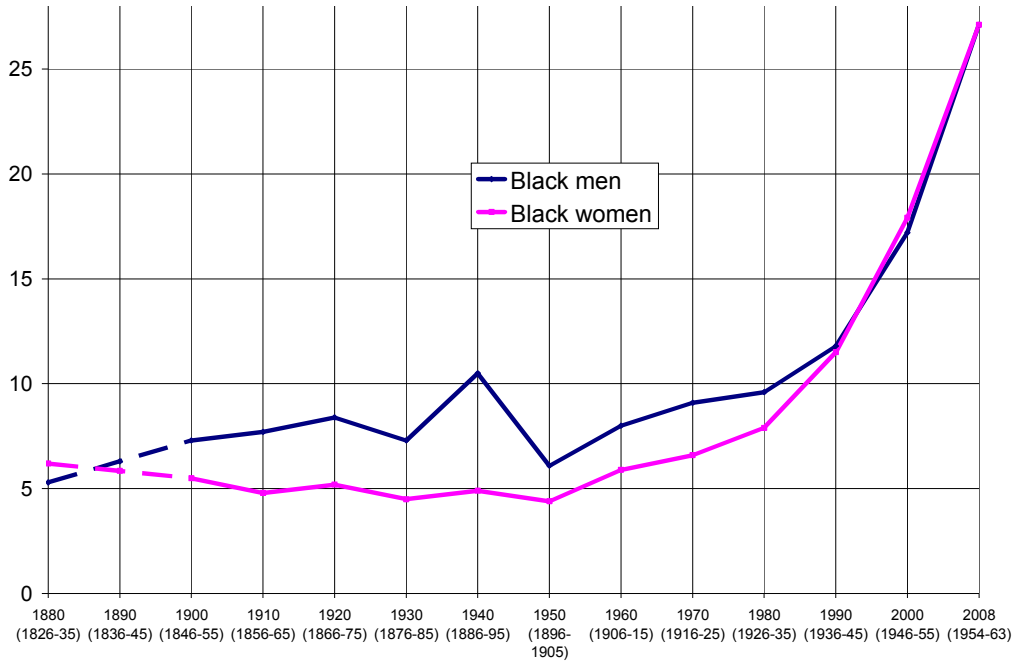
Figure 1 - Proportion never married/single by age 45 – 54; by census year (birth decade)

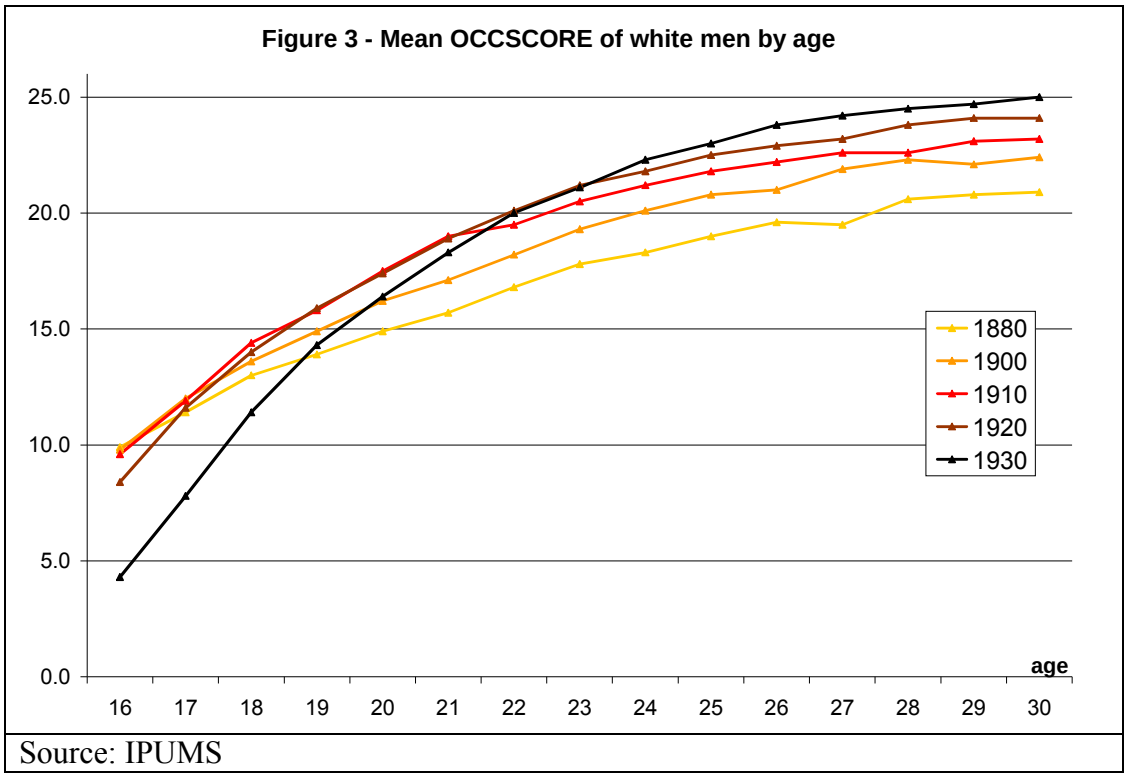


Source: The year 1890 is interpolated from 1880 and 1900. Calculated from IPUMS. See Ruggles et al. (2008)

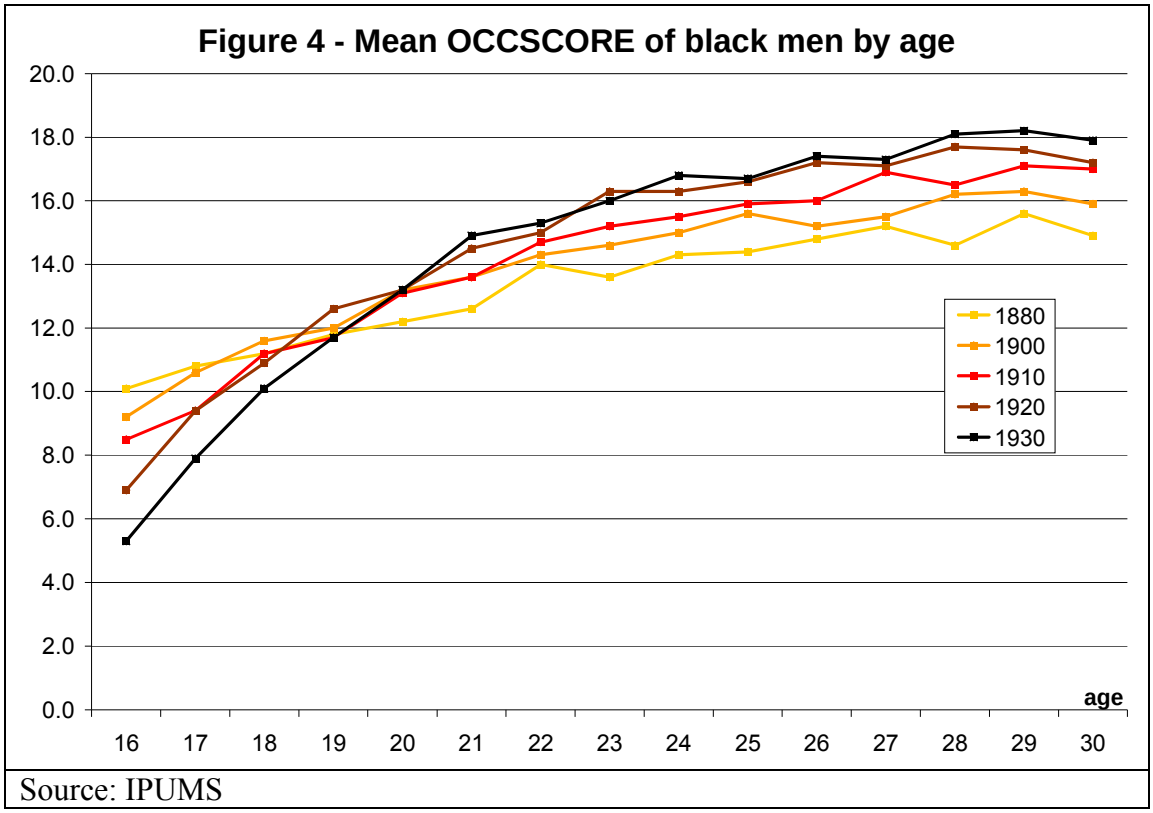
Figure 2 - Percentage never married at age 45-54 by census year (birth decade)



Source: The year 1890 is interpolated from 1880 and 1900.Calculated from IPUMS. See Ruggles et al. (2008)

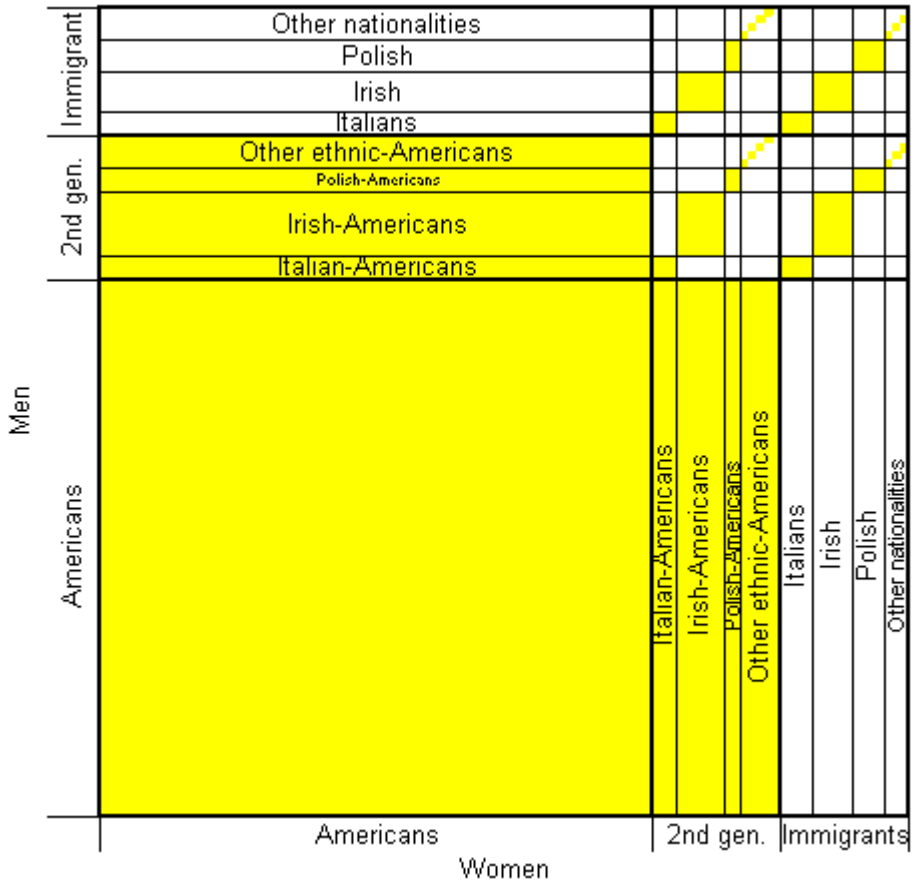


Source: IPUMS



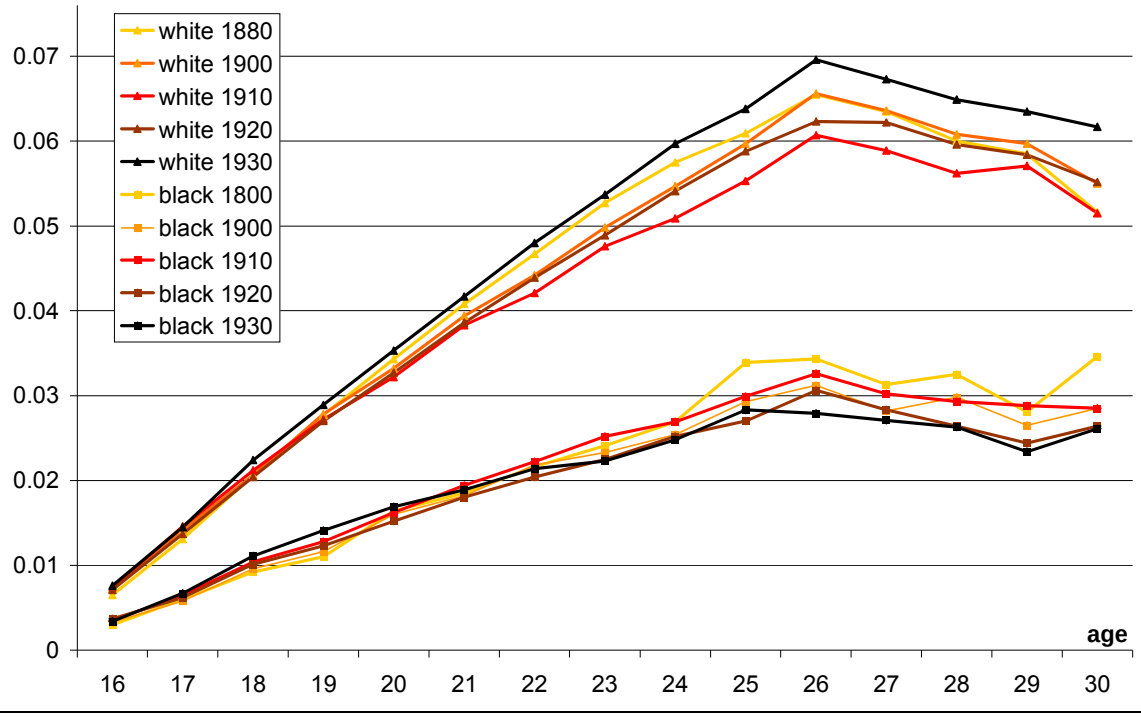
Source: IPUMS

Figure 5 – Graphical illustration of matching on nativity



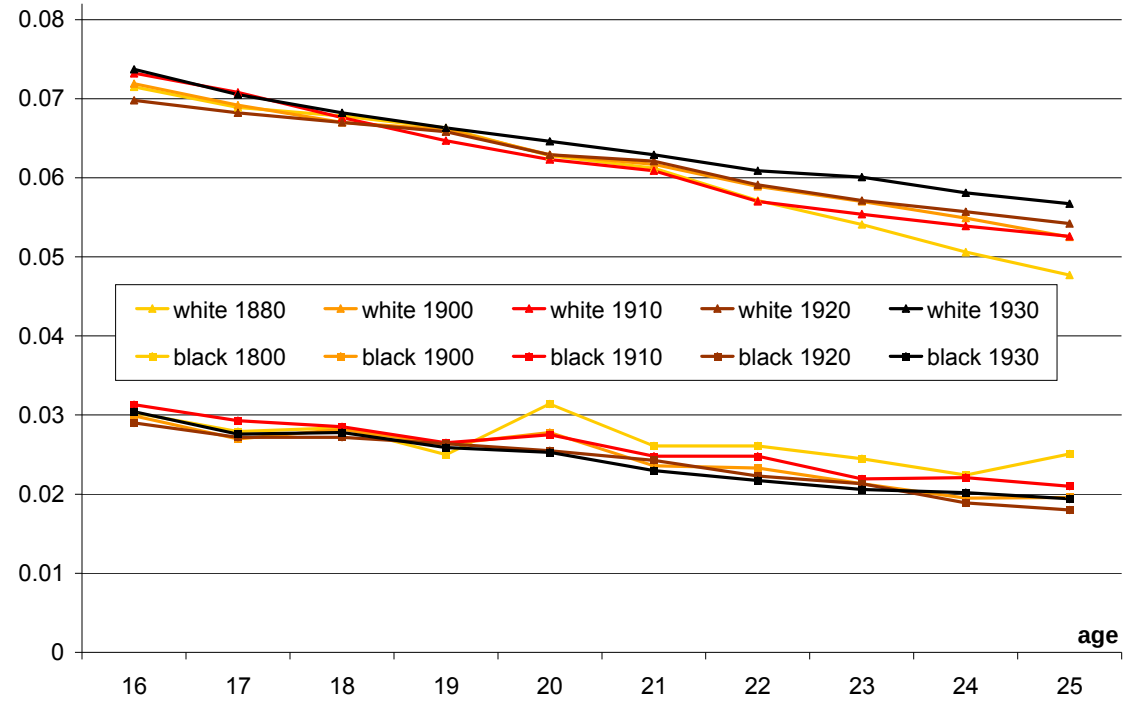
Note: Not drawn exactly to scale. Marriages falling in the shaded areas constitute a match on nativity.

Figure 6 - Mean *trait* by age and year for men



Note: see text for definition of trait

Figure 7 - Mean *trait* by age and year for women



Note: see text for definition of trait

Table 1 - A logit model: how the probability of being ever married depends on certain personal characteristics											
Variable	1880		1900		1910		1920		1930		H_0:β_{1880}=…=β_{1930} $\chi^2(4)$ p-value
	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	
White men											
Age	0.391 (0.003)	0.053	0.360 (0.002)	0.051	0.353 (0.002)	0.052	0.348 (0.002)	0.054	0.379 (0.002)	0.055	233.667 0.000
Literate	-0.603 (0.039)	-0.082	-0.336 (0.039)	-0.047	-0.214 (0.034)	-0.031	-0.213 (0.042)	-0.033	-0.145 (0.054)	-0.021	79.192 0.000
2nd generation	-0.420 (0.032)	-0.057	-0.422 (0.026)	-0.059	-0.115 (0.048)	-0.052	-0.357 (0.024)	-0.056	-0.186 (0.045)	-0.066	15.504 0.004
Immigrant	-0.429 (0.032)	-0.059	-0.373 (0.046)	-0.018	-0.274 (0.022)	-0.029	-0.468 (0.046)	-0.042	-0.424 (0.025)	-0.061	114.040 0.000
Constant	-9.013 (0.083)		-8.627 (0.071)		-8.402 (0.064)		-8.083 (0.068)		-8.776 (0.074)		109.166 0.000
White women											
Age	0.408 (0.004)	0.071	0.385 (0.004)	0.067	0.399 (0.003)	0.070	0.400 (0.003)	0.072	0.412 (0.003)	0.073	37.069 0.000
Literate	-0.320 (0.044)	-0.056	-0.840 (0.049)	-0.147	-0.961 (0.046)	-0.168	-0.633 (0.057)	-0.113	-0.407 (0.071)	-0.072	130.698 0.000
2nd generation	-0.410 (0.030)	-0.071	-0.328 (0.027)	-0.057	-0.107 (0.053)	-0.045	-0.259 (0.025)	-0.041	0.124 (0.051)	-0.043	29.332 0.000
Immigrant	-0.107 (0.038)	-0.019	0.072 (0.050)	0.034	0.608 (0.028)	0.075	0.058 (0.049)	0.109	0.159 (0.031)	0.028	299.478 0.000
Constant	-8.090 (0.102)		-7.226 (0.090)		-7.295 (0.083)		-7.514 (0.090)		-7.901 (0.096)		69.953 0.000

Note: The dependent variable is 1 if a person has ever married by the year of census, zero otherwise. Fixed effects for states and population size of one's place of abode (SIZEPL) have been included but are not reported. All the coefficients are based on an estimation of a single model where the explanatory variables (except for the state and size-of-place fixed effects) have been interacted with census years. The variable "2nd generation" is 1 for persons who were native born but whose both parents were foreign-born, zero otherwise. Variable "Immigrant" is one for first-generation immigrants, zero otherwise. The right-most column gives the results of a linear restrictions test that the coefficients on a variable are constant across all census years. The sample is restricted to men of age 30 or less and women of age 30 and less. Source of data: IPUMS (Ruggles et al., 2008)

Table 2 - A logit model: how the probability of being ever married depends on certain personal characteristics											
Variable	1880		1900		1910		1920		1930		H_0:β_{1880}=…=β_{1930}
	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	$\chi2(4)$ p-value
Black men											
Age	0.406 (0.008)	0.060	0.365 (0.006)	0.056	0.368 (0.006)	0.058	0.341 (0.006)	0.057	0.356 (0.005)	0.058	46.116 0.000
Literate	-0.268 (0.059)	-0.039	-0.103 (0.047)	-0.016	-0.133 (0.048)	-0.021	-0.091 (0.050)	-0.015	-0.068 (0.056)	-0.011	7.746 0.101
2nd generation	-0.018 (0.790)	-0.003	-1.531 (2.041)	-0.234	0.383 (1.012)	0.086	0.551 (0.396)	-0.369	0.558 (0.968)	-0.176	15.255 0.004
Immigrant	-0.655 (0.533)	-0.097	-2.839 (1.175)	-0.039	-0.641 (0.183)	-0.012	-1.720 (1.060)	-0.107	-0.427 (0.185)	-0.069	5.335 0.255
Constant	-9.434 (0.186)		-8.728 (0.145)		-8.534 (0.138)		-7.773 (0.133)		-8.046 (0.130)		69.057 0.000
Black women											
Age	0.382 (0.010)	0.072	0.375 (0.009)	0.072	0.386 (0.008)	0.074	0.393 (0.008)	0.075	0.392 (0.008)	0.075	3.057 0.548
Literate	-0.263 (0.058)	-0.050	-0.306 (0.048)	-0.058	-0.248 (0.053)	-0.047	-0.062 (0.064)	-0.012	-0.236 (0.078)	-0.045	9.783 0.044
2nd generation	0.695 (0.605)	0.132	-0.807 (0.527)	-0.154	1.684 (0.897)	-0.095	-0.500 (0.409)	0.046	1.028 (0.815)	-0.070	4.704 0.319
Immigrant	-0.622 (0.478)	-0.118	-1.073 (0.973)	0.070	-0.056 (0.235)	-0.055	-1.682 (0.867)	-0.011	-0.188 (0.216)	-0.036	2.690 0.611
Constant	-7.531 (0.212)		-7.462 (0.179)		-7.528 (0.174)		-7.585 (0.182)		-7.479 (0.177)		0.298 0.990

Note: The dependent variable is 1 if a person has ever married by the year of census, zero otherwise. Fixed effects for states and population size of one's place of abode (SIZEPL) have been included but are not reported. All the coefficients are based on an estimation of a single model where the explanatory variables (except for the state and size-of-place fixed effects) have been interacted with census years. The variable "2nd generation" is 1 for persons who were native born but whose both parents were foreign-born, zero otherwise. Variable "Immigrant" is one for first-generation immigrants, zero otherwise. The right-most column gives the results of a linear restrictions test that the coefficients on a variable are constant across all census years. The sample is restricted to men of age 30 or less and women of age 30 and less. Source of data: IPUMS (Ruggles et al., 2008)

Table 3 – Marriage homogamy (in %) of recently married young couples by:							
Census year		race	nativity	literacy	all three	age	all four
1900	**actual**	**99.9**	**94.2**	**91.1**	**85.3**	**80.7**	**69.4**
	random cf.	78.1	74.3	83.8	51.1	44.4	22.7
1910	**actual**	**99.9**	**94.8**	**92.1**	**86.9**	**81.2**	**71.0**
	random cf.	79.5	70.0	86.8	50.3	44.5	22.4
1930	**actual**	**99.9**	**95.1**	**96.9**	**92.0**	**82.9**	**76.6**
	random cf.	80.1	82.3	94.7	62.6	43.2	27.0
Note: "Recently married young couples" are couples married for 5 years or less and under 30 years of age. The rows denoted "actual" show the percentage of couples matched on each characteristic in each year. Rows denoted "random cf" show the rate of matching in each year and column that would result if the same populations of men and women were matched randomly.							

Table 4 - Marriage homogamy (in%) among recently married couples by nativity and census year					
Census year	1880	1900	1910	1920	1930
	White men				
US-born with at least one US-born parent	97.1	96.8	96.6	96.8	97.1
2nd generation immigrant	93.4	94.0	94.1	94.2	94.6
Immigrant	84.7	83.4	84.0	82.9	82.2
	White women				
US-born with at least one US-born parent	94.9	95.0	95.4	95.5	96.0
2nd generation immigrant	88.9	91.2	91.7	91.1	92.0
Immigrant	90.6	88.2	87.5	87.1	86.0
Note: "Recently married couples" are couples married for 5 years or less.					

Table 5 - Partner search variables by census year, race and sex					
White men		sex ratio	trait	variance in number of breadwinners	variance in number of children
Means	1880	1.000	0.061	0.111	0.202
	1900	0.959	0.060	0.151	0.218
	1910	0.895	0.055	0.212	0.222
	1920	0.938	0.059	0.215	0.221
	1930	0.996	0.064	0.278	0.216
StDev		0.443	0.034	0.143	0.051
White women		sex ratio	trait	variance in number of breadwinners	variance in number of children
Means	1880	0.840	0.048	0.124	0.207
	1900	0.898	0.053	0.155	0.220
	1910	0.960	0.053	0.214	0.223
	1920	0.958	0.054	0.215	0.222
	1930	0.912	0.057	0.281	0.216
StDev		0.4233	0.028	0.141	0.048
Black men		sex ratio	trait	variance in number of breadwinners	variance in number of children
Means	1880	1.144	0.034	0.282	0.140
	1900	1.163	0.029	0.279	0.151
	1910	1.126	0.030	0.392	0.166
	1920	1.084	0.027	0.369	0.166
	1930	1.104	0.028	0.396	0.172
StDev		0.6642	0.024	0.234	0.093
Black women		sex ratio	trait	variance in number of breadwinners	variance in number of children
Means	1880	0.715	0.025	0.308	0.149
	1900	0.700	0.020	0.306	0.160
	1910	0.760	0.021	0.407	0.170
	1920	0.753	0.018	0.385	0.171
	1930	0.776	0.019	0.402	0.174
StDev		0.5117	0.016	0.228	0.089
Note: calculated at age 25 for each, the standard deviations in last row of each panel is across all census years					

Table 6 - Labor market variables by census year, race and sex				
White men		Single women's labor force participation	Married women's labor force participation	Men's labor force participation
Means	1880	0.312	0.025	0.905
	1900	0.431	0.033	0.908
	1910	0.523	0.066	0.921
	1920	0.561	0.070	0.903
	1930	0.537	0.109	0.866
StDev		0.230	0.065	0.060
White women		Single women's labor force participation	Married women's labor force participation	Men's labor force participation
Means	1880	0.326	0.026	0.906
	1900	0.443	0.034	0.908
	1910	0.527	0.067	0.922
	1920	0.572	0.072	0.904
	1930	0.543	0.110	0.865
StDev		0.226	0.064	0.058
Black men		Single women's labor force participation	Married women's labor force participation	Men's labor force participation
Means	1880	0.658	0.308	0.940
	1900	0.641	0.246	0.928
	1910	0.704	0.511	0.939
	1920	0.562	0.343	0.914
	1930	0.567	0.360	0.893
StDev		0.270	0.245	0.100
Black women		Single women's labor force participation	Married women's labor force participation	Men's labor force participation
Means	1880	0.662	0.313	0.939
	1900	0.656	0.268	0.926
	1910	0.724	0.507	0.946
	1920	0.598	0.345	0.918
	1930	0.573	0.371	0.907
StDev		0.259	0.236	0.085
Note: The values are calculated at age 25 with standard deviations calculated across all census years.				

Table 7 - Logit results for white men												
Variable	1880		1900		1910		1920		1930		H_0:β_{1880}=…=β_{1930}
	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	$\chi^2(4)$ p-value
Sex ratio	0.537 (0.033)	0.072	0.598 (0.030)	0.082	0.738 (0.029)	0.106	0.594 (0.029)	0.089	0.397 (0.030)	0.056	72.083 0.000
Trait	6.040 (0.548)	0.805	5.133 (0.478)	0.707	4.972 (0.448)	0.711	6.141 (0.472)	0.922	10.346 (0.502)	1.448	83.952 0.000
variance in number of breadwinners	-0.141 (0.095)	-0.019	0.107 (0.081)	0.015	0.013 (0.075)	0.002	0.063 (0.083)	0.010	0.144 (0.082)	0.020	6.134 0.189
variance in family size	-0.507 (0.167)	-0.068	-0.477 (0.166)	-0.066	-0.503 (0.173)	-0.072	-0.268 (0.189)	-0.040	-0.352 (0.193)	-0.049	1.374 0.849
Single women's LFP	-0.281 (0.063)	-0.037	-0.117 (0.053)	-0.016	-0.224 (0.045)	-0.032	-0.423 (0.044)	-0.064	-0.540 (0.044)	-0.076	54.759 0.000
Married women's LFP	-0.596 (0.259)	-0.079	0.049 (0.246)	0.007	0.311 (0.157)	0.044	0.344 (0.183)	0.052	0.221 (0.162)	0.031	10.862 0.028
Men's LFP	0.601 (0.171)	0.080	0.664 (0.162)	0.092	0.754 (0.168)	0.108	0.439 (0.137)	0.066	0.444 (0.134)	0.062	3.378 0.497
OCCSCORE	0.234 (0.012)	0.031	0.217 (0.009)	0.030	0.259 (0.008)	0.037	0.339 (0.008)	0.051	0.372 (0.008)	0.052	257.379 0.000
Age	0.325 (0.004)	0.043	0.291 (0.003)	0.040	0.275 (0.003)	0.039	0.262 (0.003)	0.039	0.279 (0.003)	0.039	199.687 0.000
Literate	-0.917 (0.044)	-0.122	-0.718 (0.041)	-0.099	-0.502 (0.034)	-0.072	-0.589 (0.043)	-0.089	-0.864 (0.052)	-0.121	74.364 0.000
2nd generation	-0.335 (0.034)	-0.045	-0.324 (0.027)	-0.045	-0.244 (0.025)	-0.035	-0.170 (0.023)	-0.026	-0.148 (0.022)	-0.021	42.458 0.000
Immigrant	0.265 (0.041)	0.035	0.541 (0.034)	0.075	0.583 (0.030)	0.083	0.540 (0.032)	0.081	0.600 (0.035)	0.084	50.017 0.000
Constant	-8.680 (0.179)		-8.262 (0.167)		-8.131 (0.173)		-7.283 (0.142)		-7.442 (0.148)		56.087 0.000
H_0: search vars = 0 $\chi^2(4)$ p-value	811.759 0.000		1035.219 0.000		1499.965 0.000		1194.638 0.000		1342.860 0.000		lnL = -233906.9 lnL_0 = -335240.06
H_0: lab vars = 0 $\chi^2(4)$ p-value	399.476 0.000		608.941 0.000		1080.013 0.000		1966.013 0.000		2415.210 0.000		LRI = 0.302 N = 537577

Note: The dependent variable is *evermar* = 1 if a person is ever married, zero otherwise. The two hypotheses of joint significance at the bottom of each column are tested using Wald test with critical values from $\chi^2(4)$ and they are rejected at $\alpha = 0.05$ in all cases. The right-most column reports the Wald test for the equality of each coefficient across years. Fixed effects for state and town size are not reported.

Table 8 - Logit results for white women												
Variable	1880		1900		1910		1920		1930		H_0:β_{1880}=…=β_{1930}
	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	$\chi^2(4)$ p-value
Sex ratio	0.070 (0.018)	0.012	0.068 (0.014)	0.012	0.125 (0.012)	0.022	0.060 (0.013)	0.011	-0.078 (0.015)	-0.014	118.072 0.000
Trait	5.794 (0.510)	0.997	4.472 (0.466)	0.779	3.840 (0.416)	0.663	5.476 (0.435)	0.972	7.082 (0.472)	1.244	32.473 0.000
variance in number of breadwinners	-0.295 (0.106)	-0.051	-0.086 (0.087)	-0.015	-0.021 (0.082)	-0.004	0.106 (0.091)	0.019	0.098 (0.090)	0.017	10.926 0.027
variance in family size	-0.604 (0.189)	-0.104	-0.562 (0.179)	-0.098	-0.648 (0.188)	-0.112	0.056 (0.203)	0.010	-0.212 (0.205)	-0.037	9.602 0.048
Single women's LFP	-0.144 (0.074)	-0.025	-0.394 (0.062)	-0.069	-0.617 (0.054)	-0.107	-0.836 (0.055)	-0.148	-0.919 (0.055)	-0.161	104.120 0.000
Married women's LFP	0.131 (0.335)	0.023	0.323 (0.261)	0.056	0.210 (0.168)	0.036	0.026 (0.210)	0.005	0.064 (0.181)	0.011	1.153 0.886
Men's LFP	1.611 (0.195)	0.277	1.555 (0.178)	0.271	1.764 (0.188)	0.304	1.405 (0.158)	0.250	1.391 (0.144)	0.244	3.308 0.508
OCCSCORE	0.007 (0.034)	0.001	0.092 (0.027)	0.016	0.110 (0.024)	0.019	0.280 (0.025)	0.050	0.424 (0.025)	0.075	164.340 0.000
Age	0.435 (0.006)	0.075	0.398 (0.004)	0.069	0.421 (0.004)	0.073	0.400 (0.004)	0.071	0.377 (0.004)	0.066	95.387 0.000
Literate	-0.584 (0.052)	-0.100	-1.014 (0.053)	-0.177	-1.070 (0.049)	-0.185	-0.817 (0.060)	-0.145	-0.744 (0.076)	-0.131	58.904 0.000
2nd generation	-0.336 (0.032)	-0.058	-0.271 (0.028)	-0.047	-0.199 (0.026)	-0.034	-0.137 (0.025)	-0.024	0.137 (0.024)	-0.024	37.934 0.000
Immigrant	0.211 (0.046)	0.036	0.462 (0.039)	0.081	0.681 (0.036)	0.118	0.942 (0.038)	0.167	0.522 (0.041)	0.092	175.973 0.000
Constant	-10.148 (0.220)		-9.033 (0.198)		-9.501 (0.205)		-9.225 (0.179)		-8.860 (0.180)		24.370 0.000
H_0: search vars = 0 $\chi^2(4)$ p-value	219.788 0.000		171.500 0.000		305.579 0.000		258.416 0.000		228.675 0.000		lnL = -192711.3
H_0: lab vars = 0 $\chi^2(4)$ p-value	76.952 0.000		130.126 0.000		210.260 0.000		369.832 0.000		523.220 0.000		lnL_0 = -242908.8 LRI = 0.207 N = 367668
Note: The dependent variable is *evermar* = 1 if a person is ever married, zero otherwise. The two hypotheses of joint significance at the bottom of each column are tested using Wald test with critical values from $\chi^2(4)$ and they are rejected at α = 0.05 in all cases. The right-most column reports the Wald test for the equality of each coefficient across years. Fixed effects for state and town size are not reported.												

Table 9 - Logit results for black men												
Variable	1880		1900		1910		1920		1930		H_0:β_{1880}=…=β_{1930}
	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	coefficient (s.e.)	mean mfx	$\chi^2(4)$ p-value
Sex ratio	0.507 (0.064)	0.072	0.532 (0.051)	0.078	0.608 (0.053)	0.092	0.500 (0.051)	0.081	0.447 (0.055)	0.070	4.811 0.307
Trait	7.219 (2.000)	1.022	6.998 (1.721)	1.026	3.429 (1.538)	0.517	2.789 (1.545)	0.453	5.923 (1.495)	0.925	6.415 0.170
variance in number of breadwinners	-0.150 (0.144)	-0.021	0.348 (0.122)	0.051	-0.010 (0.116)	-0.002	0.334 (0.130)	0.054	-0.099 (0.119)	-0.015	14.261 0.007
variance in family size	-0.388 (0.305)	-0.055	-0.679 (0.269)	-0.100	0.118 (0.285)	0.018	-0.581 (0.288)	-0.094	0.142 (0.274)	0.022	7.811 0.099
Single women's LFP	0.067 (0.096)	0.010	-0.096 (0.087)	-0.014	-0.123 (0.085)	-0.019	-0.136 (0.081)	-0.022	0.043 (0.083)	0.007	4.994 0.288
Married women's LFP	0.253 (0.139)	0.036	0.218 (0.134)	0.032	0.111 (0.097)	0.017	-0.109 (0.120)	-0.018	0.046 (0.118)	0.007	5.221 0.265
Men's LFP	0.685 (0.321)	0.097	0.671 (0.248)	0.098	0.860 (0.261)	0.130	0.967 (0.218)	0.157	0.283 (0.185)	0.044	6.774 0.148
OCCSCORE	0.473 (0.047)	0.067	0.364 (0.036)	0.053	0.418 (0.034)	0.063	0.466 (0.032)	0.076	0.554 (0.029)	0.086	19.545 0.001
Age	0.339 (0.009)	0.048	0.299 (0.007)	0.044	0.299 (0.007)	0.045	0.270 (0.007)	0.044	0.282 (0.007)	0.044	41.845 0.000
Literate	-0.101 (0.067)	-0.014	-0.259 (0.050)	-0.038	-0.439 (0.054)	-0.066	-0.448 (0.057)	-0.073	-0.528 (0.063)	-0.083	30.535 0.000
2nd generation	-0.140 (0.577)	-0.020	-1.415 (1.364)	-0.208	0.471 (0.361)	0.071	-2.632 (1.049)	-0.428	-1.085 (0.510)	-0.169	12.642 0.013
Immigrant	-0.319 (0.408)	-0.045	0.245 (0.337)	0.036	0.152 (0.187)	0.023	-0.463 (0.186)	-0.075	-0.120 (0.187)	-0.019	7.123 0.130
Constant	-9.924 (0.374)		-8.934 (0.287)		-8.779 (0.306)		-7.858 (0.250)		-7.599 (0.236)		7.123 0.130
H_0: search vars = 0 $\chi^2(4)$ p-value	138.733 0.000		233.148 0.000		216.391 0.000		163.235 0.000		163.002 0.000		lnL = -31512 lnL_0 = -45728.69
H_0: lab vars = 0 $\chi^2(4)$ p-value	113.261 0.000		122.774 0.000		171.071 0.000		265.921 0.000		367.564 0.000		LRI = 0.311 N = 67265

Note: The dependent variable is *evermar* = 1 if a person is ever married, zero otherwise. The two hypotheses of joint significance at the bottom of each column are tested using Wald test with critical values from $\chi^2(4)$ and they are rejected at $\alpha = 0.05$ in all cases. The right-most column reports the Wald test for the equality of each coefficient across years. Fixed effects for state and town size are not reported.

Table 10 - Logit results for black women												
Variable	1880 coefficient (s.e.)	1880 mean mfx	1900 coefficient (s.e.)	1900 mean mfx	1910 coefficient (s.e.)	1910 mean mfx	1920 coefficient (s.e.)	1920 mean mfx	1930 coefficient (s.e.)	1930 mean mfx	H_0:β_{1880}=…=β_{1930} $\chi^2(4)$ p-value	
Sex ratio	0.038 (0.036)	0.007	0.043 (0.031)	0.008	0.073 (0.032)	0.014	0.063 (0.030)	0.012	0.094 (0.029)	0.018	2.198 0.699	
Trait	8.817 (1.782)	1.638	8.247 (1.514)	1.548	7.019 (1.422)	1.316	7.822 (1.455)	1.467	6.634 (1.415)	1.255	1.376 0.848	
variance in number of breadwinners	-0.116 (0.146)	-0.022	0.202 (0.120)	0.038	-0.135 (0.121)	-0.025	-0.033 (0.142)	-0.006	-0.072 (0.125)	-0.014	4.956 0.292	
variance in family size	-0.229 (0.305)	-0.043	-0.354 (0.272)	-0.067	-0.309 (0.293)	-0.058	-0.998 (0.313)	-0.187	-0.267 (0.285)	-0.051	4.329 0.363	
Single women's LFP	-0.500 (0.103)	-0.093	-0.627 (0.094)	-0.118	-0.799 (0.095)	-0.150	-0.543 (0.090)	-0.102	-0.414 (0.091)	-0.078	9.714 0.046	
Married women's LFP	0.077 (0.152)	0.014	-0.034 (0.132)	-0.006	0.094 (0.104)	0.018	-0.161 (0.135)	-0.030	-0.145 (0.127)	-0.027	3.636 0.457	
Men's LFP	1.584 (0.351)	0.294	1.052 (0.274)	0.198	1.346 (0.313)	0.252	1.854 (0.272)	0.348	0.862 (0.233)	0.163	9.185 0.057	
OCCSCORE	-0.027 (0.088)	-0.005	0.045 (0.067)	0.008	0.222 (0.062)	0.042	0.364 (0.062)	0.068	0.416 (0.061)	0.079	31.689 0.000	
Age	0.407 (0.012)	0.076	0.399 (0.010)	0.075	0.399 (0.010)	0.075	0.394 (0.010)	0.074	0.396 (0.010)	0.075	0.719 0.949	
Literate	-0.063 (0.069)	-0.012	-0.324 (0.049)	-0.061	-0.320 (0.058)	-0.060	-0.187 (0.070)	-0.035	-0.324 (0.085)	-0.061	12.653 0.013	
2nd generation	0.785 (0.561)	0.146	-0.181 (0.590)	-0.034	-0.631 (0.428)	-0.118	0.079 (0.601)	0.015	-0.427 (0.391)	-0.081	4.642 0.326	
Immigrant	-0.928 (0.557)	-0.172	0.714 (0.515)	0.134	-0.302 (0.286)	-0.057	-0.053 (0.236)	-0.010	-0.149 (0.224)	-0.028	5.255 0.262	
Constant	-9.436 (0.426)		-8.810 (0.334)		-8.937 (0.377)		-9.433 (0.340)		-8.775 (0.314)		5.255 0.262	
H_0: search vars = 0 $\chi^2(4)$ p-value	35.769 0.000		49.038 0.000		44.830 0.000		51.802 0.000		41.688 0.000		lnL = -28948.9 lnL_0 = -36002.5	
H_0: lab vars = 0 $\chi^2(4)$ p-value	37.215 0.000		58.602 0.000		107.767 0.000		137.992 0.000		88.271 0.000		LRI = 0.196 N = 51952	

Note: The dependent variable is *evermar* = 1 if a person is ever married, zero otherwise. The two hypotheses of joint significance at the bottom of each column are tested using Wald test with critical values from $\chi^2(4)$ and they are rejected at $\alpha = 0.05$ in all cases. The right-most column reports the Wald test for the equality of each coefficient across years. Fixed effects for state and town size are not reported.

Table 11 - Effect of explanatory variables on imputed probability of marriage				
	White		Black	
	Men	Women	Men	Women
Sex ratio	5.4	-0.9	12.6	2.6
Trait	8.5	6.4	7.5	6.9
Variance in number of breadwinners	1.2	0.9	-1.3	-1.0
Variance in number of children	-0.5	-0.3	0.9	-1.6
All partner search variables	14.5	3.1	17.2	2.5
Single women's LFP	-6.0	-10.4	0.9	-7.0
Married women's LFP	0.9	0.3	0.6	-2.1
Men's LFP	1.2	3.7	1.6	4.2
Own OCCSCORE	20.8		25.7	
Average men's job quality		11.0		9.3
All labor market variables	16.9	2.2	26.1	1.6
All marriage market variables	30.9	5.5	41.4	4.1
Note: The reported values are percentage point changes in the probability of being ever married by each race-sex groups median age (25 for white men, 22 for white women, 23 for black men, 20 for black women) as each variable is varied between its 10^{th} and 90^{th} percentile.				

Table 12 - Changes in mean *trait* and *sex ratio* by nativity and race						
		1880	**1900**	**1910**	**1920**	**1930**
Panel A - *sex ratio*				Men		
Whites	US-born of US parents	1.106	1.071	1.071	1.072	1.113
	2nd generation	1.099	1.041	1.019	0.942	0.930
	Immigrants	0.519	0.500	0.430	0.396	0.390
	All whites	1.000	0.959	0.895	0.938	0.996
Blacks		0.853	0.860	0.903	0.839	0.889
				Women		
Whites	US-born of US parents	0.968	1.007	0.992	1.037	1.009
	2nd generation	1.109	1.165	1.271	1.135	1.067
	Immigrants	0.731	0.825	1.103	0.871	0.663
	All whites	0.968	1.005	1.056	1.034	0.992
Blacks		1.038	1.021	1.004	1.022	1.008
Panel B - *trait*				Men		
Whites	US-born of US parents	0.073	0.074	0.075	0.073	0.076
	2nd generation	0.064	0.061	0.061	0.054	0.053
	Immigrants	0.015	0.009	0.007	0.005	0.006
	All whites	0.061	0.060	0.055	0.059	0.064
Blacks		0.024	0.023	0.025	0.023	0.022
				Women		
Whites	US-born of US parents	0.064	0.069	0.069	0.070	0.069
	2nd generation	0.058	0.060	0.057	0.053	0.051
	Immigrants	0.015	0.012	0.010	0.007	0.007
	All whites	0.057	0.059	0.057	0.059	0.061
Blacks		0.031	0.028	0.028	0.026	0.025

Note: Means are calculated at roughly the median age at marriage for each race-sex group. This is 25 for white men, 22 for white women, 23 for black men and 20 for black women.

Table 13 – Imputed probabilities of marriage for white men evaluated at means of variables in 1900 and 1930				
Means\Coefficients	$(\beta(PS)_{1900}, \beta(LM)_{1900}, \beta_{1900})$	$(\beta(PS)_{1930}, \beta(LM)_{1900}, \beta_{1900})$	$(\beta(PS)_{1930}, \beta(LM)_{1930}, \beta_{1900})$	$(\beta(PS)_{1930}, \beta(LM)_{1930}, \beta_{1930})$
$(\mu(PS)_{1900},\mu(LM)_{1900},\mu_{1900})$	0.352	0.391	0.379	0.493
$(\mu(PS)_{1930},\mu(LM)_{1900},\mu_{1900})$	0.362	0.404		0.506
$(\mu(PS)_{1930},\mu(LM)_{1930},\mu_{1900})$	0.364		0.396	0.510
$(\mu(PS)_{1930},\mu(LM)_{1930},\mu_{1930})$	0.350	0.390	0.381	0.490
Note: $\mu(PS)_{1900}$ stands for the 1900 mean of partner search variables; $\mu(LM)_{1900}$ stands for the 1900 mean of labor market variables; μ_{1900} stands for the 1900 means of all other explanatory variables. Analogically, $\beta(PS)_{1900}$ stands for the coefficients on partner search variables from the 1900 logit model etc. The table reports the imputed probabilities of being ever married for a literate white man aged 25, evaluated at different variable means using various vectors of estimated coefficients.				

Table 14 – Imputed probabilities of marriage for white women evaluated at means of variables in 1900 and 1930				
Means\Coefficients	$(\beta(PS)_{1900}, \beta(LM)_{1900}, \beta_{1900})$	$(\beta(PS)_{1930}, \beta(LM)_{1900}, \beta_{1900})$	$(\beta(PS)_{1930}, \beta(LM)_{1930}, \beta_{1900})$	$(\beta(PS)_{1930}, \beta(LM)_{1930}, \beta_{1930})$
$(\mu(PS)_{1900},\mu(LM)_{1900},\mu_{1900})$	0.426	0.455	0.534	0.549
$(\mu(PS)_{1930},\mu(LM)_{1900},\mu_{1900})$	0.424	0.459		0.553
$(\mu(PS)_{1930},\mu(LM)_{1930},\mu_{1900})$	0.408		0.523	0.538
$(\mu(PS)_{1930},\mu(LM)_{1930},\mu_{1930})$	0.389	0.424	0.504	0.519
Note: $\mu(PS)_{1900}$ stands for the 1900 mean of partner search variables; $\mu(LM)_{1900}$ stands for the 1900 mean of labor market variables; μ_{1900} stands for the 1900 means of all other explanatory variables. Analogically, $\beta(PS)_{1900}$ stands for the coefficients on partner search variables from the 1900 logit model etc. The table reports the imputed probabilities of being ever married for a literate white women aged 22, evaluated at different variable means using various vectors of estimated coefficients.				