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Marriage Markets and Family Formation: The Role of the Vietnam Draft[⊗]

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I. Introduction

During the Vietnam Conflict, over 8 million Americans served in the armed forces, and almost 3.5 million were deployed to Southeast Asia (Department of Veterans' Affairs). The war is considered by some to be the defining event of that generation – not just because of the size of the deployment of troops (the largest since the Second World War), but because of how it affected all men of that generation – those who served, as well as those who were able to avoid service.[1]

A large literature has examined the post-war effects of Vietnam-Era service on a number of outcomes, including earnings (Angrist, 1990; Angrist and Chen, 2008); disability status (Angrist and Chen, 2008), health and mortality (Angrist and Chen, 2008; Dobkin and Shebani, 2009; Conley and Heerwig, 2011), crime (Lindo and Stoecker, 2010; Kuziemko, 2010), and long-term marital and residential mobility (Conley and Heerwig, 2011). However, effects of the war-time mobilization on family formation *during the time of the conflict* have been largely ignored. The mobilization led to the absence of a large number of young men from local marriage markets, and this shock to sex ratios could have significantly disrupted normal family formation patterns, including assortative matching and fertility behavior.[2] This could be particularly important in certain racial and socio-economic groups, since less-educated men were significantly more likely to serve in the war (Card and Lemieux, 2000, 2001).

In this paper, we exploit variation across states and over time on Vietnam-era inductions to analyze the effects of the wartime mobilization on these family formation patterns. We find preliminary evidence that a higher percentage of drafted men led to a significant decrease in birth

[1] Baskir and Strauss (1978) write that "… the Vietnam draft cast the entire generation into a contest for individual survival." They note that of the men who escaped combat, approximately 60% had taken positive actions to "help fate along."

[2] In addition, draft deferments for married men and men with dependents also affected family formation during certain years of the war (see discussion below).

rates. These results are largest for women in the age groups who would be most likely to match with draft-aged men, and we find no effects on birth rates for older women.

II. Background

The Vietnam Conflict and the Draft

Over the course of the Vietnam Era, from 1965 through 1975, 8.7 million individuals served in the military. However, only approximately half of these served in Indochina.[3] Over this time period, the Armed Forces could not obtain enough personnel to maintain military strength through voluntary enlistments alone, so the Selective Service system was used to obtain draftees or inductees into the Armed Forces. Upon turning the age of 18, young men were required to register with their local draft boards, at which time they would fill out a classification questionnaire. This questionnaire provided the local draft board with the information necessary to classify the individual as exempted, deferred, or available for service. Those who were classified as available for service (I-A) were required to report for a pre-induction examination, which included a "medical exam (both physical and psychiatric), mental tests, and a moral examination (Semi-Annual Report of the Director of Selective Service, 1967)". Those who passed the exam were then required to report for induction when notified. Large fractions of those forwarded by the local draft boards were found not qualified by the Armed Forces pre-induction exam – for example, in the first half of 1969, 47% of the 610,000 men forwarded by the local boards were found to be not qualified.

The Selective Service System had three levels. The Secretary of Defense would place monthly calls or request at the national level with the Director of Selective Service for a

[3] A large number of others served abroad in other locations. In 1969 there were approximately 300 major American military bases outside of Vietnam in about 25 countries. The largest presence was in other parts of East Asia and in Europe (Moskos, 1970).

particular number of men to be inducted into the Armed Forces. That number was then divided among states according to a formula. The State Directors would apportion this request among the local draft boards within that state, and the local boards would then deliver the requested number of registrants for induction. For the first half of this time period, the local draft boards decided which registrants to induct using approximately the same Selective Service system that was first implemented in 1940. Men were at risk for induction between the ages of 19-25, and the stated order of eligibility for draftees had the *oldest* called first.[4] Reports from the early 1960s suggest an average age of regular inductees of approximately 23 years old. However, as additional calls were made due to escalation of the conflict in Vietnam, the average age of regular inductees begins to fall, reaching approximately 21 ½ by 1964 and 20 ½ by 1966.

There were some other categories and distinctions that allowed for deferments. Paternity deferments were available until 1970 (Davis and Dolbeare, 1968). Between 1963 and 1965 married childless men were also able to get a deferment (Davis and Dolbeare, 1968; Kutinova, 2009). Other categories with low priority for being inducted included men ages 26-34 with "extended liability" due to receiving deferments; and men 18.5-19 years old. However, in practice these last two categories were not actually inducted (Tatum and Tuchinsky, 1969).

In 1969, an amendment to the draft law authorized the establishment of a random selection sequence procedure, which began in 1970. One notable difference between the random selection sequence and the system in place earlier was that, in the lottery, men were at risk of induction for only a single year (the calendar year of their 20th birthday), rather than for all ages

[4] This was noted as a concern in the Annual Report of the Director of Selective Service to Congress for FY 1958. In the post Korean War era, as the baby boom generation began to enter draft-eligible ages, Selective Service had a large manpower surplus. The Director of Selective Service wrote, "This is not in the national interest because it … provides the Armed Forces with inductees older than they want."

between 19-25.[5] The average age of inductees remained relatively constant at between 20-21 during the years of the draft lottery (Semi-Annual Report of the Director of Selective Service, various years). Figure 1 shows the total number of men inducted by fiscal year from 1960 to 1979. Inductions at the national level rise from fiscal year 1960 to fiscal year 1968, and then fall until the suspension of the draft in 1973, with a total of 2.25 million men being inducted over this time period.[6]

Inductees only made up approximately one-third of all individuals who served in the armed forces over this time period, with men who enlisted voluntarily making up the remaining two-thirds. However, there is reason to believe that enlistments responded to calls for inductions. Individuals at risk of being inducted often preferred to enlist, since by enlisting they were able to enter military service under better circumstances. The 1967 Semiannual Report from the Director of Selective Service to the Congress writes, "Enlistments generally tend to fluctuate with variations in the induction call. As the requisitions for induction rise, so do enlistments, and enlistments drop off as inductee requisitions decrease."[7] Davis and Dolbeare (1968) note that in fiscal year 1966, of roughly 1.1 million men who entered service, 344,000 were inducted, but another 380,000 enlisted after they were given pre-induction exams and found to be qualified. Estimates from the Office of the Assistant Secretary of Defense from 1970 suggest that half of all enlistees in the Army and Air Force that year were draft-motivated, and draft-motivated enlistees tended to have higher levels of education than those who enlisted for other reasons. Angrist (1991) uses data from the draft lottery, and shows that those with "bad"

[5] Since 1970 was a transition year, men of all ages 19-25 who had not already been drafted received lottery numbers and were at risk of being inducted. (Semi-Annual Report of the Director of Selective Service, 1970)

[6] July 1, 1973 was officially the last day of presidential induction authority. However, during the first six months of calendar year 1973 there were no induction calls and no armed forces examinations given (Semi-Annual Report of the Director of Selective Service, 1973).

[7] This is true at the state-year level as well. Regressions of the induction rate on the enlistment rate and state and year fixed effects show a significant positive association between enlistments and inductions.

draft lottery numbers were overrepresented among men who enlisted in the armed forces, although this effect is stronger for whites than for non-whites.

A great deal of literature documents the fact that the men entering the military during this time period were much more likely to be less educated and of lower socioeconomic status than men who were able to avoid service. Educational deferments meant that men who could afford to stay in college full time were able to delay, and in many cases, forgo service. Throughout most of the war, those working on a four-year degree were eligible for educational deferments as long as they remained in good standing, until they turned 24. College graduates could obtain graduate school deferments (issued until 1968), or occupational deferments (issued until 1970). New college deferments were not given after 1971, but those with an existing deferment could keep it.

In June of 1969, of 38,340,721 living Selective Service Registrants, 1,807,000 (4.7%) had college II-S deferments.[8] Card and Lemieux (2000,2001) show that a measure of national cohort induction risk raised college attendance rates for men relative to women by 4-6 percentage points in the late 1960s. Malamud and Wozniak (2010) examine the effects of both national cohort induction risk and state-level cohort induction risk on years of completed schooling in a first stage regression, and find that the two measures both lead to increased schooling, but that they are highly collinear. Note that while more college attendance might -- like lower sex ratios -- lead to fewer births, the magnitude of any college effect on birth rates is likely to be small, since overall college attendance only rose by 4-6 percentage points in response to draft induction risk (Card and Lemieux, 2001).

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[8]Semi-annual Report of the Director of Selective Service (1969). At the same time, 3,953,234 (10.3%) had parental or hardship deferments (III-A).

Over most of the Vietnam Era, blacks were slightly underrepresented in the military relative to the overall population. However, Moskos (1973) argues that of those eligible for service, blacks were significantly more likely to enter the military. Approximately four times as many blacks as whites failed the pre-induction mental examinations, and blacks were significantly less likely to receive educational deferments.

Most draftees were inducted into the Army and served for two years.[9,10] As Moskos (1970) writes, "the incoming serviceman begins his military life with an abrupt and complete break with the civilian world (page 56)." For draftees in the Army, this began with two months of basic training. This was followed by advanced training, which could range in length from two months for training in infantry, cooking, or construction to over a year for more specialized training, although draftees were unlikely to be chosen for such specialized training. Draftees were assigned a particular type of advanced training and had no say in the matter. After finishing advanced training, service men would receive their first permanent duty assignment. Soldiers assigned to Vietnam after their training served in an individual rotation system with a twelve-month tour of duty in Vietnam (Moskos, 1975).[11] The combination of time spent in training and the twelve-month tours of duty meant that most drafted soldiers were away from home for the majority of their two-year terms.

A large number of papers in economics have exploited the Vietnam draft lottery that began in 1970 to estimate instrumental variable regressions of Vietnam veteran status on earnings (Angrist, 1990; Angrist and Chen, 2008); disability status (Angrist and Chen, 2008), health and mortality (Angrist and Chen, 2008; Dobkin and Shebani, 2009; Conley and Heerwig,

[9] The information in this paragraph comes from Moskos (1970).
[10] Minimum initial obligations for enlisted men depended upon the branch of the military – two years for the Marine Corps, three years for the Army, and four years for the Navy and Air Force.
[11] This was very different than soldiers in World War II, who served for the duration of the war (Moskos, 1975).

2011), crime (Lindo and Stoecker, 2010; Kuziemko, 2010), and long-term marital and residential mobility (Conley and Heerwig, 2011). However, effects of the war-time mobilization on family formation *at the time of the conflict* have been largely ignored. [12] The mobilization led to the absence of a large number of young men from local marriage markets, and as such could have significantly disrupted normal peacetime family formation patterns, including matching in marriage markets and fertility behavior.

Likely Effects of Vietnam on Family Formation

In his Treatise on the Family, Becker (1981) discusses the critical role played by the sex ratio in family formation and the marriage market. Theory suggests that imbalanced sex ratios should affect marriage markets, fertility, and the share of births that are non-marital, as well bargaining power and division of marital surplus between partners. In addition, imbalanced sex ratios should affect assortative mating, with a decrease in the number of men implying that men will be able to mate with women of a higher quality or class than was previously possible (Becker, 1981; Burdett and Coles, 1997).

A large empirical literature tests for these effects of sex ratios on a number of outcomes. However, until recently the majority of this literature did not adequately account for the fact that sex ratios are often determined endogenously with other variables of interest. Several more recent papers have exploited plausibly exogenous and predominately permanent variation in sex ratios by using data on immigration policy (Angrist, 2002), incarceration rates (Charles and Luoh, 2010) and war-related male mortality -- in France during WWI (Abramitzky et al., 2010) and in Russia during WWII (Brainerd, 2008). These papers find that regions with more women

[12] Work by Kutinova (2009) examines the effects of paternity deferments issued in the early years of the Vietnam conflict, and finds that the strong incentives to have a first child significantly affected fertility timing among US couples.

experience decreases in marriage and fertility, increases in out-of-wedlock childbearing, and improvements in men's marriage market matches. These papers also analyze sex ratio imbalances that are quite large in magnitude and also that last for relatively long periods of time.

Much of this empirical literature also shows that marriage markets are defined quite narrowly by race, age, and geographic location (e.g. Charles and Luoh, 2010). A high degree of educational homogamy exists as well, and it has increased from 1960 to the present (e.g., Schwartz and Mare, 1991).

Sex ratio imbalances as a result of Vietnam-Era mobilizations would have been much smaller in magnitude than those analyzed in the previously mentioned studies. A relatively small fraction of age-eligible men served in the Armed Forces. However, the mobilization still could have significant effects on family formation patterns. Vietnam-era service men were tightly concentrated in specific age ranges, and induction rates per 100 men 19-25 ranged as high as 9 in some states over our time period of interest-1969-1979. The men were also displaced from their home communities for a substantial portion of their two-year terms of service. The educational and racial patterns in service suggest that while marriage markets faced by white, more-educated women of ages close to those of the drafted men may have remained relatively unchanged, those faced by similarly-aged blacks and less-educated women may have been affected dramatically. Figure 2 graphs sex ratios for this age group for the years 1969-1979 (sex ratios are calculated as the sum of men ages 19-25 divided by the sum of women ages 17-23 to take into account typical age gaps between partners), and shows a pattern over time that is essentially the mirror image of the stock of men who were inducted into the armed forces.

As described above, Vietnam-era draftees generally served two year terms, with a one-year tour of duty in Vietnam. However, the constant rotating of young men in and out of

Vietnam could have led to serious disruptions in normal family formation patterns. Women may have been less likely to marry and have children. If they did marry or have children, we might expect the matches they made to be "worse" in some sense. However, not all effects would necessarily have been negative. Women may have been more likely to stay in school, and delays in marriage and childbearing could have led to better matches and greater labor force attachment.[13]

In this paper, we seek to examine the effect of the Vietnam-Era mobilization on family formation.[14] However, we do not do simple comparisons of veterans and non-veterans, because in general veteran status is endogenously determined. This would be expected to result in selection bias. Instead, we exploit variation in induction by state and year. Before we go to our empirical analysis, we want to establish that: a) there was considerable variation across states and regions on level and pattern of inductions; b) this variation was plausibly exogenous; and c) that this variation in induction risk is associated with the likelihood that an individual was a veteran. Figure 3 plots the number of men inducted by year for a number of selected states, and shows that there is considerable variation across states and across regions on the level and pattern of inductions until the draft was suspended in 1973. Of the states shown, the most populous states had the highest number of draftees in levels, although there is significant variation across the sample. California saw the highest number of inductions in the late 1960s (29,000 in 1967 and 36,000 in 1968), but New York saw higher inductions in the early 1960s.

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[13] Charles and Luoh (2010) note this sex-ratio-related possibility in the context of high rates of male incarceration.

[14] Understanding any potential effects of the Vietnam War on family formation is also particularly important given the timing of the conflict relative to other major changes that were occurring during this time period. The late 1960s and early 1970s saw large decreases in birth rates among young women in the United States. A number of explanations have been provided for this decrease, including the feminist movement, the introduction of oral contraceptives (Goldin and Katz, 2002; Bailey, 2006), and legalized abortion (Levine et al., 1999; Guldi, 2008). Others have argued that the decrease in birth rates in the 1960s reflects a return to the secular decrease in birth rates over most of the century that was interrupted by the post-World War II baby boom. If Vietnam era deployments affected birth rates during this time period, including induction rates in fertility regressions could be important for accurately estimating the effects of other variables.

Figure 4 takes into account differences in state populations, and shows the variation we will use in our empirical analysis by graphing inductions per 100 men aged 19-25. Here we see that relative to population, other states saw more men inducted. For example, in 1969 California had 5.6 men drafted per 100 men aged 19-25, while Alabama had 6.7 and Michigan had 8.6. Figure 4 also shows that there is variation in the timing of inductions over our sample period, with some states showing steep declines while others are relatively flat.[15]

This variation across states and over time was essentially generated by the three-tier Selective Service System. Federal policies regarding the draft were issued to the states, which then interpreted them and passed information on to the local draft boards. As Davis and Dolbeare (1968) write, there were a number of differences in state-level interpretations of federal policies. In addition, there was a significant degree of idiosyncratic discretionary decision-making by local boards, such that jurisdictions with similar socioeconomic characteristics ended up with largely varying shares of registrants who were deferred or exempted. The system also experienced a number of lags in timing of information passed between the three tiers. As a result, there was significant variation in induction risk both within and between states, even among areas with similar socioeconomic characteristics.[16]

In regressions presented in Table 1, we attempt to predict the determinants of inductions per 100 men aged 19-25 for the time period 1960-1973. We regress the induction rate on a lagged measure of wartime casualties per 100,000, as well as a number of other variables that might affect fertility, including abortion legalization, oral contraceptive access, unemployment rates, welfare benefits, the real manufacturing wage, and real per capita income. We also test the

[15] Since our birth data begin in 1969, we are only exploiting the decrease in induction rates that occurred in the late 1960s and early 1970s, and we are not able to examine the preceding increase in induction rates that began in the early 1960s. In future work, we will expand our period of analysis to include earlier years in the sample using data from the Vital Statistics printed volumes.

[16] See Davis and Dolbeare (1968) and Malamud and Wozniak (2010) for more information.

importance of political factors (whether the Governor was Republican) and incarceration rates. As shown in Table 1, a higher lagged casualty rate is positively associated with the induction rate, although the effect is very small in magnitude. Abortion legalization, and higher welfare benefits are negatively associated with induction rates, and higher unemployment rates are positively associated with induction rates.

Table 2 uses a sample of men in the 1980 Census born between 1941 and 1953 (the years that should have been most affected by the draft). We regress Vietnam veteran status on a cumulative measure of total induction risk that takes into account the number of years that a man was at risk of being inducted, as well as a set of race, year of birth, and state fixed effects. Panel A presents the coefficient on the induction risk variable for the overall sample, which is positive and significant at the one-percent level. Panels B-D break the sample out by educational status. There is a positive and significant relationship between induction risk and Vietnam veteran status for high school dropouts (Panel B) and for high school graduates (Panel C). The coefficient for college graduates (Panel D) is much smaller in magnitude, negative, and not statistically different from zero. Our measure of induction risk is therefore significantly associated with Vietnam veteran status for exactly the groups we would expect given the educational differentials in service mentioned above.

III. Methodology and data

In order to estimate the effects of Vietnam-era inductions on birth rates, we merge data from a number of different sources. We obtain data on the number of inductions of Selective Service Registrants to meet requisitions of the Armed Forces (used above in Figures 1, 3 and 4). These data are available by state and year from the Report of the Director of Selective Service to the US Congress, various years. Data are reported annually for fiscal years through 1967 (where fiscal year 1967 = July 1, 1966 – June 30, 1967) and semi-annually from July 1, 1967 onward.[17] The inductions data report the flow of men who were drafted in each year, but for our purposes, we would like an estimate of the stock of individuals who were away in a given year, which will include those inducted that year as well as those inducted in previous years who are still serving. As described above, draftees served two-year terms, so we calculate estimates of the draftees who were away from home by summing the inductions for the current fiscal year and one year lagged (so, our number of draftees for 1969 is equal to the sum of those inducted in 1968 and 1969). Our results are robust to summing inductions over three years instead of two, as well as to using the one year flow of inductions. The draft was suspended in February of 1973, and troops pulled out of Vietnam in March of 1973, so births should not be affected by inductions beginning in the first quarter of 1974 (births are affected about 9 months after the shock to the number of men inducted in a state). As a result, we set inductions equal to zero for all years 1974 and later. We calculate denominators for drafted men with population data from the Surveillance Epidemiology and End Results (SEER) database from the National Cancer Institute. We sum population counts by state and individual year of age for males between the ages of 19 and 25.

Our data on births come from Vital Statistics Detail Natality Data (DND), gathered by the National Center for Health Statistics. We use the DND data from 1969-1979. The DND are a near universe of births in the US, and contain information compiled from state birth certificates. Using the DND, we calculate birth counts by single year of age of the mother, race of the mother (white, black, and other), month of birth, and mother's state of residence. We use the same

[17] These data were used at the national level by year by Card and Lemieux (2000, 2001) to estimate the effects of draft risk on college attendance of young men. Malamud and Wozniak (2010) use state- and year-level variation to instrument for college education in their analysis of geographic mobility.

SEER population data described above to calculate denominators to transform our birth counts into birth rates (per 1000 women). We also compile counts of the number of married and unmarried births, and the number of high school dropout births, high school graduate births, and births to women with any college for the balanced panel of states which report education or marital status consistently over our panel.[18] Ideally, we would have the appropriate denominators for births by marital status and education of mother, but since they are only available during decennial census years, we present births in each category per 1000 women in the total population of that age. Summary statistics for various birth measures are presented in Table 3, with Column 1 containing averages of the birth rates for women 15-30, and Column 2 for women 31-49. The birth rate for the younger women is approximately 8.1 births per 1000 women, while for older women it is much lower at 1.7 births per 1000 women. Close to half of births to women 15-30 are first births. We also see that for women 15-30 in states which report marital status consistently over our time period, more than 80% of births to women 15-30 are marital births. For women in states reporting education, approximately 30% of births are to high school dropouts (which includes women still in school), 45% are to high school graduates, and about one-fourth are to college graduates.

We also control for other policy and economic variables that existing literature suggests will affect birth rates over this time period. We control for the legalization of abortion as well as

[18] States which did not collect information on education of mother for at least one year in 1969-1979 include Alabama, Arkansas, California, Connecticut, Delaware, DC, Florida, Georgia, Idaho, Maryland, New Mexico, Pennsylvania, Texas, and Washington. States which did not collect information on marital status or illegitimacy for at least one year in 1969-1979 include California, Connecticut, Georgia, Idaho Maryland, Massachusetts, Michigan, Montana, Nevada, New Mexico, New York, Ohio, Texas, and Vermont. Note that birth certificates are collected from states where the births occurred, so some births in particular states of residence are missing information because the state of occurrence is not one collecting the relevant information. Also note that a tiny share of women do not report information on race; we drop those observations from our counts.

early legal access to oral contraceptives.[19,20] We also control for public assistance generosity with the real maximum amount of benefits from the Aid to Families with Dependent Children (AFDC) program for a family of four. We control for labor market conditions with the unemployment rate, real weekly earnings for manufacturing, and real personal income per capita. Means for these policy and economic variables are reported in Table 4.

We estimate regressions of the form:

$$\ln(birthrate)_{ist} = \beta_1 Inductions_{s,t-1} + \beta_2 Abortion_{s,t-1} + \beta_3 Pill_{s,t-1} + Z_{st}\alpha + \gamma_s + \vartheta_t + \varepsilon_{ist}$$

The dependent variable is the natural log of the birth rate.[21] The Z vector controls for the economic and policy conditions discussed above that vary by state and year. The abortion laws are turned on 6 months before the birth (to allow for the vast bulk of abortions which occur in the first trimester). The other controls are merged into the data according to the calendar year of conception (which is assumed to occur 9 months before the birth). Finally, the key independent variable of interest, inductions, is merged in by fiscal year of conception.[22] In addition to fixed effects for single year of age of the woman and race (where relevant), we control for state of residence and year and month of birth fixed effects or, in some specifications, year by month or year of conception and month fixed effects.[23] We weight regressions to be population-representative with the SEER population counts, and we present robust standard errors clustered at the state level.

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[19] We assume that abortion was legal beginning in California in September, 1969, in Hawaii in March of 1970, in New York and Alaska in July of 1970, in Washington in December of 1970, and in Washington DC in April of 1971in 1970, New Jersey and Vermont in 1972, and all other states in 1973 (see Guldi, 2008; and Joyce et al., 2011).

[20] Timing of early legal access to oral contraceptives by state comes from Bailey, 2006, Table 1.

[21] In the next version of this paper, we plan to examine other aspects of family formation using a number of other data sets, including the 1980 and 1990 Decennial Censuses.

[22] In later specifications we will explore alternate coding for access to abortion and contraceptives for young women.

[23] Summary statistics for the individual controls are presented in Table 2 along with the Zs.

IV. Results

Table 5 presents our first set of results for all women 15-30. Each column presents selected coefficients from one regression. The specification reported in the first column includes our key independent variable, the sum of the last 2 years' inductions per 100 men aged 19-25 in the woman's state, controlling only for the various fixed effects for age, race, state, year, and month. The specification in the second column adds controls for whether abortion was legal in the first trimester and for whether the state was an early pill legalizer for young women. The third column adds the other Z-vector variables: real maximum AFDC payments, the state unemployment rate, manufacturing earnings, and per capita real income. The fourth column includes the same set of controls as column 3, but replaces the year of birth and month fixed effects with year by month fixed effects.

Table 5 suggests that the share of men 19-25 drafted this year or last year is negatively associated with the birth rate for women 15-30. The coefficient ranges from -0.016 to -0.020, and is statistically significant at between the 1% and 5% level, depending on the model. Since the dependent variable is the log of the birth rate, an increase of 1 man drafted in a state per 100 men aged 19-25 leads to a 1.6-2.0 percent decrease in the birth rate. Since the average birth rate for women 15-30 is 8.8 per 1000 women, one additional man being drafted means about 0.3 fewer births per 1000 women.

To put this into perspective, the number of men drafted this year and last per 100 men 19-25 at the state-level ranged from 5.8 in 1969 to 0.25 in 1974, and averaged 2.6 over the time period. This implies that the actual decrease in the draft rate from 1969-1974 led to an increase in the birth rate of between 3.9 and 4.7 percent. If we consider the variation across states, suppose that the state with the median largest share of men 19-25 drafted in 1969 (Georgia, with 5.93 drafted per 100) instead moved to the level of the state with the highest share in 1969 (West Virginia, with 9.16 drafted per 100). This would lead to a decrease in birth rates of between 4.8 and 5.8 percent. A shift instead to the draft rate of the 10th highest state (Ohio, with 7.11 per 100) would lead to a decrease in birth rates of between 3.1 and 3.7 percent.[24]

Given typical patterns of assortative matching by age, the effects of the missing drafted men should predominantly be for women 0-2 years younger than the men who were drafted. We expect that drafted men 19-25 should primarily affect births to women aged 17-23 at conception, with some spillover possible to nearby ages. In the following set of tables, we take advantage of birth certificate data on the age of women and the reported age of fathers to stratify our regressions by age of mother and reported age of the father. In Table 6, we report coefficients on the induction rate for women aged 20-24. For all births (Panel A), the induction rate has a negative and significant effect on birth rates. Panels B-D stratify (within the 20-24 year old maternal age group) by reported age of the father. These results show that the negative effect on births found in Panel A is driven by a decrease in births where the father is 19-25 – exactly the ages that should be affected by the Vietnam draft. Panel D also provides some evidence that is suggestive of an increase in births to women 20-24 that are fathered by men older than 26. This is consistent with existing literature that finds sex ratio effects on matching -- if there are fewer young men, older men are able to mate with younger women. This positive substitution effect rules out the possibility that the decreases in birth rates in our baseline results are entirely being driven by mechanical changes.

[24] Another way to put this into context is to compare it to the effect of abortion legalization. The estimates in columns 2-4 suggest that abortion legalization led to a decline in the birth rate of between 3.8 and 4.6 percent, similar in magnitude to the overall decline in the birth rate with the decline in the draft.

In Table 7, we present corresponding results for women aged 25-29, and again find negative effects on birth rates that are driven by births where the father is draft-aged. Table 8 presents results for women ages 30-44. Here we find no significant effects on birth rates in most specifications, especially once detailed control variables are included. Column 3 suggests a significant increase in birth rates where the father is older than 26, but that coefficient is no longer significant once year-by-month fixed effects are added. This pattern of effects, including no negative effects of the number of men drafted on birth rates for older women suggests that we are not simply picking up overall trends in fertility patterns over this time period.

In Table 9, we examine births for women aged 15-19. Panel A, for all births, shows a large and significant decrease in birth rates for the youngest women. However, we find no significant results among births fathered by men younger than 18 or 19-25. All of the decrease in births to the youngest women is driven by a decrease in births where the father's age is not reported on the birth certificate.

Tables 10-13 estimate specifications for either subgroups (whites) or for births in various groups per 1000 women (first births; births by marital status), continuing to stratify by the age of the mother. Panel A of each table reports estimated effects for white women, which are almost identical to those for the full population of women in each age group. (This is not so surprising since white women represent 86% of the full sample). Panel B presents findings for first births. The estimated effects for 20-24 year olds, 25-29 year olds, and 15-19 year olds tell a similar story to our baseline results, although those for the 20-24 year olds are smaller in magnitude. There is an anomalous finding for women 31-44, where the number of men drafted per 100 men 19-25 is positively associated with the number of first births, but this is the only such result.

Finally, Panels C and D present results for married births and unmarried births per 1000 women. An increase in the number of men drafted leads to a decrease in the married birth rate that is largest in magnitude for 15-19 year olds, then smaller but still significant for 20-24, and 25-30 year olds. Panel D of Table 13 suggests a decline in non-marital births per 1000 women in the youngest age group as well.[25]

In addition to the results presented here, we have performed a number of robustness tests. First, we have explored replacing the year fixed effects with year of conception fixed effects. This has no substantive effect on our findings. Results for all groups but the oldest are robust to linear state time trends, and findings for the oldest group are still positive rather than negative, and similar in magnitude to those we show here. (We have explored these positive coefficients, and they appear to be driven by births to women 30-32. They are also insignificant and small in magnitude for this oldest group of women if we run the regressions without population weights.) Results are robust to omitting the early abortion legalizing states and to running the regressions entirely for the pre-Roe period. We have also run levels specifications (setting the number of births to 0 for empty cells), and find quite similar effects in percent terms. Results are also robust to changing our variable of interest to measure either the flow of men drafted, or the three year sum of men drafted.

V. Discussion and Conclusion

[25] We have also estimated regressions stratified by education. Since most 15-18 year olds giving birth will mechanically be high school dropouts at the time of birth, even if they later complete high school, we expect to see our results for the 15-18 year old age group primarily among high school dropouts. Our results confirm this – for 15-19 year olds, more men drafted led to fewer births to this group of women. Results for high school graduates show a negative effect on births for women 20-24, albeit only a marginally significant one. The results for college graduates are mostly insignificant, but confirm the pattern expected, with no effect for 15-19 year olds, negative point estimates for 20-24 and 25-30 year olds, no effect for older women.

In this paper, we examine the effects of Vietnam-Era inductions of men into the armed forces on family formation. We find robust evidence that higher rates of inducted men led to significantly lower birth rates. These effects are largest for women in the age groups that would be expected to be affected by the absence of draft-age men. We also find some evidence that is consistent with changes in assortative matching. Future work will look to more recent data to see if this reduction in births had long run effects on women's fertility timing and number of children ever born.

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Figure 1: Total inductions by year, 1960–1979

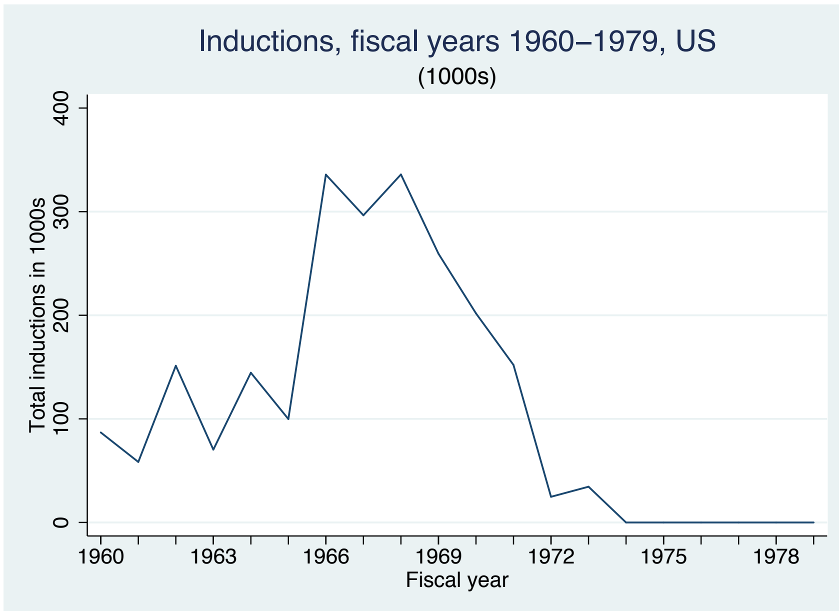

Figure 2: Sex ratio for men 19-25/women 17-23 by year, 1969–1979

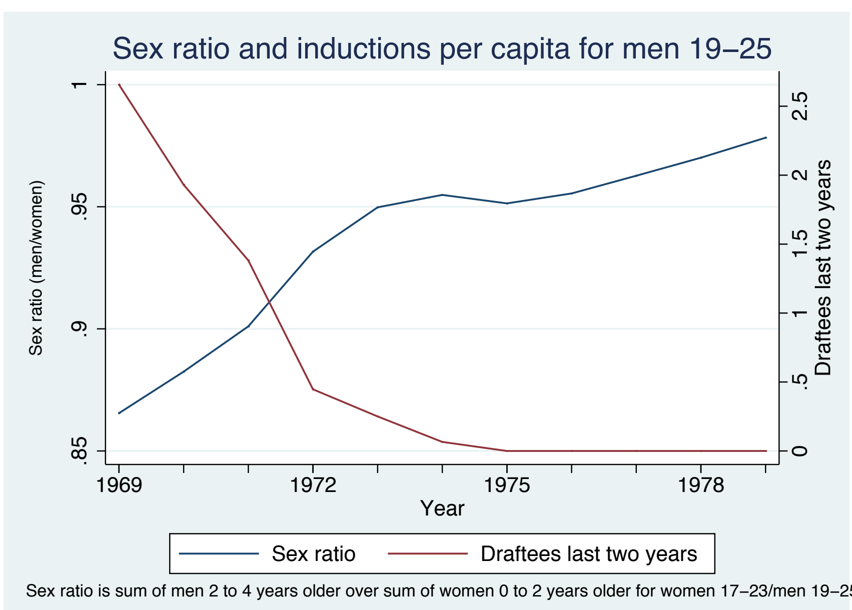

Figure 3: Inductions by year, selected states

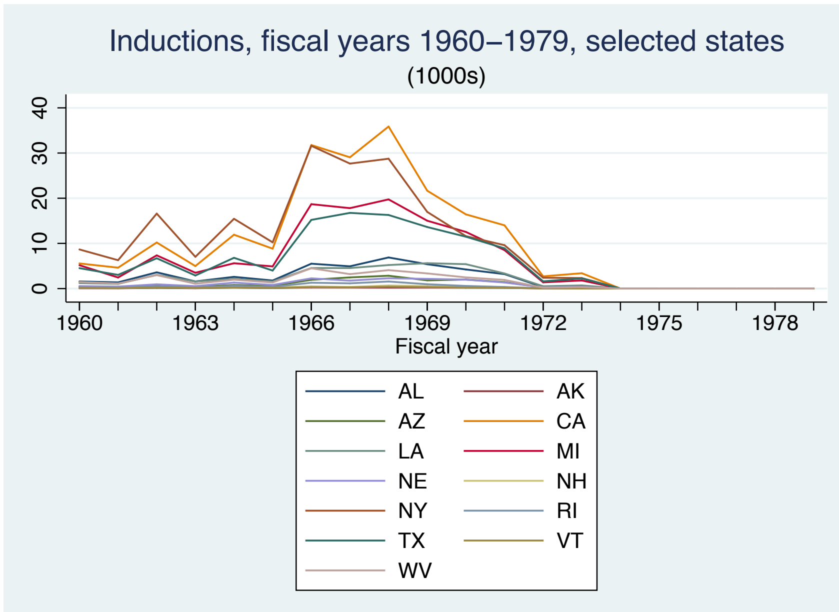

Figure 4: Inductions over last 2 years per 100 men 19–25 in state, selected states

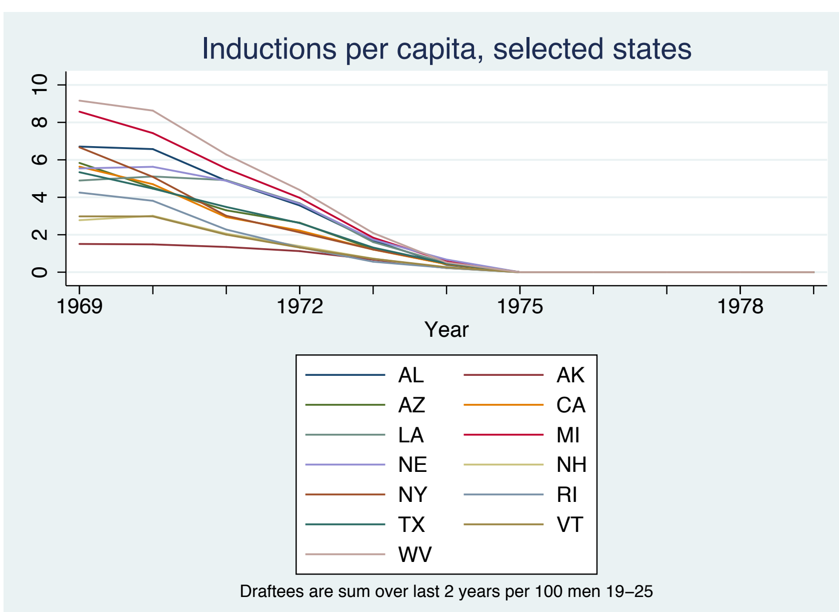

Figure 5: Birth rates by age and inductions per 100 men

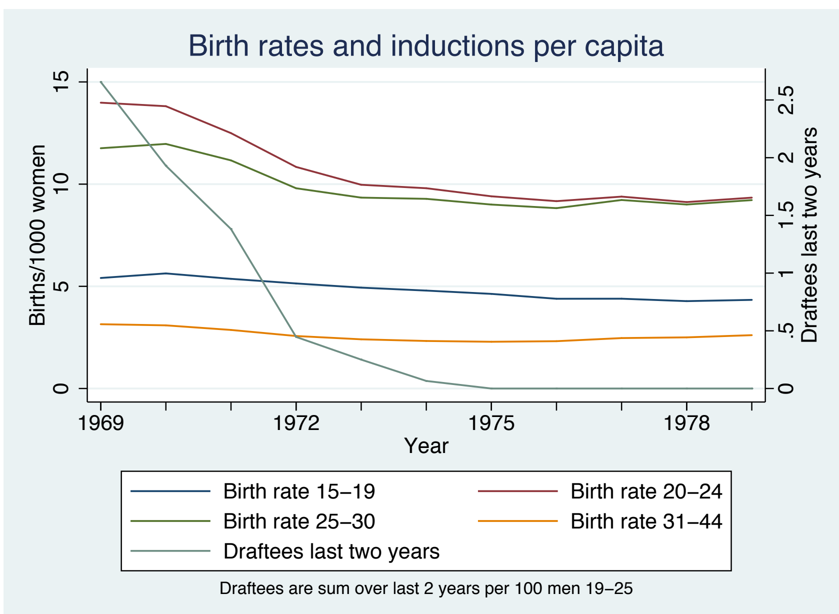

Table 1: Determinants of inductions/100 men 19–25, 1960-1973

	(1)	(2)	(3)
Vietnam casualties per 100,000, lagged 1 year	1.878***	1.422***	1.433***
	(0.489)	(0.353)	(0.351)
Abortion legal		-4.562***	-4.619***
		(1.119)	(1.156)
Unemployment rate (as share)		0.889***	0.905***
		(0.315)	(0.318)
Real AFDC payments, family of 4 ($100s)		-0.016***	-0.016***
		(0.004)	(0.004)
Real weekly manufacturing wage ($100s)		-0.038	-0.041
		(0.040)	(0.040)
Real personal income per capita ($100s)		-0.000	-0.000
		(0.002)	(0.002)
Governor Republican			0.391
			(0.433)
Persons incarcerated per 100,000			0.004
			(0.012)

Table presents coefficients on controls for regressions of determinants of inductions per 100 men aged 19–25, for 1960–1973. Each column represents one regression, with various controls. Regressions also include state fixed effects and year fixed effects. The column 1 specification includes the states' Vietnam casualties per 100,000 persons in the previous year. The column 2 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, real personal income per capita, and the party of the state's governor. The column 3 specification adds a control for the number of persons incarcerated per 100,000 in the state. Standard errors clustered at the state level. Regressions are weighted by the number of men 19–25, constructed from the 1960 census to 1968, and from SEER after 1968. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 2: Determinants of Vietnam-era veteran status as a function of induction risk, overall and by men's educational attainment, 1980 Census

A: Sample is all men born 1941–1953	
Induction risk	1.639***
	(0.247)
B: Sample is HS dropout men born 1941–1953	
Induction risk	1.000*
	(0.532)
C: Sample is HS graduate men born 1941–1953	
Induction risk	1.836***
	(0.241)
D: Sample is men with some college born 1941–1953	
Induction risk	-0.175
	(0.389)

Table presents selected coefficients on controls for regressions of determinants of Vietnam-era veteran status among men born 1941–1953 using 1980 Census data. The coefficient presented is on the state level induction risk across years men were at risk of being drafted (sum of inductions over male population at risk). Before the 1970, men were at risk while ages 19–24, in 1970 they were at risk if they had a low draft number and were 19-24, and after 1970, they were at risk the calendar year they turned 20. The years of risk are assigned based on approximate year of birth assigned according to age on Census day in 1980. Each panel represents a regression for a different group of men (all men, high school dropouts, high school graduates, and men with some college). Regressions include state of birth and year of birth fixed effects, as well as a dummy for race being black or other non-white race. Later revisions will adjust at risk ages to be 19–25, and to account for quarter of birth as well as assessing exposure to other contextual variables. Standard errors clustered at the state of birth level. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 3: Means, birth outcomes, 1969–1979

	Women 15–29	Women 30–44
Birth rate (births/1000 women)	8.22	2.59
First birth rate (first births/1000 women)	3.81	0.33
Birth rate, father ≤ 18 (births to fathers ≤ 18/1000 women)	0.22	0.00
Birth rate, father 19–25 (births to fathers 19–25/1000 women)	3.40	0.04
Birth rate, father ≥ 26 (births to fathers ≥ 26/1000 women)	3.68	2.43
Birth rate, father's age is missing	0.93	0.11
Married birth rate (married births/1000 women)	7.00	2.38
Unmarried birth rate (unmarried births/1000 women)	1.26	0.14
Marital status not reported by state, births data	0.44	0.45
High school dropout birth rate (dropout births/1000 women)	2.35	0.60
High school graduate birth rate (grad. births/1000 women)	3.77	1.06
Any college birth rate (any college births/1000 women)	1.93	0.90
Education not reported by state, births data	0.37	0.37
N	302940	302940

Summary statistics from collapsed Detailed Natality files and SEER population data for 1969–1979. Birth rates are births per 1000 women. Numerators for birth rates are number of births in the women's age (single year) by race (white, black, or other) by state of residence by birth month by year cell, or for education/marital status/parity/age of father groups, births to women of that type/with men of that type in that cell. Denominators are population in that age by race by state by year cell from SEER. Births by marital status and education only reported for states reporting for full 1969–1979 period. Column 1 is means for women aged 15–29, column 2 for women 30–44. Statistics weighted by female population in cell.

Table 4: Means, controls, 1969–1979

	Women 15–29	Women 30–44
Sex ratio (men 2–4 years older/women 0–2 years older)	0.939	0.931
White	0.86	0.87
Black	0.13	0.11
Other race	0.02	0.02
Race unknown	0.00	0.00
Woman's age	21.6	36.7
Men drafted/male population 19–25	0.555	0.576
Men drafted past 2 years/male population 19–25	1.330	1.377
Vietnam casualties per 100,000, lagged 1 year	1.905	1.967
Abortion legal	0.672	0.664
Unemployment rate (as share)	0.059	0.059
Real AFDC payments, family of 4 ($100s)	2.14	2.15
Real weekly manufacturing wage ($100s)	1.44	1.44
Real personal income per capita ($100s)	44.88	44.99
N	302940	302940

Summary statistics for control variables from SEER population data and various sources for 1969–1979. Induction rates merged in by fiscal year of conception (9 months before birth), abortion laws merged in by month at end of first trimester (6 months before birth), and pill laws and other controls merged in by month of conception (9 months before birth). Birth rates are per 1000 woman in age/race/state of residence/birth month/year cell. Column 1 is means for women aged 15–29, column 2 for women 30–44. Statistics weighted by female population in cell.

Table 5: Determinants of births/1000 women 15–29, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
Men drafted past 2 years/male population 19–25	-0.017**	-0.020***	-0.016***	-0.018***
	(0.006)	(0.006)	(0.004)	(0.005)
Vietnam casualties per 100,000, lagged 1 year	-0.002	-0.002	-0.002	-0.006
	(0.003)	(0.003)	(0.002)	(0.006)
Black	0.475***	0.475***	0.475***	0.475***
	(0.029)	(0.029)	(0.029)	(0.029)
Other race	-0.062	-0.062	-0.063	-0.063
	(0.135)	(0.135)	(0.135)	(0.135)
Abortion legal		-0.047***	-0.039***	-0.039***
		(0.009)	(0.008)	(0.011)
Early legal pill access (Bailey)				
Unemployment rate (as share)			-1.381***	-1.895***
			(0.346)	(0.412)
Real AFDC payments, family of 4 ($100s)			0.026**	0.020*
			(0.011)	(0.011)
Real weekly manufacturing wage ($100s)			-0.059	-0.005
			(0.083)	(0.098)
Real personal income per capita ($100s)			0.005	0.004
			(0.003)	(0.003)

Table presents coefficients on controls for regressions of determinants of births per 1000 women 15–29, for 1969–1979. Each column represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and lagged casualties in Vietnam per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. N is 262,132. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 6: Determinants of births/1000 women, women aged 20–24, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: All births				
Men drafted past 2 years/male population 19–25	-0.012	-0.015**	-0.011**	-0.014**
	(0.008)	(0.007)	(0.005)	(0.006)
Vietnam casualties per 100,000, lagged 1 year	-0.005	-0.006*	-0.005**	-0.023***
	(0.003)	(0.003)	(0.002)	(0.005)
B: Births where men ≤ 18				
Men drafted past 2 years/male population 19–25	0.057*	0.036	0.015	0.014
	(0.031)	(0.022)	(0.017)	(0.020)
Vietnam casualties per 100,000, lagged 1 year	-0.004	-0.007	-0.003	-0.000
	(0.011)	(0.010)	(0.007)	(0.025)
C: Births where men 19–25				
Men drafted past 2 years/male population 19–25	-0.018	-0.022**	-0.018**	-0.018**
	(0.011)	(0.010)	(0.007)	(0.009)
Vietnam casualties per 100,000, lagged 1 year	-0.010**	-0.010**	-0.010***	-0.028***
	(0.004)	(0.004)	(0.003)	(0.006)
D: Births where men ≥ 26				
Men drafted past 2 years/male population 19–25	0.011	0.009	0.011**	0.012*
	(0.009)	(0.007)	(0.005)	(0.006)
Vietnam casualties per 100,000, lagged 1 year	-0.003	-0.003	-0.003	-0.022***
	(0.003)	(0.003)	(0.002)	(0.004)
E: Births where father's age is missing				
Men drafted past 2 years/male population 19–25	-0.004	-0.009	0.005	-0.000
	(0.023)	(0.022)	(0.024)	(0.029)
Vietnam casualties per 100,000, lagged 1 year	0.007	0.006	0.008	-0.018
	(0.011)	(0.012)	(0.011)	(0.029)

Table presents coefficients on controls for regressions of determinants of births where the father is the age denoted in the panel per 1000 women of various ages, for 1969–1979. Each panel represents a different age group of women (15–19, 20–24, 25–29, and 30–44). Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the number of casualties in Vietnam per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 7: Determinants of births/1000 women, women aged 25–29, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: All births				
Men drafted past 2 years/male population 19–25	-0.009	-0.011	-0.007	-0.011*
	(0.007)	(0.007)	(0.005)	(0.006)
Vietnam casualties per 100,000, lagged 1 year	-0.003	-0.003*	-0.003*	-0.013***
	(0.002)	(0.002)	(0.002)	(0.004)
B: Births where men ≤ 18				
Men drafted past 2 years/male population 19–25	0.081*	0.049*	0.015	-0.013
	(0.043)	(0.029)	(0.021)	(0.032)
Vietnam casualties per 100,000, lagged 1 year	-0.017	-0.018	-0.001	0.018
	(0.016)	(0.014)	(0.011)	(0.045)
C: Births where men 19–25				
Men drafted past 2 years/male population 19–25	-0.014	-0.020*	-0.017*	-0.020*
	(0.013)	(0.011)	(0.010)	(0.012)
Vietnam casualties per 100,000, lagged 1 year	-0.009**	-0.010**	-0.010***	-0.012
	(0.004)	(0.004)	(0.003)	(0.009)
D: Births where men ≥ 26				
Men drafted past 2 years/male population 19–25	-0.007	-0.009	-0.005	-0.008
	(0.007)	(0.007)	(0.005)	(0.006)
Vietnam casualties per 100,000, lagged 1 year	-0.002	-0.002	-0.002	-0.013***
	(0.002)	(0.002)	(0.002)	(0.004)
E: Births where father's age is missing				
Men drafted past 2 years/male population 19–25	0.044	0.040	0.059	0.062
	(0.038)	(0.039)	(0.042)	(0.050)
Vietnam casualties per 100,000, lagged 1 year	-0.054**	-0.054**	-0.053**	-0.129**
	(0.026)	(0.026)	(0.024)	(0.063)

Table presents coefficients on controls for regressions of determinants of births where the father is the age denoted in the panel per 1000 women of various ages, for 1969–1979. Each panel represents a different age group of women (15–19, 20–24, 25–29, and 30–44). Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the number of casualties in Vietnam per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 8: Determinants of births/1000 women, women aged 30–44, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: All births				
Men drafted past 2 years/male population 19–25	0.027**	0.020*	0.016*	0.005
	(0.013)	(0.011)	(0.009)	(0.010)
Vietnam casualties per 100,000, lagged 1 year	0.003	0.001	0.002	-0.004
	(0.004)	(0.003)	(0.003)	(0.009)
B: Births where men $\leq$ *18*				
Men drafted past 2 years/male population 19–25	0.048	0.025	0.005	-0.032
	(0.045)	(0.040)	(0.032)	(0.055)
Vietnam casualties per 100,000, lagged 1 year	-0.006	-0.003	0.009	0.059
	(0.026)	(0.024)	(0.022)	(0.049)
C: Births where men 19–25				
Men drafted past 2 years/male population 19–25	0.064*	0.044*	0.030	0.026
	(0.038)	(0.026)	(0.022)	(0.024)
Vietnam casualties per 100,000, lagged 1 year	-0.009	-0.011	-0.007	0.012
	(0.010)	(0.011)	(0.009)	(0.026)
D: Births where men $\geq$ *26*				
Men drafted past 2 years/male population 19–25	0.028**	0.021*	0.017*	0.006
	(0.013)	(0.012)	(0.009)	(0.011)
Vietnam casualties per 100,000, lagged 1 year	0.003	0.001	0.002	-0.004
	(0.004)	(0.003)	(0.003)	(0.009)
E: Births where father's age is missing				
Men drafted past 2 years/male population 19–25	-0.024	-0.061	-0.066	-0.062
	(0.054)	(0.047)	(0.053)	(0.070)
Vietnam casualties per 100,000, lagged 1 year	0.010	0.004	-0.001	0.023
	(0.024)	(0.025)	(0.022)	(0.059)

Table presents coefficients on controls for regressions of determinants of births where the father is the age denoted in the panel per 1000 women of various ages, for 1969–1979. Each panel represents a different age group of women (15–19, 20–24, 25–29, and 30–44). Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the number of casualties in Vietnam per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 9: Determinants of births/1000 women, women aged 15–19, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: All births				
Men drafted past 2 years/male population 19–25	-0.028***	-0.032***	-0.027***	-0.025***
	(0.010)	(0.011)	(0.008)	(0.009)
Vietnam casualties per 100,000, lagged 1 year	-0.002	-0.003	-0.004	-0.000
	(0.004)	(0.004)	(0.004)	(0.010)
B: Births where men ≤ 18				
Men drafted past 2 years/male population 19–25	-0.010	-0.016	-0.025	-0.024
	(0.028)	(0.029)	(0.019)	(0.023)
Vietnam casualties per 100,000, lagged 1 year	0.003	0.002	-0.002	0.011
	(0.005)	(0.006)	(0.006)	(0.015)
C: Births where men 19–25				
Men drafted past 2 years/male population 19–25	-0.002	-0.007	-0.006	-0.005
	(0.018)	(0.018)	(0.013)	(0.015)
Vietnam casualties per 100,000, lagged 1 year	-0.003	-0.004	-0.006	0.003
	(0.005)	(0.005)	(0.004)	(0.014)
D: Births where men ≥ 26				
Men drafted past 2 years/male population 19–25	0.030	0.025	0.014	0.026
	(0.020)	(0.017)	(0.012)	(0.017)
Vietnam casualties per 100,000, lagged 1 year	-0.007	-0.008	-0.010*	-0.007
	(0.006)	(0.006)	(0.006)	(0.016)
E: Births where father's age is missing				
Men drafted past 2 years/male population 19–25	-0.065***	-0.068***	-0.056***	-0.061***
	(0.013)	(0.014)	(0.013)	(0.018)
Vietnam casualties per 100,000, lagged 1 year	-0.005	-0.006	-0.008	-0.016
	(0.008)	(0.008)	(0.008)	(0.020)

Table presents coefficients on controls for regressions of determinants of births where the father is the age denoted in the panel per 1000 women of various ages, for 1969–1979. Each panel represents a different age group of women (15–19, 20–24, 25–29, and 30–44). Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the number of casualties in Vietnam per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 10: Robustness, determinants of births per/1000 women 20–24 of various types, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: Birth rate of white women 20–24				
Men drafted past 2 years/male population 19–25	-0.013	-0.017**	-0.012**	-0.014*
	(0.009)	(0.008)	(0.006)	(0.007)
Vietnam casualties per 100,000, lagged 1 year	-0.006*	-0.007*	-0.006**	-0.026***
	(0.004)	(0.004)	(0.003)	(0.006)
B: First births/1000 women 20–24				
Men drafted past 2 years/male population 19–25	-0.008	-0.013*	-0.012*	-0.021
	(0.008)	(0.007)	(0.007)	(0.012)
Vietnam casualties per 100,000, lagged 1 year	0.003	0.002	0.004	-0.014
	(0.008)	(0.008)	(0.008)	(0.016)
C: Married births/1000 women 20–24				
Men drafted past 2 years/male population 19–25	-0.020*	-0.021*	-0.010	-0.012
	(0.010)	(0.010)	(0.007)	(0.008)
Vietnam casualties per 100,000, lagged 1 year	-0.008	-0.008	-0.007**	-0.026***
	(0.005)	(0.005)	(0.003)	(0.007)
D: Unmarried births/1000 women 20–24				
Men drafted past 2 years/male population 19–25	0.021	0.019	0.021	0.015
	(0.017)	(0.017)	(0.013)	(0.017)
Vietnam casualties per 100,000, lagged 1 year	0.020**	0.020**	0.017***	-0.001
	(0.008)	(0.008)	(0.006)	(0.013)

Table presents coefficients on controls for regressions of determinants of various kinds of births per 1000 women aged 20–24 of various race/ethnicities, for 1969–1979. Regressions in panel A model the birth rate for white women 20–24. Regressions in panel B model first births per 1000 women 20–24. Regressions in panel C model married births per 1000 women 20–24. Regressions in panel D model unmarried births per 1000 women 20–24. Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the lagged number of Vietnam casualties per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01,^{**} p < .05,^{*} p < .10$.

Table 11: Robustness, determinants of births per/1000 women 25–29 of various types, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: Birth rate of white women 25–29				
Men drafted past 2 years/male population 19–25	-0.011	-0.013*	-0.008	-0.011*
	(0.007)	(0.007)	(0.005)	(0.006)
Vietnam casualties per 100,000, lagged 1 year	-0.005*	-0.005**	-0.005**	-0.016***
	(0.002)	(0.002)	(0.002)	(0.005)
B: First births/1000 women 25–29				
Men drafted past 2 years/male population 19–25	-0.017**	-0.017***	-0.013**	-0.019*
	(0.007)	(0.006)	(0.006)	(0.010)
Vietnam casualties per 100,000, lagged 1 year	0.001	0.001	0.001	-0.009
	(0.005)	(0.005)	(0.005)	(0.011)
C: Married births/1000 women 25–29				
Men drafted past 2 years/male population 19–25	-0.016***	-0.016***	-0.008**	-0.012**
	(0.006)	(0.006)	(0.004)	(0.005)
Vietnam casualties per 100,000, lagged 1 year	-0.004	-0.004	-0.003*	-0.011**
	(0.003)	(0.003)	(0.002)	(0.005)
D: Unmarried births/1000 women 25–29				
Men drafted past 2 years/male population 19–25	0.035	0.032	0.028	0.019
	(0.023)	(0.024)	(0.020)	(0.025)
Vietnam casualties per 100,000, lagged 1 year	0.029***	0.029***	0.022***	0.040**
	(0.009)	(0.010)	(0.007)	(0.018)

Table presents coefficients on controls for regressions of determinants of various kinds of births per 1000 women aged 25–29 of various race/ethnicities, for 1969–1979. Regressions in panel A model the birth rate for white women 25–29. Regressions in panel B model first births per 1000 women 25–29. Regressions in panel C model married births per 1000 women 25–29. Regressions in panel D model unmarried births per 1000 women 25–29. Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the lagged number of Vietnam casualties per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01, ^{**}p < .05, ^{*}p < .10$.

Table 12: Robustness, determinants of births per/1000 women 30–44 of various types, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: Birth rate of white women 30–44				
Men drafted past 2 years/male population 19–25	0.026*	0.019	0.015	0.005
	(0.014)	(0.013)	(0.009)	(0.011)
Vietnam casualties per 100,000, lagged 1 year	0.001	-0.001	-0.000	-0.009
	(0.003)	(0.003)	(0.003)	(0.009)
B: First births/1000 women 30–44				
Men drafted past 2 years/male population 19–25	0.045***	0.037***	0.033***	0.021**
	(0.009)	(0.008)	(0.008)	(0.010)
Vietnam casualties per 100,000, lagged 1 year	0.005	0.004	0.003	0.000
	(0.005)	(0.005)	(0.005)	(0.014)
C: Married births/1000 women 30–44				
Men drafted past 2 years/male population 19–25	0.014**	0.013*	0.016**	0.006
	(0.007)	(0.007)	(0.007)	(0.009)
Vietnam casualties per 100,000, lagged 1 year	-0.001	-0.001	-0.001	-0.009
	(0.004)	(0.004)	(0.004)	(0.010)
D: Unmarried births/1000 women 30–44				
Men drafted past 2 years/male population 19–25	0.039	0.038	0.019	-0.004
	(0.029)	(0.030)	(0.016)	(0.022)
Vietnam casualties per 100,000, lagged 1 year	0.047***	0.047***	0.037***	0.085***
	(0.011)	(0.011)	(0.008)	(0.022)

Table presents coefficients on controls for regressions of determinants of various kinds of births per 1000 women aged 30–44 of various race/ethnicities, for 1969–1979. Regressions in panel A model the birth rate for white women 30–44. Regressions in panel B model first births per 1000 women 30–44. Regressions in panel C model married births per 1000 women 30–44. Regressions in panel D model unmarried births per 1000 women 30–44. Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the lagged number of Vietnam casualties per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01,^{**} p < .05,^{*} p < .10$.

Table 13: Robustness, determinants of births per/1000 women 15–19 of various types, Natality data, 1969-1979

	(1)	(2)	(3)	(4)
A: Birth rate of white women 15–19				
Men drafted past 2 years/male population 19–25	-0.028***	-0.032***	-0.028***	-0.026***
	(0.010)	(0.011)	(0.008)	(0.009)
Vietnam casualties per 100,000, lagged 1 year	-0.002	-0.003	-0.004	0.002
	(0.004)	(0.004)	(0.004)	(0.010)
B: First births/1000 women 15–19				
Men drafted past 2 years/male population 19–25	-0.023*	-0.028**	-0.027**	-0.032*
	(0.012)	(0.013)	(0.011)	(0.017)
Vietnam casualties per 100,000, lagged 1 year	0.006	0.005	0.004	0.012
	(0.008)	(0.008)	(0.009)	(0.020)
C: Married births/1000 women 15–19				
Men drafted past 2 years/male population 19–25	-0.042***	-0.043***	-0.026**	-0.020
	(0.015)	(0.014)	(0.010)	(0.012)
Vietnam casualties per 100,000, lagged 1 year	-0.014**	-0.015**	-0.014***	-0.023*
	(0.006)	(0.006)	(0.004)	(0.012)
D: Unmarried births/1000 women 15–19				
Men drafted past 2 years/male population 19–25	-0.044**	-0.046**	-0.037**	-0.038**
	(0.018)	(0.018)	(0.015)	(0.019)
Vietnam casualties per 100,000, lagged 1 year	0.010	0.009	0.007	0.003
	(0.009)	(0.009)	(0.008)	(0.019)

Table presents coefficients on controls for regressions of determinants of various kinds of births per 1000 women aged 15–19 of various race/ethnicities, for 1969–1979. Regressions in panel A model the birth rate for white women 15–19. Regressions in panel B model first births per 1000 women 15–19. Regressions in panel C model married births per 1000 women 15–19. Regressions in panel D model unmarried births per 1000 women 15–19. Each column within each panel represents one regression. Regressions include state of residence at birth fixed effects, year of birth fixed effects, month of birth fixed effects, age fixed effects, and fixed effects for race being black or other. The column 1 specification includes the last two year's inductions per man 19–25 and the lagged number of Vietnam casualties per 100,000. The column 2 specification adds controls for abortion legalization and early pill access. The column 3 specification adds controls for the unemployment rate, real maximum AFDC payments for a family of 4, real manufacturing wages per week, and real personal income per capita. The column 4 specification includes the same individual and state controls as column 3 but includes year by month fixed effects. Standard errors clustered at the state level. Regressions are weighted by female population in age/race/year/state cell from SEER. $^{***}p < .01,^{**} p < .05,^{*} p < .10$.