# Assessing Abortion

***The Impact of Legalized Abortion on the Welfare of American Women***

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# Acknowledgements

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# Abstract

By examining data on educational attainment, workforce participation, and marriage market bargaining power, this paper assesses the impact of legalized abortion on women's welfare. Access to abortion is found to increase education levels and employment rates. However, such access may also increase rates of sexually transmitted disease and disadvantage women in the marriage markets. Although negative implications are established, they do not appear strong enough to counteract the positive impacts of abortion access. Legalized abortion is a highly demanded public good, and seems to serve in the best interest of women by empowering them through choice.

## INTRODUCTION

Fertility is one of the most significant determinants of female welfare. A woman's fecundity is correlated with levels of educational attainment, labor force participation, marriage market positioning, and a general sense of life satisfaction. Thus the ability of women to manipulate their own fertility is vital in managing and influencing their welfare. Over the last several decades, women have gained an increasing degree of control over their fertility, both by advances in medicine (most notably, "the pill") and social reform. One of the most recent and important policy changes was the legalization of abortion.

The move to legalize abortion was among the most substantial extensions of women's rights during the last century. With the Roe v. Wade decision in 1973, American women gained a significant new means by which to control fertility and eliminate unwanted pregnancies.[1] While the advent of the birth control pill helped reduce the number of unwanted pregnancies preemptively, abortion served as a final guard against undesired and unexpected children *ex post facto*. With this new tool came many social implications, manifested at both the micro and macro levels, as abortion rights induced both partial and general equilibrium shifts. To understand the full scope of the Roe v. Wade decision, we must examine these shifts and their impacts. Specifically, what effect did the legalization of abortion have on the welfare of American women?

Women's "welfare" is a particularly broad topic; the definition is vague and sweeping. However, for our purposes, we will examine welfare through an economics lens, paying specific attention to education, employment, and marriage markets. Because ethical

[1] In economic discussion of fertility, the term "unwanted" is often ambiguous. Surveys fail to identify whether or not pregnancies are "wanted" or "unwanted" because mothers may change their opinions after giving birth. Thus "unwanted" does not have a clear definition. However, for the purposes of this paper (and for lack of a more suitable term), "unwanted" will generally mean unplanned or undesired at the time of conception.

debates are notoriously difficult to resolve, basic cost-benefit analyses provide relatively straightforward, factual evidence to support or oppose abortion laws.[2] Does abortion influence the health of women? How does it impact the institution of marriage? At the most basic level, is abortion empowering? As the Roe v. Wade decision remains a hotly contested issue in American politics, the findings hold particular relevance when weighing the pros and cons of legalized abortion policies.

While there is a considerable amount of research on abortion policy and its effect on single variables—much of which is included in the articles referenced for this paper—few studies examine the impact of abortion on a combination of variables that cross a broad spectrum. By utilizing data from a number of sources, I weigh diverse findings and build a framework in which abortion can be analyzed more completely. This analysis will consider the fact that legalized abortion may not have as liberating an impact as first believed. Though a woman's right to choose is legally preserved, unseen consequences exist that may be more difficult to identify. For instance, when access to abortion is legal, women may lose their leverage in forcing "shotgun marriages" (Akerlof et al, 1996). Additionally, abortion options may change sexual behavior patterns, promoting unsafe sex and leading to increased levels of sexually transmitted disease (Klick & Stratmann, 2003; and Sen, 2003). Therefore, in order to draw conclusions about the full ramifications of abortion rights, one must examine the effects among several different cohorts.

In this paper, I weigh the advantages of abortion access against the disadvantages. I further attempt to discern which groups of women benefit most and which may experience

[2] For the purposes of this analysis, I draw a distinction between positive and normative judgments. I omit the latter and instead concentrate only on a positive analysis. Because this analysis is conducted from an economic perspective, I exclude any and all ethical and value judgments. In doing so, I acknowledge that cost-benefit analyses are limited and do not comprehensively address the issue of abortion.

decreased welfare under legalized abortion. Section 1 briefly introduces the female sexual decision tree (Figure 1), around which much of this discussion centers. I assume that the choices modeled in the figure are applicable to all women, though the implications of each single decision may differ from cohort to cohort. Section 2 discusses the background of abortion, including legal changes, basic demand variables for children, and current abortion trends and statistics. Section 3 explores the impact of abortion on women's educational attainment and workforce participation rates. Section 4 examines some of the more unconventional impacts of abortion, including increased sexual promiscuity and decreased bargaining power within the marriage market. Although these issues often seem to fall outside the scope of common discourse, they should be considered when evaluating the net impact of abortion on women's welfare. Section 5 offers concluding thoughts and provides suggestions for further research.

## I. FEMALE SEXUAL DECISION-MAKING

To understand the impact of legalized abortion on female welfare, one must explore women's choices regarding sexual decision-making. This is vital not only in determining what options females face, but also in creating a model by which one can predict and understand these decisions. Further, it allows us to gauge the impact of legalized abortion on different cohorts of women. Figure 1 illustrates the female's sexual decision tree. Firstly, the woman must choose between engaging in sex and abstaining entirely. If she chooses the former, she must decide whether to have safe sex or unsafe sex.[3] At this point, the woman

[3] For our purposes, SAFE SEX will mean having intercourse using a barrier method, such as a condom. I acknowledge that this simplifies the situation. There are many factors that may determine whether or not sex is "safe," such as monogamy, use of a back-up method of contraception, etc. However, for this analysis, I am concerned with the prevention of sexually transmitted disease, and thus focus on barrier method contraception.

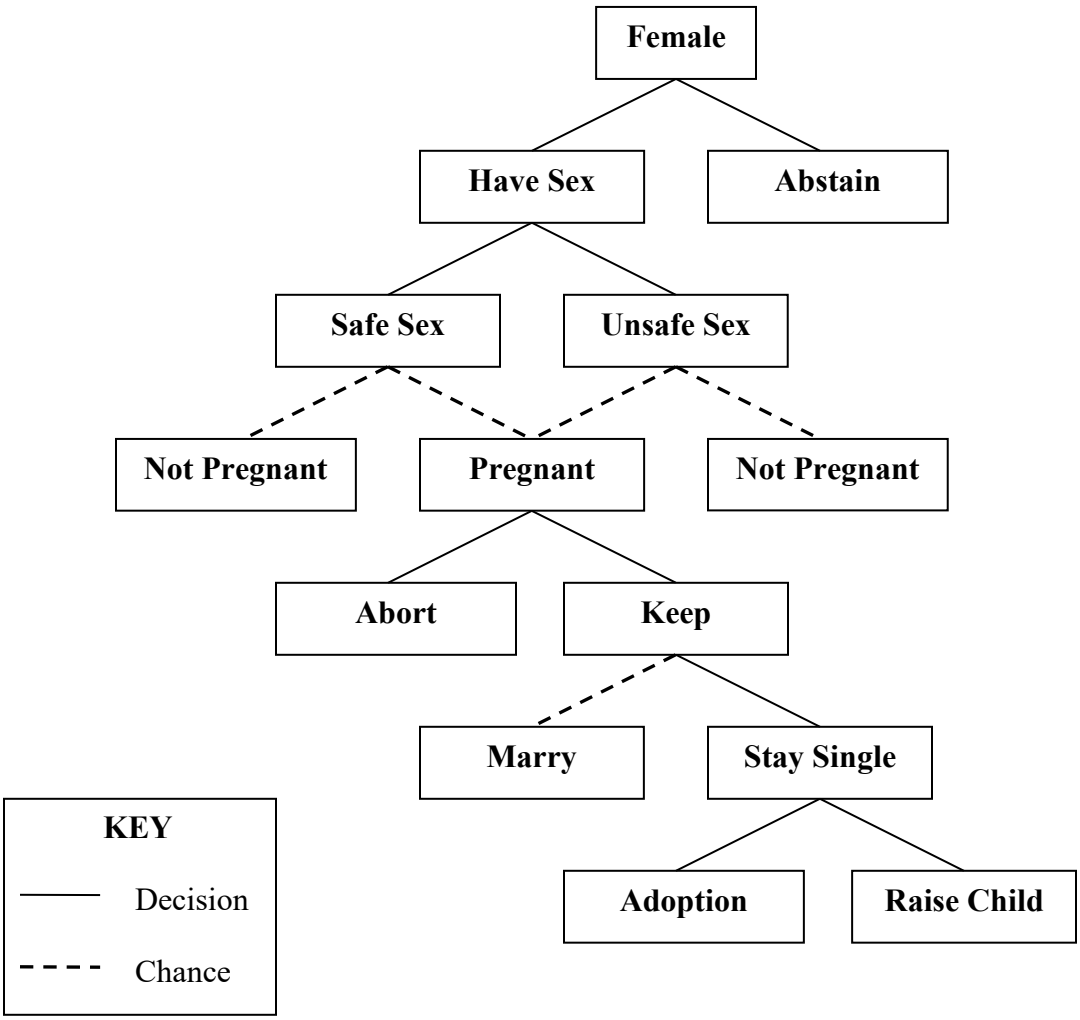
has a possibility of either becoming pregnant or avoiding pregnancy. While safe sex clearly gives the female a better chance of reaching the NOT PREGNANT node, there is still a risk of conception associated with any type of intercourse. If a pregnancy does occur, the female has the option of carrying the child to term or aborting it at a legally-allowable stage of gestation. ABORT enables the woman to avoid virtually all pregnancy and motherhood costs, while the most significant consequences of pregnancy and childbearing are borne once the woman has chosen KEEP. Upon choosing KEEP, the woman will either marry or stay single. In the figure, I have denoted MARRY as a chance and not a decision because her partner must also consent to a union. If he does not, she remains single and can either raise the child alone or put the child up for adoption. The woman experiences the most costly outcome when ending on RAISE CHILD because of the burdens of single-motherhood (Akerlof et al, 1996).

On the surface, the tree generalizes the decisions that females face, and broadly assumes that the nodes are applicable to all women. Upon closer analysis, however, one may find that some cohorts of women do not have unrestricted access to all of the nodes. For instance, women alone cannot decide whether to choose MARRY or STAY SINGLE; clearly the male partner will have to consent to the former. Additionally, personal beliefs, income levels, and physical access to clinics may inhibit women from choosing freely between ABORT and KEEP. All of these variants contribute to differences among welfare implications across cohorts.

The basic implications of the tree are numerous and complex, and will affect decision-making processes in many facets of a woman's life. The decisions are largely endogenous and will impact choices both related and unrelated to sexual behavior. For instance, assume that a woman knows—before having sex—whether or not she would abort

or keep a pregnancy upon conception. If she knows that she would abort, and thus would not have to face the remaining (and costly) decision nodes, she may have extra incentive to invest in human capital. As I discuss in Section III, educational attainment and employment rates may both be positively influenced by access to legalized abortion. Further, if a woman

**Figure 1. Female Sexual Decision Tree**[4]




[4] This tree is based upon models by Levine & Staiger (2002), Akerlof et al (1996), and work by fellow classmate, Lee McNabb.

anticipates choosing ABORT, her decisions regarding intercourse and contraception usage may be affected (Sen, 2003). The interconnectedness of these decision nodes, as well as the direct and indirect impacts of legalized abortion, are explored throughout the discussion.

## II. BACKGROUND

Women's sexual decision-making was substantially changed with the legalization of abortion. Although illegal abortions were routinely performed prior to the 1973 Roe v. Wade decision, legalization made the procedure safer and more mainstream, subsequently impacting the fertility of all future generations (Ananat, Gruber & Levine, 2004). A new node was inserted into the decision tree that significantly altered the way women could manage and manipulate their fertility decisions. However, the policy change did not happen all at once; the march toward legalized abortion began years earlier. By 1967, fifteen states had significantly loosened their abortion laws.[5] In 1970, anti-abortion laws were fully repealed in five of these states: New York, Washington, Alaska, Hawaii and California. Three years later, abortions could be performed in all fifty states. Because of the lag in policy implementation, the five "repeal states" provide a particularly useful cohort for isolating the effects of legalized abortion. In many instances, examining repeal states' statistics from 1971-1973 allows us to separate the actual policy impact from naturally occurring changes, such as improving mortality statistics, waning fertility, and declining marriage rates (Gruber, Levine & Staiger, 1997).

Before examining the implications of legalized abortion, one must first explore the woman's decision to terminate a pregnancy or carry it to term. Basic fertility demands are an

[5] These states were New York, Hawaii, California, Washington, Alaska, Oregon, Colorado, New Mexico, Delaware, Maryland, Virginia, North Carolina, South Carolina, Arkansas, and Kansas (Angrist & Evans, 1996).

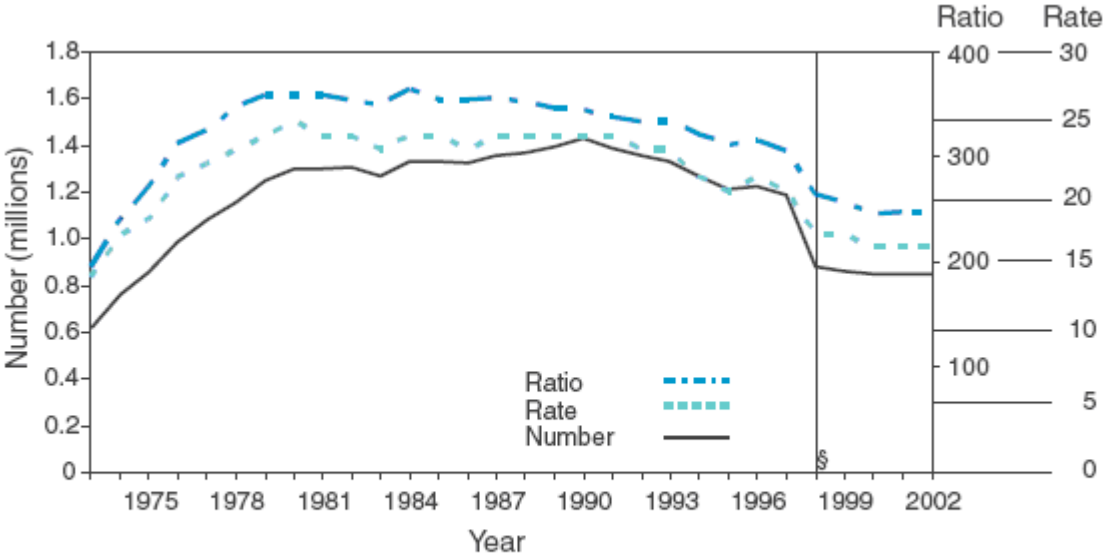
essential part of this understanding. Firstly, I establish that there may be a fundamental difference between male and female demands for children. Studies have shown that men generally prefer higher numbers of offspring (Altman, 1999). Thus in developing nations where males are dominant and control fertility decisions, families have greater numbers of offspring.[6] Where women have greater rights and independence, fertility rates are lower. This may be due to a number of different factors, insofar as women's demand for children is based on several variables. These include the desired quality of children relative to the income of the household, specifically in terms of investment in the child's education, health and other training (Becker, 1991). Women's abilities and aspirations also impact fertility demands. Women who anticipate high returns to education are likely to postpone childbirth until after their education is completed. Once advanced education is attained, these women are likely to work more and have fewer children. Thus these individuals will have a higher opportunity cost to raising children and spending time away from the workforce (Goldin & Katz, 2002).

When females become pregnant with an unwanted child—or a child that falls outside of their fertility demands—many will choose to abort. In the United States, 854,122 legal and reported abortions were performed in 2002. This number is down from prior years, indicating a slightly decreasing trend, but overall values still remain above 1973 levels. Figure 2 illustrates this pattern, depicting abortion rates, ratios, and absolute values over the last three decades. Following the Roe v. Wade decision in 1973, the abortion rate was 14 per 1000 births. This number peaked at 24 abortions per 1000 births throughout the eighties and into the early nineties. The 2002 data indicate a rate of 16 abortions per 1000 births. Though

[6] Higher fertility rates in developing nations are based on a number of demand factors, including restricted access to birth control, utilization of children for labor, cultural norms, etc.

the trend has decreased slightly, it is still clear that abortion procedures remain a prevalent part of our culture.

**Figure 2. Number, ratio* and rate† of legal abortions performed, by year – United States, 1973-2002§**



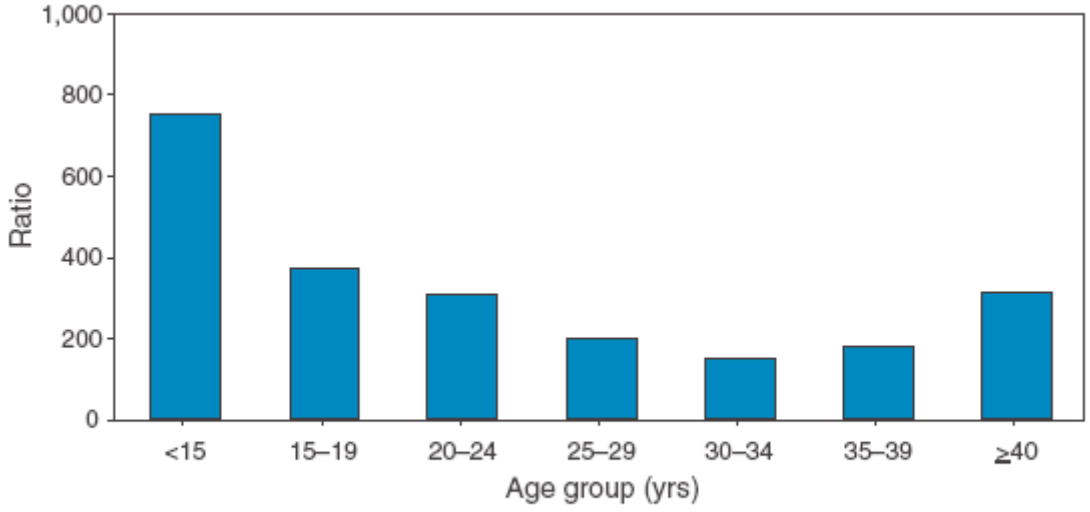

*Number of abortions per 1,000 live births.
†Number of abortions per 1,000 women aged 15–44 years.
§For 1998–2002, data are from 48 reporting areas (see Table 2).

**SOURCE: STRAUSS ET AL. (2005)**

Distinct abortion patterns can be seen across different demographics, specifically when looking at age, race and marital status. Figure 3 illustrates the abortion ratio by age group. Women up to age 15 had the highest abortion ratio: 753 abortions per 1000 births. Women between the ages of 15 and 19 had the second-highest abortion ratio of 368 abortions per 1000 births. The figure indicates that younger women are the most likely to abort upon becoming pregnant. And because women are making critical education and employment decisions at this age, it is important to specifically consider these cohorts when assessing abortion impacts (discussed in Section III). In terms of racial patterns, African-American women have a higher abortion rate than white women (29 versus 10 per 1000 births). And as might be expected, unmarried women had a significantly higher abortion rate than married

women, as 80% of abortion-seeking women were single (Strauss et al, 2005). These trends will be important to bear in mind when examining the impact of abortion; the macro implications will not be homogeneous across age, race, ethnicity and marital status.

**Figure 3. Abortion ratio,* by age group of women who obtained a legal abortion – selected states,† United States, 2002**




* Number of abortions per 1,000 live births.
† Data are from 46 states, the District of Columbia, and New York City (see Table 4).

**SOURCE: STRAUSS ET AL. (2005)**

## III. EFFECT ON EDUCATION AND EMPLOYMENT

Within the last few decades, the woman's role in the labor force has changed dramatically. Female employment is more prevalent than ever and wages are steadily increasing. In 1993, almost 70% of working women earned an income that was above the poverty line for a single person (Albelda, 1997). In other words, women are becoming less financially beholden to men by increasing workforce involvement. Many variables may have contributed to this ongoing change, including evolving social norms, increased female employment opportunities, and an improved ability to manage fertility. The latter is of

particular interest for our purposes. How has the legalization of abortion improved a woman's ability to work?

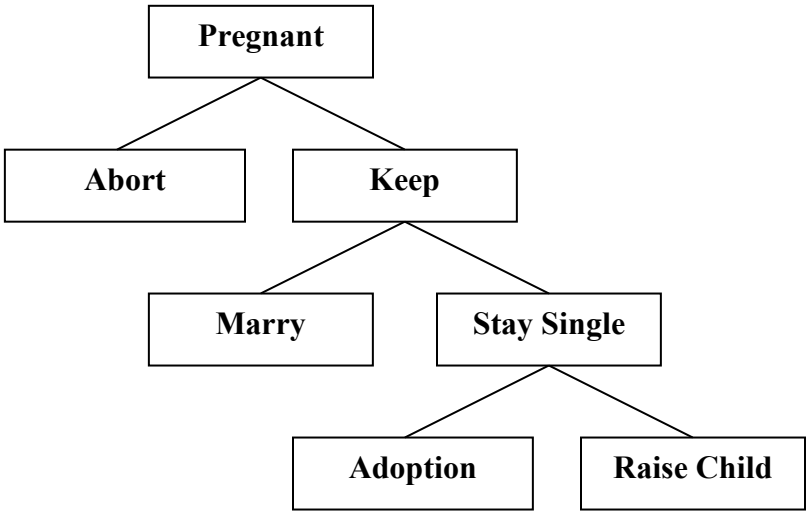
For working women, a high opportunity cost exists to having children. Many aspects of motherhood are costly and may discourage women from seeking employment. Time spent raising children necessarily takes away from time spent on the job, and families incur monetary costs when hiring caregivers. Additionally, single-parent households are becoming increasingly prevalent, and women primarily bear the burden of this responsibility. Twenty-two percent of families with children are run by single mothers who alone must fill paid and unpaid roles, often resulting in a much higher rate of poverty (Albelda, 1997). Although the roles are not mutually exclusive, females face significant obstacles when desiring to be both a mother and a careerist.

Birth control methods (including abortion) lower the costs of motherhood by either preventing it all together or limiting the number of children. When women are assured that unwanted pregnancies will not occur (or can be terminated if they do), they may invest more time in education and employment pursuits (Goldin & Katz, 2002). In Figure 1a, a woman's post-conception decisions are illustrated. Opportunity costs associated with childbearing are incurred once a woman chooses KEEP. These costs, of course, will vary depending on the node at which the woman ends. A single-mother will have higher opportunity costs than a married mother because she will bear the childcare responsibilities alone. A woman who chooses ADOPTION will likely have opportunity costs associated with pregnancy, but will not have the long-term costs of childrearing. But when ABORT is a legal option for women, a sexually active female knows that she can completely avoid all of the opportunity costs associated with raising children. At that point, she will be free to invest in human capital, as

she will not bear the responsibilities of motherhood regardless of whether or not she becomes pregnant.

The certainty of avoiding motherhood has definite implications for women. Data show that the legalization of abortion reduced the birthrate by as much as 5 to 10 percent during the early 1970s, and education and employment trends subsequently increased (Kalist, 2004). These represent some of the partial equilibrium effects of legalized abortion: women changed their optimal behaviors in response to an exogenous event. (More partial and general equilibrium effects related to sexual decision-making can be observed as well and will be discussed later.) Although the causality of this observation is unclear—did having fewer children enable education, or did more educated women choose to limit fertility?—there is a definite correlative link between the two variables. A number of studies show an inverse relationship between fertility levels and educational attainment in women (Kalist, 2004). Further, workforce participation rates increase as the number of children declines.

**Figure 1a. Female Sexual Decision Tree – After Pregnancy Occurs**



Clearly, then, the link between abortion rights and unconstrained access to education and employment is a positive one; abortion definitively controls fertility choices and allows women the freedom to pursue additional opportunities.

The effect of legalized abortion access may be particularly impactful on younger cohorts, especially since their abortion ratios are substantially higher than older groups (Strauss et al, 2005). Younger women may have an increased incentive to abort a pregnancy because they have fewer means of financially supporting a child. Additionally, marriage rates among young women are lower and abortion becomes a crucial tool in preventing out-of-wedlock births. Thus studying the impact of abortion rights on the teenage population is important. Angrist and Evans (1996) looked at the effect of abortion reform in the previously discussed "repeal states" on the life consequences for teen mothers, including the level of schooling these women received. Firstly, when comparing teen mothers in repeal states to those in non-repeal states, data show that marriage rates and fertility rates among white women decline more quickly where abortion is legal. (Angrist and Evans speculate that declining marriage rates may be due to fewer shotgun marriages because of unintended pregnancies; when the female can abort the child, a marriage is not as necessary.) For African-American women, legalized abortion strongly affects fertility rates. This group experienced an 8-10 percent reduction in teen birth rates. Their probability of having an out-of-wedlock child decreased by roughly 12% (Angrist et al., 1996). These statistics clearly suggest that access to abortion significantly impacts younger cohorts. Because single-parenting can lead to increased rates of poverty (Albelda, 1997), abortion rights may enable young women to escape the negative consequences of out-of-wedlock childbearing.

In addition to age, racial differences can be observed when looking at the impact of abortion on education. For white women, the 1970 repeals of anti-abortion law did not seem to have any impact on schooling or labor market outcomes. However, the same was not true for African-American women. For this cohort, abortion reform led to increased rates of high school graduation, college attendance, and eventually wages (Angrist et al., 1996). Additionally, the research shows that for African-American women in repeal states, rates of college attendance increased more dramatically than it did for white women. Again, because the abortion rate for African-American women is three times higher than it is for white women, this is a particularly relevant finding. If abortion access can be proven to enable an increase in educational attainment for African-American women, macroeconomic benefits should be carefully considered. On a macro level, abortion access seems particularly beneficial to African-American women's welfare.

Employment is another important aspect of examination. For my analysis, I assume that increased workforce participation is innately positive. I base this on the fact that working produces a wage, which enables women to become financially independent and less beholden to men for financial support. Thus, in terms of welfare enhancement, abortion's impact on employment appears to have a positive correlation. In the repeal states prior to 1973, women were 2.0 percent more likely to work than women in non-repeal states (Angrist et al, 1996), establishing that women with access to abortion were more likely to enter the labor force than those who did not have this same access. This is likely because, whether or not they chose to be sexually active, these women had a full guarantee against pregnancy and could thus invest confidently in human capital (Goldin & Katz, 2002). Women have no risk of having to bear a pregnancy to term and take time away from the workforce. Thus

investment in human capital can increase when the cost (or potential cost) of having children is low or non-existent.

The positive impacts of legalized abortion seem clear: women are able to achieve higher levels of education and more readily and consistently engage in the workforce. In addition, because of their higher rates and ratios of abortion, young women and African-American women seem to benefit most.

## IV. NEGATIVE CONSEQUENCES OF ABORTION: ADDITIONAL FACTORS

Sexual behavior has become increasingly liberal over the past fifty years. The birth control pill, legalized abortion, and broad access to contraceptives have all worked to lower the costs of sex by controlling fertility and protecting against disease. As a result, more individuals engage in premarital sex because the consequences are not as costly, thus expanding the market for "casual," noncommittal sex (Klick & Stratmann, 2003). However, unlike condoms or the pill, which offer a largely effective but imperfect barrier against pregnancy, abortion always works. The procedure allows women to manage fertility by serving as a kind of insurance against contraceptive failure (Levine & Staiger, 2002). Therefore, when abortion is available (as opposed to not), there is greater incentive (or less of a disincentive) to engage in premarital sex; at some cost, unwanted pregnancy, one of the largest negative consequences of sexual activity, can be avoided (Klick & Stratmann, 2003; and Levine & Staiger, 2002). If one is willing and able to bear the costs (monetary, physical, psychical, etc.) and risks of undergoing an abortion, a pregnancy can be terminated. And yet, while women may feel empowered because of their legal right to choice, there are bodies of

evidence that suggest that abortion access is not universally beneficial. So far the paper has focused on the positive implications of abortion access; I now turn to the negative impacts.

Abortion, like any form of insurance, has the ability to alter incentive structures. Where ABORT is an option further down the decision tree, less attention seems to be paid to earlier pregnancy avoidance opportunities (Levine & Staiger, 2002). Prior sexual and contraceptive choices may be influenced. Referring to Figure 1, one may expect to see changes in some women's decisions between HAVE SEX and ABSTAIN, and/or SAFE SEX and UNSAFE SEX. The result of these changes may include an increased exposure to sexually transmitted disease and a disadvantaged marriage market status, both resulting from a fundamental shift in the "sex market" following abortion's legalization.

Evidence suggests that abortion access can increase both overall sexual activity and the prevalence of risky sexual behavior. Two studies have produced empirical results to support this claim. In the first, Klick and Stratmann (2003) studied the changes in the general nature of sexual behavior post-Roe v. Wade as indicated by the rate of sexually transmitted disease (STD). Their results, based on Center for Disease Control data, were startling: recorded incidence of gonorrhea and syphilis rose by as much as 25 percent in the first seven years following abortion's legalization. They conjecture that because STD incidence is at least partly dependent on the amount of sexual intercourse taking place, the elevated disease rates simultaneously point to increased activity in the "sex market." Thus it seems more women are first choosing HAVE SEX and subsequently choosing UNSAFE SEX. In the second study, Sen (2003) conducted research to ascertain whether the availability of Medicaid abortion funding had any impact on rates of gonorrhea in females: would more women switch to SAFE SEX as a pregnancy-avoidance behavior? Her results indicated that

the implementation of funding restrictions did not reduce STD rates, implying that even when abortions were not available to certain cohorts of women (specifically because they were not financially attainable), condom usage did not seem to concurrently increase. As Sen hypothesizes, this could indicate that restrictions on abortion influence sexual behaviors only after a pregnancy has taken place.

It is true that increased sexual activity and STD incidence may, in part, be attributable to changing social norms, thus obfuscating the existence of a perfectly causal relationship between abortion rights and disease rates. However, the data indicate a distinct correlative relationship that cannot be entirely discounted. The increase in STD rates is clearly an unintended consequence of legalized abortion among some groups of women. When incentive structures are altered and abortion is perceived as a form of insurance, some cohorts will rely solely upon the ABORT option and choose to engage in unsafe sex. Yet this is not true for all women. In particular, even when abortion is available, some women who are health conscious will still choose SAFE SEX and some will choose ABSTAIN. For these women, legalized abortion will not increase STD rates and thus does not have a universal impact among all females. This is because the partial equilibrium effects of abortion access are heterogeneous; at the micro level, women will change their optimal behaviors differently in response to abortion rights. However, there are general equilibrium effects that are nearly inescapable and have implications for all mate-seeking women: a shift in the fundamental expectations and outcomes of sexual relationships.

Prior to Roe v. Wade, "shotgun" marriages were prevalent; when a woman became pregnant out-of-wedlock, societal norms essentially demanded that a marriage take place. Premarital sex was still fairly prevalent—particularly following the "sexual revolution" of

the 1960s—but the outcome of an unplanned pregnancy was almost always marriage (Akerlof et al, 1996). Figure 4 illustrates the female's sexual decision tree prior to 1973. Women still faced the same choices regarding sexual behavior; however, their options post-conception were limited to KEEP and MARRY.[7] Likewise, as dictated by the social mores of the time, men were under the same pressure to marry. In 1960, rates of never-married motherhood were low for all races and ethnicities (Neal, 2004). Thus if a woman were raising a child alone, she was likely either divorced or widowed. Unmarried mothers accounted for 26.4 births per 1000 in 1970 (National Center for Health Statistics [NCHS], 2005). By 1980, the unmarried birth rate had risen to 29.4. In 2003, the rate had climbed to 44.9 (NCHS, 2005). What part of this sizeable change in the marriage market can be attributed to the legalization of abortion?

After the Roe v. Wade decision, societal demands loosened. Women gained the ability to choose between carrying and terminating a pregnancy, a decision in which men could have little involvement or input. Simultaneously, the implied responsibility for men to marry was diminished. Males became less accountable for premarital pregnancies as societal norms shifted away from the shotgun expectation. There was a perception that because women held the decision-making power to keep or abort a pregnancy, the outcome of that choice was their own responsibility; men should not have to be forced into a marriage when their pregnant partner had alternatives other than childbirth (Akerlof et al, 1996). This sentiment continues to be pervasive, even today. In March 2006, the National Center for Men filed a suit called "Roe v. Wade for Men," on the grounds that "women now have control of their lives after an unplanned conception…but men are routinely forced…to be

[7] This is a general statement as dictated by societal norms. Women could choose ABORT; however, it would have been done illegally. Further, a marriage was not required, but was expected by societal norms (Akerlof et al, 1996). Thus the "mainstream," law-abiding women had their decisions restricted to KEEP and MARRY.

financially responsible for choices only women are permitted to make" (National Center for Men, 2006, para. 2). This subtle but important shift in the general equilibrium of the marriage and mating markets had a lasting and far-reaching impact.

The change in the general equilibrium resulted in a decreased supply of shotgun marriages. Societal traditions shifted and men gained a greater ability to demand noncommittal sex; if some women demanded a marriage post-conception and some women did not, men would be more apt to engage in sexual relations with those women who would not demand a marriage (Akerlof et al, 1996). Thus, while shotgun marriages decreased, the expectation of sexual relationships simultaneously increased. This fundamental change in the sex market had important implications for both female sexual decision-making and general female welfare, and can best be understood by referring back to Figure 1. When mate-seeking women are largely expected to have sex (or else risk having the male seek partnership elsewhere), the female's initial decision between HAVE SEX and ABSTAIN will be altered; more women will choose the former (Klick & Stratmann, 2003). The previously-discussed increase in STD incidence supports this notion.

Under legalized abortion, more women will engage in sex and will do so without demanding the promise of marriage upon pregnancy (Akerlof et al, 1996). Logical sequela of this is that, upon becoming pregnant and choosing to keep the child, fewer women will end up married to their partner. In cases where the partial equilibrium effect includes choosing ABORT, this general equilibrium shift may seem insignificant: the MARRY/STAY SINGLE node becomes moot. However, if, even with abortion rights, a woman would not choose ABORT and would have liked to choose MARRY, she is still subjected to the general equilibrium impacts and will experience a negative effect on welfare. Some may argue that

women's welfare is actually preserved by *not* entering a shotgun marriage. They may contend that for psychological and sociological reasons, forced marriages are not beneficial to females. However, from a strictly economic perspective, I take the opposite view. Because single-parent families are more likely to be impoverished than dual-parent families (Albelda, 1997), I assume that non-aborting women would be better off in a marriage. Also, I assume that if a woman wants to marry but her partner does not, her own perceived welfare will be lowered because her desires were not met.

So who are these non-aborting, non-marrying women? If they face the possibility of single-parenthood poverty (which I will refer to as decreased welfare, generally), what makes them choose KEEP rather than ABORT? Prior to Roe v. Wade, the single mother would have been at a disadvantage, but the legalization of abortion seems to have put her in an even worse relative position. She has not chosen to adopt the new technology (in this case, legalized abortion), and stands at a worse position relative to the technology-adopters. These women must still participate in the changed mating market—where shotgun marriages are obsolete and sexual demands remain high—but they do not have the same pregnancy-resolution options. From a welfare perspective, the non-aborting woman loses the most. So why does she KEEP? At the individual level, women may have infinitely many reasons not to abort a pregnancy. I do not attempt to address any of the individual motivations for carrying or not carrying a pregnancy to term; rather, I offer a general model by which one can understand macro trends. Most importantly, I guide the reader to an understanding of which women want, but cannot obtain, an abortion. Just as decreased welfare is experienced by those women who want to marry but cannot, I assume that women who want to abort but cannot also experience lessened welfare because their needs or desires are not met. These

women may be affected by any number of factors, including religious or moral beliefs, familial influence, ability to pay, and/or physical access to abortion-performing clinicians. However, to profile the non-aborting, non-marrying woman (or the woman who is disadvantaged most by legalized abortion), I pay specific attention to the latter two reasons. I shall assume that ability to pay and physical access to abortion clinics are most likely to inhibit abortion-desiring women from actually undergoing the procedure.

Abortions are not inexpensive. In 2001, an abortion-seeking woman faced an average charge of $468 to obtain the procedure at 10 weeks (Henshaw & Finer, 2003).[8] For some cohorts of women, this is a deciding factor in whether to choose ABORT or KEEP. For instance, Medicaid abortion funding restrictions, mentioned earlier, have been widely shown to negatively impact states' abortion rates and the likelihood of an individual seeking out an abortion (Sen, 2003). Clearly the cost is prohibitive for some women, particularly those of a lower socioeconomic status. Limited access to abortion performing clinics may also exclude certain cohorts from undergoing the procedure. Only 13% of US counties have an abortion provider, meaning that many abortion-seeking women have to travel extensive lengths to obtain the procedure (Henshaw & Finer, 2003). Sixteen percent of women who had abortions in 1993 and 1997 reported traveling at least 50 miles. Across the country, regional differences exist; women in East South Central and West North Central states must travel a disproportionately far distance, while Middle Atlantic states traveled the least (Henshaw & Finer, 2003).[9] Therefore, one can broadly conclude that impoverished women and those

[8] This average includes abortion clinics, other clinics and physicians' offices from around the United States. In abortion clinics only, the average was $364. Physicians' offices charged a maximum average of $632.
[9] East South Central states include Alabama, Kentucky, Mississippi and Tennessee. West North Central states include Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota. Middle Atlantic states include New Jersey, New York and Pennsylvania.

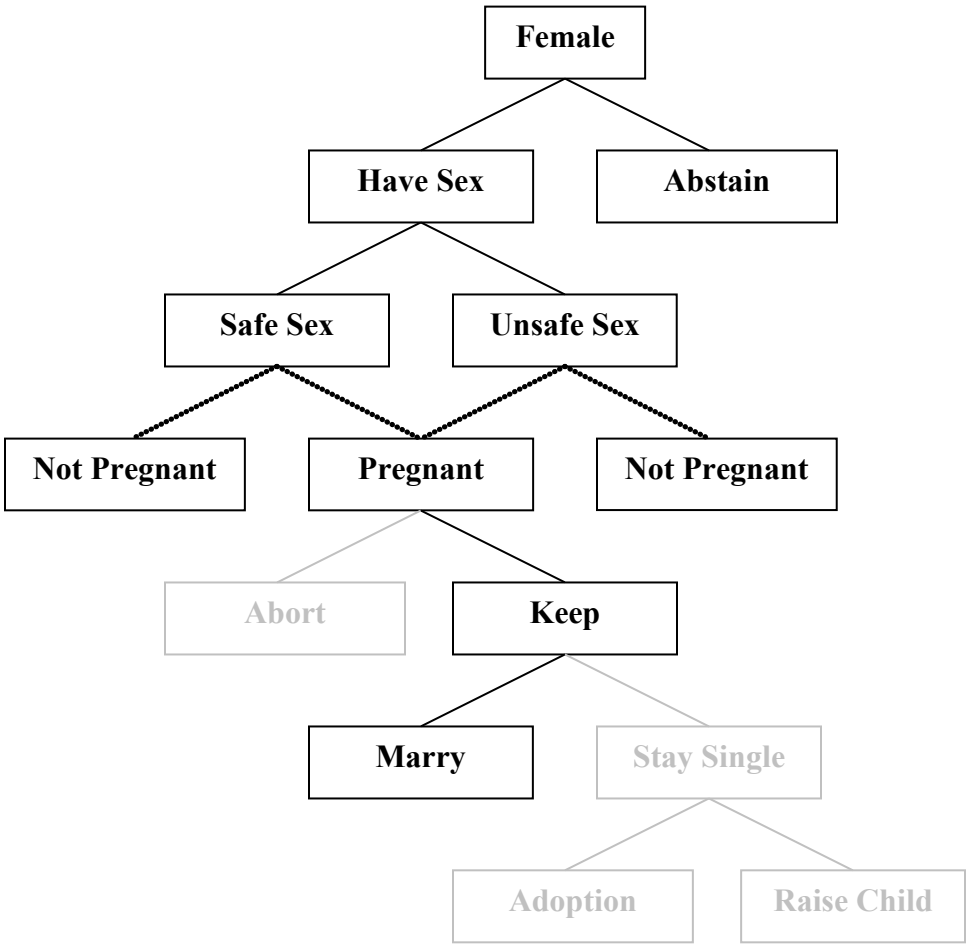
women living in areas with limited abortion providers are more likely to experience decreased welfare under legal abortion policies.

By the simple introduction of the ABORT decision node, one can find that a range of decisions and welfare levels is impacted. The legalization of abortion caused a variety of changes in the female's sexual decision tree as well as the marriage and mating markets. Looking at the aborting/non-aborting welfare dichotomy, one can get a sense of who the so-called "winners" and "losers" are under legalized abortion. Until this point, our analysis has primarily focused upon the impact of Roe v. Wade on the welfare of women who *have* abortions. While many macro effects may seem to be positive (empowerment, higher education and employment levels, etc.), there are negative impacts at the micro level for women who choose *not* to have an abortion. Though abortion is legally available across the US, there are factors that may inherently restrict an individual woman's ability to have an abortion. In such cases, legalized abortion will negatively affect pregnant women who choose not to undergo the procedure, but who would still like to be married. This is principally due to the changes legalized abortion imposes on the marriage market, and may explain the increasing presence of single, female-headed households (Conway & Butler, 1992).

Although there is some evidence to suggest that legalized abortion does not have a universally positive impact on all women's welfare, there remain other facets to consider. Notably, while non-aborting women may lose bargaining power within a marriage market, they still may benefit from the lessened stigma of out-of-wedlock births. Though this decreased stigma may not be directly related to abortion rights, it has certainly been declining since the 1970s (Akerlof, 1996). Additionally, in the most general sense, the availability of

abortion is positive in that it allows for a broader spectrum of decisions; as a general rule, economists expect increased welfare associated with unconstrained choice (Pezzini, 2005). If such an argument holds, one may assume that the empowerment associated with abortion may be of enough importance that it negates (or at least diminishes) the negative implications associated with decreased marital bargaining power and sexually transmitted disease risk.

**Figure 4. Female Sexual Decision Tree Without Legalized Abortion**



## V. CONCLUSION

Legalized access to abortion has incited change within the structures of American marriages and families. In the time that has elapsed since the Roe v. Wade decision, society has stopped referring to children born out-of-wedlock as "illegitimate," shotgun marriages have declined amidst increased tolerance and support for single-parent homes, and premarital abstinence is largely absent in our culture (Akerlof, 1996). While some may contend that this new social equilibrium is objectionable from a moral standpoint, the trend seems to be irreversible and perhaps even desirable. Current research indicates that even if Roe v. Wade were overturned, public demand for abortion rights would necessitate a less restrictive stance be taken once again (Conway & Butler, 1992). Akerlof et al. (1996) also points out that re-banning abortion—if possible—may actually decrease the welfare of women and their mates because restricting abortion access would not return social norms to the way they were previously. Premarital sex would still be commonplace and the stigma associated with out-of-wedlock childbirth would remain low and fairly insignificant. Therefore, re-banning abortion may simply result in more single-parent households, many of which would be impoverished and disadvantaged (Albelda, 1997).

Definitively deciding on the affects of abortion is extremely complex and problematic, and may even be impossible. Though our analysis, which focuses on economic perspectives, has certain implications, a more comprehensive examination may yield different results. Specifically when considering ethical, psychological and sociological repercussions, abortion becomes a nearly impossible area in which to draw sweeping and steadfast conclusions. However, taking into account all of the previously discussed empirical findings, I conclude that abortion access seems relatively beneficial to women's welfare,

though not as universally and absolutely as some economists contend. The advantages and disadvantages associated with abortion access will not affect every subgroup in the same way or to the same extent. For instance, as the data indicate, African-American women reap the most benefits from abortion (Angrist et al, 1996). In this situation, legalized abortion may be more beneficial for this cohort than it is for married, middle-class women, who have lower abortion rates and do not realize the same benefits from legalized access. In the same way, poor women, young women, and unmarried women are most likely to benefit from abortion rights (Albelda, 1997; Angrist et al, 1996; Strauss et al, 2005). We can conclude that these women benefit the most from abortion access, and will be the most disadvantaged if access is restricted.

However, while legalized abortion introduces educational and employment benefits, there are negative implications that are less frequently considered and often left out of societal discourse. And although these negatives are not substantial enough to counteract *all* benefits, they should still be considered. Certainly, health risks associated with sexually transmitted disease are concerning; researchers may consider addressing this issue by exploring policy directives promoting safe sex and discouraging the use of abortion as the sole contraceptive. In terms of marriage market disadvantages, further research may be done to explore this topic by isolating the specific cohorts of women that are affected. To what degree are they disadvantaged and in what specific ways? As noted earlier, these negatives will weigh more heavily on some groups than it will on others. For those groups not realizing significant gains from abortion access, the disadvantages of abortion access (i.e. disease risk and worsened marriage market status) may make the net benefits of abortion less

substantial. Future studies may examine these net impacts in order to more clearly explain cohort disparities.

Finally, this paper primarily focuses on the macroeconomic impacts of legalized abortion. Micro implications, while important, are more difficult to define and isolate in an economic framework. For instance, an individual's welfare may indeed be harmed by a shotgun marriage; perhaps the marriage would result in abuse or eventual divorce. I intentionally neglected these considerations on the basis that, at the macro level, single-parenting often leads to poverty and thus shotgun marriages may be beneficial. However, the micro perspective is of critical importance and should not be entirely omitted from abortion analysis, but psychologists and sociologists are likely better suited than economists to evaluate these perspectives.

# References

Brown, E. (1996). The lake of seduction: Silence, hysteria, and the space of feminist theatre. *JTD: Journal of Theatre and Drama*, *2*, 175-200.

Akerlof, George A., Janet L. Yellen and Michael L. Katz. (1996). An Analysis of Out-of-Wedlock Childbearing in the United States. *The Quarterly Journal of Economics, CXI*(2), 277-317.

Albelda, Randy. (1997). Improving Women's Employment in the USA. *Industrial Relations Journal, 28*(4), 275-281.

Ananat, Elizabeth O., Jonathan Gruber, and Phillip B. Levine. (2004). Abortion Legalization and Lifetime Fertility. *National Bureau of Economic Research, Inc, NBER Working Papers, 10705*, 1-30.

Angrist, Joshua D. and William N. Evans. (1996) Schooling and Labor Market Consequences of the 1970 State Abortion Reforms. *National Bureau of Economic Research, Inc, NBER Working Papers, 5406*, 1-34.

Becker, Gary S. (1991). *A Treatise on the Family*. Boston: Harvard University Press.

Conway, Karin and Michael Butler. (1992). State Abortion Legislation as a Public Good—Before and After Roe v. Wade. *Economic-Inquiry, 30*(4), 609-626.

Goldin, Claudia and Lawrence Katz. (2002). Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions. *Journal of Political Economy, 110*(4), 730-770.

Kalist, David E. (2004). Abortion and Female Labor Force Participation: Evidence Prior to Roe v. Wade. *Journal of Labor Research, 25*(3), 503-514.

Klick, Jonathan and Thomas Stratmann. (2003). The Effect of Legalized Abortion on Sexual Behavior: Evidence from Sexually Transmitted Diseases. *Journal of Legal Studies, 32*(2), 407-433.

Levine, Phillip B and Douglas Staiger. (2002). Abortion as Insurance. *National Bureau of Economic Research, Inc, NBER Working Papers, 8813,* 1-44.

Levine, Phillip B. (2002). The Impact of Social Policy and Economic Activity Throughout the Fertility Decision Tree. *National Bureau of Economic Research, Inc, NBER Working Papers, 9201,* 1-27.

National Center for Health Statistics. (2005). "Health, United States, 2005 with Chartbook on Trends in the Health of Americans." Washington, DC: U.S. Government Printing Office.

National Center for Men. (2006, March 9). *Press Release: Roe v. Wade for Men.* Retrieved March 17, 2006, from http://www.nationalcenterformen.org/page7.shtml.

Neal, Derek. (2004). The Relationship Between Marriage Market Prospects and Never Married Motherhood. *Journal of Human Resources, 39*(4), 938-957.

Pezzini, Silvia. (2005). The Effect of Women's Rights on Women's Welfare: Evidence from a Natural Experiment. *The Economic Journal, 115,* 208-227.

Sen, Bisakha. (2003). A preliminary investigation of the effects of restrictions on Medicaid funding for abortions on female STD rates. *Health Economics, 12*(6), 453-464.

Strauss, Lilo T., Joy Herndon, Jeani Chang, Wilda Y. Parker, Sonya V. Bowens and Cynthia Berg. (2005). Abortion Surveillance – United States 2002. *MMWR: Morbidity and Mortality Weekly Report, 11/25/05 Supplement, 54*(SS07), 1-31.

## APPENDIX

**TABLE 2. Number, ratio,* and rate† of legal abortions and source of reporting for all reporting areas and for the 48 areas that reported in 1998–2002, by year — United States, 1970–2002**

| Year | No. of legal abortions | Ratio* | Rate† | No. of areas reporting: Central health agency§ | No. of areas reporting: Hospitals/ facilities¶ |
|---|---|---|---|---|---|
| **All reporting areas** | | | | | |
| 1970 | 193,491 | 52 | 5 | 8 | 7 |
| 1971 | 485,816 | 137 | 11 | 19 | 7 |
| 1972 | 586,760 | 180 | 13 | 21 | 8 |
| 1973 | 615,831 | 196 | 14 | 26 | 26 |
| 1974 | 763,476 | 242 | 17 | 37 | 15 |
| 1975 | 854,853 | 272 | 18 | 39 | 13 |
| 1976 | 988,267 | 312 | 21 | 41 | 11 |
| 1977 | 1,079,430 | 325 | 22 | 46 | 6 |
| 1978 | 1,157,776 | 347 | 23 | 48 | 4 |
| 1979 | 1,251,921 | 358 | 24 | 47 | 5 |
| 1980 | 1,297,606 | 359 | 25 | 47 | 5 |
| 1981 | 1,300,760 | 358 | 24 | 46 | 6 |
| 1982 | 1,303,980 | 354 | 24 | 46 | 6 |
| 1983 | 1,268,987 | 349 | 23 | 46 | 6 |
| 1984 | 1,333,521 | 364 | 24 | 44 | 8 |
| 1985 | 1,328,570 | 354 | 24 | 44 | 8 |
| 1986 | 1,328,112 | 354 | 23 | 43 | 9 |
| 1987 | 1,353,671 | 356 | 24 | 45 | 7 |
| 1988 | 1,371,285 | 352 | 24 | 45 | 7 |
| 1989 | 1,396,658 | 346 | 24 | 45 | 7 |
| 1990 | 1,429,247 | 344 | 24 | 46 | 6 |
| 1991 | 1,388,937 | 338 | 24 | 47 | 5 |
| 1992 | 1,359,146 | 334 | 23 | 47 | 5 |
| 1993 | 1,330,414 | 333 | 23 | 47 | 5 |
| 1994 | 1,267,415 | 321 | 21 | 47 | 5 |
| 1995 | 1,210,883 | 311 | 20 | 48 | 4 |
| 1996 | 1,225,937 | 315** | 21 | 48 | 4 |
| 1997 | 1,186,039 | 306 | 20 | 48 | 4 |
| 1998†† | 884,273 | 264 | 17 | 48 | 0 |
| 1999†† | 861,789 | 256 | 17 | 48 | 0 |
| 2000§§ | 857,475 | 245 | 16 | 49 | 0 |
| 2001§§ | 853,485 | 246 | 16 | 49 | 0 |
| 2002§§ | 854,122 | 246 | 16 | 49 | 0 |
| **48 Reporting areas¶¶** | | | | | |
| 1995 | 908,243 | 277 | 18 | 47 | 1 |
| 1996 | 934,549 | 285** | 18 | 47 | 1 |
| 1997 | 900,171 | 274 | 17 | 46 | 2 |
| 1998 | 884,273 | 264 | 17 | 48 | 0 |
| 1999 | 861,789 | 256 | 17 | 48 | 0 |
| 2000 | 850,293 | 246 | 16 | 48 | 0 |
| 2001 | 846,447 | 247 | 16 | 48 | 0 |
| 2002 | 847,622 | 248 | 16 | 48 | 0 |

* Number of abortions per 1,000 live births.
† Number of abortions per 1,000 women aged 15–44 years.
§ State health departments and the health departments of New York City and the District of Columbia.
¶ Hospitals or other medical facilities in state.
** Beginning in 1996, the ratio was based on births reported by the National Center for Health Statistics, CDC.
†† Without estimates for Alaska, California, New Hampshire, and Oklahoma, which did not report number of legal abortions for 1998–1999.
§§ Without estimates for Alaska, California, and New Hampshire, which did not report number of legal abortions for 1998–2002.
¶¶ Without estimates for Alaska, California, and New Hampshire, which did not report number of legal abortions for 1998–2002, and for Oklahoma, which did not report for 1998–1999.

Table associated with Figure 2.
**SOURCE: STRAUSS ET AL. (2005)**

**TABLE 4. Reported legal abortions, by age group of women who obtained an abortion and state of occurrence — selected states,* United States, 2002**

| State | Age group (yrs) <15 No. | (%) | 15–19 No. | (%) | 20–24 No. | (%) | 25–29 No. | (%) | 30–34 No. | (%) | 35–39 No. | (%) | ≥40 No. | (%) | Unknown No. | (%) | Total No. | (%)† |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 115 | (0.9) | 2,131 | (17.4) | 4,433 | (36.2) | 2,872 | (23.4) | 1,585 | (12.9) | 797 | (6.5) | 311 | (2.5) | 5 | (0.0) | 12,249 | (100.0) |
| Arizona | 47 | (0.4) | 1,985 | (18.6) | 3,413 | (32.0) | 2,091 | (19.6) | 1,421 | (13.3) | 805 | (7.5) | 316 | (3.0) | 599 | (5.6) | 10,677 | (100.0) |
| Arkansas | 54 | (1.0) | 952 | (17.9) | 1,833 | (34.5) | 1,244 | (23.4) | 681 | (12.8) | 388 | (7.3) | 136 | (2.6) | 28 | (0.5) | 5,316 | (100.0) |
| Colorado | 47 | (0.6) | 1,491 | (19.2) | 2,620 | (33.8) | 1,583 | (20.4) | 992 | (12.8) | 674 | (8.7) | 329 | (4.2) | 21 | (0.3) | 7,757 | (100.0) |
| Connecticut | 80 | (0.6) | 2,671 | (19.8) | 4,407 | (32.7) | 2,814 | (20.9) | 1,872 | (13.9) | 1,112 | (8.3) | 371 | (2.8) | 143 | (1.1) | 13,470 | (100.0) |
| Delaware§ | 29 | (0.9) | 682 | (20.9) | 1,139 | (34.9) | 664 | (20.3) | 431 | (13.2) | 245 | (7.5) | 76 | (2.3) | 0 | (0.0) | 3,266 | (100.0) |
| District of Columbia | 40 | (0.7) | 1,073 | (19.5) | 1,804 | (32.7) | 1,330 | (24.1) | 775 | (14.1) | 349 | (6.3) | 140 | (2.5) | 0 | (0.0) | 5,511 | (100.0) |
| Georgia | 270 | (0.8) | 5,042 | (14.8) | 11,437 | (33.5) | 8,241 | (24.2) | 5,441 | (16.0) | 2,819 | (8.3) | 841 | (2.5) | 0 | (0.0) | 34,091 | (100.0) |
| Hawaii | 33 | (0.8) | 804 | (20.5) | 1,246 | (31.8) | 794 | (20.3) | 551 | (14.1) | 340 | (8.7) | 149 | (3.8) | 3 | (0.1) | 3,920 | (100.0) |
| Idaho | 4 | (0.5) | 176 | (21.2) | 259 | (31.2) | 171 | (20.6) | 110 | (13.3) | 73 | (8.8) | 36 | (4.3) | 0 | (0.0) | 829 | (100.0) |
| Illinois¶ | 321 | (0.7) | 8,407 | (17.9) | 15,094 | (32.2) | 10,766 | (22.9) | 6,907 | (14.7) | 3,801 | (8.1) | 1,352 | (2.9) | 297 | (0.6) | 46,945 | (100.0) |
| Indiana | 65 | (0.6) | 1,830 | (16.7) | 3,881 | (35.5) | 2,487 | (22.7) | 1,478 | (13.5) | 793 | (7.3) | 284 | (2.6) | 119 | (1.1) | 10,937 | (100.0) |
| Iowa§ | 35 | (0.6) | 1,177 | (18.9) | 2,225 | (35.7) | 1,275 | (20.4) | 830 | (13.3) | 502 | (8.0) | 192 | (3.1) | 4 | (0.1) | 6,240 | (100.0) |
| Kansas | 88 | (0.7) | 2,236 | (19.0) | 4,080 | (34.7) | 2,520 | (21.4) | 1,628 | (13.8) | 883 | (7.5) | 330 | (2.8) | 0 | (0.0) | 11,765 | (100.0) |
| Kentucky | 18 | (0.5) | 530 | (15.1) | 1,183 | (33.8) | 794 | (22.7) | 511 | (14.6) | 312 | (8.9) | 108 | (3.1) | 46 | (1.3) | 3,502 | (100.0) |
| Louisiana | 97 | (0.9) | 1,765 | (16.9) | 3,794 | (36.3) | 2,430 | (23.3) | 1,325 | (12.7) | 728 | (7.0) | 242 | (2.3) | 70 | (0.7) | 10,451 | (100.0) |
| Maine | 7 | (0.3) | 483 | (20.9) | 811 | (35.0) | 436 | (18.8) | 297 | (12.8) | 179 | (7.7) | 68 | (2.9) | 34 | (1.5) | 2,315 | (100.0) |
| Maryland§ | 65 | (0.6) | 1,859 | (16.0) | 3,887 | (33.4) | 2,664 | (22.9) | 1,892 | (16.2) | 1,014 | (8.7) | 264 | (2.3) | 0 | (0.0) | 11,645 | (100.0) |
| Massachusetts | 82 | (0.3) | 3,758 | (14.9) | 8,171 | (32.4) | 5,745 | (22.8) | 3,893 | (15.4) | 2,493 | (9.9) | 1,035 | (4.1) | 72 | (0.3) | 25,249 | (100.0) |
| Michigan | 214 | (0.7) | 4,859 | (16.6) | 9,768 | (33.4) | 6,713 | (23.0) | 4,440 | (15.2) | 2,312 | (7.9) | 804 | (2.8) | 121 | (0.4) | 29,231 | (100.0) |
| Minnesota | 62 | (0.4) | 2,192 | (15.5) | 4,861 | (34.3) | 3,101 | (21.9) | 2,227 | (15.7) | 1,243 | (8.8) | 501 | (3.5) | 0 | (0.0) | 14,187 | (100.0) |
| Mississippi | 35 | (1.0) | 645 | (17.9) | 1,313 | (36.4) | 811 | (22.5) | 447 | (12.4) | 244 | (6.8) | 104 | (2.9) | 6 | (0.2) | 3,605 | (100.0) |
| Missouri | 66 | (0.8) | 1,355 | (16.5) | 2,718 | (33.1) | 1,818 | (22.2) | 1,229 | (15.0) | 765 | (9.3) | 250 | (3.0) | 0 | (0.0) | 8,201 | (100.0) |
| Montana | 16 | (0.7) | 494 | (22.0) | 747 | (33.2) | 413 | (18.4) | 302 | (13.4) | 185 | (8.2) | 91 | (4.0) | 0 | (0.0) | 2,248 | (100.0) |
| Nebraska | 23 | (0.6) | 688 | (18.2) | 1,319 | (34.9) | 804 | (21.3) | 524 | (13.9) | 298 | (7.9) | 119 | (3.2) | 0 | (0.0) | 3,775 | (100.0) |
| Nevada | 25 | (0.3) | 1,584 | (15.9) | 2,833 | (28.4) | 2,168 | (21.8) | 1,595 | (16.0) | 936 | (9.4) | 819 | (8.2) | 0 | (0.0) | 9,960 | (100.0) |
| New Jersey** | 181 | (0.6) | 5,694 | (17.3) | 10,957 | (33.4) | 7,383 | (22.5) | 4,773 | (14.5) | 2,846 | (8.7) | 984 | (3.0) | 36 | (0.1) | 32,854 | (100.0) |
| New Mexico | 37 | (0.7) | 1,061 | (20.9) | 1,695 | (33.4) | 1,022 | (20.2) | 651 | (12.8) | 373 | (7.4) | 175 | (3.5) | 55 | (1.1) | 5,069 | (100.0) |
| New York | 736 | (0.6) | 22,116 | (17.3) | 39,073 | (30.5) | 29,024 | (22.7) | 20,277 | (15.8) | 12,062 | (9.4) | 4,243 | (3.3) | 452 | (0.4) | 127,983 | (100.0) |
| City | 506 | (0.6) | 14,706 | (16.0) | 27,076 | (29.5) | 21,790 | (23.7) | 15,285 | (16.7) | 8,989 | (9.8) | 3,126 | (3.4) | 322 | (0.4) | 91,800 | (100.0) |
| State | 230 | (0.6) | 7,410 | (20.5) | 11,997 | (33.2) | 7,234 | (20.0) | 4,992 | (13.8) | 3,073 | (8.5) | 1,117 | (3.1) | 130 | (0.4) | 36,183 | (100.0) |
| North Carolina | 194 | (0.7) | 4,591 | (15.7) | 9,738 | (33.3) | 6,651 | (22.8) | 4,210 | (14.4) | 2,099 | (7.2) | 741 | (2.5) | 1,005 | (3.4) | 29,229 | (100.0) |
| North Dakota | 5 | (0.4) | 261 | (21.4) | 469 | (38.5) | 222 | (18.2) | 132 | (10.8) | 90 | (7.4) | 40 | (3.3) | 0 | (0.0) | 1,219 | (100.0) |
| Ohio | 277 | (0.8) | 6,098 | (17.0) | 12,370 | (34.5) | 7,984 | (22.3) | 5,205 | (14.5) | 2,775 | (7.7) | 967 | (2.7) | 154 | (0.4) | 35,830 | (100.0) |
| Oklahoma | 40 | (0.6) | 1,150 | (17.7) | 2,263 | (34.8) | 1,392 | (21.4) | 894 | (13.8) | 506 | (7.8) | 200 | (3.1) | 55 | (0.8) | 6,500 | (100.0) |
| Oregon | 46 | (0.3) | 2,242 | (17.0) | 4,462 | (33.9) | 2,914 | (22.1) | 1,971 | (15.0) | 1,098 | (8.3) | 434 | (3.3) | 5 | (0.0) | 13,172 | (100.0) |
| Pennsylvania | 269 | (0.8) | 5,919 | (16.8) | 11,720 | (33.3) | 7,769 | (22.1) | 5,192 | (14.8) | 3,119 | (8.9) | 1,178 | (3.3) | 1 | (0.0) | 35,167 | (100.0) |
| Rhode Island | 30 | (0.5) | 945 | (17.0) | 1,963 | (35.4) | 1,182 | (21.3) | 781 | (14.1) | 483 | (8.7) | 163 | (2.9) | 3 | (0.1) | 5,550 | (100.0) |
| South Carolina | 35 | (0.5) | 1,242 | (18.7) | 2,187 | (32.9) | 1,561 | (23.4) | 933 | (14.0) | 514 | (7.7) | 185 | (2.8) | 0 | (0.0) | 6,657 | (100.0) |
| South Dakota | 11 | (1.3) | 160 | (19.4) | 266 | (32.2) | 175 | (21.2) | 110 | (13.3) | 82 | (9.9) | 22 | (2.7) | 0 | (0.0) | 826 | (100.0) |
| Tennessee | 139 | (0.8) | 2,827 | (15.9) | 6,308 | (35.4) | 4,203 | (23.6) | 2,548 | (14.3) | 1,308 | (7.4) | 432 | (2.4) | 42 | (0.2) | 17,807 | (100.0) |
| Texas | 284 | (0.4) | 10,963 | (13.7) | 26,952 | (33.7) | 18,175 | (22.7) | 11,750 | (14.7) | 6,168 | (7.7) | 2,469 | (3.1) | 3,168 | (4.0) | 79,929 | (100.0) |
| Utah | 14 | (0.4) | 550 | (15.6) | 1,228 | (34.8) | 821 | (23.3) | 483 | (13.7) | 286 | (8.1) | 108 | (3.1) | 34 | (1.0) | 3,524 | (100.0) |
| Vermont | 4 | (0.2) | 343 | (21.0) | 549 | (33.6) | 322 | (19.7) | 212 | (13.0) | 141 | (8.6) | 63 | (3.9) | 1 | (0.1) | 1,635 | (100.0) |
| Virginia | 129 | (0.5) | 3,760 | (15.0) | 8,368 | (33.5) | 5,718 | (22.9) | 3,814 | (15.3) | 2,258 | (9.0) | 797 | (3.2) | 148 | (0.6) | 24,992 | (100.0) |
| Washington | 128 | (0.5) | 4,808 | (19.1) | 8,397 | (33.4) | 5,170 | (20.6) | 3,585 | (14.3) | 2,162 | (8.6) | 873 | (3.5) | 25 | (0.1) | 25,148 | (100.0) |
| West Virginia | 9 | (0.4) | 359 | (17.5) | 780 | (38.1) | 464 | (22.6) | 245 | (12.0) | 128 | (6.2) | 46 | (2.2) | 18 | (0.9) | 2,049 | (100.0) |
| Wisconsin§ | 78 | (0.8) | 1,832 | (17.8) | 3,475 | (33.7) | 2,279 | (22.1) | 1,433 | (13.9) | 862 | (8.4) | 346 | (3.4) | 0 | (0.0) | 10,305 | (100.0) |
| Wyoming | 0 | (0.0) | 3 | (30.0) | 4 | (40.0) | 1 | (10.0) | 1 | (10.0) | 1 | (10.0) | 0 | (0.0) | 0 | (0.0) | 10 | (100.0) |
| **Total** | **4,584** | **(0.6)** | **127,793** | **(16.8)** | **252,500** | **(33.1)** | **171,181** | **(22.4)** | **112,584** | **(14.8)** | **63,651** | **(8.3)** | **23,734** | **(3.1)** | **6,770** | **(0.9)** | **762,797** | **(100.0)** |
| **Abortion ratio††** | **753** | | **368** | | **303** | | **200** | | **148** | | **180** | | **310** | | | | **234** | |
| **Abortion rate§§** | **1** | | **16** | | **31** | | **23** | | **14** | | **7** | | **3** | | | | **15** | |

* Data from 46 states, the District of Columbia, and New York City.

† Percentages might not add to 100.0 because of rounding.

§ Includes residents only.

¶ Unpublished small numbers distributed as the known numbers by using data from public use tape.

** Numbers do not include private physicians' procedures.

†† Calculated as the number of legal abortions obtained by women in a given age group per 1,000 live births to women in the same age group for these states. For each state, data for women of unknown age were distributed according to the known age distribution for that state.

§§ Calculated as the number of legal abortions obtained by women in a given age group per 1,000 women in the same age group for these states. Women aged 13–14 years were used for the denominator for the <15 years age group; women aged 40–44 years were used for the denominator for the ≥40 years age group; and women aged 15–44 years were used for the denominator for the total rate. For each state, data for women of unknown age were distributed according to the known age distribution for that state.

Table associated with Figure 3.
**SOURCE: STRAUSS ET AL. (2005)**