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Abortion and crime: Cross-country evidence from Europe

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ABSTRACT

The publication of Donohue and Levitt (2001)'s paper on the impact of legalized abortion on the decline of crime in the US has created a wide debate in the literature. However, the vast majority of papers have been implemented in the US setting, and the few other works were single-country studies. In this research, we aim to provide new evidence on the abortion-crime link by examining this issue using a sample of 16 Western European countries. The cross-country investigation allows the exploitation of the different dates of abortion legalization in Europe. We perform regressions of crime rates on different measurements of abortion especially the share of aborted adults, defined as the accumulation of aborted children in the past that would have become adults. We find that abortion rate has a significant and negative impact on crime rates, specifically, homicide and theft. We also observe support for the impact of legalization of abortion on the reduction of crime when considering different calculations of the accumulation of abortions based on different criteria for the legalization of abortion. Thus, our results are consistent with the findings of Donohue and Levitt (2001) for the US.

1. Introduction

Since the seminal Donohue and Levitt (2001)'s article, which was popularized around the world in Levitt and Dubner's book (2005), the impact of legalizing abortion on crime has been largely debated. Legalizing abortion is supposed to lead to diminishing crime in two ways. First, it reduces the fertility rate, reducing the proportion of young males in the population, which are generally overrepresented among criminals. Second, it selects non-criminal profiles because mothers abort when they feel that they are unable to raise children under favorable material or emotional conditions. This second version is advocated by Levitt, who expresses it as follows: "Unwantedness leads to high crime; abortion leads to less unwantedness; abortion leads to less crime." The Donohue and Levitt (2001) (DL hereafter) general statement includes both effects.

These effects have been extensively discussed by economists. Oddly, this debate has focused on the measures used or the sophistication of the estimates, using only single-country specific studies, with most articles dealing with the US setting (Joyce, 2004, 2009; Donohue and Levitt, 2004, 2008; Lott and Whitley, 2007; Foote and Goetz, 2008). Very few works have examined this issue using data from other countries (e.g., Pop-Eleches, 2006, for Romania; Kahane et al., 2007, for England and Wales).

It is then surprising that very little attention has been paid to cross-country tests, which provide more variance of the dates of abortion legalization. At present, many countries have allowed abortion upon request for over thirty years. While cross-country analysis does not provide highly sophisticated data today, it allows us to directly answer this basic question: does legalizing abortion reduce crime? Thanks to the variance in the dates of abortion legalization and the extent to which it is permitted, this issue is clarified in this paper by providing a cross-country analysis of the relationship between abortion and crime based on a sample of 16 Western European countries.

To this end, we perform regressions of crime rates, by considering separately two categories of crime, homicide and theft, for the period 1990–2007. Our key explaining variable is the ratio of the share of aborted adults, defined as the number of aborted children in the past that would have become adults, to the population. The cross-country investigation of this issue comes at a cost; it forces us to face more data limitations than such single-country studies as Donohue and Levitt (2001) for the US or Kahane et al. (2007) for England and Wales. We are not able to use arrests by offender age, as these data are not available by country and year. Nonetheless, what we sacrifice in data accuracy, we gain in generality and variance by exploiting the cross-country dimension in the dates of legalized abortion to provide an additional piece of evidence.

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We are only aware of two articles analyzing this issue in a cross-country framework: Dills et al. (2010) and Buonanno et al. (2011). Both papers find no robust evidence in favor of the DL hypothesis. However, the first paper only compares series of abortion and crime over time, by providing only multivariate estimates for the US, and the second only considers seven European countries in addition to the US in the sample. As a consequence, the latter paper does not exploit the large variance in the dates of legalization across European countries. Moreover, the relationship between abortion and crime is not the core of the article, as Buonanno et al. (2011) provide a global investigation of the factors driving crime, with abortion being just one of the tested determinants.

We thus provide two key contributions to the literature. First, we contribute to the analysis of the abortion-crime link by extending this highly debated issue to a cross-country dataset outside the US. By looking at different countries rather than restricting the analysis to one country, we are able to provide a different view on this issue. Second, we contribute to the understanding of the determinants of delinquency in Europe. In contrast to the US, no strong decline in crime has been observed in Europe since the beginning of the 1990s. While property crimes have been decreasing, violent crimes have increased for the last two decades (Aebi and Linde, 2010; Buonanno et al., 2011). It is therefore of particular interest for European policymakers to understand the driving forces of the evolution of crime rates.

The rest of the article is structured as follows. In Section 2, we present the literature regarding the relationship between abortion and crime. In Section 3, we describe the evolution of offenses and abortion in Western Europe. Section 4 develops the method. Section 5 displays the results. We conclude in Section 6.

2. The abortion-crime link

We begin by briefly developing the contents of the seminal paper from DL. We then turn to the debate that has stemmed from this paper in the form of criticisms and responses. Finally, we present international evidence on this issue.

DL begin their investigation with the observation of the impressive decline in crime in the US during the 1990s. They note the incompleteness of the factors generally used to explain this trend, such as increases in the prison population or number of police officials or improved economic conditions. As a result, there is a missing piece in the puzzle, which they claim to be the effect of abortion legalization a quarter-century before the drop in crime.

Their argument supporting the impact of the legalization of abortion on the evolution of crime is based on several components. First, they analyze the timing of the legalization of abortion and the decline in crime. Five states legalized abortion in 1970, while abortion became legal throughout the US in 1973. It is then possible to compare the evolution of crime between the five pioneer states and the rest of the country. They observe that crime began to fall earlier in these five states than in the rest of the nation.

Second, they perform estimations to investigate the link between abortion and crime. Abortion is supposed to have an effect on crime beginning when aborted individuals would have been old enough to commit crime if not aborted. They take abortion into account through the effective abortion rate, defined as the abortion rate weighted by the age profile of the criminal population. To calculate this rate, they use information on the number of arrests by age. Crime measures are used for three crime categories: violent crime, property crime and murder.

Several panel data regressions are then performed on data from 1985 to 1996 at the state level. The dependent variable is the log of the number of crimes per capita. The independent variable of interest is the effective abortion rate. Control variables take into account the other possible factors driving crime: number of prisoners, number of police, economic conditions, state welfare generosity, existence of concealed handgun laws, and beer consumption. They find a negative impact of abortion on crime for each of the three crime categories. This effect has a high magnitude, as they attribute approximately half of the reduction in crime to the variation of abortion rate.

Two studies have provided evidence in accordance with these findings on the role of abortion on deviant behavior. Sorenson et al. (2002) investigate a more immediate effect of the legalization of abortion by examining the evolution of the homicide of young children in the US. They find that the legalization of abortion in 1973 was associated with a reduction of the number of homicide victims for children less than 5 years of age in the subsequent years. Charles and Stephens (2006) provide evidence on the impact of abortion on substance abuse in the US by focusing on in utero exposure to legalized abortion. They show that adolescents born in the five states with early legalization of abortion were less likely to use controlled substances than adolescents born in other states.

However, several papers have presented critiques against the abortion-crime link stressed by Donohue and Levitt (2001).

Joyce (2004) makes several criticisms to which Donohue and Levitt (2004) reply. First, he argues that DL neglect illegal abortions in their approach by assigning a zero abortion rate for each year and state before the legalization of abortion. Indeed, most legal abortions in the early 1970s would have only replaced illegal abortions. As a consequence, no impact of legalized abortion should be observed. Donohue and Levitt (2004, p. 33) recognize that the number of illegal abortions is unknown, but they stress that "both theory and evidence, however, strongly suggest that the prevalence of abortion rose sharply after legalization". From theory, they observe that the reduction of the cost of abortion as a whole should lead to a rise in abortion rates. From empirics, they conclude that the simple replacement of illegal abortions by legal abortions cannot explain why the number of legal abortions increased strongly in the seven years following the legalization of abortion in the whole nation before reaching a steady state.

Second, he claims that the reported association between abortion and crime is the result of the changes in crack cocaine use, which is not correctly taken into account in the estimations of DL. Namely, the period of study of this latter research coincides with the massive epidemic of crack cocaine in the US, which has increased crime rates. However, the identification strategy does not include differences in within-state factors, such as the evolution of crack cocaine markets. He then redoes the estimations with a new identification strategy, leading to the absence of any link between abortion and crime. Donohue and Levitt (2004) provide a reply from a methodological perspective. They also note that the impact of crack cocaine was associated with violent crime but not with property crime, while both categories of crime are affected by abortion rates.

Foote and Goetz (2008) make two arguments against the latter finding from DL, according to which abortion would have an effect on arrests. Namely, DL conclude their paper by examining the impact of abortion on arrests by age of offender to provide additional evidence in favor of their key hypothesis. However, Foote and Goetz observe that DL do not estimate what they claim to estimate. First, DL claim to include state-year fixed effects in their estimations, but they do not. Second, DL pretend to use the arrest rate but actually adopt the number of arrests in practice. Foote and Goetz redo DL's estimations by taking into account these corrections and then do not find a reduction in crime due to legalized abortion.

Donohue and Levitt (2008) address these issues: they admit their errors but reply that corrections provided by Foote and Goetz are flawed by attenuation bias. They provide additional estimations