Due Process and Homicide: A Cross-National Analysis

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Abstract

As democracy advances in many regions throughout the world, it is often accompanied by increasing violence. Most cross-national analyses find that an inverted U-shaped relationship exists between homicide and democracy: homicide rates are highest in hybrid regimes and lowest in authoritarian and democratic regimes. While a fairly robust empirical result, little is known about why it exists. We identify a specific institution—due process—that cuts across regime types and effectively explains homicide. Due process generates a legitimacy that encourages individuals to use the justice system to settle disputes. A more effective criminal justice system also deters crime in the first place. Using a cross-national sample of eighty-nine countries between 2009 and 2014, we find a strong negative relationship between due process and homicide. Put simply, how states fight crime explains their success.

Keywords

homicide, democracy, due process, criminal justice, law and society, institutions

Introduction

What explains the variation in homicide rates worldwide? Recent scholarship finds an empirical relationship between democracy and violent crime: strong dictatorships and strong democracies experience the least crime while those in between experience the most. This relationship holds for both civil war (Cederman, Hug, and Krebs 2010; Hegre et al. 2001; Mansfield and Snyder 2005) and ordinary “street crime” (Fox and Hoelscher 2012; LaFree and Tseloni 2006; Neumayer 2003).

While recent empirical studies imply regime type influences crime, little is known about how or why. The contribution of this paper is to identify a set of institutions or a dimension on which we can reliably order different countries with very different regimes in a way that effectively explains homicide. We argue that due process is a more specific mechanism that cuts across regime type and helps explain violence.

Due process refers to the legal requirement that a state must respect the legal rights of all its citizens including the following: “the presumption of innocence and the opportunity to submit and challenge evidence before public proceedings; freedom from arbitrary arrest, detention, torture, and abusive treatment; and access to legal counsel and translators” (World Justice Project [WJP] 2016). We argue that due process increases legitimacy by appealing to expectations and ethical claims regarding fairness.

In turn, citizens are more likely to employ formal channels to resolve conflict. Moreover, with citizen cooperation, the State can more effectively investigate, prosecute, and punish criminals, which serves to deter further crime.

In other words, how states fight crime influences crime itself. Since the reverse could be true—the level of crime influences how states fight it—our causal claims are minimal. Our results are presented in the spirit of having discovered an important empirical association, one that suggests states that follow due process witness lower crime rates. The results not only hold implications for

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newly democratizing states in the developing world but also speak to established democracies and autocracies that confront the challenge of increasing crime and civil unrest.

The paper proceeds as follows: first, we review the literature on the relationship between cross-national homicide rates and democracy. We use previous work to inform our emphasis on the role of due process in crime prevention. Second, we provide a statistical analysis of eighty-nine countries using data that span the years 2009 to 2014. Third, we conclude with a discussion of the results, their limitations, and the implications they hold for future research.

Literature and Theory

Regime Type and Crime

Previous work finds an empirical relationship between democracy and violent crime. The result most scholars report is an inverted U-shaped pattern: autocracies and democracies experience the least crime while those countries not fully authoritarian or democratic experience the most. LaFree and Tseloni (2006) are perhaps the first to test how the transition from authoritarian to democratic regimes influences violent crime. They analyze data from forty-four countries from 1950 to 2000 and show support for what they call the modernization hypothesis. They compare three possible explanations: democracy will transform systems of social control and reduce crime (something they term the civilization perspective), the switch to market economies will create inequality that increase crime (conflict perspective), and crime rates will first increase with transition but then stabilize (modernization perspective). They find the most evidence for the modernization perspective: violent crime rates are highest for transitional democracies. They also find, however, some support for the conflict perspective as well: homicide rates gradually increased over time in full democracies. This sample largely covers the developed countries of Europe with the exception of a few middle-income countries from Latin America.

In a more recent study, Fox and Hoelscher (2012) use a larger sample of 120 countries and find that hybrid political orders experience higher rates of social violence than those with strong autocratic or strong democratic regimes, and that weakly institutionalized democracies are particularly violent. They only speculate about possible explanations, however, and acknowledge that further causal inference needs to be conducted.

Several scholars have offered ways in which democracies are better than autocracies at preventing crime. Susanne Karstedt, a prominent voice in the debate, shows that democracies are better at preventing crime due to individualistic and egalitarian values shared by their citizens (Karstedt 2006). In Karstedt and LaFree (2006), the authors suggest that democracies have better criminal justice systems that contribute to less crime. Neumayer (2003) finds that “good governance” reduces crime. When governments themselves engage in unlawful violation of human rights, political executions, disappearances, and so forth, they encourage violent crime among their citizens. Finally, Karstedt (2015) finds that democratic values and the rule of law are associated with less homicide.

To summarize, an extensive empirical literature establishes that stable democracies and autocracies witness less crime than regimes making the transition or regimes stuck between the two extremes. Little work exists, however, on explaining why. Consequently, the challenge is to identify an institution or a dimension on which we can reliably order different countries with very different regimes in a way that effectively explains homicide. The rule of law is believed necessary for a functioning state (O’Donnell 1993); states with better rule of law have lower homicide rates (Karstedt 2015). Unfortunately, the rule of law is still too broad a concept, which makes identifying specific causal mechanisms difficult. Due process, we argue, represents just such a mechanism.

Our Theory: Due Process and Homicide Prevention

Due process explains violent crime but does not map neatly onto measures of democracy. Specifically, due process involves a number of legitimacy-enhancing rules and practices that cut across measures of democracy and classifications of regime type. It is often believed that democracies are better able to curb violence because they are better able to implement institutional factors like due process (Pinker 2011). Some authoritarian regimes, however, have fairly respectable levels of due process compared with their democratic counterparts. It is not always the case that nondemocratic regimes use coercion for citizen cooperation; through impartial decision making, many nondemocratic regimes generate legitimacy (Karstedt 2013). Due process, we demonstrate, is an important institutional feature that can explain the variation we observe in homicide rates across the globe. In the following, we define due process and detail how it affects violent crime.

Due process is a central feature of how states seek justice and provide security. Recall, due process presumes innocence, forbids arbitrary arrest and torture, gives the opportunity to challenge evidence, and provides access to legal counsel. In other words, due process protects the rights of the accused. We argue that the state’s respect for due process is critical in deterring homicide by fostering
more cooperation between security forces and the public. Our argument, in brief, is that due process contributes to attitudes of judicial legitimacy through its promotion of fairness and legalism. When citizens view the judicial system as legitimate, they are more inclined to use existing institutions rather than resort to violence. In addition, they are more likely to cooperate with the system. With societal cooperation, the police and prosecution are more equipped to investigate, prosecute, and solve crime, deterring crime in the first place. Our causal argument is illustrated and detailed in the following.

To begin, due process is an institutional feature of the judiciary that generates perceptions of legitimacy from society. Legitimacy is a “property of an authority or institution that leads people to feel that the authority or institution is entitled to be deferred to and obeyed” (Sunshine and Tyler 2003, 514). It represents an “acceptance by people of the need to bring their behavior into line with the dictates of an external authority” (Tyler 1990). Citizens grant institutions legitimacy when they believe the procedures are fair. In numerous studies, perceptions of procedural fairness in the judicial system are highly correlated with perceptions of judicial legitimacy (Benesh 2006; Tyler 1990, 2006; Tyler and Rasinski 1991). The emphasis is on the process and decision-making criteria of the courts during the investigatory phase and during trial (Tyler 1990), which may include but is not limited to an individual’s perception that (1) she had a chance to take part in the process and in the decision, (2) the processes were neutral, (3) she was treated with respect, and (4) she had access to lawyers and other legal resources. This procedural justice perspective argues that the legitimacy of the institution is linked to public judgments about the fairness of the processes through which the judiciary or police make decisions and exercise authority (Sunshine and Tyler 2003). Accordingly, criminal justice systems that respect due process—equal and fair procedures and protections of the accused—should foster more legitimacy from citizens than criminal justice systems that do not respect due process.

We theorize that legitimacy can influence violent crime in two ways: (1) legitimate institutions provide society with an important mechanism for nonviolent dispute resolution, and (2) an effective set of criminal justice institutions deters violent crime in the first place. We are agnostic about which of these channels predominates. Let us explore both in more detail.

When society views the criminal justice system as legitimate, individuals are less likely to attempt the work of the authorities. Political legitimacy strengthens citizens’ commitment to enforcing social norms (LaFree 1998). Intrinsic motivations engaged by legitimacy lead citizens to voluntarily defer to the justice system rather than challenge the system (Sunshine and Tyler 2003). Citizens follow rules when states behave as expected (LaFree 1998). When states act outside the law, citizens may resort to violence (Eisner 2009; Hobbes [1651] 1996). When a government fails to provide justice equally (Rawls 1971), legitimacy disappears (LaFree 1998; Tyler 1990). In the most extreme cases, a Hobbesian self-help world emerges when citizens take justice into their own hands and operate outside the formal system (Eisner 2009). Support for vigilantism is highest when citizens perceive the law to be “unavailable” as a result of ineffective or illegitimate formal institutions (Nivette 2016). In other words, with a functioning and legitimate criminal justice system, personal scores, land disputes, and contract disputes are less likely to be settled with violence. Instead, members of society use the criminal justice system to effect nonviolent resolution.

With legitimacy, a more cooperative population will increase the effectiveness of law enforcement, ultimately deterring crime in the first place. Cooperation is viewed by legal authorities as key to their crime-fighting efforts. They cannot effectively control crime without mobilizing the public to be “co-producers” of public safety (Bayley and Perito 2010). Legal authorities depend on their ability to activate feelings of obligation and responsibility (Beetham 1991)—or appeal to the social and cultural norms a society holds regarding what is legitimate (Karstedt 2013)—or their effectiveness. Those feelings, in turn, are linked to justice-based judgments about legal authorities (Tyler 1990). Ultimately, perceived legitimacy invites societal cooperation with the formal justice system. Cooperation, in turn, increases the costs to would-be criminals by increasing the chances of being caught (Decker, Wright, and Logie 1993; Grasmick and Bryjak 1980; Harbaugh, Mocan, and Visser 2013; Teevan 1976).

In sum (working backwards in the causal chain), violent crime will decline if citizens choose to resolve disputes through nonviolent means within the justice system or if effective institutions deter crime in the first place. Both outcomes are more likely when citizens perceive the judiciary as legitimate. Due process, we argue, influences legitimacy.

It is worth recognizing two potential complications. First, with due process, it is possible that some criminals guilty of the crime are released for lack of evidence. As a result, crime could increase since criminals are protected. While we acknowledge this possibility, we argue that due process protections do not contribute to more crime because they improve the process of criminal investigation: citizens cooperate with security personnel. Admittedly, some guilty criminals are set free. However, when citizens are willing to cooperate, investigators are more effective at controlling crime. In fact, Karstedt argues that “procedural justice and fairness in decision-making . . . have a stronger impact on confidence in
Second, many crimes are committed in the heat of the moment. While crimes of passion or homicides committed out of self-defense do not involve individuals making calculations about state legitimacy, these situations are more likely to develop when institutions have failed. Arguments breaking out at large social gatherings or in more private settings, for example, are less likely to end well when there is no trusted authority to call on. Instances of self-defense are more likely to occur when targeted victims have armed themselves in response to feeling unprotected. While the immediate act of violence may result from pure emotion, the lack of trust and legitimacy citizens hold for the police and/or judiciary provides a context in which these types of crimes are more likely to happen. Although the current level of homicide rates in Chicago (Economist 2017), for example, is due to many different causal factors, a police force not trusted by the population is one of the city’s greatest challenges in efforts to reduce the violence (Davey 2016).

To summarize, our theory identifies an institutional mechanism—due process—that effectively explains homicide both between and within different regime types. Nondemocratic regimes can foster legitimacy and collaboration but do so in different ways (Karstedt 2013). In particular, nondemocratic regimes foster legitimacy by adhering to procedural justice and fairness in decision-making (Karstedt 2013). Specifically, due process in authoritarian regimes is primarily associated with controlling corruption (Karstedt 2013). Stable democracies and strong authoritarian regimes, therefore, generate legitimacy through due process but do so in different ways: democracies protect the rights of the individual, authoritarian regimes can control corruption. Hybrid regimes struggle the most with providing due process; caught between dictatorship and democracy, hybrid regimes experiment with various enforcement mechanisms, ultimately encouraging distrust of the criminal justice system among their citizens (Karstedt 2015).

This discussion leads to the following hypothesis:

**Hypothesis 1:** Countries with high levels of due process are more likely to have lower homicide rates than countries with low levels of due process.

**Data and Method**

Before proceeding with the model and the results, let us first describe our sample, the dependent variable (homicides), our measure of due process, and the controls we employ to obtain our estimates.

**Sample**

Our sample includes eighty-seven countries that represent six regions of the world. There are eighteen developed countries, fourteen countries from Eastern Europe, seventeen countries from Africa, seven countries from the Middle East and North Africa, fifteen countries from Latin America, and sixteen countries from Asia. (See the appendix for a list of the specific countries.) Our sample is limited by coverage of our due process measure.

**Dependent Variable (Homicides)**

The data on homicide rates are from the United Nations Office on Drugs and Crime (UNODC 2013). Intentional homicide is defined as “unlawful death purposefully inflicted on a person by another person.” This excludes deaths related to militarized conflicts, deaths caused when the perpetrator was reckless or negligent, and killings that are usually considered justifiable according to penal law, such as those by law enforcement agents in the line of duty or in self-defense. The UNODC collects homicide data from one of two primary national sources: (1) criminal justice systems or (2) public health systems. In the first case, data are generated by law enforcement or criminal justice authorities during the process of recording and investigating a crime. In the second case, data are produced by health authorities certifying the cause of death of an individual. These data are taken directly from the World Health Organization (WHO).

UNODC data are not perfect. First, the accuracy of criminal justice data and public health data depend on the capacity of their respective systems to register homicides. Africa and Oceania, in particular, produce data from public health systems, as the criminal justice systems are particularly inept. The percentage of countries in each region that reported data from national registration systems are Africa (30%), Oceania (37%), Asia (68%), Europe (95%), and the Americas (98%). Therefore, the accuracy of homicide data is the most questionable in the least-developed regions. Homicide data are also susceptible to willful manipulation. Since the data are government generated and approved, it is possible that reported homicide rates have been intentionally misreported to obscure undesirable crime rates.

Second, the comparability of homicide rates between countries is also difficult. Definitions of intentional homicide vary among countries (although significant effort is taken to be as consistent as possible by the UNODC). For example, deaths due to self-defense may be categorized as intentional homicide (as they often are in Latin America) but not considered intentional in another country so excluded from the count. Counting rules may also vary among countries. In some countries, a homicide case
with two victims may be counted as just one in accordance with the number of cases rather than the number of victims.

Despite these shortcomings, we use the UNODC data over the WHO for a number of reasons. First, the UNODC provides more complete homicide data for a greater number of countries. Second, the two data sets turn out to be very similar. Chamlin and Cochran (2006), for example, find that data between the two sources were correlated at 0.93 ($p > .001$). Third, the reliability of the UNODC in recent years has significantly improved and, for many scholars, is believed to be as reliable, if not more, than WHO (Neapolitan 1997). Finally, we can increase reliability by taking five-year averages of homicide rates for each country. This helps reduce the risk of unreliable one-year reporting and helps adjust for random yearly fluctuations.

In our regressions, we use the natural log of the homicide rate, which is the number of homicides recorded per hundred thousand population. Although homicide data are available annually between 1970 and 2011, data on due process are only available starting in 2012. Consequently, our regressions employ the mean values of homicide rates between 2009 and 2013. Unfortunately, we are forced to use mean values based on values that pre-date the independent variables to increase the coverage of our data. Again, this limits the causal claims we make. Since these figures move slowly through time, we argue this is a reasonable solution. Figures 1 and 2 provide a summary of the measure to orient the reader.

As indicated in Figure 1, homicide rates range from just fewer than one to more than eighty-five homicides per hundred thousand population. Honduras has the highest homicide rate in the world with eighty-five homicides per hundred thousand population. Other countries with high homicide rates are Jamaica, South Africa, Brazil, and Tanzania. Japan has the lowest homicide rate in the world with only one homicide per hundred thousand population. Other countries with low homicide rates are Indonesia, United Arab Emirates, Germany, and South Korea. Although there is noticeable variation within regions, some regions seem to have systematically higher homicide rates than others. Figure 2 displays the average homicide rate in six primary regions. Homicide rates in Latin America are about three times higher than the global average of eight homicides per hundred thousand population. Countries that make up the developed world have the lowest homicide rates with about 1.5 homicides per hundred thousand population. Consequently, all of the regression results reported below include regional dummy variables to account for important regional differences.

**Independent Variables**

**Due process.** Our theory is based on state-society relations and the conditions under which citizens assign legitimacy to the criminal justice system. A state’s respect for due process, we argue, is a critical way the State can elicit legitimacy and compliance.
The variable used to measure due process comes from the WJP. The variable is *Due process of law and rights of the accused* (variable 8.7). There are seven subcomponents used to construct the final due process score: presumption of innocence, arrest and pretrial detention, torture and abusive treatment to suspects, legal representation, access to translators, evidence, and rights of prisoners. Each of those subcomponents is calculated from responses to survey questions of country experts and/or the general population. There are twenty-eight questions across the seven subcomponents. The due process score is an average of the averages from each subcomponent. Of the twenty-eight questions used to construct the due process variable, there is only one survey question of the general population, and it is used to construct, in part, the subcomponent of arrest and pretrial detention. It asks ordinary citizens whether they have been subjected to physical abuse by the police or military in the last three years. All other questions for each subcomponent are asked of country experts and ask things like “how likely it is you think a suspect receives adequate legal counsel.” It is important to note that this variable measures perceptions of due process; it does not measure “real” levels of due process. Ultimately, the due process variable is an estimate of the extent to which suspects are treated fairly once they have been accused and/or are arrested of a crime. It goes beyond measuring *police abuse* of suspects to include other important rights of suspects such as being allowed to challenge evidence used against them in court.

The final value for the due process variable is normalized to range from 0 to 1, with higher values corresponding to more due process protections. In the regression analyses, we use a two-year average from 2012 to 2013 to increase sample size and reliability. Data on this variable started to be collected in 2012 and, hence, the shorter time period than the other variables. The scatter plot in Figure 3 illustrates the variation in due process. Finland, Norway, Singapore, Czech Republic, and South Korea have high due process scores above 0.8. Conversely, Venezuela, Nigeria, Pakistan, and Zimbabwe have very low due process scores below 0.3. The global average for due process is 0.51.

The relationship between due process and homicides is strong, as shown in Figure 3. A line of best fit is added to illustrate the relationship. Despite considerable variance in homicide rates at low levels of due process, the linear pattern in Figure 3 is fairly strong. The bivariate correlation between due process and homicide rates is −0.58.

**Regime type.** An important part of this study is also to identify possible causal mechanisms that may account for the nonlinear inverted U-shaped pattern between democracy and homicide. We argue that due process can, in part, explain that relationship. Hybrid regimes are the most likely to lack due process, we suggest, as they are the most likely to have institutional instability (Karstedt 2015) and, thus, use a combination of coercive and democratic methods of crime control.

To test this hypothesis, we use the Polity IV variable developed by Marshall and Jaggers (2000) to measure regime type. The polity 2 score (revised combined polity...
The score (in the dataset) ranges from $-10$ (least democratic) to $+10$ (most democratic). Because we also use a squared component of democracy, we add 10 to the polity 2 score to produce all positive values, producing a variable that ranges from 0 (least democratic) to 20 (most democratic).

In Figure 4, a loess curve is added to the scatterplot to illustrate the inverse-U relationship between homicide rates and regime type. As one ranges over the average polity score, there is a slight rise and then more pronounced fall in the homicide rate. The countries that experience the most homicides are actually those that
score between 9 and 15 on the polity measure—those that are weakly democratic regimes. In the regression results below, this nonlinear relationship is statistically significant.

The relationship between due process and regime type is also nonlinear as evidenced by the loess curve in Figure 5—hybrid regimes or those that score between 7 and 12 on the polity measure have the lowest levels of due process. Among the most authoritarian regimes, due process varies significantly (compare the United Arab Emirates with Uzbekistan or Venezuela with Singapore), but taken together have slightly higher levels of due process than their semiauthoritarian counterparts. At high levels of democracy, although there is still significant variation (the difference between the Netherlands and Mongolia is striking), there is a steep climb in due process.

Taken together, Figures 4 and 5 provide preliminary evidence that due process is an institutional feature that characterizes important variation among regime types that may explain the relationship between regime type and homicides.

Control Variables

Income is believed to be associated with homicide because people make rational, economic calculations about whether or not to engage in crime (Becker 1968). A country’s wealth is also associated with better institutions, higher levels of education, and accordingly lower levels of violence. To measure income, we use gross domestic product (GDP) per capita (2005 constant dollars) and collect the data from the World Bank’s World Development Indicators. We use a five-year average from 2009 to 2013, and because of skewed data, we use the natural log.

Economic inequality has been shown to be a strong and robust correlate of homicide at the cross-national level (Avison and Loring 1986; LaFree 1998; Messner 1982, 1989; Messner, Raffalovich, and Schrock 2002; Nivette 2011; Pridemore and Trent 2010). Societies with more inequality suffer more from homicide. It can provide an indication of how much tension exists in society between the haves and the have-nots. Inequality, the argument goes, creates tension among the classes and that the lower classes will be prone to violence out of frustration. Inequality engenders blocked opportunities and produces relative deprivation, which increases interpersonal conflicts (Jacobs and Richardson 2008). Despite the consistent positive association between inequality and homicide at the cross-national level, Neumayer (2003) does not find a significant relationship. He concludes that the positive effect of income inequality found in many studies is likely to be spurious since they rely purely on cross-sectional information rather than panel data as he uses in his study.

Given its prominence in the literature, we control for income inequality. We choose to use the Gini coefficient from the World Bank’s World Development Indicators to measure inequality within a country because it has the

![Figure 5. Scatterplot of regime type and due process.](image-url)
largest coverage compared with other possible sources (i.e., United Nations University World Institute for Development Economics Research). The Gini index measures the extent to which the distribution of income among individuals or households within a country deviates from a perfectly equal distribution, as measured by the Lorenz curve. Thus, a Gini score of 0 measures perfect equality within a country, while a score of 100 measures perfect inequality. Because of missing data over time and space, we use data from 2012 or the closest available year.

The size of the young male population is believed to be associated with homicides because young men are more inclined to use violence (Karstedt 2001; Nivette 2011). We use the percentage of the male population that is between the ages of fifteen to twenty-four, and data come from the United Nations Department of Economic and Social Affairs, World Population Prospects. We use a five-year average from 2009 to 2013.

Female labor force participation is often used as a proxy for both modernization (Neumayer 2003) and the absence of a parent in the home (Gartner 1990; Nivette 2011), both of which are believed to be correlated with higher homicide rates. Data are drawn from the World Bank’s World Development Indicators and measures the percentage of the female population over the age of fifteen that are in the labor force. We use a five-year average from 2009 to 2013.

A variable that records whether a country uses the death penalty is also included in our analysis. A long-running debate over the death penalty’s influence on homicide exists in previous cross-national research. Some scholars show an association between the presence of the death penalty with more homicides (Chu and Tusalem 2013; Gartner 1990; Neumayer 2003) suggesting that the death penalty can be a reflection of disrespect by the State for the sanctity of human life and creates a situation whereby society also comes to disrespect norms related to violence aversion. Others, however, have demonstrated that the presence of the death penalty is associated with fewer homicides claiming it serves as a deterrent (Eisner 2001; Lin 2007). We are agnostic about the relationship and merely include the death penalty to ensure that our results are not generated by its exclusion. Data on the death penalty were collected from Amnesty International (AI 2016). We created a dummy variable where a value of 1 indicates the death penalty is included in the penal code and 0 otherwise.

Perceived police corruption is likely an important consideration in citizens’ evaluations of institutions. Police are responsible for preventing crime and also investigating crime. When citizens believe the police are corrupt, they may not cooperate with the police (Bayley and Perito 2010; Sunshine and Tyler 2003). This, in turn, reduces the effectiveness of the police to prevent and investigate homicide, creating an environment of weak deterrence. Countries with higher aggregate levels of perceived corruption should have higher homicide rates. We use a variable from the WJP to measure perceived police corruption—Factor 2.3: “Government officials in the police and the military do not use public office for private gain.” The variable more accurately reflects perceptions of corruption in security forces because it includes both the police and the military. We argue that this variable is still appropriate because, in many countries, citizens cannot or do not distinguish between the military and the police. Thus, a variable that measures perceptions of security forces still captures our intended purpose of estimating the extent to which those believed responsible for preventing crime are perceived to be corrupt. The value ranges from 0 to 1, where higher values represent more corruption in the police (i.e., security forces).

Impunity—exemption from punishment—can influence citizen behavior as well. If the state does not convict criminals, one may believe that he can get away with murder (Decker, Wright, and Logie 1993; Harcourt 2001; Kelling and Coles 1996; McArdle and Erzen 2001). If the state does not investigate homicide cases and/or prosecute suspects, citizens may feel inclined to take justice into their own hands (Godoy 2004). Therefore, countries with low conviction rates or high unsolved cases should have higher homicide rates. We use another variable from the WJP to measure impunity—Factor 8.1: “Crimes are effectively investigated.” We believe this variable adequately measures impunity—over simply measuring prosecutorial effectiveness—because the survey not only asks respondents about the resources, capabilities, and independence of investigators, but it also asks respondents who were victims of crimes whether any perpetrator was caught and convicted. Expert respondents are also asked in what percentage of cases they believe the true perpetrator of a crime was correctly indicted or accused. The value ranges from 0 to 1, where higher values represent more impunity (less punishment or investigations).

**Descriptive Statistics**

To orient the reader, Table 1 displays summary statistics for all the variables just discussed. All statistics reflect five-year averages between 2009 and 2013 except due process, which is just a two-year average between 2012 and 2013. The appendix lists the eighty-seven countries used in the sample.

**Model**

We use ordinary least squares (OLS) regression to calculate the association between our dependent variable...
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(Homicide Rates) and our independent variable of interest (Due Process). The dependent variable is skewed, so we use the natural log. The basic model we use is as follows:

\[ \text{HomicideRate}_{p=2009-2013} \text{(logged)} = a + b_1 \left( \text{Due Process}_{p=2012-2013} \right) + b_2 \left( \text{Democracy}_{p=2009-2013} \right) + b_3 \left( \text{Democracy}_p^2 \text{, squared} \right) + b_4 \left( \text{GDP/capita}_{p=2009-2013} \text{ (logged)} \right) + b_5 \left( \text{Inequality}_{2012} \right) + b_6 \left( \text{MaleYouth}_{p=2009-2013} \right) + b_7 \left( \text{FemaleLabor}_{p=2009-2013} \right) + b_8 \left( \text{DeathPenalty}_{p=2012} \right) + b_9 \left( \text{Region}_{p=2012-2013} \right) + e_i. \]

Results

The results from the OLS regressions are displayed in Table 2. First, model 1 is run on a full sample of countries for which homicide data are available to evaluate the effect of regime type on homicide rates. The sample drops significantly when due process is added and, in particular, a number of hybrid and authoritarian countries are removed. Model 1 illustrates, therefore, a more representative effect of regime type on homicides. The squared polity variable in model 1 is statistically significant, confirming an inverted-U relationship between regime type and homicides. Model 2 is then run on the sample of countries for which the due process measure is available but still without the key independent variable. The coefficient (−0.009) on the Polity squared term is still statistically significant although only at the \( p < .10 \) level. The inverted-U relationship between regime type and homicides is not as strong in this model due, in part, to fewer authoritarian and hybrid regimes in the sample.

Table 1. Summary Statistics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homicide Rate</td>
<td>191</td>
<td>7.951</td>
<td>11.246</td>
<td>1.000</td>
<td>85.325</td>
</tr>
<tr>
<td>Due Process</td>
<td>98</td>
<td>0.514</td>
<td>0.184</td>
<td>0.215</td>
<td>0.920</td>
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<tr>
<td>Regime Type (Polity)</td>
<td>165</td>
<td>13.962</td>
<td>6.154</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>GDP/capita</td>
<td>184</td>
<td>10721.366</td>
<td>16781.661</td>
<td>149.060</td>
<td>114802.711</td>
</tr>
<tr>
<td>Inequality (Gini)</td>
<td>149</td>
<td>39.678</td>
<td>8.725</td>
<td>21.098</td>
<td>62.595</td>
</tr>
<tr>
<td>Percentage Young Male Population</td>
<td>183</td>
<td>0.089</td>
<td>0.017</td>
<td>0.050</td>
<td>0.124</td>
</tr>
<tr>
<td>Female Labor Force Participation</td>
<td>177</td>
<td>40.958</td>
<td>9.168</td>
<td>12.501</td>
<td>54.122</td>
</tr>
<tr>
<td>Death Penalty</td>
<td>199</td>
<td>0.286</td>
<td>0.453</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Police Corruption</td>
<td>101</td>
<td>0.408</td>
<td>0.223</td>
<td>0.033</td>
<td>0.797</td>
</tr>
<tr>
<td>Impunity</td>
<td>101</td>
<td>0.521</td>
<td>0.141</td>
<td>0.193</td>
<td>0.860</td>
</tr>
</tbody>
</table>

GDP = Gross domestic product.

Table 2. OLS Regression Results: Homicide Rate.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due Process</td>
<td>−3.863***</td>
<td>(1.019)</td>
<td></td>
</tr>
<tr>
<td>Regime Type (Polity)</td>
<td>0.139*</td>
<td>0.197†</td>
<td>0.139</td>
</tr>
<tr>
<td>Regime Type, squared</td>
<td>−0.006*</td>
<td>−0.009†</td>
<td>−0.005</td>
</tr>
<tr>
<td>GDP/capita, logged</td>
<td>0.042</td>
<td>0.127</td>
<td>0.432*</td>
</tr>
<tr>
<td>Inequality (Gini)</td>
<td>0.035***</td>
<td>0.037*</td>
<td>0.017</td>
</tr>
<tr>
<td>Male Youth Population</td>
<td>30.723***</td>
<td>33.932***</td>
<td>32.508***</td>
</tr>
<tr>
<td>Female Labor</td>
<td>−0.001</td>
<td>0.007</td>
<td>0.033†</td>
</tr>
<tr>
<td>Death Penalty</td>
<td>0.206</td>
<td>0.118</td>
<td>0.226</td>
</tr>
<tr>
<td>Constant</td>
<td>−3.400***</td>
<td>−5.170*</td>
<td>−6.170**</td>
</tr>
</tbody>
</table>

| N                   | 134 | 87   | 87     |
| R²                  | .643| .632 | .692   |

Robust standard errors in parentheses. Fixed effects included, but not reported. OLS = ordinary least squares; GDP = gross domestic product.

\[ ^* p < .10 \quad ^{**} p < .05 \quad ^{***} p < .01 \quad ^{****} p < .001 \]

In model 3, we find that adding due process to the equation takes away the statistically significant effect of regime type. Regime type alone or in its quadratic form can no longer explain variation in cross-national homicide rates. Instead, due process has a strong, negative effect on homicide rates. To ascertain the substantive importance of our findings, we held the covariates at their mean values and generated predicted values along the range of the due process measure. Figure 6 illustrates this effect. Countries with low levels of due process have significantly more homicides than countries with high levels of due process. The difference in homicide rates between Nigeria with
very low levels of due process (0.215) and Sweden with very high levels of due process (0.915) is about fifteen homicides per hundred thousand people. In other words, in a country of ten million people, 1,500 lives are saved.

The size of the male youth population is a consistently strong predictor of homicide rates across all models. The other sociological controls are not robust across all models. Richer countries, as measured by GDP/capita, are expected to have more homicides than poorer countries although this effect is only statistically significant in the third model. The effect of inequality goes away once due process is added to the model and a larger female labor force participation is also associated with higher homicide rates, but only in the third model.

Our estimates also show that there appears to be little, if any, correlation between the death penalty and homicide rates. Deterrence policies do not seem to be an important way in which the state can reduce homicide rates. Rather, protecting citizens’ rights within criminal procedure seems to matter more for preventing homicides.

Sensitivity Analysis

We run a number of models to confirm the strong association between due process and homicide. First, Table 3 presents models meant to ascertain model fit. In models 4 and 5, we use the Freedom House measure of regime type to confirm that the relationship is not dependent on the polity measure. Model 4 confirms the inverted-U relationship, and model 5 confirms that adding due process takes away that effect. In model 6, we take out the quadratic form of regime type to check the stability of our results with respect to functional form. In all of these iterations, due process continues to have a strong, negative effect on homicides. Finally, in model 7, we use a negative binomial regression model instead of OLS. Negative binomial models are appropriate for count dependent variables and for the skewness of the raw form of our dependent variable. The results remain the same with a negative binomial model.

Finally, in Table 4, we control for additional criminal justice variables and remove the developed countries from the sample. In model 8, we control for police corruption. We expect more police corruption to be associated with more homicides. We find that this is not the case, however. Police corruption on its own is not significant, and it does not take away the effect of due process. Regardless of how citizens perceive the police or security forces, if the state follows due process, citizens seem more inclined to comply.

In model 9, we control for the level of impunity. We expect more impunity to be associated with more homicide. Again, we find this is not the case. Impunity on its own is not statistically significant, and due process remains strong. Finally, in model 10, we reduce the sample by removing the developed countries. One could argue that our due process results are being driven by the rich, democratic countries that have had a much longer history of democratic criminal justice institutions and a longer time to develop legitimacy. To ensure that the effect of due process is not being driven by such countries, we remove the developed countries from the sample, which drops the sample from eighty-seven to seventy.
In this smaller sample, due process is still statistically significant.

**Conclusion**

A growing literature seeks to understand the role of politics in explaining the widely varying number of homicides observed throughout the world. Previous work is unsure of democracy’s impact on homicides: many authors find a nonlinear relationship but cannot account for the pattern. Democracy is too broad of a concept to help understand the causal links between politics and homicide. For example, it includes institutional features that vary from the rule of law, to the presence of elections, to party competition. Elections may not be the tonic needed for all problems in the newly democratizing world. Although they may be good at compelling politicians to provide certain public goods (education, health, social security), elections may be less adept at providing law and order.

The way in which the state provides law and order is, therefore, an important factor that varies between countries and does not perfectly map to regime type. States that are able to implement due process are more likely to gain legitimacy. Consequently, citizens are more likely to use formal channels of criminal justice allowing the State to more effectively resolve disputes, and to deter homicide in the first place. Our results indicate that due process is a very strong and robust predictor of homicide rates at the cross-national level. Furthermore, due process is not simply a function of democracy as defined by many. While there is some correlation between democracy and due process, it is not exact. Some authoritarian regimes also have respectable levels of due process. This finding can explain, in part, the inverted-U relationship between homicide and regime type. Future research should examine why some countries are able to implement due process better than others and, in particular, why some authoritarian regimes seem better equipped or able to provide it.
We acknowledge two central limitations in our study. First, the lack of complete historical data prevent us from testing our hypothesis in a time-series cross-sectional framework where we can observe whether institutional changes within a country are associated with changes in homicide rates. In addition to the disadvantages associated with cross-sectional analysis, we have not employed a research design primarily constructed to deal with reverse causality. It is possible, for example, that states confronting increasing violence may be tempted to cut corners, ignoring human rights and due process to quickly address what they may consider to be an existential threat. To this charge, we simply respond by limiting our causal claims, making it clear that all we have done is identify what we regard as an important empirical relationship that deserves further study.

Despite these limitations, the results reported show a clear and distinct relationship between due process and homicide rates. By focusing on a very specific aspect of governance, we hope to have at least opened up a conversation about what features of political institutions matter most in combating crime.

### Table 4. Sensitivity Models.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 8</th>
<th>Model 9</th>
<th>Model 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due Process</td>
<td>$-5.016^{***}$</td>
<td>$-4.613^{***}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.025)</td>
<td>(1.020)</td>
<td>(1.309)</td>
</tr>
<tr>
<td>Regime Type (Polity)</td>
<td>0.155$^1$</td>
<td>0.123</td>
<td>0.115</td>
</tr>
<tr>
<td></td>
<td>(0.092)</td>
<td>(0.092)</td>
<td>(0.099)</td>
</tr>
<tr>
<td>Regime Type, squared</td>
<td>$-0.006$</td>
<td>$-0.004$</td>
<td>$-0.004$</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.005)</td>
</tr>
<tr>
<td>GDP/capita, logged</td>
<td>0.414$^*$</td>
<td>0.443$^*$</td>
<td>0.523$^{***}$</td>
</tr>
<tr>
<td></td>
<td>(0.173)</td>
<td>(0.172)</td>
<td>(0.184)</td>
</tr>
<tr>
<td>Inequality (Gini)</td>
<td>0.010</td>
<td>0.018</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.019)</td>
<td>(0.020)</td>
</tr>
<tr>
<td>Male Youth Population</td>
<td>38.035$^{***}$</td>
<td>33.580$^{***}$</td>
<td>32.825$^*$</td>
</tr>
<tr>
<td></td>
<td>(10.407)</td>
<td>(10.234)</td>
<td>(14.314)</td>
</tr>
<tr>
<td>Female Labor Participation</td>
<td>0.035$^*$</td>
<td>0.033$^1$</td>
<td>0.034</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td>(0.019)</td>
<td>(0.021)</td>
</tr>
<tr>
<td>Death Penalty</td>
<td>0.236</td>
<td>0.243</td>
<td>0.248</td>
</tr>
<tr>
<td></td>
<td>(0.261)</td>
<td>(0.270)</td>
<td>(0.316)</td>
</tr>
<tr>
<td>Police Corruption</td>
<td>$-1.462$</td>
<td></td>
<td>(0.901)</td>
</tr>
<tr>
<td>Impunity</td>
<td>0.981</td>
<td>(0.883)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>$-5.249^*$</td>
<td>$-7.061^{***}$</td>
<td>$-6.293^*$</td>
</tr>
<tr>
<td></td>
<td>(2.226)</td>
<td>(2.340)</td>
<td>(2.610)</td>
</tr>
<tr>
<td>N</td>
<td>87</td>
<td>87</td>
<td>69</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.704</td>
<td>.695</td>
<td>.631</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses. Fixed effects included, but not reported. GDP = gross domestic product.

$^1p < .10, ^2p < .05, ^3p < .01, ^4p < .001.$

### Appendix

**Sample (N = 87)**

**Developed Countries:** Germany, Austria, Australia, the United States, Greece, Canada, Finland, Norway, the United Kingdom, the Netherlands, Denmark, Italy, Belgium, Portugal, Estonia, Sweden, France, Spain

**Eastern Europe:** Croatia, Ukraine, Serbia, Moldova, Slovenia, Albania, Russia, Czech Republic, Macedonia, Hungary, Romania, Belarus, Poland, Bulgaria

**Africa:** South Africa, Ghana, Liberia, Burkina Faso, Zambia, Senegal, Uganda, Ethiopia, Tanzania, Sierra Leone, Madagascar, Kenya, Cameroon, Malawi, Cote d’Ivoire, Botswana, Nigeria

**Middle East and North Africa:** Iran, Egypt, Turkey, Tunisia, Morocco, Georgia, Jordan

**Latin America:** Peru, Venezuela, Uruguay, Chile, El Salvador, Nicaragua, Panama, Brazil, Dominican Republic, Guatemala, Colombia, Argentina, Ecuador, Bolivia, Mexico

**Asia:** Kyrgyzstan, Pakistan, Thailand, Malaysia, Nepal, Uzbekistan, Philippines, Vietnam, China, Indonesia, Kazakhstan, India, Mongolia, Bangladesh, Cambodia, Sri Lanka

### Table A1. Cross-Correlation Table.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Homicide Rate</th>
<th>Due Process</th>
<th>Regime Type</th>
<th>Police Corruption</th>
<th>Impunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homicide Rate</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due Process</td>
<td>-0.580$^{***}$</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regime Type</td>
<td>-0.056</td>
<td>0.453$^{***}$</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police Corruption</td>
<td>0.468$^{***}$</td>
<td>-0.084$^{***}$</td>
<td>-0.390$^{**}$</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Impunity</td>
<td>0.685$^{***}$</td>
<td>-0.737$^{***}$</td>
<td>-0.064</td>
<td>0.696$^{***}$</td>
<td>1.000</td>
</tr>
</tbody>
</table>

$^*p < .05, ^{**}p < .01, ^{***}p < .001.$

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### Notes

1. Previous empirical studies have demonstrated that states with higher levels of legitimacy—broadly defined—witness less homicide (Nivette and Eisner 2012).
2. See Nagin and Telep (2017) for a discussion on causality between legitimacy and compliance. Nagin and Telep do not deny the theoretical association but argue that a causal connection has yet to be made.

3. We would like to thank an anonymous reviewer for pointing out this possibility.

4. We would like to thank an anonymous referee for insights regarding authoritarian regimes and their ability to create legitimacy.

5. See Botero and Ponce (2010), page 54, for the set of questions used to construct this variable.

6. A loess curve is a better strategy for fitting a smooth curve for nonlinear data points. In this case, we do not assume a normal distribution of the data and anticipate an inverse-U relationship. A loess curve can find the line of best fit without assuming a normal distribution and, thus, confirm or deny a linear relationship.

7. Again, a loess curve is used to confirm a nonlinear relationship.

8. See Botero and Ponce (2010), page 42, for the set of questions used to construct this variable.

9. See Botero and Ponce (2010), page 52, for the set of questions used to construct this variable.

10. It is likely that due process, police corruption, and impunity all influence each other and can be biasing the effect of due process. To be transparent about these relationships, we provide a correlation table in the appendix (Table A1). It is true that there are strong bivariate relationships between each of the independent variables, but when added together in a regression (models 8 and 9), due process remains a strong predictor of homicide.

**Supplemental Material**

Replication data for this manuscript are available at https://erin-huebert.wordpress.com/research/.

**References**


