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Inequality, crime, and the long run legacy of slavery[☆]

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ABSTRACT

This paper investigates the relationship between economic inequality and crime in Colombian municipalities. Following recent scholarly research that suggests that the legacy of slavery is largely manifest in persistent levels of economic inequality, we instrument economic inequality with a census-based measure of the proportion of slaves in each municipality before the abolition of slavery in the 19 century. We also explore the robustness of our estimates to relaxing the exclusion restriction, as the slavery instrument is only plausibly exogenous. We document a strong association between inequality and both violent and property crime rates at the municipal level. Our estimates are robust to including traditional determinants of crime (like population density, the proportion of young males, the average education level, the quality of law enforcement institutions, and the overall economic activity), as well as current ethnic differences and geographic characteristics that may be correlated both with the slave economy and with crime.

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1. Introduction

Since the seminal contribution of [Becker \(1968\)](#), the relationship between inequality and crime has attracted the attention of social scientists, especially economists and criminologists. Becker argued that agents would engage in crime or illegal behavior as long the expected benefits offset the expected costs. Indeed, for a given probability of apprehension and expected punishment, higher levels of inequality would increase the expected benefit of committing a crime for the relatively disadvantaged. A reasoning of this fashion seems to be in the mind of many, as inequality is often considered in the public debate as a fundamental determinant of crime.

The idea that inequality causes crime finds support in several theoretical accounts besides Becker's (see for example [Ehrlich, 1973](#); [Chiu and Madden, 1998](#); [Imrohroglu et al., 2000](#)). But a positive relationship between inequality and crime is not the only existing theoretical prediction: as long as inequality increases *the threat of crime*, it may be negatively related with actual crime rates. This may occur if private protection strategies are implemented to offset crime by the wealthy (e.g.

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alarm systems, private security, etc.). Galiani et al. (2016) and Allen (1996) – among others suggest this mechanism, and Chintrakarn and Herzer (2012) find a robust crime-reducing effect of inequality in a panel of US states.

The empirical evidence is also inconclusive. While some have found support for the idea of a positive relationship between inequality and crime (e.g. Ehrlich, 1973; Kelly, 2000; Machin and Meghir, 2000; Gould et al., 2002; Fajnzylber et al., 2002; Demombynes and Özler, 2005), others have failed to find any significant relationship (Allen, 1996; Bourguignon et al., 2003; Neumayer, 2005).

One limitation of most of the existing empirical literature is the lack of an empirical strategy to overcome the usual identification challenges.¹ In addition, the existing contributions are by and large based on cross-country evidence or other large levels of aggregation, thus the issue of data and institutional comparability is also likely to play an important role in the study of the relationship between inequality and crime. For instance, the lack of a large panel of homogeneous data on inequality may constitute a source of attenuation bias that is likely to explain, at least partially, why several studies have failed to find a significant relationship. The use of data at a smaller level of geographical aggregation is highly desirable as it allows a more adequate measurement both of inequality and crime.

In this paper we investigate the effect of land inequality on crime focusing on sub-national variation across Colombian municipalities. We focus on land inequality for two main reasons. On the one hand there exists no data on income inequality at the municipal level, the most disaggregated administrative unit in Colombia.² On the other, the relationship between land inequality and crime has been traditionally overlooked by the empirical literature, possibly with the exception of scholarly research that relates land inequality to invasions of private land in Brazil (e.g. Hidalgo et al., 2010; Albertus et al., 2016).

Besides the fact that the sub-national approach helps us mitigate some of the concerns regarding the institutional heterogeneity and data comparability present in cross-country set ups, we argue that Colombia is a good laboratory to study this relationship for several reasons. First, it is one of the most unequal and most criminogenic countries in the world. According to a recent Oxfam study Latin America is the world's region with the most unequal distribution of land and Colombia is the region's most unequal country, with two-thirds of productive land concentrated in the hand of 0.4% of landholdings (Guereña, 2016).³ Likewise, according to the 2016 UNODC Homicide Statistics,⁴ Colombia ranks 208 out of 218 countries in terms of the homicide rate.⁵ Second, high quality data on various types of crime are available in Colombia for academic research. The Criminal Research Division (DIJIN) of the Colombian National Police maintains monthly-level municipal-specific datasets on the incidence of various types of crimes. In particular, Colombian crime statistics allow us to overcome under-reporting issues that typically affect crime statistics. Third, Colombia's history of slavery, combined with the availability of pre-abolition population censuses allows us to construct a municipal-level instrument of current inequality, thereby addressing – at least partially – identification concerns.

Indeed, recent research has established that the legacy of slavery is manifested in persistent levels of inequality, particularly in landholdings. Engerman and Sokoloff (1997) and Sokoloff and Engerman (2000) argue that ecological and climate characteristics present at the earlier colonial period determined the economic activity adopted by the colonizers. There, where the soil and the geography were ideal for establishing large-scale, labor-intensive plantations, the use of slave force became more prevalent. In turn, the establishment of this institution determined large initial levels of land concentration, thus affecting land as well as income inequality. Finally, initial inequality shaped the choice of certain type of institutions (what Acemoglu et al. (2012) would call *extractive* institutions) that generated further inequalities and thus made it persist over time. One implication of this argument, which has found support in the work of Lagerlöf (2005), Easterly (2007), Nunn (2008), Soares et al. (2012), both cross-country and within the US, is that the use of slaves in colonial times has explanatory power over current inequality. This is also validated by our data.

Recent economic literature has widely investigated the long-term effect of slavery on various economic outcomes. Empirical studies provide evidence on the long-term legacy of slavery income inequality (Bertocchi and Dimico, 2014), economic development (Acemoglu et al., 2002; Nunn, 2008; Maloney and Valencia Caicedo, 2016), racial educational inequality (Bertocchi and Dimico, 2012), and political attitudes (Acharya et al., 2016). More closely related to our work, Gouda and Rigterink (2016) find that the US counties that historically had a higher fraction of slaves are significantly more violent today. Colombia is not an exception: Acemoglu et al. (2012) show that places with higher slaves concentration in the colonial times due to the establishment of gold mines plundered by the conquistadors, are more unequal and less developed today.

¹ See Bourguignon (1999), Eide (1999) and Freeman (1999) for thorough reviews on the relationship between inequality and crime.

² Household surveys are only representative at the department level since 2012 (before then, since 2007, they were representative of just the country's 23 main cities). In addition, the population census does not retrieve income information for the entire population. The income census question belongs to an "augmented census" questionnaire that has neither a sampling design nor enough power to make any inference at the municipality level. The augmented questionnaire is used to make more aggregate (department or region-level) comparisons. The methodology of the last (2005) census can be obtained (in Spanish) from: <https://www.dane.gov.co/files/investigaciones/fichas/Censo.2005.pdf> (last accessed 10.12.17).

³ Also, Colombia is one of the most unequal countries in terms of the income distribution. According to the 2016 World Development Indicators, Colombia ranks 146 among 155 countries in terms of income inequality.

⁴ Available at: <http://www.unodc.org/unodc/en/data-and-analysis/statistics.html>, last accessed 22.12.16.

⁵ The 10 countries that have higher homicide rates than Colombia are, from the most violent to the least violent: Honduras, Venezuela, Virgin Islands, Belize, Jamaica, El Salvador, Lesotho, Guatemala, Saint Kitts and Nevis, and South Africa.

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