RISKY BUSINESS: A SUB-NATIONAL ANALYSIS OF VIOLENT ORGANIZED CRIME AND FOREIGN DIRECT INVESTMENT IN MEXICO

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This dissertation examines the relationship between violent organized crime and foreign direct investment (FDI) through sub-national analysis focused on the case of Mexico. The results indicate that FDI decisions vary based on the type of violent organized crime.

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CHAPTER 1

INTRODUCTION

Foreign direct investment (FDI) centers on a rational decision-making process. Foreign investors assess economic opportunities in terms of long-term profitability given the perceived risks associated with operating in a location abroad. Foreign investors determine their risk-reward calculus by leveraging information about a host country's risks in the form of political and institutional instability and rewards derived from firm specific advantages over competitors (Ownership), institutional features and resource endowments (Location), and internalized processes that reduce transaction costs (Internalization) (OLI advantages) (Dunning and Lundan 2008).

Previous research examines political risks associated with FDI, such as state expropriation of foreign firms (Biglaiser et al. 2017; Graham et al. 2019; Li 2009). However, an emerging threat for FDI that is not adequately addressed in existing research is the presence of violent non-state actors, specifically violent criminal organizations. Violent criminal organizations undermine a host country's OLI advantages by creating political and economic uncertainty through diverse illicit activities. The determinants of FDI extend beyond the relationship of multinational enterprises (MNEs) and host countries to also include violent criminal organizations. Yet, the mere presence of violent crime does not necessarily undermine FDI decisions. The impact of violent organized crime on FDI decisions varies based on the scope of the criminal activity or high versus low violent crime. Foreign investors consider how different types of violent crime challenge the host country's capacity to provide stability, ensure respect for the rule of law, and promote economic opportunities when comparing FDI risks and rewards.

Additionally, existing research primarily explores FDI determinants through large-N cross-national comparisons rather than single country cases at the sub-national level (Biglaiser and Lektzian 2011; Biglaiser and Staats 2010; Brown and Hibbert 2017; Jensen 2003, 2008; Lee, Biglaiser, and Staats 2014; Lu 2015; Verdugo-Yepes et al. 2015). An assessment of FDI determinants at the sub-national level is warranted because a host country's OLI advantages (Dunning and Lundan 2008) exhibit variation across the country. Specifically, the types of violent organized crime differ by location because the local environment where violent criminal organizations operate shapes their behavior. Criminal organizations function like illicit business entities that seek profitability within their operations by obtaining and maintaining market share. Violent competition emerges when criminal organizations seek to expand market share, including control of transit routes required for their illicit activities. The state's capacity to ensure the rule of law is challenged when extreme violence intensifies and pervades society. High violent crime deters FDI flows at the sub-national level.

Furthermore, existing scholarship presents different findings on the impact of crime and economic opportunities. Crime is not always associated with diminished investment (Ashby and Ramos 2013; Brown and Hibbert 2017; Daniele 2009; Soler 2012). Rather, studies note that violent crime decreases FDI (Brown and Hibbert 2017), has no statistically significant effect on investment decisions (Soler 2012), or presents differing outcomes based on specific economic factors (Ashby and Ramos 2013). The variance in results derives from different measures of organized crime and the absence of disaggregating violence by the type of criminal activity. Additional research is warranted that examines the effects of violence on FDI decisions by the type of crime as well as at the sub-national level.

The risk calculus associated with FDI is far more complex than the presence or absence

of political risks due to violent organized crime, as is evidenced in the case of Mexico. Homicides, kidnappings, extortions, and disappearances associated with criminal organizations are prevalent in Mexico (Beittel 2018). Violence derived from criminal organizations has increased exponentially since Mexico launched its War on Drugs in 2006. At the same time, Mexico continues to attract FDI from multiple countries. Mexico is the fifteenth largest recipient of FDI in the world with investment flowing to various economic sectors (Santander 2020).

I contend that the types of organized crime and their implications on a host country's political and institutional stability are critical determinants of FDI at the sub-national level. While substantial literature examines the effects of political risks on FDI determinants, the variation in the types of organized crime and FDI has not readily been examined by scholars. This begs the question: How do different types of violent organized crime affect FDI decisions at the sub-national level?

My dissertation explores this research question through a three-article approach that analyzes the relationship between violent organized crime and FDI in Mexico at the sub-national level. Each chapter is unique as it explores a different dynamic associated with the relationship between the types of violent crime and FDI decisions. The first article seeks to answer the research question by exploring the relationship between different types of violent crime and FDI flows at the sub-national level. Using a cross-sectional time series analysis of Mexico's states and Mexico City over a twenty-year period, I examine how different types of violent crime affect annual FDI flows. The findings indicate that foreign investors are more risk averse when faced with extreme forms of brutal violence.

My second article explore the research question further. I seek to answer the question: How does labor influence FDI decisions in countries that are prone to violence? I examine the

impact of high and low violent crime on FDI flows into Mexico's primary, secondary, and services sectors through a cross-sectional time series analysis of FDI flows by economic sector for each of Mexico's states and Mexico City from 1999-2017. My findings demonstrate that foreign investors who operate in economic sectors that require unskilled labor are more risk accepting when faced with high violent crime than foreign investors who operate in economic sectors that require semi-skilled and skilled labor.

My third article poses the question: How does violent organized crime affect the ownership structure of new FDI at the sub-national level? I assess how high and low violent crime affects the entry of new FDI by analyzing Mexico's municipalities between 2011-2017 using logit, probit, and Poisson regression analyses. The findings indicate that foreign investors exposed to high violent crime are more likely to avoid new investment ventures when operating under a collaborative or partial ownership structure. Conversely, investors with an independent or full ownership arrangement are unaffected by high and low violent crime.

This dissertation presents important findings about how different types of violent crime affect sub-national FDI determinants. Foreign investors are more accepting of less violent crime because it represents a lower political risk. When pervasive high violent crime is present, it undermines opportunities for host locations to attract and sustain FDI.

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CHAPTER 2

BOOM OR BUST: EXAMINING THE EFFECTS OF VIOLENT ORGANIZED CRIME ON FOREIGN DIRECT INVESTMENT IN MEXICO

Abstract

How do different types of violent organized crime affect foreign direct investment (FDI) decisions at the subnational level? The types of violent organized crime and their implications on a host country's political and institutional stability vary at the subnational level and are critical determinants of FDI. I codify violent organized crime as high violent crime (HVC) versus low violent crime (LVC). HVC signals higher risks within the investment environment because it intentionally seeks to impose extreme violence, undermining the state's authority. Alternatively, LVC poses a less substantial risk for foreign investors because the violence is not as brutal. Using a cross-sectional time series study of Mexico's thirty-one states and Mexico City between 1997-2017, I find that HVC represents greater risks and deters FDI while LVC has no effect on FDI. The findings presented here provide evidence to understand why FDI may continue to flow to countries suffering from violence.

Introduction

Criminal organizations pose increased risks in host countries and impact decisions about foreign direct investment (FDI) flows. Yet, not all violent crime contributes to political and institutional instability. Foreign investors' response to criminal organizations varies based on the type of criminal activity.

Some states in Mexico that experience violent crime tend to receive significant FDI, while others are less attractive to foreign firms. Interestingly, scholarship on the determinants of FDI does not adequately address the influence of criminal organizations, the variance of host

country attributes at the subnational level, or the role of different types of organized crime. While scholars identify state expropriation as a significant risk for FDI (Hajzler 2012; Li 2009), an area that is not fully considered in existing research is the presence of violent non-state actors, specifically criminal organizations. Organized crime likely undermines a host country's advantages by creating political and economic uncertainty through diverse illicit activities, many of which target local residents. However, the mere presence of crime does not necessarily undermine FDI (Ashby and Ramos 2013; Brown and Hibbert 2017; Daniele 2009; Soler 2012).

Additionally, previous research primarily explores FDI determinants through large-N cross-national comparisons (Biglaiser and Staats 2010; Brown and Hibbert 2017; Jensen 2003, 2008; Lee, Biglaiser, and Staats 2014; Lu 2015; Verdugo-Yepes et al. 2015) rather than single country cases at the subnational level. An assessment of FDI determinants at the subnational level is warranted because the risk calculus associated with FDI is far more complex than the mere presence or absence of political risks due to violent organized crime. I contend that the types of organized crime and their implications on a host country's political and institutional stability are critical determinants of FDI.

Building on John Dunning's classic ownership, location, and internalization (OLI) advantages (Dunning and Lundan 2008a), I conduct a subnational analysis of organized crime and FDI by examining Mexico's thirty-one states and Mexico City over a twenty-year period. I argue organized crime that challenges a state's capacity to ensure stability and an effective rule of law disrupts opportunities for FDI. Specifically, violent criminal organizations engage in a variety of criminal activities that vary in terms of scope, scale, and intensity. Expanding on existing research that examines the characteristics of Mexico's organized crime and violence (Campbell 2014; Campbell and Hansen 2014; Duran-Martinez 2015; Eiss 2014; Grillo 2012;

Guerrero-Gutiérrez 2011), I differentiate between organized crime as high violent crime (HVC) and low violent crime (LVC). HVC involves organized criminal activities that purposefully seek to inflict extreme violence on victims, which produces negative outcomes for society and directly challenges the state's capacity to provide governance through an effective rule of law. As such, HVC signals higher risks within the investment environment and deters FDI. On the other hand, LVC comprises organized crime acts that are less violent in nature. Thus, LVC does not pose a substantial threat to state governance. The findings support my core argument that FDI decisions vary based on the types of organized crime. HVC is more likely to deter FDI than LVC.

The work presented here holds important implications. First, by using a subnational analysis rather than a large cross-national study, I advance our scholarly understanding of FDI determinants and the variations in FDI flows within the same country. Second, my findings provide anti-crime and investment policy recommendations for democratizing and developing nations. Third, I address gaps in the existing research by examining the influence of different types of organized crime on FDI decisions, showing that not all violence has the same impact on FDI flows. The remaining sections of this chapter include a literature review, theory, research design, methods, results, and conclusion.

Literature Review

The disciplines of political science, business, economics, and criminology contribute to the scholarship on organized crime and FDI. Existing research can be grouped into three thematic areas: organized crime and institutional effectiveness, organized crime and economic opportunities, and FDI determinants.

Organized Crime and Institutional Effectiveness

There is substantial research on the relationship between organized crime and

institutional effectiveness. A state's capacity to effectively respond to organized crime derives from the strength of its institutions (Albanese 2000; Buscaglia 2008; Buscaglia and van Dijk 2003). Strong institutions enable governments to address political risks through regulations and policies (Albanese 2000; Buscaglia 2008). Buscaglia (2008) argues that strong institutions deter organized crime when they contribute to effective judiciaries, increased conviction rates based on evidence and asset seizures, reduced government corruption, and the implementation of public and private programs targeting at-risk youth. Likewise, effective police, prosecution rates, and courts minimize corruption and opportunities for organized crime (Buscaglia and van Dijk 2003).

Conversely, weak institutions undermine the state's capacity to effectively counter criminal organizations (Buscaglia and van Dijk 2003; Campbell 2014; Pinotti 2015; Pion-Berlin and Trinkunas 2011; Ríos 2012; Ríos 2015; Sands 2007; Snyder and Duran-Martinez 2009; Soares 2004). The probability of organized crime derives from ineffective government regulation, poor enforcement, an environment that provides easy access to illicit activities, and other conditions that create opportunities for criminality (Albanese 2000).

Weak institutions foster organized crime activities. Organized crime undermines state capacity by redirecting government expenditures for public services into anti-crime initiatives (Buscaglia and van Dijk 2003; Pion-Berlin and Trinkunas 2011). For example, Mexico's drug cartels exploit the state's institutional effectiveness by infiltrating the military, police, and politics (Campbell 2014) while the absence of government coordination contributes to increased illicit activities related to cocaine sales and violence (Ríos 2015). While research indicates that democratic institutions minimize political risks associated with organized crime, research does not adequately address this within the context of FDI or at the subnational level. My study seeks

to advance existing scholarship by focusing on the effects of different types of violent crime on subnational FDI flows.

Organized Crime and Economic Opportunities

Previous research on organized crime also indicates that host countries with high rates of violence experience diminishing growth and investment (Abadie and Gardeazabal 2003, 2008; Camacho and Rodriguez 2012; Ríos 2016). Similarly, studies show that political risks undermine economic opportunities by increasing operating costs for businesses (Hallward-Driemeier and Stewart 2005; Daniele and Marani 2011).

Additionally, the results on FDI flows vary with some studies concluding that high rates of violent crime decrease FDI (Brown and Hibbert 2017), others finding statistically insignificant results (Soler 2012), and still others noting mixed findings (Ashby and Ramos 2013). The variance in findings primarily results from differences in the operationalization of organized crime and FDI. A study of firm activity in Latin America concludes that both corruption and crime negatively affect a firm's competitiveness (Gaviria 2002), but does not identify the types of criminal activities that undermine a firm's success. While Brown and Hibbert (2017) conclude that violent organized crime measured as homicides is associated with decreased FDI flows, Soler (2012) does not find statistically significant results for organized crime and FDI when using the World Economic Forum's Executive Opinion Survey. Likewise, Ashby and Ramos (2013) find variance by economic sector when examining the effects of Mexico's crime on FDI flows, but the authors do not distinguish between different types of organized crime. My study contributes to existing scholarship on the relationship between economic opportunities by examining how different types of crime impact FDI.

FDI Determinants

Research on FDI determinants primarily examines large-N cross national studies. Scholars employ panel data involving multiple countries and years to examine the effects of violent crime on FDI (Brown and Hibbert 2017), the influence of political risks on the mode of entry of FDI (Lee, Biglaiser, and Staats 2014), and the role of economic conditions, democratic institutions, and policy decisions during the 1980s on FDI in the 1990s (Jensen 2003). Scholars also incorporate unique data into cross national panel studies. Biglaiser and Staats (2010) apply public opinion data of U.S. CEOs to cross-national data of 138 countries to identify the conditions that attract FDI while Jensen (2008) uses data from political insurance companies to examine investment and operating decisions of multinational enterprises (MNEs). Further subnational research is required to understand political risks and FDI within individual countries and to advance existing studies on FDI determinants at the subnational level (Lu 2015; Verdugo-Yepes et al. 2015).

Additionally, the study of FDI determinants primarily focuses on country-specific factors that attract foreign investment. Some works indicate key FDI determinants derive from the advantages of state capacity, institutional effectiveness, and rule of law (Biglaiser and Staats 2010; Dunning and Lundan 2008b; Du et al. 2008, 2012). Chan and Mason (1992) conclude that strong central governments in developing countries contribute to higher levels of FDI while Lu (2015) finds that Taiwanese investors seek out strong local institutions within mainland China when determining where to direct FDI flows.

Furthermore, regime type is closely associated with foreign capital flows, with many works documenting the significance of the democratic advantage on attracting FDI (Biglaiser and Staats 2010; Lee, Biglaiser and Staats 2014; Li and Resnick 2003). According to Jensen

(2003, 2008), democracies are 70% more likely to attract FDI than authoritarian regimes because democratic institutions place constraints on executives that lower political risks. A study of Latin America and the Caribbean from 1996 through 2010 finds that rising crime offsets the advantages of democratic institutions, undermining opportunities for FDI and economic growth (Blanco et al. 2015), but the effects of crime on GDP vary at the subnational level in Mexico (Verdugo-Yepes et al. 2015). While existing research examines the role of democratic institutions in attracting FDI, it does not fully address how violent non-state actors, like criminal organizations, create political risks that challenge institutional effectiveness at the subnational level within democratizing nations. My study contributes to existing scholarship on FDI determinants by exploring the impact of violent criminal organizations on subnational FDI decisions.

Theory

FDI centers on a process of rational decision-making in which foreign investors assess economic opportunities in terms of long-term profitability given the perceived risks and rewards associated with operating in a foreign location. Foreign investors determine their risk-reward calculus by leveraging information about a host country's risks in the form of political and institutional instability and rewards derived from a host country's attributes.

Risk emerges when there is uncertainty about the host country's ability to promote a stable investment environment through effective governance, institutions, and rule of law. Rewards derive from the host country's unique attributes indicate potential rewards in the form of long-term profit maximization. Dunning's eclectic paradigm provides a framework for analyzing a host country's attributes in the form of ownership (firm-specific advantages over competitors), location (resources, geography, institutions, and other country features), and

internalization (reduced transaction costs) (OLI) advantages (Dunning and Lundan 2008a). Foreign investors frequently select host countries based on their location advantages because they prefer host countries with strong institutions (Jensen 2003, 2008; Biglaiser and Staats 2010; Li and Resnick 2003) that promote democratic principles like rule of law and protection of private property.

My theoretical argument is based on three critical assumptions: foreign investors are rational actors; not all types of organized crime pose an inherent risk to state capacity; and variance in the scope and scale of organized crime influences FDI.

Assumption 1: Foreign Investors are Rational Actors

Foreign investors adopt a rational approach to risk assessment. Foreign investors continually evaluate a host country, both at the national and subnational level, using a risk-reward calculus to determine opportunities for long-term profit maximization. The investment strategy remains unchanged when foreign investors conclude that the rewards contribute to long-term profitability. Foreign investors are likely to change their investment strategy, such as by decreasing FDI flows, when risks undermine long-term profitability.

Assumption 2: Not All Types of Organized Crime Pose an Inherent Risk to State Capacity

The effects of organized crime violence on a state's capacity to maintain governance, institutional effectiveness, and a strong rule of law is conditioned by the specific types of violence. Violence that challenges the state's authority undermines governance and security. On the other hand, organized crime violence that does not directly challenge the state is not indicative of failing state governance. Foreign investors seek locations with higher levels of state capacity as this minimizes uncertainty within the investment environment.

Assumption 3: Variance in the Scope and Scale of Organized Crime Influences FDI

Variance in the scope and scale of organized crime influences foreign investor's risk-reward calculus. FDI decisions extend beyond a national level assessment of the mere presence of organized crime and consider the specific types of organized crime and the locations where they are most prevalent. Organized crime that directly undermines the state's authority poses greater risks to FDI as it indicates a failure of governance and an unstable investment environment. Subnational locations with violent criminal organizations that threaten the state's capacity to govern are perceived as riskier locations for FDI than locations in which criminal activities do not directly undermine state governance.

I argue that not all violent crime is the same. Some violence is more extreme than other forms of violence, and how the violence is perceived by foreign investors affects FDI flows. The U.S. Department of Justice (2019) defines violent crime as incidents in which the victim is harmed or threatened by violence. I contend that violent crime exists on a continuum of high and low violence.[1] This continuum derives from the objective, characteristics, and results of the criminal act. Using this continuum, I codify violent organized crime that is high violent crime (HVC) as extreme violence with the objective of intentionally inducing severe harm on a victim while low violent crime (LVC) involves threats of harm or less severe forms of violence.

Looking first at HVC, the objective is to induce direct harm on the victim. Violent crime includes direct harm (use of violence) or indirect harm (threat of violence). Direct harm ranges in the intensity of violence with low levels resulting in minor injuries and high levels resulting in the loss of life. HVC includes direct harm and results in the death of a victim. HVC represents the most violent form of crime because it involves extreme violence resulting in the loss of life. As such, it creates an environment of violence that contributes to an uncertain rule of law. An

example of HVC is intentional homicides, such as organized crime killings, because they aim to induce direct harm on victims by employing brutal violence, such as assassinations, public shootouts, displays of corpses, presentation of pre or postmortem mutilation, and public messaging. The United Nations Office on Drugs and Crimes (UNODC) argues that an intentional homicide "…creates a violent environment that has a negative impact on society, the economy, and government institutions…and affect[s] all people…" (UNODC 2019a:7).

An example of HVC occurred on December 1, 2019—Mexico's deadliest day of the year with 127 reported homicides across 23 states. Cartel members drove into Villa Unión, Coahuila in battle equipped pick-up trucks and attacked the mayor's office before exchanging gunfire with police in the middle of the streets (Graham 2019). The 90-minute gunfight left 14 cartel members, four police, and two civilians dead (Graham 2019) with several others wounded. The shootout in Coahuila represents HVC because the act intentionally applied extreme violence with the objective of inducing direct harm. HVC results in widespread victimization as extreme violence pervades society, undermining the state's authority to provide an effective rule of law.

Given the objective and characteristics of HVC, this type of violent crime directly threatens the state's capacity. HVC challenges the state's ability to ensure an effective rule of law as the criminal act intentionally seeks to disrupt law and order by engaging in illegal behaviors that involve the most brutal forms of violence. When violent organized crime overruns public security, it indicates a failure in the state's capacity to ensure an effective rule of law, provide public safety, and maintain governance.

When HVC threatens the state's capacity, it contributes to diminishing rewards for foreign investors. As previously noted, location advantages are a critical attribute for FDI because strong institutions that promote a rule of law reduce uncertainty and signal a stable

investment environment. While HVC undermines all three OLI advantages, the benefits derived from location advantages are particularly vulnerable because HVC signals to foreign investors that the host country lacks the capability, influence, and power to promote a stable investment environment. HVC is an indicator of diminishing rewards and increasing risks as the location creates uncertainty about the current and future investment climate. When the risks outweigh the rewards for long-term profit maximization, foreign investors will modify their investment strategy by decreasing FDI flows.

H1: As high violent crime (HVC) increases, FDI flows decrease.

On the other hand, LVC does not inherently deter FDI flows. The objective of LVC is to obtain a reward via direct harm or indirect harm. Direct harm includes the use of lower intensity violence that does not result in death while indirect harm employs threats of violence. The purpose of applying or threatening violence is to persuade victims to produce an asset, such as a monetary reward, ransom, kickback, bribe, information, or other outcome that benefits the perpetrator of the crime. Unlike HVC, the level of violence is less extreme as it does not result in the loss of the victim's life. Examples of LVC include kidnappings, extortions, and disappearances. Kidnapping is defined by the UNODC as the unlawful detainment against a person's will by using force or the threat of force (Harrendorf et al. 2010). Extortions involve the threat of future harm (UNODC 2019b) and do not employ extreme violence against victims. Likewise, disappearances may involve direct or indirect harm to the victim. The UNODC (2019c) defines an enforced disappearance as an incident in which individuals are arrested, detained or abducted against their will by the government or individuals acting on behalf of the government while Amnesty International (2009) notes that disappearances may also be conducted by armed non-state actors.

An example of LVC is organized crime extorting employees to obtain information that supports their criminal activities. Alberto Arredondo, an oil refinery pump technician fled Salamanca, Guanajuato as an asylee after drug cartels threatened him for two years with harassing phone calls and kidnappings in attempts to extort information from him about fuel logistics (Stargardter 2018). Alberto Arredondo's case of extortion and kidnapping is an example of LVC as the objective of the crime was to gather valuable intelligence about fuel logistics that could aid in future robberies and illegal activities. While the criminal acts of extortion and kidnapping employed both direct and indirect harm, they did not involve extreme violence in the form of Arredondo's loss of life.

LVC, like any type of crime, poses challenges for the state's governance. However, LVC does not directly threaten the state's capacity. Unlike HVC that creates an extremely violent and uncertain society that challenges the state's authority to provide public safety and signals the criminal organization's rising influence, LVC creates an environment that is less risky. LVC is applied as a form of violence that serves to sustain criminal operations by generating revenue or other benefits. The purpose of LVC is not to exert power and influence over the state by engaging in extreme violence and disruption, but to ensure the criminal enterprise maintains operations. As the state's capacity is not directly undermined by LVC, the less extreme violence does not inherently contribute to an uncertain investment environment. A state is still capable of maintaining governance despite the presence of LVC. Since LVC does not significantly weaken the location advantages, its mere presence is insufficient for foreign investors to significantly change their risk-reward calculus.

H2: As low violent crime (LVC) increases, there is no effect on FDI flows.

Research Design

In order to test my hypotheses, I employ a balanced panel of Mexico's thirty-one states and Mexico City[2] between 1997 through 2017. The unit of analysis is the state-year. The period of time captures about a ten-year period before and a ten-year period after Mexico's launch of the War on Drugs in December 2006, which is associated with increased levels of violent organized crime in the country.[3]

Mexico is an ideal country to examine the effects of different types of organized crime on FDI for several reasons. First, Mexico has a complex network of violent criminal organizations that are involved in both HVC and LVC throughout the country. Mexico's expansive organized crime first emerged in the 1970s with the formation of the country's drug cartels (Grillo 2012). Mexico's criminal organizations evolved throughout the decades, with the 1990s experiencing increased illicit activities and the 2000s encountering violence that further escalated when Mexico launched the War on Drugs (Grillo 2012). The diversity in Mexico's criminal organization networks resulted in both HVC and LVC, such as homicides, kidnappings, extortions, disappearances, and other crimes (Beittel 2018).

Second, the type of violence varies at the subnational level. Mexico's drug-related violence is not consistent across the country, but differs across locales (Calderón et al. 2018). Osorio (2015) finds that the presence of law enforcement, specifically within drug-trafficking routes, contributes to higher levels of violence and spillover effects into other territories. Competition between criminal organizations for control of government officials and specific locations and territories also contributes to increased violence (Reuter 2009). Violent criminal organizations employ different tactics that vary at the subnational level.

Third, Mexico is the fifteenth largest recipient of FDI in the world (Santander 2018) and

receives external capital from approximately 100 countries. Mexico is an emerging economy with diverse economic activities throughout the country. Mexico's unique OLI advantages vary by state, making it an attractive host country for FDI. Figure 2.1 offers a historical overview of Mexico's FDI trends at the national level while Figure 2.2 provides a historical overview of Mexico's FDI trends by the top ten states with the highest and lowest total FDI before and after the start of Mexico's War on Drugs.

Table 2.1 provides an overview of the study's variables along with the descriptive statistics. My dependent variable is *FDI*. FDI is measured as the annual inflow of foreign direct investment into each state. I also use the natural log of FDI as a robustness check.

My independent variables are HVC and LVC. I operationalize HVC as homicides and LVC as kidnappings, extortions, and disappearances. Homicides, kidnappings, extortions, and disappearances are frequently identified as key examples of the diversified types of crimes employed by Mexico's criminal organizations (Beittel 2011, 2013, 2015, 2017, 2018).

Figure 2.1: Overview of Mexico's FDI ($millions) by Year with a Moving Average Trendline

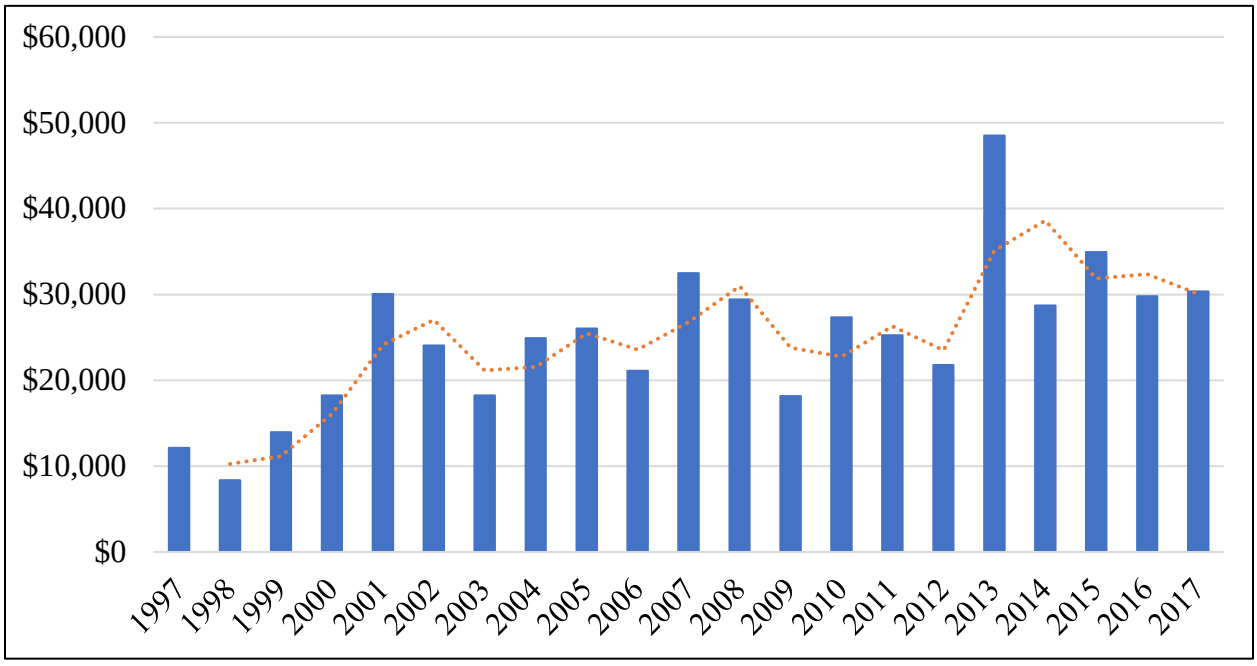

Figure 2.2: Overview of Mexico's FDI by States with the Highest and Lowest FDI

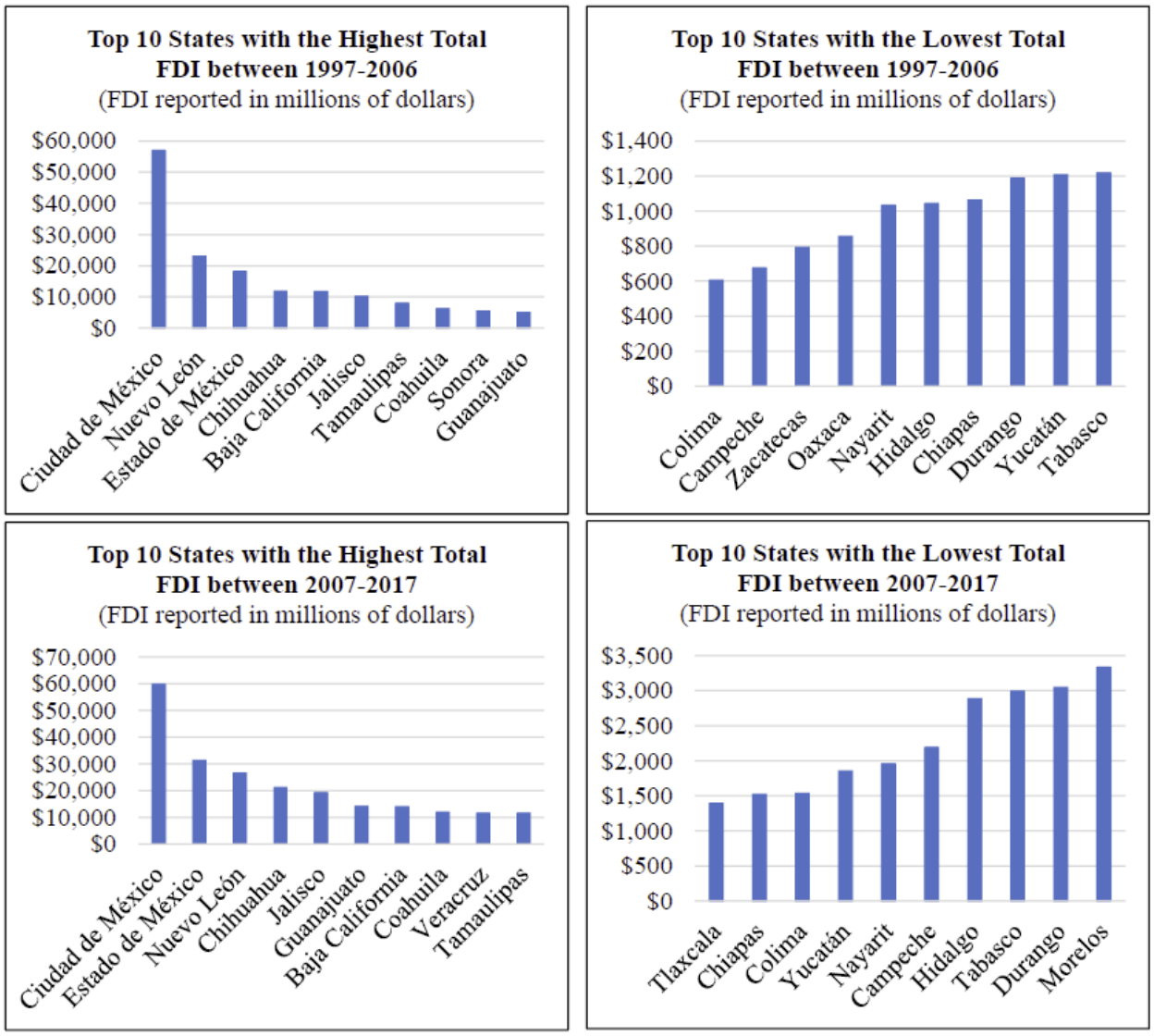

Table 2.1: Overview of Variables and Descriptive Statistics

Type	Variable Name	Description and Source	Obs	Mean	Std. Dev.	Min	Max
Dependent	FDI	Annual inflow of FDI by each state Source: Ministry of Economy (La Secretaría de Economía)	672	779.4339	1174.483	-84.9979	10210.36
	FDI LN	Natural log of annual inflow of FDI by each state Source: Ministry of Economy (La Secretaría de Economía)	672	5.694713	1.785744	-4.44265	9.231158
Independent (HVC)	Homicides	Annual total number of intentional homicides by a firearm reported by state measured as a crime rate or homicides divided by population times 100,000 Source: Executive Secretariat of the National Public Security System (Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública) (SNSP)	672	6.474269	9.96517	0	91.05677
	Homicides (All Intentional)	Annual total number of all intentional homicides reported by a state, measured as a crime rate or homicides divided by population times 100,000 Source: SNSP	672	14.66593	13.32624	0	110.7148
Independent (LVC)	Kidnappings	Annual total number of kidnappings reported by state, measured as a crime rate Source: SNSP	672	.832879	1.846092	0	36.65294
	Extortions	Annual total number of extortions reported by state, measured as a crime rate Source: SNSP	672	3.368669	4.229594	0	36.18571
	Disappearances	Annual total number of disappearances reported by state, measured as a crime rate Source: Executive Secretariat of the National Public Security System's National Data Registry of Missing or Disappeared Persons (SNSP's Registro Nacional de Datos de Personas Extraviadas o Desaparecidas) (RNPED)	672	.0005094	.0013581	0	.0128
Control	GDP per capita	Annual GDP per capita by each state, measured at constant prices of 1993 for 1997 through 2002 and constant prices of 2003 for 2003 through 2017. Source: National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía) (INEGI) and Secretary General of the National Population Council (Secretario General del Consejo Nacional de Población) (CONAPO)	672	111.2327	153.412	5.412998	1413.43

(table continues)

Type	Variable Name	Description and Source	Obs	Mean	Std. Dev.	Min	Max
	Population	Natural log of each state's annual average population Source: CONAPO	672	14.76091	.767104	12.96373	16.66987
	State Capacity	Number of judicial and security agents with federal jurisdiction assigned to a state in a given year Source: INEGI	672	41.86184	34.33014	2	259
	Education	Average number of years of schooling for a state's population aged 15 or older Source: INEGI	672	8.298061	1.162475	5.087997	11.73889
	Labor Relations	Total number of a state's resolved labor disputes per capita Source: INEGI and CONAPO	672	.0009204	.0007189	.0000853	.0036338
	Public Expenditures	Total annual spending per state, including: Personal Services; Materials and Supplies; General Services; Transfers; Allowances; Subsidies and other Grants; Movable, Immovable and Intangible Assets; Public Investment; Financial Investments and Other Provisions; Resources Allocated to Municipalities; and Other Expenses Source: INEGI	672	3.44e+10	3.73e+10	1.14e+09	2.91e+11
	Election Year	Years in which a state had a gubernatorial election Source: Wikipedia	672	.1904762	.3929692	0	1
	Foreign Firms	Ratio of new foreign firms entering a state by year Source: Ministry of Economy (La Secretaría de Economía)	672	.0919216	.0661802	0	.4634146
	Organized Crime	Annual total number of criminal organizations per capita operating in a state Source: NarcoData and CONAPO	672	8.38e-07	8.47e-07	0	5.64e-06
	Anti-Violence Strategies	Dichotomous variable for the presence of major government anti-violence initiatives by state in a given year. Examples include: arrest, death, or extradition of a cartel leader/member; federal operations; and other initiatives Source: NarcoData and Wikipedia	672	.1116071	.31511	0	1
	Border State	Dichotomous variable representing states that border the U.S. Source: Wikipedia	672	.1875	.3906031	0	1

Homicides are measured as a state's annual reported number of intentional homicides by firearm. Intentional homicides by firearm is the most appropriate measure of HVC because it involves violent acts that employ direct harm, resulting in the victim's loss of life. Intentional homicides by firearm serve as a representation of organized crime killings in Mexico because they involve extreme forms of violence (Beittel 2017; Shirk and Wallman 2015; Campbell and Hansen 2014; Grillo 2012). Intentional homicides by firearm also align with Mexico's data collection methods and represent the most appropriate and available measure of organized crime homicides for this study.[4] I also use all intentional homicides as a robustness check to capture drug-related killings that are not conducted by a firearm

For LVC, I include the annual number of reported kidnappings, extortions, and disappearances that occurred in each state. *Kidnappings, extortions, and disappearances* represent LVC because they involve less extreme violence, such as threats of violence or harm that is not intended to result in the loss of life.[5]

The control variables include: GDP per capita, population, state capacity, education, labor relations, public expenditures, election year, foreign firms, organized crime, anti-violence initiatives, and border state. *GDP per capita* controls for variance across states in terms of economic capacity and wealth. A state's GDP per capita is an important FDI determinant because states with greater economic wealth provide an environment conducive for production efficiencies that attract FDI, such as stronger infrastructures for production and access to local consumer markets. GDP per capita also controls for the presence of organized crime across states as criminal organizations emerge when the environment presents opportunities for illicit activities (Albanese 2000).

Population controls for variance in the size of the state in terms of the potential

workforce and consumer market. Foreign investors seek locations with a larger workforce and consumer market as this contributes to their OLI advantages.

State capacity controls for the state's ability to contribute to an effective rule of law and includes both judicial and security officials with federal jurisdiction to operate within a state. State capacity is an indicator of the government's potential to contribute to the rule of law.[6] The rule of law, measured as judicial independence and protection of private property (Biglaiser and Staats 2010), along with strong institutions that reduce crime (Albanese 2000; Buscaglia 2008; Buscaglia and van Dijk 2003) are examples of FDI determinants.

Education controls for variance in the potential workforce across states as foreign investors seek laborers who can perform the requisite tasks. Education also controls for potential organized crime because individuals with lower levels of education may be vulnerable to recruitment by criminal organizations.

Labor Relations control for variance across states in terms of stable labor conditions. Foreign investors seek locations that provide a steady supply of labor as this reduces operating costs while avoiding locations with a volatile workforce, such as labor strikes, as this increases operating costs by hindering operations through delayed production and decreased output.

Public expenditures control for the state's provision of government services, public goods, and investment and also indicate the operational capability of the state. Foreign investors seek stability within the locations where they operate.

Election year controls for the years in which a state held a gubernatorial election. Elections signal potential changes within a state's leadership, which could result in government reforms that impact FDI, such as policies regarding outside investment, security strategies, and

other initiatives that upend the status quo for investors. The state is an important actor in FDI decisions.

Foreign firms control for the presence of other foreign firms operating within a state. The host country plays a significant role in the risk assessment as local governments can create incentives to attract FDI, such as tax breaks, reduced tariffs, economic zones, and other benefits that minimize operating costs. Locations that attract several foreign firms provide opportunities for profit maximization, such as location advantages, government incentives, and lower risks.

Organized crime considers the presence of different criminal organizations operating within a state. States with multiple criminal organizations are more likely to experience higher rates of organized crime as the organizations violently vie for control of territory, influence, and government officials within the state.

Anti-violence initiatives control for major government strategies aimed at addressing violence and crime, such as the arrest, death, or extradition of a cartel leader, a military operation, and other initiatives. FDI seeks operating locations in which states provide an infrastructure and institutions that contribute to stability. *Border states* account for states that share a border with the U.S. and offer foreign investors the advantage of close proximity to the U.S. consumer market. Criminal organizations profit from their access to the U.S. through black market economic activities, such as illicit drugs, human trafficking, illegal trade of goods, and other criminal acts.

Methods

I employ a Feasible Generalized Least Squares (FGLS) method that allows me to address heteroskedasticity and serial correlation. FGLS models are frequently applied to studies that examine FDI flows (Bauerle Danzman 2016; Cole et al. 2009; Song 2015; Vu 2008; Zhang and

Fu 2008). Zhang and Fu (2008) note that FGLS allows for heteroskedasticity and serial correlation to be addressed in models as well as provides a more robust estimator than a Generalized Least Squares method with random effects.

Heteroskedasticity detected by Breusch-Pagan/ Cook-Weisberg, White's, and visual tests is corrected across all models. A Wooldridge test indicates that autocorrelation is present in some models. When autocorrelation is present, an AR(1) autocorrelation structure is applied. Identifying the source of heteroskedasticity and autocorrelation allows the FGLS estimates to be unbiased, efficient, and consistent.

Several robustness checks are incorporated into the study. First, a one-year lag is applied to account for how HVC and LVC, along with the control variables, may have a delayed effect on FDI flows. Second, intentional homicides by firearm are replaced with all intentional homicides to confirm the accuracy of the measure of HVC. Finally, the natural log of FDI confirms the validity of the results.

I include additional models to confirm the validity of the results. First, I run a time series regression model with random effects and robust standard errors to further confirm the validity of the results. Second, I address the limitations with Mexico's crime data. It is prudent to note that Mexico's crime data suffer from cifra negra or a significant underreporting of crime due to a lack of confidence in public security and justice (Frissard 2019). Homicides have a higher likelihood of being reported than other types of crime. As the 2011-2018 estimated average for cifra negra is 90% (Frissard 2019), I also test for the effects of underreported data by inflating the annual number of reported kidnappings, extortions, and disappearances by 90%.

Furthermore, I test for simultaneity-based endogeneity or an endogenous relationship in which an explanatory variable influences the dependent variable while the dependent variable

influences the explanatory variable (Ullah et al. 2018). First, I flip the dependent variable with homicides, which indicates an exogenous relationship and is presented in Table A.1 of Appendix A. Endogeneity is present in only one model with a statistical significance of 95%.

Second, I run an instrumental variable regression with a generalized methods of moments (GMM) model and an instrumental variable regression with a two-stage least squares for panel data model. Instrumental variables are appropriate for addressing endogeneity (Wooldridge 2013, Ullah et al. 2018). Inequality (Mexico's marginalization index as reported by state) is used as an instrumental variable for homicides. Inequality is an appropriate instrumental variable because the economic theory of crime contends that inequality contributes to crime with studies finding a strong correlation with violent crimes (Kelly 2000). Yet, inequality does not necessarily affect FDI flows as countries that exhibit levels of inequality continue to attract FDI.

GMM is frequently used in panel data studies examining the effects of crime (Brown and Hibbert 2017; Bun 2015; Fajnzylber et al. 2002; Saridakis and Spengler 2012) and provides robust estimators that are useful when heteroskedasticity is present (Baum et al. 2003; Lin and Chou 2018; Lin and Lee 2010), which is the case with this study. Appendix A presents the results using GMM in Table A.2. The GMM C statistic indicates that endogeneity is not present across the models.

To further test for endogeneity, I use an instrumental variable regression with a two-stage least squares for panel data model with fixed effects. The results are presented in Table A.3 of Appendix A. The Davidson-MacKinnon test of exogeneity indicates that endogeneity is not present.

Diagnostic tests of weak instruments are performed using F-statistics from a first-stage regression model as well as Cragg-Donald Wald F-statistics with Stock-Yogo tests. Overall, the

instruments are not weakly identified making them appropriate for the study. Endogeneity is not a significant concern when inequality is used as an instrumental variable for homicides.

Results

The results indicate strong support for my theoretical argument. Table 2.2 presents the results of HVC versus LVC on FDI (model 1) and includes a one-year lag (model 2). Table 2.2 also includes the following robustness checks: replacing the measure of homicides with all intentional homicides (model 3) and including a one-year lag (model 4); replacing the measure of FDI with the natural log of FDI (model 5) and including a one-year lag (model 6); and replacing both the measure of homicides and FDI (model 7) and including a one-year lag (model 8).

The results support both of my hypotheses across all models. HVC is negatively correlated and statistically significant at 95% or higher in all models while LVC has no significant effect on FDI flows.

As indicated in models 1 and 2, HVC represented as all intentional homicides by firearm has a negative effect on HVC that is statistically significant at 99.9% with no lag and at 95% with a one-year lag. By contrast, the LVC crimes (kidnappings, extortions, and disappearances) have little statistical effect on FDI flows.

In models 3 and 4, I include a robustness check of the measure of homicides. When measuring homicides as all intentional homicides, HVC remains statistically significant at 99% with no lag and at 95% significance with a one-year lag. HVC is negatively correlated with FDI. LVC again is statistically insignificant.

Table 2.2: Effects of HVC versus LVC on FDI

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
Homicides	-6.004*** (1.592)	-3.863* (1.919)	-3.593** (1.141)	-2.838* (1.359)	-0.024*** (.004)	-0.015*** (.004)	-0.014*** (.003)	-0.00676* (.003)
Kidnappings	3.908 (7.502)	-0.315 (5.52)	4.004 (8.210)	0.279 (5.959)	0.009 (.018)	-0.0198 (.018)	0.013 (.020)	-0.0198 (.019)
Extortions	1.442 (3.554)	-0.234 (3.83)	2.407 (3.566)	0.170 (3.792)	-0.006 (.008)	-0.007 (.007)	-0.001 (.008)	-0.00528 (.008)
Disappearances	-13259.66 (16990.65)	-32990.4 (26208.64)	-15733.5 (17859.64)	-35691.95 (27046.93)	-34.631 (18.917)	-27.043 (19.102)	-33.955 (19.689)	-31.16 (19.817)
GDP per capita	0.041 (.082)	0.0328 (.094)	0.0378 (.085)	0.0320 (.093)	-0.0004 (.0003)	-0.0007* (.0004)	-0.0005 (.0004)	-0.000753* (.0004)
Population	66.542 (51.736)	100.771 (69.852)	57.60 (51.634)	98.81 (69.0004)	0.929*** (.082)	0.957*** (.071)	0.943*** (.088)	0.985*** (.074)
State Capacity	9.158*** (1.394)	6.837*** (1.53)	9.332*** (1.392)	7.174*** (1.513)	0.006*** (.001)	0.004*** (.001)	0.005*** (.001)	0.00388** (.001)
Education	86.787*** (25.727)	77.034* (37.198)	76.632** (25.645)	68.48 (37.283)	0.501*** (.053)	0.566*** (.054)	0.480*** (.054)	0.574*** (.055)
Labor Relations	204342.4*** (28541.4)	193001.4*** (41700.02)	201752.2*** (28130.24)	192217.2*** (41262.6)	321.02*** (52.941)	233.033*** (51.889)	310.016*** (53.234)	217.0*** (51.872)
Public Expenditures	6.83e-09*** (1.23e-09)	5.37e-09** (1.77e-09)	6.79e-09*** (1.26e-09)	5.20e-09** (1.78e-09)	-8.06e-13 (1.18e-12)	-1.54e-12 (1.03e-12)	-1.51e-12 (1.33e-12)	-2.06e-12 (1.11e-12)
Election Year	8.772 (37.154)	26.723 (27.356)	5.778 (36.916)	24.156 (26.782)	0.027 (.081)	0.125 (.076)	0.013 (.083)	0.110 (.077)
Foreign Firms	1081.592*** (281.985)	424.096 (270.318)	1163.88*** (281.668)	434.5 (269.076)	-2.076** (.734)	-0.3398 (.682)	-1.717* (.737)	-0.0640 (.677)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
Organized Crime	14526427.6 (1.93e+07)	25131523.5 (2.33e+07)	7994848.8 (1.90e+07)	23604637.2 (2.22e+07)	180739.8** (61475.68)	140691.0* (58486.78)	142950.6* (63881.07)	124490.4* (59850.18)
Anti-Violence Initiatives	-8.086 (61.34)	36.775 (47.736)	-11.848 (60.767)	34.856 (46.815)	0.103 (.088)	0.041 (.085)	0.083 (.091)	0.0300 (.086)
Border State	220.0** (71.393)	356.149*** (99.5597)	241.497*** (71.209)	373.6*** (98.180)	0.385*** (.086)	0.372*** (.084)	0.424*** (.088)	0.388*** (.085)
Constant	-1973.42* (885.423)	-2231.99 (1201.684)	-1751.668* (883.49)	-2124.314 (1191.834)	-12.41*** (1.406)	-13.156*** (1.241)	-12.349*** (1.495)	-13.59*** (1.286)
N	672	640	672	640	672	640	672	640

Notes: Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Additionally, I use the natural log of FDI as a robustness check in models 5 and 6 to address the potential for exponential growth. When using the natural log of FDI, HVC measured as intentional homicides by firearm is negatively correlated and highly significant at 99.9% with and without a one-year lag. Kidnappings, extortions, and disappearances have no effect on FDI flows.

Finally, I include a robustness check of both homicides and FDI in models 7 and 8. When HVC is operationalized as all intentional homicides and FDI is measured as the natural log, HVC has a negative effect on FDI flows that is 99.9% statistically significant with no lag and 95% statistically significant with a one-year lag. Again, LVC has no notable effect on FDI flows.

Likewise, the substantive effects of HVC and LVC support my hypotheses. When holding the control variables at their means, one instance of an intentional homicide results in a 2.1% decrease in FDI, which is not an insignificant amount given the high number of homicides reported each year. More importantly, LVC tends to have no substantive effect on reducing FDI.

In addition to the robustness checks for the operationalization of homicides and the measurement of FDI, I include a robustness check to test the validity of the results through the use of an alternative statistical method. Table 2.3 includes a robustness check of the results using a time series regression using random effects with robust standard errors.

Table 2.3: Robustness Check of the Results of HVC versus LVC on FDI (time series regression)

Variables	Random Effects (Robust Standard Errors)	Random Effects (Lag) (Robust Standard Errors)
Homicides	-8.072** (2.514)	-8.108** (2.556)
Kidnappings	12.851 (8.878)	13.289 (10.884)
Extortions	-7.981 (9.418)	-8.002 (5.991)

(table continues)

Variables	Random Effects (Robust Standard Errors)	Random Effects (Lag) (Robust Standard Errors)
Disappearances	6070.103 (19771.17)	-36052.8 (32466.38)
GDP per capita	-0.0614 (.243)	-0.166 (.209)
Population	490.874 (254.425)	551.119* (225.011)
Judicial Strength	9.899*** (2.649)	9.940** (3.384)
Education	213.867* (95.354)	250.033* (115.377)
Labor Relations	126001.5** (44835.45)	133036.5* (56121.83)
Public Expenditures	1.94e-09 (3.48e-09)	1.33e-09 (3.65e-09)
Election Year	-2.809 (36.607)	86.358 (68.460)
Foreign Firms	2016.956** (640.361)	1475.949* (663.222)
Organized Crime	73251866.4 (4.94e+07)	130687812.9** (4.95e+07)
State Security	28.633 (69.149)	-121.808 (98.295)
Border State	31.166 (289.690)	45.64 (293.835)
Constant	-9021.168* (4347.248)	-10126.15* (4112.849)
N	672	640

Notes: Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Furthermore, I test for cifra negra or underreporting of crime data by inflating the annual number of reported kidnappings, extortions, and disappearances by 90%. Although there are some instances in which disappearances have a negative effect on FDI, it is important to note that the statistical effect is minimal. The results presented in Table 2.4 strongly support my hypotheses that HVC has a negative effect on FDI flows while LVC has no significant effect.

Table 2.4: Robustness Check of Underreported Crime Data for Kidnappings, Extortions, and Disappearances

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
Homicides	-5.3611** (1.8268)	-5.5001** (1.9267)	-2.751* (1.3093)	-2.8489* (1.3263)	-0.0221*** (.0038)	-0.014*** (.004)	-0.0123*** (.0029)	-0.0063* (.0029)
Kidnappings	2.1619 (3.8977)	1.104 (4.1908)	1.9901 (4.218)	1.3099 (4.4834)	0.0069 (.0098)	-0.0095 (.0094)	0.0094 (.0107)	-0.0096 (.01)
Extortions	0.7328 (1.8744)	-0.9754 (1.797)	1.0098 (1.8964)	-0.7674 (1.8045)	-0.0033 (.0040)	-0.004 (.0038)	-0.0012 (.0042)	-0.0031 (.0039)
Disappearances	-0.00004 (.00003)	-0.0001 (.00004)	-0.0001 (.00003)	-0.0001* (.00004)	-8.86e-08* (3.86e-08)	-6.38e-08 (3.77e-08)	-0.0000001* (4.12e-08)	-7.37e-08 (3.95e-08)
GDP per capita	0.0406 (.0807)	0.0488 (.0771)	0.0398 (.0835)	0.0493 (.0789)	-0.0004 (.0003)	-0.0007* (.0004)	-0.0004 (.0004)	-0.0007* (.0004)
Population	63.0061 (52.1639)	134.9198* (55.6672)	56.5273 (52.0721)	132.1215* (55.7324)	0.9371*** (.0813)	0.9618*** (.0695)	0.9499*** (.0868)	0.9906*** (.0729)
State Capacity	9.2063*** (1.4010)	9.2109*** (1.4400)	9.3154*** (1.3983)	9.3335*** (1.4263)	.0056*** (.0014)	0.0042*** (.0012)	0.0054*** (.0014)	0.0039** (.0012)
Education	92.5165*** (26.0187)	118.1726*** (31.4820)	86.9799*** (26.3442)	115.9643*** (32.1107)	0.5088*** (.053)	0.5724*** (.054)	0.4905*** (.0542)	0.5814*** (.0547)
Labor Relations	204157.9*** (28395.93)	207632.6*** (31826.54)	201085.0*** (27997.13)	203842.0*** (31269.25)	320.2579*** (53.4198)	229.1893*** (52.2362)	309.8595*** (53.9117)	213.6739*** (52.2311)
Public Expenditures	6.67e-09*** (1.17e-09)	5.73e-09*** (1.28e-09)	6.59e-09*** (1.19e-09)	5.61e-09*** (1.29e-09)	-1.45e-12 (1.11e-12)	-1.94e-12* (9.54e-13)	-2.05e-12 (1.25e-12)	-2.50e-12* (1.03e-12)
Election Year	10.0924 (37.7336)	43.0949 (38.1753)	6.2334 (37.4602)	34.7679 (37.4864)	0.0233 (.0814)	0.1255 (.0757)	0.0109 (.0837)	0.1117 (.0772)
Foreign Firms	1106.092*** (282.3051)	1096.876*** (287.4374)	1186.853*** (281.334)	1183.25*** (284.3095)	-2.1582** (.7371)	-0.3912 (.6837)	-1.8207* (.7397)	-0.1206 (.6791)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
Organized Crime	12287427.5 (2.06e+07)	30573098.0 (2.00e+07)	5418996.1 (2.02e+07)	25966292.8 (1.95e+07)	176277.6** (61414.6)	137945.2* (58487.25)	139183.5* (63601.57)	121451.1* (59813.26)
Anti-Violence Initiatives	-10.4481 (62.0343)	17.1374 (62.3947)	-15.0058 (61.5419)	5.8608 (60.4812)	0.0987 (.0900)	0.0440 (.0847)	0.0755 (.0931)	0.0332 (.0864)
Border State	222.5033** (70.2581)	235.745** (76.8032)	241.761*** (69.8008)	263.3732*** (75.6897)	0.3796*** (.0859)	0.3721*** (.0836)	0.4203*** (.0876)	0.3857*** (.0850)
Constant	-1968.096* (892.4911)	-3175.381** (981.7697)	-1821.14* (892.9263)	-3109.627** (988.0292)	-12.5623*** (1.4003)	-13.2671*** (1.2256)	-12.53*** (1.4831)	-13.7156*** (1.2688)

Notes: Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001 n=672 (Models: 1,3,5,7) n=640 (Models: 2,4,6,8)

Both hypotheses are again supported when using random effects with robust standard errors. HVC is negatively correlated with FDI and statistically significant at 99% with no lag and with a one-year lag. LVC has no significant effect on FDI.

Overall, the results indicate strong and consistent statistical significance that HVC measured as homicides negatively impacts FDI flows while LVC measured as kidnappings, extortions, and disappearances has no effect. The results overwhelming support both of my hypotheses. HVC has a statistically significant and negative affect on FDI (H1) while LVC has no effect on FDI (H2). Not all types of organized crime undermine FDI. Rather, HVC deters FDI while LVC has no effect on investment flows.

Conclusion

The results of my work indicate that the presence of organized crime is not inherently a deterrent to FDI. Rather, the type of organized crime and its effect on the state's ability to provide governance influences decisions about FDI flows. Specifically, I find that HVC diminishes FDI flows while LVC has no effect on investment decisions.

HVC, measured as intentional homicides, directly challenges the state's authority and capacity to provide security, governance, and an effective rule of law. As such, HVC signals an unstable and ungovernable investment environment and contributes to reduced FDI flows. On the other hand, LVC does not pose a significant threat to a state's governance. LVC does not signify an unruly and unstable investment environment and is unlikely to result in changes to investment.

The findings from this study build upon existing scholarship and provide policy recommendations for host countries. First, I advance the scholarly discourse on the relationship between violent crime and FDI determinants. My theoretical argument leverages frameworks and

findings from business, economics, criminal justice, and political science. Second, I incorporate violent criminal organizations as a core component of my theoretical approach. I move beyond the traditional two-player framework of the host country (FDI recipient) and home country (FDI provider) by including the influence of third parties on FDI determinants, specifically violent non-state actors. Third, my findings indicate that a host country's risk-reward determinants vary at the subnational level and influence decisions about FDI flows. The research indicates the relevance of subnational effects of FDI and the need for more studies in this area. Finally, the results provide important insights to shape policy to promote opportunities for FDI. Host countries can cooperate with MNEs to identify locations that provide greater rewards and minimize risks. Additionally, host countries can develop anti-organized crime initiatives to address criminal activities that exhibit high violence.

Future research might consider expanding upon the arguments and findings presented here to further explore the relationship between FDI and violent organized crime. A limitation of this study is that it does not disaggregate FDI flows by economic sector. Future work may wish to examine how HVC and LVC influences subnational FDI flows given the economic sector and labor requirements. The study of FDI by economic sector and the role of labor hold promise for advancing our understanding of the relationship between organized crime and investment at the subnational level. Another important area that warrants further research is the role of violent crime on the mode of entry of FDI given host country investment policies. As host countries can create incentives to attract FDI, local governments play an influential role in shaping how foreign firms are established and operate within the host country, especially when violent crime is present. Finally, future work may wish to explore the HVC/LVC debate under the lens of other

countries as well as cross-national studies to see if the effects of the types of violence on FDI decisions extends beyond the case of Mexico.

Based on this study, the relationship between FDI and organized crime is far more complex than what appears on the surface. My findings conclude that the types of organized crime, high versus low violence, play a significant role in influencing the state's capacity to govern and in shaping the risk-reward calculus for foreign investors.

Notes

[1] Classifying crime by the level of violence is a common practice. The Hierarchy Rule organizes multiple violent crimes by the severity of the criminal act (FBI 2019).

[2] I use state when referring to Mexico's 31 states and Mexico City. State is commonly referenced in studies involving Mexico's states and Mexico City. In 2016, Mexico approved a constitutional reform recognizing Mexico City as an entity with the same level of autonomy as Mexico's states.

[3] Violent organized crime intensified significantly after the start of Mexico's War on Drugs. Given the evolving dynamics of Mexico's organized crime, it is expected that there will be slight differences when comparing periods before (1997-2006) and after (2007-2017) the start of Mexico's War on Drugs. The results are included in Appendix A as Table A.4 and Table A.5. Findings indicate that HVC continues to negatively affect FDI during both time periods, but is less significant before the War on Drugs. Some LVC examples are statistically significant in a few of the models with a negative effect in the pre-war period and a positive effect in the post-war period. It is important to note that the generalizability of these findings is limited due to the small sample size.

[4] There are challenges with data collection and reporting of organized crime, specifically drug-related homicides (Heinle et al. 2017). Although previous codifications of organized crime killings exist, they are not conducive to producing a large sample across several years. For example, the Ríos Algorithm uses post-estimation to generate organized crime homicides by state, but the data are only available between 2000 through 2006 (Molzahn, Ríos, and Shirk 2012). The Calderón administration applied a classification system to identify drug-related homicides during the period of 2007 through 2011 (Molzahn, Ríos, and Shirk 2012). The first criteria within the Calderón administration's classification system is "victims killed by high caliber firearms" (Molzahn, Ríos, and Shirk 2012:11).

[5] It is important to note that HVC and LVC are unlikely to exist without one another or without the presence of other types of crime. To account for the relationship between HVC and LVC and other crime, I run a robustness check using a ratio of HVC to all crime and a ratio of

LVC to all crime. The results support both hypotheses and are presented in the Appendix A as Table A.6.

[6] Violent criminal organizations are recognized at the federal level through Mexico's Federal Criminal Code and Federal Law Against Organized Crime (Molzahn et al. 2013.)

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CHAPTER 3

WHITE COLLAR, BLUE COLLAR: EXAMINING THE RELATIONSHIP BETWEEN LABOR AND VIOLENT ORGANIZED CRIME ON FOREIGN DIRECT INVESTMENT IN MEXICO'S ECONOMIC SECTORS

Abstract

How does labor influence foreign direct investment (FDI) decisions in countries that are prone to violence? Violent organized crime generally undermines opportunities for FDI when it threatens the state's capacity to govern, promote the rule of law, and ensure a stable investment environment. I argue that the presence of extreme violence is not an inherent deterrent to FDI if foreign investors can sustain their operations and long-term profit maximization through available labor resources. Foreign investors demonstrate a greater risk threshold for highly violent crime when they operate in industries requiring unskilled labor. The abundance of less skilled labor provides foreign investors with a stable operational structure, which offsets concerns about uncertainty within the investment environment. Alternatively, specialized labor is a limited resource that constrains operations. Foreign investors are left with little room for maneuver when faced with host country risks. Using a cross-sectional time series analysis of Mexico's 31 states and Mexico City between 1999-2017, I seek to contribute to our understanding of why some countries are able to attract FDI despite the presence of violence.

Introduction

Political risks are a critical determinant for foreign direct investment (FDI). Violent organized crime undermines opportunities for outside investment when it contributes to instability and ineffective governance. Yet, investment decisions vary based on the type of criminal activity as well as the economic sector.

How does the type of violent crime affect FDI across different economic sectors? I contend that organized crime has varying effects on FDI decisions based on the type of criminal activity and the specific industry. Violent organized crime is not inherently a deterrent for foreign investment. Rather, the type of criminal activity and the supply of labor within the economic sector are important factors in FDI decisions.

Interestingly, scholarship on the determinants of FDI does not adequately address the influence of criminal organizations, the role of different types of violent crime, and the importance of investment by economic activity. FDI determinants primarily derive from large-N cross-national studies (Biglaiser and Lektzian 2011; Biglaiser and Staats 2010; Brown and Hibbert 2017; Jensen 2003, 2008; Lee, Biglaiser, and Staats 2014). Research points to the importance of democratic institutions in attracting FDI (Jensen 2003; Biglaiser and Staats 2010, 2012; Lee, Biglaiser and Staats 2014; Li and Resnick 2003) and crime and violence on deterring FDI (Blanco et al. 2015; Buscaglia and van Dijk 2003; Pinotti 2015; Pion-Berlin and Trinkunas 2011; Ríos 2012; Ríos 2015a; Sands 2007; Snyder and Duran-Martinez 2009; Soares 2004). Yet, there is little literature on how different types of violent crime influence FDI decisions. Furthermore, evidence highlights trends in FDI behavior by economic sector given crime and violence (Ashby and Ramos 2013; Blanco et al. 2015; Brown and Hibbert 2019; Hecock and Jepsen 2014; Verdugo-Yepes et al. 2015). However, a common theoretical discourse about this phenomenon is missing from existing literature.

I contend that foreign investors' perceptions of risk vary based on the type of criminal activity and the specific industry. While violent organized crime signals instability and poor governance, criminal activities differ in the level of risks they present. I codify violent organized crime on a continuum of high violent crime (HVC) to low violent crime (LVC). HVC involves

extreme forms of violence that intentionally and directly harm victims while LVC involves less brutal violence that includes indirect and direct harm to victims.

Pervasive HVC represents a political risk for foreign investors as it contributes to ineffective governance and instability within the host country. Perceptions about political risks are influenced by the specific industry in which foreign investors operate. Industries differ in terms of their required labor inputs. Industries utilizing low-skilled labor and less diversity in the skillset of laborers have greater flexibility within their operational structures. Conversely, industries requiring high-skilled labor and diverse skillsets experience greater restrictions on operations as labor is more specialized. Foreign investors are more sensitive to political risks on the ground when they face constraints within their operations.

By using a cross-sectional time series study of FDI flows into Mexico's 31 states and Mexico City from 1999 through 2017, I analyze how different types of violent crime influence investment decisions within the primary, secondary, and services sectors. I also include sub-sector analysis of different industries within the primary, secondary, and services sectors.[1] The evidence demonstrates that FDI flows vary by the type of criminal activity and industry. HVC is more likely to deter FDI than LVC, specifically within industries that require more specialized labor.

The work presented here holds important implications. First, it demonstrates the relevance of disaggregating criminal activities to fully understand how they shape political risks and influence investment decisions. Second, it offers a theoretical argument to explain why FDI flows vary by industry due to the presence of organized crime. Finally, it presents evidence to develop policy recommendations that address both organized crime and strategies for investment and economic growth. The remainder of this chapter include a literature review, theory, research

design, methods, results, and conclusion.

Literature Review

Previous research on FDI and organized crime derives from political science, economics, business management, and criminology. The research is best categorized as FDI determinants, FDI and organized crime, and FDI and labor.

FDI Determinants

Existing literature emphasizes country attributes as important FDI determinants. Dunning's eclectic paradigm focuses on a host country's ownership (firm specific competitive advantages), location (institutional features, resource endowments, and other benefits), and internalization advantages (reduced transactional costs) (Dunning and Lundan 2008).

A host country's institutional quality and good governance are key determinants of FDI. The democratic advantage posits that countries with democratic regimes are more likely to receive FDI (Jensen 2003; Biglaiser and Staats 2010, 2012; Lee, Biglaiser and Staats 2014; Li and Resnick 2003). Democracies are 70% more likely to attract FDI than authoritarian regimes (Jensen 2003) because democratic institutions place constraints on executives that lower political risks (Jensen 2008) and contribute to political stability through an effective rule of law, judicial independence, and protection of private property rights (Biglaiser and Staats 2010). Strong institutions are effective in addressing organized crime and minimizing corruption (Albanese 2000; Buscaglia 2008; Buscaglia and van Dijk 2003) because they enable governments to address political risks through regulations and policies (Albanese 2000; Buscaglia 2008).

Although ample literature exists on the determinants of FDI, scholars primarily focus on country-level factors that attract FDI. Examples include a multi-country panel data analysis of violent crime on FDI in 62 countries from 1997-2012 (Brown and Hibbert 2017), a study of U.S.

CEOs and their risk perceptions across 138 countries (Biglaiser and Staats 2010), a comparison of democratic and authoritarian regime types in 114 countries (Jensen 2003), and a study of how political risks shape the mode of entry of FDI in 111 developing countries from 1980-2006 (Lee, Biglaiser, and Staats 2014).

Despite substantial evidence on FDI determinants based on comparative analysis across countries, research on sub-national conditions is sparser. An examination of Taiwanese investment into China finds preferences for strong local institutions (Lu 2015) while a study of firm location selection in Russian regions between 1996-2007 notes foreign investors prefer to operate in areas that have similar levels of corruption and democracy as their home countries (Ledyaeva et al. 2013). Conversely, 6,430 equity joint ventures operating across China between 1984-1996 highlights that the length of the agreement, the source of FDI, and the economic activity are important factors in location selection (Chadee et al. 2003) while a study of local level FDI in 16 Latin American countries highlights the importance of candidate-centered electoral systems (Garland and Biglaiser 2009). As existing research indicates, there is variance in FDI determinants at the subnational level.

Scholars highlight effective governance as a key feature in attracting FDI. My study seeks to provide further insight into FDI determinants by examining how types of crime and violence at the sub-national level influence FDI flows across economic sectors.

FDI and Organized Crime

Existing scholarship on FDI determinants highlights organized crime as a deterrent for investment, but does not thoroughly explore how different types of violent crime affect FDI decisions based on the economic activity. Organized crime directly impedes good governance (Blanco et al. 2015; Buscaglia and van Dijk 2003; Pinotti 2015; Pion-Berlin and Trinkunas 2011;

Sands 2007; Ríos 2012; Ríos 2015a; Snyder and Duran-Martinez 2009; Soares 2004) by redirecting government expenditures for public services into anti-crime initiatives (Buscaglia and van Dijk 2003; Pion-Berlin and Trinkunas 2011). Within Mexico, drug cartels pose a direct threat to the state's institutional effectiveness due to their infiltration into the military, police, and politics (Campbell 2014).

Organized crime and other political risks also inhibit economic growth and investment (Abadie and Gardeazabal 2003; Abadie and Gardeazabal 2008; Alesina and Perotti 1996; Busse and Hefeker 2007; Camacho and Rodriguez 2012; Ríos 2015b) by negatively affecting a firm's competitiveness (Gaviria 2002) and increasing operating costs for businesses (Hallward-Driemeier and Stewart 2004; Daniele and Marani 2011), such as security expenses, legal fees, and infrastructure damages (Blanco et al. 2015). A study of Latin America and the Caribbean from 1996-2010 finds that rising crime undermines democratic institutions and impedes opportunities for FDI and economic growth (Blanco et al. 2015).

Current literature also notes differences in the relationship between crime and FDI respective to economic sector. FDI flows differ by economic sector when examining the influence of organized crime on FDI decisions (Ashby and Ramos 2013; Blanco et al. 2015; Brown and Hibbert 2019; Hecock and Jepsen 2014; Verdugo-Yepes et al. 2015). A study of the effects of homicides, crime victimization, and organized crime on FDI by sector in Latin American and Caribbean countries from 1996-2010 concludes that higher levels of crime victimization and organized crime contribute to decreased FDI in the tertiary sector, but have no impact on the primary and secondary sectors (Blanco et al. 2015). Similarly, a study of 29 Organisation for Economic Development and Co-operation (OECD) countries between 2003-2012 finds that crime deters FDI in the services sector (Brown and Hibbert 2019). Variation in

investment also exists across Mexico's economic sectors and states (Verdugo-Yepes et al. 2015) with homicides from 2004 to 2010 contributing to decreased FDI in the financial, commercial, and agricultural sectors, increased investment into mining, and no effect on manufacturing (Ashby and Ramos 2013).

Additional research about how different types of organized crime effect FDI decisions in Latin America is needed (Soler 2012). I intend to advance existing scholarship on the relationship between criminal activities and FDI by examining how different types of violent crime affect FDI flows by economic sector.

FDI and Labor

While previous literature highlights variation in FDI flows by sector due to criminal activities, it fails to provide a coherent theory explaining the phenomenon. My study seeks to fill that void by focusing on how different labor requirements by sector explain the variance in FDI decisions. Scholarship highlights the importance of labor for foreign investors (Blanton and Blanton 2012a and 2012b; Federici and Giannetti 2008; Foad 2012; Song 2015; Tuman and Erlingsson 2019; Zhang et al. 2018), but does not specifically address how labor mobility within economic sectors influences investment decisions in locations with high political risks.

Scholars focus on the role of migration on FDI and labor rights. For example, in a nationwide survey of firms in China, Zhang et al. (2018) found that practices promoting labor mobility provide benefits for host countries, as they contribute knowledge transfer to local companies. Likewise, Federici and Giannetti (2008) contend that FDI involving temporary migration contributes to economic development across countries when migrants return home with new knowledge and skills. Additionally, in a study of immigration from 10 countries into the U.S., Foad (2012) identified a positive correlation between immigrants and FDI, with skilled

immigrant communities attracting higher levels of investment.

Scholarship also demonstrates how labor rights have a varying effect on FDI by economic sector. A study of Mexico's automobile manufacturing sector from 2004-2014 revealed that labor conditions influenced both state selection and FDI flows while education levels only affected initial selection (Tuman and Erlingsson 2019). On the other hand, in a study of U.S. outbound FDI from 1982 to 2007, Blanton and Blanton (2012a) found that U.S. FDI prefers an educated workforce across all sectors with labor rights only prioritized in low skilled sectors. Conversely, using an analysis of 35 developing countries over a span of time, Blanton and Blanton (2012b) presented evidence that labor rights have a negative effect on total FDI and FDI within the services sector, but have a positive effect on manufacturing.

Although previous literature highlights the importance of FDI and labor, it does not fully address how labor influences investment decisions within specific sectors. I seek to build upon existing research by examining how variations in labor requirements by economic sector influence FDI decisions within high risk environments.

Theory

As the previous section noted, FDI is a highly selective process involving constant assessment of risks versus rewards. Engaging in thorough risk assessment enables foreign investors to weigh perceived risks against potential rewards and determine FDI flows.

Violent organized crime poses a risk for foreign investors because it challenges a host location's ability to provide stability and good governance. Yet, the effects of violent crime on FDI decisions vary based on the specific criminal activity. I contend that violent crime exists on a continuum of high and low violence. The U.S. Department of Justice (2020) defines violent crime as instances in which a victim is directly harmed or threatened with violence. High violent

crime (HVC) involves intentional and direct harm to victims. HVC represents the most extreme version of violent crime as it involves hyper brutality that results in the most severe outcome for victims—loss of life. Homicides are an example of HVC. Homicides, specifically intentional murders, include victimization in which direct harm is applied and victim survival is non-existent. When HVC is associated with criminal organizations, it creates greater political risks for foreign investors. Criminal organizations that utilize homicides as part of their modus operandi contribute to systematic and extreme violence that victimizes more than just the murdered individual. HVC degrades society and challenges the state's ability to provide effective governance. When HVC is prevalent, the host location is unable to guarantee stability for foreign investors.

Low violent crime (LVC) differs from HVC as it includes direct and indirect harm to victims. LVC is less brutal than HVC because victimization may involve actual harm or only threats of harm. LVC applies harm to victims as a means of coercion to collect information, gather payouts, and create dominance, but not to take an individual's life. LVC is a tool that furthers criminal organizations' illicit activities. Examples of LVC include kidnappings, extortions, and disappearances. However, LVC does not trigger the same level of concern about a host location's governance. In contrast to HVC, LVC does not involve extreme and brutal forms of violence. Foreign investors do not consider LVC as holding the same level of risk for FDI operations.

Because foreign investors face various types of risks, a host location's unique attributes are important determinants for FDI. Specifically, ownership, location, and internalization advantages are relevant factors in FDI decisions (Dunning and Lundan 2008) with location serving as a critical consideration. Foreign investors carefully evaluate on a continual basis a

host location's stability, effective governance, and onsite resources, such as labor.

Labor is a critical factor in production as it influences operational structure and costs (Acar 2003). Labor is broadly defined (International Labour Organization 2020) and frequently categorized as unskilled, semi-skilled, and skilled (Astorga 2017; Behar 2010; Humavindu 2013; Ismail and Yuliyusman 2014; Thondhlana 2020; Zhu and Pickles 2014). Skilled labor does not inherently refer to an educated workforce as many laborers acquire skills in informal settings (International Labour Organization 2020).

While labor is a key factor endowment for FDI, the importance of labor in investment decisions varies based on the economic sector. Economic sectors can be described as primary (agriculture, forestry, and fishing and mining), secondary (manufacturing and construction), and tertiary/quaternary (transportation, electric, gas, and sanitary services, whole trade, and retail trade, finance, insurance, and real estate, services, and public administration) (Kenessey 1987). The tertiary and quaternary sectors are frequently combined to describe the services sector. The primary sector attracts FDI in petroleum and mining with some host countries receiving FDI within agriculture, fisheries, and minerals (Dunning and Lundan 2008). FDI in the secondary sector is primarily directed to manufacturing that is capital intensive or requires skilled labor and/or technology (Dunning and Lundan 2008). The tertiary sector receives FDI within banking, finance, insurance, tourism, and telecommunications and online services (Dunning and Lundan 2008).

It is important to note that examples of unskilled, semi-skilled, and skilled labor are present in each sector. However, there is a dominant labor group associated with the primary, secondary, and services sectors based on the needs of the economic activity. Unskilled labor is more prevalent in the primary sector. Agriculture, forestry, fishing and hunting, and mining are

dominated by manual laborers who do not need a formal education or specialized skillset in most instances. The secondary sector is more likely to have semi-skilled laborers. A formal education is not required for individuals working in manufacturing and construction. However, manufacturing and construction jobs are more likely to require additional training and skills, such as through apprenticeships and on the job training programs. The services sector requires skilled laborers for specific industries, but also needs semi-skilled laborers for some economic activities. For example, financial activities require skilled laborers while hospitality uses semi-skilled laborers.

The relationship between labor inputs and political risks is important for FDI. However, the investment response varies based on the specific economic sector. The primary sector is dominated by unskilled labor. Unskilled labor is more abundant and provides foreign investors with greater operational flexibility. The production costs associated with unskilled labor are minimal compared to semi-skilled and skilled labor. First, foreign investors do not face barriers in hiring employees. Unskilled laborers are not required to have specialized skills and training to be eligible for the job. Thus, foreign investors have access to a larger labor supply for hiring purposes.

Second, foreign investors have significant discretion in terms of employee engagement. Due to a substantial supply of unskilled labor, foreign investors are not bound by employee demands for pay increases, better benefits, and improved labor conditions. Rather, foreign investors can fire employees who demand better benefits and replace them with available labor. Additionally, foreign investors do not have to increase operational expenses as funding for employee engagement initiatives is not required.

Third, foreign investors do not experience additional costs associated with employee

training and orientation. Since unskilled laborers are not required to have specialized skills, employees do not need to participate in on the job training. Unskilled laborers can begin working immediately upon hire whereas there is downtime in productivity with semi-skilled and skilled laborers as they are oriented to the position and participate in on the job training programs. Furthermore, wages for unskilled laborers are fixed at fairly low rates due to the steady supply of workers.

Within the primary sector, foreign investors have greater control and flexibility with their operational structure due to the supply of unskilled labor. While HVC indicates the host location has weak institutions and poor governance, foreign investors are more likely to withstand this type of political risks when labor is more readily available. Less skilled labor presents specific rewards for foreign investors operating within the primary sector because it contributes to less complex operational structures and minimizes operational costs. Because unskilled labor presents substantial rewards for foreign investors within the primary sector, it offsets concerns about HVC. Foreign investors are unlikely to decrease FDI flows when faced with HVC.

> *H1: As high violent crime (HVC) increases, FDI does not decrease in sectors with a higher demand for unskilled labor.*

Likewise, LVC is unlikely to deter FDI in the primary sector. LVC poses fewer risks to a host country's governance as it involves less violent types of crime. When a host location provides significant rewards through factor endowments, such as labor, foreign investors are less vulnerable to potential political risks. Foreign investors perceive LVC as a low risk. As such, LVC is unlikely to have any negative impact on FDI.

> *H2: As low violent crime (LVC) increases, there is no negative effect on FDI in sectors with a higher demand for unskilled labor.*

On the other hand, the secondary and services sectors are dominated by semi-skilled and

skilled labor. Foreign investors face different conditions surrounding production when they operate in sectors requiring semi-skilled and skilled labor. As specialized labor is more limited, foreign investors face greater operational constraints. First, foreign investors have a limited supply of labor for semi-skilled and skilled laborers. Positions within the secondary and services sectors require that employees have specific education, training, or skills. The labor pool narrows as the required labor skills become more specialized. The hiring process is complex and timely as it requires widespread advertisement of employment opportunities, targeted recruiting to identify qualified candidates, and assurances that hires have the requisite skills to contribute to the firm's productivity. Foreign investors face increased pressures when hiring for semi-skilled and skilled positions as the process is timely and expensive. Foreign investors must balance the challenges of hiring with the productivity needs of the firm.

Second, foreign investors must address employee satisfaction concerns with semi-skilled and skilled laborers. Given the limited labor supply and complexity of the hiring process, foreign investors want to retain productive employees and cannot simply ignore issues of employee engagement. Semi-skilled and skilled laborers are cognizant of the value they bring to their firm's operations and are more likely to express demands and concerns, such as salary increases, worker's benefits, opportunities for professional development, and other concerns. Foreign investors who fail to effectively respond to requests from employees create the possibility of staff attrition. Thus, foreign investors have greater operational expenses as they implement policies and incentives that attract new employees and retain existing employees. Semi-skilled and skilled labor requires financial investments to ensure employee satisfaction and contribute to retention and productivity.

Third, foreign investors have increased operational expenses in sectors that require semi-

skilled and skilled labor. While semi-skilled and skilled laborers bring education, training, and skills to the firm, their positions require initial and continued on the job training. New hires participate in orientations and firm-specific trainings to ensure they can adequately perform their functions within the organizational context of their firm. Existing employees require continued on the job training to enhance their productivity, knowledge, and skills. Foreign investors must provide these opportunities through a robust human resources arm of their operations or outsource employee trainings to an external human resource firm. While onsite training contributes to overall productivity, the expenses associated with employee development are a significant operational cost for foreign investors. Furthermore, the limited supply of specialized labor results in higher salaries and wages for workers due to the competition to attract appropriate talent that fulfills the operational needs of the firm.

The secondary and services sectors present a more dynamic investment environment. The benefits provided by semi-skilled and skilled labor are not without substantial costs to foreign investors. When foreign investors face significant production costs, they are more cognizant of political risks presented by the host location. HVC represents substantial political risks as it contributes to uncertainty about the host location's stability. Pervasive HVC undermines governance and contributes to insecurity for foreign investors as it signifies extreme violence. Foreign investors perceive HVC as a greater threat for FDI operations when they face a risky operational structure, such as constraints with labor endowments. Specialized labor is a less available than unskilled labor. Foreign investors are limited in their options for hiring and bound to specific organizational structures and increased operational expenses. Foreign investors face less flexibility in how they can apply a critical factor endowment—labor—to ensure productivity and long-term profitability. HVC's creation of uncertainty about the investment environment

further constrains their operations. FDI operations involving semi-skilled and skilled labor present inherent risks to foreign investors. When the host location exhibits significant political risks, foreign investors operating in the secondary and services sectors are likely to decrease FDI flows.

> *H3: As high violent crime (HVC) increases, FDI decreases in sectors with a higher demand for more specialized labor.*

On the other hand, LVC does not generate the same level of uncertainty for foreign investors. LVC involves less violent crime that does not pose an immediate threat to a host location's governance. LVC is diverse in nature and may include violent acts or only threats of violence. As such, foreign investors do not associate the same levels of uncertainty with LVC as they do with HVC. While foreign investors operating in the secondary and services sectors face internal challenges from semi-skilled and skilled labor, they do not perceive LVC as creating an unsound investment environment. As such, LVC should have no significant effect on FDI decisions when foreign investors require specialized labor.

> *H4: As low violent crime (LVC) increases, there is no negative effect on FDI in sectors with a higher demand for specialized labor.*

The response of foreign investors to violent crime varies based on the sector in which they operate. For example, McEwen Mining, a Canadian mining company operating in the State of Sinaloa, Mexico reported an $8.5 million loss from a gold heist that was masterminded by Mexico's drug cartels (Grillo 2015). In 2015, eight armed men kidnapped employees on their way into work at McEwen Mining, forcibly gained access to a refinery, and stole around 7,000 ounces of gold (Estevez 2015). Following the robbery, McEwen Mining continued operations in Mexico. Rob McEwen, Chairman and CEO, noted that "'the cartels are active' [but] '[g]enerally we ha[ve] a good relationship with them'" (Estevez 2015:1).

On the other hand, Coca-Cola FEMSA, a joint venture operating in Mexico since 1979, has frequently responded to Mexico's violent crimes by temporary closures of operations. Coca-Cola FEMSA suspended operations for two weeks in February 2015 in Chilpancingo, the capital of the State of Guerrero, followed by a temporary closure of a plant facility in Arcelia, Guerrero later that same year (Woody 2018). Most recently, Coca-Cola FEMSA shut down its largest franchise bottler located in Ciudad Altamirano, Guerrero in March 2018 due to frequent harassment from organized crime and concerns about the rule of law (Mandel 2018). The decision to close the facility came in response to concerns about employee safety after employees complained of continual harassment from organized crime, such as attempts by an armed group to open gunfire on the facility (Mandel 2018).

The responses by McEwen Mining and Coca-Cola FEMSA differed significantly due to the type of criminal activity as well as their economic sector. McEwen Mining was subjected to a single robbery with low levels of violence associated with the incident while Coca-Cola FEMSA was victimized repeatedly with more extreme violence that imposed direct harm on victims.

More importantly, McEwen Mining and Coca-Cola FEMSA represent two different economic sectors: the primary sector versus the secondary sector. The primary sector generally has more operational flexibility because it requires less skilled labor while the secondary sector's dependence on more specialized labor creates increased production constraints. Although McEwen Mining experienced a significant financial loss, the violent crime was insufficient to disrupt its supply of unskilled labor and overall operations. The incidents at Coca-Cola FEMSA included more extreme violence and imposed constraints on overall operations. Given the operational challenges due to escalating criminal acts coupled with the need to attract and retain semi-skilled laborers to support production and distribution, Coca-Cola FEMSA experienced

substantial risks that dismantled the rewards from operating in Guerrero.

Research Design

In order to test my hypotheses, I use a panel analysis of Mexico's 31 states and Mexico City from 1999 to 2017. The unit of analysis is the state-year. I include three panels representing the primary, secondary, and services sectors of the economy. I also include panels of industries by sub-sectors as defined by the North American Industry Classification System (NAICS), including: agriculture, forestry, fishing, and hunting (agriculture), mining, quarrying, and oil and gas extraction (mining), construction, manufacturing, trade, transportation and utilities (TTU), information, financial activities, professional and business services (professional), and leisure and hospitality (hospitality) (U.S. Bureau of Labor Statistics 2020).[2]

Mexico is a relevant case for examining the effects of organized crime on FDI by economic sector. Mexico's organized crime varies at the sub-national level and includes several types of criminal activities. Furthermore, Mexico is the fifteenth largest recipient of FDI (Santander 2020). FDI flows to multiple industries with manufacturing, financial services, mining, and trade, transportation, and utilities representing the main invested sectors in 2018 (Santander 2020).

Likewise, the time period is appropriate for several reasons. First, it captures a period of time before and after Mexico's War on Drugs, which started in December 2006. Mexico's War on Drugs is associated with increased homicide rates and organized crime activities. Second, it includes Mexico's transitioning democracy with the National Action Party (PAN) being elected to the executive branch in 2000. The period of time includes executive leadership from both the PAN and the Institutional Revolutionary Party (PRI). Finally, this nearly twenty-year span of time incorporates the expansion of Mexico as a leading destination for global investment. It also

captures contractions in investment due to exogenous market shocks, such as the 2008 Global Financial Recession.

Table 3.1 provides a summary of the variables and descriptive statistics. The dependent variable is *FDI*. FDI is measured as the natural log of annual flows by state and includes a one-year lag as a robustness check. The natural log of FDI is frequently used in time series analysis of investment flows (Ashby and Ramos 2013; Blanco et al. 2015; Brown and Hibbert 2019; Hecock and Jepsen 2014). FDI measured as annual inflows is used as an additional robustness check for measurement validity. I use panel data of FDI by primary, secondary, and services sectors as well as sub-sectors.

The main independent variables of interest are high violent crime (HVC) and low violent crime (LVC). The data on HVC and LVC are from the Mexican National Security System (SNSP). Mexico's National Institute of Statistics and Geography (INEGI) and SNSP report on homicides and crime rates (Calderon et al. 2018; Shirk and Wallman 2015; Verdugo-Yepes et al. 2015). Overall, the data provided by INEGI and SNSP are fairly similar (Verdugo-Yepes et al. 2015).

Homicides represent HVC because they involve intentional harm to victims that results in the most brutal outcome—death. Homicides are measured as the annual number of intentional homicides by firearm in each state. Homicides by firearm are frequently associated with organized crime killings as identified by the Mexican government (Calderon et al. 2018; Molzahn et al. 2013). I also include all intentional homicides as a robustness check of the measurement of homicides. While death by firearm is prevalent in Mexico's organized crime killings, other methods are associated with drug-related homicides.

Table 3.1: Overview of Variables and Descriptive Statistics

Type	Variable Name	Description and Source	Obs	Mean	Std. Dev.	Min	Max
Dependent	FDI (log) (primary)	Natural log of annual inflow of FDI in the primary sector by each state Source: Ministry of Economy (La Secretaría de Economía)	346	2.467	2.538	-6.907	7.848
	FDI (log) (secondary)	Natural log of annual inflow of FDI in the secondary sector by each state Source: Ministry of Economy (La Secretaría de Economía)	593	5.045	1.663	.122	8.312
	FDI (log) (services)	Natural log of annual inflow of FDI in the services sector by each state Source: Ministry of Economy (La Secretaría de Economía)	586	5.028	1.295	-.326	9.203
	FDI (primary)	Annual inflow of FDI in the primary sector by each state Source: Ministry of Economy (La Secretaría de Economía)	608	45.288	169.164	-489.48	2561.21
	FDI (secondary)	Annual inflow of FDI in the secondary sector by each state Source: Ministry of Economy (La Secretaría de Economía)	608	440.169	630.994	-130.084	4073.333
	FDI (services)	Annual inflow of FDI in the services sector by each state Source: Ministry of Economy (La Secretaría de Economía)	608	339.017	759.523	-462.088	9922.268
Independent (HVC)	Homicides	Annual total number of intentional homicides by a firearm reported by state, measured as a crime rate Source: Executive Secretariat of the National Public Security System (Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública) (SNSP)	608	6.807	10.327	0	91.057
	Homicides (All Intentional)	Annual total number of all intentional homicides reported by a state, measured as a crime rate Source: SNSP	608	14.537	13.645	0	110.715
Independent (LVC)	Kidnappings	Annual total number of kidnappings reported by state, measured as a crime rate Source: SNSP	608	.806	1.805	0	36.653
	Extortions	Annual total number of extortions reported by state, measured as a crime rate Source: SNSP	608	3.616	4.355	0	36.186
Independent (LVC)	Disappearances	Annual total number of disappearances reported by state, measured as a crime rate Source: Executive Secretariat of the National Public Security System's National Data Registry of Missing or Disappeared Persons (SNSP's Registro Nacional de Datos de Personas Extraviadas o Desaparecidas) (RNPED)	608	.001	.001	0	.013

(table continues)

Type	Variable Name	Description and Source	Obs	Mean	Std. Dev.	Min	Max
Control	GDP per capita	Annual GDP per capita by each state, measured at constant prices of 1993 for 1997 through 2002 and constant prices of 2003 for 2003 through 2017. Source: National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía) (INEGI) and Secretary General of the National Population Council (Secretario General del Consejo Nacional de Población) (CONAPO)	608	121.58	157.76	5.705	1413.43
	Population	Natural log of each state's annual average population Source: CONAPO	608	14.775	.763	13.024	16.6699
	State Capacity	Number of judicial and security agents with federal jurisdiction assigned to a state in a given year per capita Source: INEGI	608	.00001	7.60e-06	1.33e-06	.0001
	Education	Average number of years of schooling for a state's population aged 15 or older Source: INEGI	608	8.422	1.116	5.392	11.739
	Labor Relations	Total number of a state's resolved labor disputes per capita Source: INEGI and CONAPO	608	.001	.001	.0001	.004
	Public Expenditures	Total annual state spending per capita, including: Personal Services; Materials and Supplies; General Services; Transfers; Allowances; Subsidies and other Grants; Movable, Immovable and Intangible Assets; Public Investment; Financial Investments and Other Provisions; Resources Allocated to Municipalities; and Other Expenses Source: INEGI	608	11025.24	5158.54	1653.61	29692.78
	Foreign Firms	Ratio of new foreign firms entering a state by year Source: Ministry of Economy (La Secretaría de Economía)	608	.082	.057	0	.463
	Election Year	Years in which a state had a gubernatorial election Source: Wikipedia	608	.579	.494	0	1
	Organized Crime	Annual total number of criminal organizations per capita operating in a state Source: NarcoData and CONAPO	608	1.768	1.319	0	7
	Anti-Violence Strategies	Dichotomous variable for the presence of major government anti-violence initiatives by state in a given year. Examples include: arrest, death, or extradition of a cartel leader/member; federal operations; and strategic government initiatives Source: NarcoData and Wikipedia	608	.114	.317	0	1
	Border State	Dichotomous variable representing states that border the U.S. Source: Wikipedia	608	.188	.3906	0	1

Kidnappings, extortions, and disappearances represent LVC because they may involve direct or indirect harm to the victim and are less extreme than homicides. LVC is measured as the annual number of reported instances of kidnappings, extortions, and disappearances by state.

The control variables include: GDP per capita, population, state capacity, education, labor relations, public expenditures, foreign firms, election year, organized crime, anti-violence initiatives, and border state. *GDP per capita* accounts for the annual value of all goods and services produced in a state. GDP per capita controls for economic productivity and variance across states in attracting FDI.

Public expenditures measure a state's annual spending per capita. Public expenditures control for stability within a state by accounting for a state's investment and provision of public services.

Population includes the natural log of a state's annual population. Population controls for variance in the size of a state's potential workforce.

Labor relations measure the annual number of resolved labor disputes per capita in a given state. Labor relations control for FDI flows across economic sectors as foreign investors operating in industries requiring more specialized labor prefer a stable workforce.

Education is the annual average level of education for a state's population aged 15 years or older. Education controls for the prevalence of organized crime as criminal organizations are likely to recruit individuals with less opportunities due to undereducation and underemployment. Education also controls for the likelihood of a state attracting FDI in specific sectors as foreign investors with semi-skilled and skilled labor requirements are likely to prefer a more educated labor force.

State capacity measures the per capita number of judicial and security agents with federal

jurisdiction assigned to a state. State capacity controls for a state's ability to contribute to the rule of law.

Foreign firms are an annual ratio of new foreign firms entering a state. Foreign firms control for variance across states in terms of their policies toward attracting and sustaining FDI. Foreign investors prefer locations that provide favorable investment policies and incentives. *Election year* is a dichotomous variable that measures when a state held a gubernatorial election. Government stability is an important consideration for foreign investors (Garland and Biglaiser 2009). Election year controls for potential changes in FDI flows due to political party changes and uncertainty about a state's policies toward FDI.

Organized crime represents the annual number of criminal organizations per capita operating in a state. States with higher concentrations of criminal organizations are more likely to experience widespread violence as criminal organizations compete for control. Organized crime controls for variance across states regarding the prevalence of organized crime.

Anti-violence initiatives are a dichotomous variable for major anti-violence initiatives led by the government that occurred in a state and in a given year. Examples of major initiatives include the removal of a cartel leader/member through arrest, death, or extradition, federal operations, and strategic government initiatives.

Border state is a dichotomous variable measuring if a state borders the United States. Border states may attract higher levels of FDI in certain economic sectors, such as manufacturing, since they provide greater proximity to the U.S. consumer market. Border states control for concentrations of FDI in certain states and sectors.

Methods

I employ a Feasible Generalized Least Squares (FGLS) model when examining FDI

inflows by economic sector. FGLS is an appropriate statistical model for panel data because it allows for issues of heteroskedasticity and serial correlation to be effectively addressed and is frequently used in panel data studies involving FDI flows (Chen et al. 2016; Liu et al. 2018; Song 2015; Vu 2011; Zhang and Fu 2008; Zhang et al. 2017).

I include three panels representing the primary, secondary, and services sectors of the economy. Additionally, I examine panels by sub-sector within the three economic sectors. I also apply several diagnostic tests to determine the validity of the model. First, multicollinearity appears not to be present based on the VIF and tolerance results from collinearity diagnostics. Second, I test for heteroskedasticity by using Breusch-Pagan/Cook-Weisberg, White's test, and visual diagnostics. Third, I run a Wooldridge test to determine if serial correlation exists. I correct for heteroskedasticity and serial correlation when they are present.

I also incorporate robustness checks into the model. First, I account for the possibility of organized crime and political, economic, and social conditions having a delayed effect on FDI flows by including a one-year lag. Second, I test the validity of the results by using FDI measured as annual inflows. Third, I test the measurement validity of homicides by including all intentional homicides.

Results

The results support my argument that the level of violence has varying effects on FDI flows by economic sector. Using six models, I present the results of HVC and LVC on FDI flows into the primary, secondary, and services sectors. The first and second models examine FDI flows into the primary sector with the second model considering the effects of a one-year lag. The primary sector provides foreign investors flexibility in their operational structure and costs because unskilled labor is a more available factor endowment. Regardless of intensity, foreign

investors are less concerned with the potential risks from violent crime. Models 3 and 4 focus on the secondary sector with a one-year lag included in model 4. The services sector is included in models 5 and 6 with a one-year lag in model 6. The secondary and services sectors have more rigid operational structures and costs because there is a more limited supply of specialized labor. With less operational leeway, foreign investors perceive high violence as an increased risk for their operations. The results of HVC and LVC on FDI flows into the primary, secondary, and services sectors are presented in Table 3.2.

HVC does not have a negative effective on FDI in the primary sector, but does deter FDI into the secondary and services sectors. Homicides are negatively correlated with FDI flows into the secondary sector with 99.9% significance and 99% significance with a one-year lag. Likewise, homicides are 99.9% statistically significant and negatively correlated with FDI flows into the services sector. Interestingly, homicides have no statistically significant effect on FDI flows into the services sector when considering a one-year lag. My first hypothesis that HVC does not decrease FDI in sectors requiring more unskilled labor is strongly supported. There is also evidence in favor of my third hypothesis that HVC is likely to decrease FDI in sectors requiring more specialized labor.

For the most part, my second and fourth hypotheses are also supported. LVC appears to have no statistically significant deterrent on FDI flows across economic sectors. It is important to note that disappearances have mixed effects on FDI with statistically significant and negative correlations for the primary sector, the primary sector with a one-year lag, and the services sector. However, disappearances are 95% significant and positively correlated with FDI in the secondary sector and secondary sector with a one-year lag. Evidence points to LVC having a less substantial impact on FDI decisions across all economic sectors.

Table 3.2: Overview of HVC and LVC on FDI by Primary, Secondary, and Services Sectors

Variables	Primary Sector	Primary Sector (lag)	Secondary Sector	Secondary Sector (lag)	Services Sector	Services Sector (lag)
Homicides	0.031*** (0.009)	0.0189* (0.0095)	-0.016*** (0.004)	-0.013** (0.005)	-0.013*** (0.004)	-0.006 (0.004)
Kidnappings	0.193* (0.0839)	0.254** (0.086)	0.029 (0.016)	0.006 (0.017)	-0.019 (0.03)	-0.003 (0.025)
Extortions	-0.0005 (0.034)	0.024 (0.036)	0.006 (0.009)	-0.003 (0.009)	-0.017* (0.008)	-0.013 (0.009)
Disappearances	-181.569** (62.987)	-134.913* (57.244)	37.713* (17.001)	43.201* (17.979)	-49.471* (23.709)	-31.865 (30.877)
GDP per capita	0.0004 (0.001)	0.001 (0.001)	0.0003 (0.0003)	0.0002 (0.0003)	-0.00002 (0.0004)	0.0001 (0.0003)
Population	0.953*** (0.182)	0.827*** (0.189)	1.204*** (0.050)	1.158*** (0.051)	0.943*** (0.054)	0.910*** (0.064)
State Capacity	41503.5* (17926.7)	48758.5* (19659.84)	5913.847 (5895.35)	-503.585 (6291.368)	37933.8*** (6240.849)	13993.79* (6689.193)
Education	-0.180 (0.133)	-0.324* (0.151)	0.509*** (0.048)	0.528*** (0.053)	0.538*** (0.049)	0.514*** (0.0598)
Labor Relations	123.848 (161.656)	249.831 (164.627)	423.280*** (42.444)	431.914*** (46.130)	260.647*** (56.549)	242.81*** (69.739)
Public Expenditures	0.0002*** (0.00003)	0.0001*** (0.00003)	-0.0001*** (0.00001)	-0.0001*** (0.00001)	-0.00004*** (0.00001)	-0.0001*** (0.00001)
Foreign Firms	0.751 (2.692)	-3.772 (2.603)	0.642 (0.823)	-1.802* (0.821)	1.089 (0.772)	0.426 (0.704)
Election Year	0.221 (0.212)	0.256 (0.216)	-0.244*** (0.069)	-0.264*** (0.072)	-0.034 (0.071)	0.071 (0.074)

(table continues)

Variables	Primary Sector	Primary Sector (lag)	Secondary Sector	Secondary Sector (lag)	Services Sector	Services Sector (lag)
Organized Crime	0.095 (0.081)	0.213** (0.079)	-0.254*** (0.031)	-0.163*** (0.031)	0.0803** (0.026)	0.0596** (0.022)
Anti-Violence Initiatives	0.374 (0.250)	-0.150 (0.243)	0.021 (0.089)	0.069 (0.091)	0.236* (0.101)	-0.041 (0.078)
Border State	0.465 (0.276)	0.288 (0.293)	0.940*** (0.093)	0.768*** (0.099)	-0.343** (0.108)	-0.118 (0.137)
Constant	-13.68*** (2.906)	-10.412*** (3.036)	-16.328*** (0.816)	-15.447*** (0.815)	-13.774*** (0.876)	-12.507*** (1.080)
N	346	328	593	563	586	554

Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

The substantive effects also support my hypotheses. When holding the control variables at their means, one instance of homicides results in a 4% increase in FDI flows to the primary sector with 99.9% significance and 99% significance with a one-year lag. Homicides have no substantive negative effect on FDI flows within the primary economy. On the other hand, homicides have a negative substantive effect on the secondary sector with 95% significance and on the services sector with 90% significance. Holding control variables at their means, one instance of homicides results in about a 1% decline in FDI flows to the secondary and services sectors. HVC has a substantively significant negative impact on FDI into sectors that require specialized labor.

Furthermore, the robustness checks of the measures of FDI and homicides seem to indicate that HVC deters FDI in sectors with greater labor specialization while LVC has no significant effect on investment decisions. Table 3.3 provides the results of HVC and LVC across the primary, secondary, and services sectors when FDI is measured as an annual total.

HVC has no statistically significant negative effect on the primary sector, but does on the secondary sector. While HVC is statistically insignificant in the services sector, it does indicate a negative relationship with FDI flows. It is important to note that there is no statistically significant effect when examining a one-year lag across all economic sectors. My first hypothesis is strongly supported with the robustness check while there is evidence from the secondary sector in support of my third hypothesis.

The robustness check of FDI presents findings in support of my argument about LVC. LVC continues to have no statistically significant impact on FDI flows across the majority of the models. Disappearances are 99% significant and positively correlated with FDI in the secondary sector with and without a lag.

Table 3.3: Overview of HVC and LVC on FDI by Primary, Secondary, and Services Sectors (Robustness Check of FDI)

Variables	Primary Sector	Primary Sector (lag)	Secondary Sector	Secondary Sector (lag)	Services Sector	Services Sector (lag)
Homicides	0.617* (0.296)	0.666 (0.399)	-2.311* (1.157)	-1.851 (1.274)	-0.997 (1.313)	-1.778 (1.561)
Kidnappings	0.681 (1.122)	1.029 (1.046)	6.987 (4.807)	2.515 (4.547)	-1.710 (4.053)	-2.189 (4.929)
Extortions	0.125 (0.489)	0.336 (0.522)	-1.285 (2.097)	-3.214 (2.258)	4.228 (2.752)	-0.042 (2.991)
Disappearances	-3499.028 (1828.141)	-455.113 (2422.603)	29227.85** (10496.55)	24634.48** (9230.283)	-10363.5 (13749.0)	-8789.548 (17039.29)
GDP per capita	0.012 (0.022)	0.015 (0.023)	0.235*** (0.062)	0.235*** (0.068)	0.0569 (0.0967)	0.063 (0.112)
Population	11.153* (5.257)	8.553 (5.677)	302.998*** (24.337)	313.643*** (25.089)	125.493*** (32.362)	137.94*** (39.52)
State Capacity	419992.7 (415776.7)	1303589.5** (470053.5)	6735578.2*** (1788660.5)	5305073.1** (1858235.5)	5819960.5** (1969797.3)	3693755.1 (2118129.4)
Education	-2.162 (3.864)	-6.524 (6.485)	140.622*** (17.703)	179.77*** (19.524)	91.743*** (20.849)	144.751*** (37.317)
Labor Relations	2363.397 (3734.593)	3873.699 (4099.913)	146526.7*** (20022.75)	139019.9*** (20412.31)	44951.66 (27536.16)	41319.09 (31434.24)
Public Expenditures	0.004*** (0.001)	0.003** (0.001)	-0.019*** (0.003)	-0.022*** (0.003)	-0.008 (0.004)	-0.014* (0.006)
Foreign Firms	57.799 (35.563)	-8.142 (32.663)	640.944** (213.553)	348.825 (199.388)	279.181 (188.322)	101.171 (203.475)
Election Year	-6.083 (4.698)	-3.352 (5.411)	-36.767 (21.461)	-32.78 (20.853)	-16.48 (24.526)	-32.791 (28.208)

(table continues)

Variables	Primary Sector	Primary Sector (lag)	Secondary Sector	Secondary Sector (lag)	Services Sector	Services Sector (lag)
Organized Crime	-1.689 (2.224)	1.995 (2.394)	-28.966** (10.435)	-15.369 (10.59)	17.376 (11.895)	13.622 (11.244)
Anti-Violence Initiatives	2.933 (3.956)	-0.390 (4.232)	-61.027 (38.526)	-52.597 (37.251)	25.939 (26.184)	12.799 (26.175)
Border State	28.431 (20.086)	6.703 (14.499)	201.901*** (46.471)	157.692** (48.143)	2.257 (68.24)	-11.411 (81.956)
Constant	-176.969* (83.646)	-108.163 (92.573)	-5364.911*** (435.6024)	-5751.07*** (463.189)	-2490.551*** (571.548)	-2922.692*** (755.067)
N	608	576	608	576	608	576

Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Table 3.4: Overview of HVC and LVC on FDI by Primary, Secondary, and Services Sectors (Robustness Check of Homicides)

Variables	Primary Sector	Primary Sector (lag)	Secondary Sector	Secondary Sector (lag)	Services Sector	Services Sector (lag)
Homicides	0.023** (0.007)	0.011 (0.008)	-0.012*** (0.003)	-0.006 (0.003)	-0.008** (0.003)	-0.005 (0.003)
Kidnappings	0.184* (0.087)	0.261** (0.085)	0.035* (0.018)	0.009 (0.019)	-0.019 (0.028)	0.002 (0.026)
Extortions	-0.017 (0.034)	0.014 (0.036)	0.012 (0.009)	-0.001 (0.009)	-0.015 (0.008)	-0.013 (0.009)
Disappearances	-189.296** (63.698)	-139.215* (54.315)	42.092** (15.846)	46.604* (18.467)	-52.423* (24.083)	-29.897 (30.466)
GDP per capita	0.0003 (0.00111)	0.001 (0.001)	0.0003 (0.0003)	0.0002 (0.0003)	0.00003 (0.0004)	0.0001 (0.0003)

(table continues)

Variables	Primary Sector	Primary Sector (lag)	Secondary Sector	Secondary Sector (lag)	Services Sector	Services Sector (lag)
Population	0.937*** (0.184)	0.797*** (0.191)	1.221*** (0.0504)	1.173*** (0.052)	0.957*** (0.055)	0.919*** (0.065)
State Capacity	42390.75* (18233.04)	48778.21* (20102.63)	7959.863 (5817.66)	882.527 (6263.191)	38311.84*** (6291.683)	15036.43* (6736.121)
Education	-0.114 (0.139)	-0.295 (0.162)	0.488*** (0.048)	0.511*** (0.054)	0.532*** (0.0499)	0.500*** (0.061)
Labor Relations	132.372 (162.396)	279.483 (164.038)	422.697*** (42.59)	437.91*** (46.253)	246.988*** (56.299)	235.709*** (68.49)
Public Expenditures	0.0002*** (0.00003)	0.0001*** (0.00003)	-0.0001*** (0.00001)	-0.0001*** (0.00001)	-0.00004*** (0.00001)	-0.0001*** (0.00001)
Foreign Firms	-0.063 (2.712)	-4.630 (2.609)	0.824 (0.823)	-1.599 (0.823)	1.261 (0.774)	0.413 (0.702)
Election Year	0.197 (0.217)	0.232 (0.223)	-0.234*** (0.069)	-0.263*** (0.072)	-0.035 (0.071)	0.073 (0.073)
Organized Crime	0.114 (0.083)	0.243** (0.079)	-0.263*** (0.0301)	-0.176*** (0.031)	0.068** (0.025)	0.057** (0.021)
Anti-Violence Initiatives	0.369 (0.259)	-0.147 (0.246)	0.011 (0.085)	0.052 (0.091)	0.221* (0.102)	-0.039 (0.078)
Border State	0.318 (0.276)	0.155 (0.289)	0.974*** (0.092)	0.790*** (0.098)	-0.322** (0.108)	-0.096 (0.137)
Constant	-13.894*** (2.955)	-10.149** (3.085)	-16.389*** (0.826)	-15.54*** (0.827)	-13.868*** (0.885)	-12.493*** (1.085)
N	346	328	593	563	586	554

Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Additionally, the robustness check of the measure of homicides appears to present evidence in support of my hypotheses. Table 3.4 includes the results of HVC and LVC on FDI flows into the primary, secondary, and services sectors when homicides are measured as all intentional homicides.

Again, HVC has no negative effect on the primary sector, but does deter FDI flows to the secondary and services sector. Yet, a one-year lag has no statistically significant impact although the coefficient is in the expected direction. The robustness check of the measure of homicides provides some evidence in support of my first and third hypotheses.

LVC also presents results in support of my hypotheses. LVC has no statistically significant negative effect across all economic sectors when measured as kidnappings and extortions. LVC generates mixed effects across the primary, secondary, and services sectors when measured as disappearances. Disappearances are statistically significant at 95% or higher and negatively correlated with the primary sector, one-year lag in the primary sector, and the services sector. Again, disappearances are statistically significant and positively correlated with the secondary sector. Overall, the results provide support for my hypotheses. HVC often has a negative effect on sectors requiring more skilled labor (H3), but does not undermine FDI in sectors with an abundance of unskilled labor (H1). LVC, for the most part, has no effect on FDI decisions regardless of labor being more (H4) or less (H2) skilled.

There are some key insights from these findings. First, a one-year lag is not statistically significant across the majority of the models. This indicates that foreign investors do not place substantial value on past events. Rather, foreign investors focus on present facts within the host location when determining levels of investment. Second, disappearances are statistically significant across the majority of models, but indicate mixed effects. Disappearances involve

high uncertainty about the fate of the victim. As such, the negative correlation may indicate that the uncertainty associated with disappearances is a critical consideration for foreign investors. Furthermore, sub-sector analysis demonstrates additional support that the type of violent crime coupled with the skill level of labor impacts FDI flows. Table 3.5 presents findings in the following sub-sectors within the primary economy: agriculture (agriculture, forestry, fishing, and hunting) and mining (mining, quarrying, and oil and gas extraction).

As expected, homicides have no statistically significant negative effect on FDI flows into agriculture or mining. LVC, excluding disappearances, continues to have no negative influence on FDI. Disappearances demonstrate mixed effects with 99% significance and positive correlation with agriculture given a one-year lag, 99% significance and negative correlation with mining, and 95% significance and negative correlation with mining given a one-year lag. Sub-sectors within the primary economy show increased abundance of unskilled labor counters concern about investing in high violent crime locations while most low violent crime has no effect on FDI decisions. Additionally, foreign investors are more sensitive to extreme violence when labor is less abundant due to specialized skill requirements. These findings demonstrate support for my hypotheses. Table 3.6 presents the findings of the following sub-sectors within the secondary economy: manufacturing and construction.

Homicides are negatively correlated with both manufacturing and construction with 99% significance in the manufacturing sub-sector and 99.9% significance for construction without and with a one-year lag. Political risks presented through extreme violence contribute to increased uncertainty for foreign investors when they operate in industries that face greater labor constraints. Kidnappings, extortions, and disappearances have no statistically significant negative effect on FDI flows to manufacturing or construction.

Table 3.5: Overview of HVC and LVC on FDI by Subsectors within the Primary Sector

Variables	Primary Sector	Primary Sector (lag)	Agriculture	Agriculture (lag)	Mining	Mining (lag)
Homicides	0.031*** (0.009)	0.0189* (0.0095)	0.013 (0.017)	0.007 (0.014)	0.0296** (0.011)	0.018 (0.012)
Kidnappings	0.193* (0.0839)	0.254** (0.086)	0.236 (0.223)	-0.004 (0.192)	0.192* (0.095)	0.266** (0.096)
Extortions	-0.0005 (0.034)	0.024 (0.036)	-0.076 (0.067)	-0.065 (0.054)	-0.073 (0.039)	-0.034 (0.039)
Disappearances	-181.569** (62.987)	-134.913* (57.244)	206.6 (131.595)	443.025** (139.781)	-237.055** (74.843)	-167.037* (67.114)
GDP per capita	0.0004 (0.001)	0.001 (0.001)	0.005 (0.005)	0.005 (0.005)	-0.002 (0.001)	-0.001 (0.001)
Population	0.953*** (0.182)	0.827*** (0.189)	0.375 (0.338)	0.238 (0.300)	0.386 (0.253)	0.378 (0.262)
State Capacity	41503.5* (17926.7)	48758.5* (19659.84)	-20491.5 (34425.14)	-32982.51 (29262.28)	35381.82 (21767.49)	56820.18* (22941.22)
Education	-0.180 (0.133)	-0.324* (0.151)	0.140 (0.321)	-0.396 (0.316)	0.001 (0.176)	-0.159 (0.203)
Labor Relations	123.848 (161.656)	249.831 (164.627)	259.499 (302.734)	694.769* (306.29)	-288.107 (224.901)	-152.058 (210.476)
Public Expenditures	0.0002*** (0.00003)	0.0001*** (0.00003)	-0.0001 (0.0001)	0.00003 (0.0001)	0.0002*** (0.00004)	0.0002*** (0.00004)
Foreign Firms	0.751 (2.692)	-3.772 (2.603)	-4.889 (5.585)	-1.214 (4.404)	3.432 (3.010)	1.856 (3.081)
Election Year	0.221 (0.212)	0.256 (0.216)	0.284 (0.424)	-0.066 (0.374)	0.0811 (0.260)	0.310 (0.274)

(table continues)

Variables	Primary Sector	Primary Sector (lag)	Agriculture	Agriculture (lag)	Mining	Mining (lag)
Organized Crime	0.095 (0.081)	0.213** (0.079)	0.019 (0.146)	0.310* (0.124)	-0.065 (0.111)	0.166 (0.112)
Anti-Violence Initiatives	0.374 (0.250)	-0.150 (0.243)	-0.411 (0.527)	0.447 (0.458)	0.336 (0.256)	-0.214 (0.250)
Border State	0.465 (0.276)	0.288 (0.293)	-1.281* (0.549)	-2.008*** (0.495)	0.695 (0.387)	0.643 (0.369)
Constant	-13.68*** (2.906)	-10.412*** (3.036)	-6.038 (5.799)	-1.014 (5.208)	-6.053 (4.124)	-5.790 (4.296)
N	346	328	148	136	288	273

Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Table 3.6: Overview of HVC and LVC on FDI by Subsectors within the Secondary Sector

Variables	Secondary Sector	Secondary Sector (lag)	Manufacturing	Manufacturing (lag)	Construction	Construction (lag)
Homicides	-0.016*** (0.004)	-0.013** (0.005)	-0.011** (0.004)	-0.007 (0.005)	-0.039*** (0.009)	-0.047*** (0.011)
Kidnappings	0.029 (0.016)	0.006 (0.017)	0.034* (0.018)	0.012 (0.019)	0.014 (0.031)	0.023 (0.042)
Extortions	0.006 (0.009)	-0.003 (0.009)	-0.001 (0.009)	-0.009 (0.009)	0.013 (0.027)	-0.043 (0.026)
Disappearances	37.713* (17.001)	43.201* (17.979)	28.465 (17.452)	37.465* (18.102)	24.513 (56.69)	35.809 (49.432)
GDP per capita	0.0003 (0.0003)	0.0002 (0.0003)	0.0001 (0.0002)	-0.0001 (0.0003)	0.002*** (0.001)	0.002** (0.001)

(table continues)

Variables	Secondary Sector	Secondary Sector (lag)	Manufacturing	Manufacturing (lag)	Construction	Construction (lag)
Population	1.204*** (0.050)	1.158*** (0.051)	1.205*** (0.052)	1.155*** (0.053)	1.079*** (0.181)	1.537*** (0.134)
State Capacity	5913.847 (5895.35)	-503.585 (6291.368)	2097.796 (5945.509)	-1631.551 (6198.151)	18811.3 (15748.7)	32116.61 (18063.66)
Education	0.509*** (0.048)	0.528*** (0.053)	0.501*** (0.0497)	0.524*** (0.055)	0.816*** (0.160)	0.831*** (0.147)
Labor Relations	423.280*** (42.444)	431.914*** (46.130)	451.504*** (44.691)	467.323*** (48.016)	-5.024 (160.449)	-119.755 (152.875)
Public Expenditures	-0.0001*** (0.00001)	-0.0001*** (0.00001)	-0.0001*** (0.00001)	-0.0001*** (0.00001)	0.0001 (0.00003)	0.0001** (0.00003)
Foreign Firms	0.642 (0.823)	-1.802* (0.821)	-0.001 (0.853)	-2.050* (0.853)	4.218* (1.730)	1.321 (1.977)
Election Year	-0.244*** (0.069)	-0.264*** (0.072)	-0.288*** (0.073)	-0.295*** (0.076)	-0.186 (0.219)	0.184 (0.186)
Organized Crime	-0.254*** (0.031)	-0.163*** (0.031)	-0.254*** (0.032)	-0.164*** (0.032)	-0.067 (0.077)	0.001 (0.075)
Anti-Violence Initiatives	0.021 (0.089)	0.069 (0.091)	0.027 (0.091)	0.042 (0.091)	0.290 (0.214)	0.324 (0.253)
Border State	0.940*** (0.093)	0.768*** (0.099)	1.063*** (0.095)	0.877*** (0.099)	0.032 (0.288)	-0.352 (0.286)
Constant	-16.328*** (0.816)	-15.447*** (0.815)	-16.256*** (0.841)	-15.40*** (0.839)	-22.426*** (2.837)	-29.328 (1.878)
N	593	563	593	562	456	433

Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Table 3.7 presents FDI flows into the following sub-sectors of the services economy: trade, transportation, and utilities (TTU), information, financial activities, professional and business services (professional), and leisure and hospitality (hospitality).

HVC has a statistically significant and negative effect across all sub-sectors except trade, transportation, and utilities (TTU). Homicides are 99% significant and negatively correlated with FDI flows into the information and professional sub-sectors. In the financial activities sub-sector, homicides are 99.9% significant and negatively correlated without and with a one-year lag. Interestingly, homicides are statistically significant and positively correlated with FDI flows into the hospitality sector. Within Mexico, the risks associated with the tourism industry come with substantial rewards (Flannery 2018). Despite increased violent crime, Mexico was expected to receive around 40 million tourists in 2018 with many individuals visiting major resort areas like Cancún (Flannery 2018). Foreign investors may be willing to accept the risks and costs associated with HVC in certain industries if there is a substantial profit margin.

Generally, LVC has no statistically significant negative effect on FDI flows into the services sub-sectors. It is important to note that kidnappings are 99% significant and negatively correlated with FDI flows into the hospitality sector while extortions and disappearances are negatively correlated at 95% significance in the financial activities sector. For the most part, the sub-sectors within the services industry support my claim that extreme violence undermines FDI due to the lack of an ample supply of specialized labor within these economic areas.

Many of the control variables provide additional support for my theoretical argument when looking at the primary, secondary, and services sectors. The population, education, and labor relations control variables indicate that labor is a critical determinant in FDI decisions.

Table 3.7: Overview of HVC and LVC on FDI by Subsectors within the Services Sector

Variables	Services Sector	Services Sector (lag)	TTU	TTU (lag)	Information	Information (lag)	Financial Activities	Financial Activities (lag)	Professional	Professional (lag)	Hospitality	Hospitality (lag)
Homicides	-0.013*** (0.004)	-0.006 (0.004)	-0.006 (0.004)	-0.0013 (0.005)	-0.013** (0.005)	-0.011 (0.005)	-0.024*** (0.005)	-0.018*** (0.004)	-0.0267** (0.009)	-0.016 (0.011)	0.024** (0.009)	0.024* (0.0102)
Kidnappings	-0.019 (0.03)	-0.003 (0.025)	0.012 (0.024)	-0.014 (0.024)	-0.025 (0.024)	-0.011 (0.025)	-0.032 (0.0301)	-0.023 (0.026)	0.049 (0.0504)	0.0502 (0.053)	-0.178** (0.058)	-0.027 (0.067)
Extortions	-0.017* (0.008)	-0.013 (0.009)	-0.012 (0.009)	-0.004 (0.009)	0.005 (0.0102)	-0.008 (0.0097)	-0.029* (0.012)	-0.0089 (0.0099)	-0.003 (0.021)	-0.002 (0.022)	-0.003 (0.017)	0.005 (0.0218)
Disappearances	-49.471* (23.709)	-31.865 (30.877)	6.512 (34.928)	39.425 (39.577)	12.717 (35.546)	8.510 (34.644)	-75.485* (31.993)	-56.65 (30.639)	-58.523 (49.166)	-69.119 (54.211)	4.076 (71.18)	-121.878 (80.785)
GDP per capita	-0.00002 (0.0004)	0.0001 (0.0003)	0.001* (0.0004)	0.0009* (0.0004)	0.0005 (0.0004)	-0.0002 (0.0004)	0.0003 (0.0003)	0.0006* (0.0003)	0.003*** (0.0006)	0.003*** (0.001)	0.001 (0.001)	0.0003 (0.0006)
Population	0.943*** (0.054)	0.910*** (0.064)	1.125*** (0.059)	1.097*** (0.0596)	0.745*** (0.078)	0.782*** (0.071)	1.089*** (0.085)	1.124*** (0.062)	1.722*** (0.121)	1.463*** (0.126)	0.808*** (0.161)	0.579*** (0.171)
State Capacity	37933.8*** (6240.849)	13993.79* (6689.193)	10452.0 (6629.244)	-501.853 (6867.056)	11719.38 (7997.059)	24425.06** (7892.102)	13209.1 (9203.005)	19357.46** (7409.989)	54709.52*** (14387.98)	6941.61 (15809.73)	126132.4*** (14743.28)	32058.47 (16840.4)
Education	0.538*** (0.049)	0.514*** (0.0598)	0.553*** (0.0502)	0.560*** (0.054)	0.232*** (0.068)	0.142 (0.073)	0.393*** (0.071)	0.521*** (0.063)	0.572*** (0.117)	0.846*** (0.130)	0.166 (0.109)	0.481*** (0.131)
Labor Relations	260.647*** (56.549)	242.81*** (69.739)	243.36*** (61.059)	250.77*** (66.448)	106.699 (75.601)	83.397 (69.58)	427.675*** (91.79)	322.633*** (71.561)	692.05*** (123.256)	564.612*** (131.242)	-0.003 (0.003)	-0.008 (0.012)
Public Expenditures	-0.00004*** (0.00001)	-0.0001*** (0.00001)	-0.00001 (0.00001)	-0.00001 (0.00001)	-0.0001*** (0.00001)	-0.0001*** (0.00001)	-0.00005** (0.00002)	-0.0001*** (0.00001)	-0.00003 (0.00003)	-0.0001* (0.00003)	0.00001 (0.00003)	0.00004 (0.00003)
Foreign Firms	1.089 (0.772)	0.426 (0.704)	1.395 (0.817)	1.467 (0.806)	1.060 (0.985)	1.572 (0.940)	-1.228 (1.052)	3.907*** (0.778)	3.290 (1.827)	2.518 (1.826)	0.111 (0.136)	0.473 (0.452)
Election Year	-0.034 (0.071)	0.071 (0.074)	0.048 (0.078)	0.058 (0.079)	0.099 (0.089)	0.123 (0.085)	0.001 (0.101)	0.048 (0.079)	-0.048 (0.168)	0.013 (0.173)	0.001 (0.027)	0.073 (0.107)
Organized Crime	0.0803** (0.026)	0.0596** (0.022)	0.068* (0.031)	0.062* (0.031)	0.0499 (0.036)	-0.019 (0.034)	0.130*** (0.039)	0.004 (0.029)	0.004 (0.063)	0.056 (0.062)	0.098 (0.072)	0.395*** (0.079)
Anti-Violence Initiatives	0.236* (0.101)	-0.041 (0.078)	0.338** (0.120)	0.273* (0.124)	0.047 (0.146)	0.042 (0.129)	0.398** (0.123)	0.048 (0.121)	0.494* (0.231)	0.221 (0.237)	0.187 (0.162)	-0.044 (0.187)
Border State	-0.343** (0.108)	-0.118 (0.137)	-0.106 (0.127)	-0.106 (0.135)	0.141 (0.161)	0.274 (0.150)	0.094 (0.175)	0.105 (0.136)	-0.225 (0.236)	-0.219 (0.249)	0.002 (0.021)	0.0503* (0.025)
Constant	-13.77*** (0.876)	-12.51*** (1.080)	-18.11*** (0.971)	-17.60*** (0.970)	-9.609*** (1.321)	-9.290*** (1.220)	-15.757*** (1.417)	-16.872*** (1.028)	-30.84*** (1.918)	-28.093*** (1.942)	-14.637*** (2.718)	-13.45*** (2.997)
N	586	554	568	537	525	508	585	553	506	477	442	423

Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001. Notes: TTU represents the trade, transportation, and utilities sub-sector. Professional represents professional and business services. Hospitality represents leisure and hospitality.

Population demonstrates that foreign investors are attracted to locations that offer an ample labor supply while education highlights that a less educated workforce is fine for the primary sector, but the secondary and services sectors require a more educated workforce to fulfill the semi-skilled and skilled labor requirements. Contrary to the primary sector, foreign investors seek strong labor relations to offset challenges associated with a scare supply of semi-skilled and skilled laborers. State capacity, public expenditures, election year, organized crime, and border state present varying effects across economic sectors. GDP per capita, foreign firms, and anti-violence initiatives are statistically insignificant in the majority of the models. The control variables highlight the importance of labor considerations in FDI decisions.

Overall, the findings present evidence in support of my hypotheses. High levels of violence are more likely to undermine FDI in industries with more complex labor requirements while low levels of violence generally have no substantial deterrence on FDI decisions regardless of the level of labor specialization.

Conclusion

Political risks in the form of violent crime are important considerations for foreign investors. However, the type of violent crime and the economic sector are the real determinants of FDI flows. Violent crime is best categorized as high violent crime or low violent crime based on the level of harm induced on the victim. As the evidence supports, extreme violence is more likely to deter FDI when economic sectors exhibit a requirement for specialized labor. Less extreme violence, for the most part, has no negative effect on FDI flows regardless of labor needs.

These findings advance current scholarship and hold important value for scholars and policymakers. First, violent crime must be examined by the typology of the criminal act rather

than aggregating all crimes together. Scholars should develop a discourse on crime typologies and examine the effects of each individual crime. This approach provides a more nuanced understanding of how crimes influence political risks and shape investment decisions. With this evidence, policymakers are better informed of how to address varying types of violent crime within their communities.

Second, foreign investment is a complex phenomenon that examines risks and rewards within the context of the overseas operation. While foreign investors are sensitive to a host country's political risks, they assess the level of risks within the context of their operational structure. Economic sectors with greater production constraints, such as labor inputs, present additional complexities for foreign investors. Foreign investors exhibit greater sensitivity to high risks when operating in these sectors. Scholars should incorporate economic sectors and sub-sectors into analysis when evaluating FDI flows as this provides further insight into foreign investor behavior. Policymakers can apply these findings about the decision-making process for foreign investors to develop economic policies and incentives that attract and retain foreign investment in specific sectors and within identified locations that offset risks for foreign investors.

While these findings contribute to our understanding of the relationship between organized crime and FDI, they are not without their limitations. First, the crime data are imperfect. Mexico lacks a standardized method for collecting and reporting organized crime. Nonetheless, these data limitations should not prevent scholars from examining how violent organized crime affects democracy, institutions, FDI, and economic development. Second, it is noteworthy to highlight that all economic sectors have a range of needs for labor inputs. While this study relies on broad assumptions about labor skills and requirements within the primary,

secondary, and services sectors, these generalizations are not unwarranted as they point to labor trends within different economic activities.

Despite these limitations, the evidence presented in this study highlights the importance of continuing to examine the relationship between organized crime and FDI. There are several areas for future research. First, disappearances by non-state actors warrants greater attention. While forced disappearances are frequently examined within the literature, less attention is given to disappearances at the hands of non-state actors. Terrorist organizations, rebel groups, and criminal enterprises play a major role in creating uncertainty for foreign investors. Future scholarship should provide a definition of disappearances caused by non-state actors and examine how they contribute to political risks. Second, this study examines FDI flows for ongoing foreign investment activities. Future research should consider the effects of the types of violent crime on mode of entry of FDI by economic sector. This scholarship would provide better insight into the decision-making process and critical conditions for foreign investors to enter into new markets.

While foreign investors are sensitive to political risks presented by violent organized crime, their risk perception differs by the industry in which they operate. Labor requirements are an important determinant of FDI flows across economic sectors when foreign investors face a risky investment environment.

Notes

[1] The U.S. Bureau of Labor Statistics (2020) categorizes industries by sector using the North American Industry Classification System (NAICS). The sectors include the following:

- Agriculture, Forestry, Fishing, and Hunting (Agriculture)
- Mining, Quarrying, and Oil and Gas Extraction (Mining)
- Construction
- Manufacturing
- Trade, Transportation, and Utilities

- Information
- Finance and Insurance and Real Estate and Rental and Leasing (Financial Activities)
- Professional and Business Services
- Education and Health Services
- Leisure and Hospitality
- Other Services (except Public Administration)

[2] Education and Health Services and Other Services are omitted as separate panels due to significant missing data.

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CHAPTER 4

BROKERING AND ENTERING: EXAMINING THE EFFECTS OF VIOLENT ORGANIZED CRIME ON THE OWNERSHIP STRUCTURE OF NEW FOREIGN DIRECT INVESTMENT IN MEXICO

Abstract

How does violent organized crime affect the ownership structure of new foreign direct investment (FDI) at the sub-national level? I contend that crime exhibiting extreme violence is more likely to decrease opportunities for new FDI entering through collaborative ownership structures than independent arrangements. A collaborative arrangement involves shared ownership between a multinational enterprise and a local partner while an independent arrangement enables a parent company to maintain full ownership in its overseas operation. Since shared ownership involves a complex arrangement, foreign investors are unlikely to enter under this structure when the host location exhibits significant political risks, such as extreme violent crime. On the other hand, independent ownership structures are less sensitive to extreme violence because foreign investors retain autonomy within their operations. Using a panel analysis of Mexico's 2,464 municipalities over a six-year period from 2011 through 2017, I assess the effects of violent crime on the ownership structure of new FDI. This study seeks to contribute to our understanding of sub-national FDI determinants in high risk locations.

Introduction

Foreign direct investment (FDI) involves a complex risk-reward assessment. Factors ranging from political risks, host location incentives, and long-term profitability influence FDI decisions. The entry strategy is a critical determinant for foreign investors as it defines the ownership structure within the host country. Investment entry includes various arrangements,

such as sole ventures, new acquisitions, joint ventures, or other structures (Root 1994). While the ownership structure is critical for new FDI, the host location's environment is also influential in determining when and how FDI enters a host country. Foreign investors evaluate the appropriate ownership structure in relation to the host location's risks and rewards to determine long-term profitability.

Mexico provides several benefits for foreign investors, such as proximity to a significant consumer market in the U.S., affordable labor, reduced operating expenses, and openness to foreign capital. At the same time, Mexico presents significant risks due to the presence of criminal organizations involved in violent crime, drug-trafficking, and other illicit activities. Despite these risks, Mexico continues to receive new FDI. How does violent organized crime affect the ownership structure of new FDI at the sub-national level?

Transaction Cost Theory contends that a cost-benefit analysis is used to determine ownership structure (Hennart 1991). Similarly, Dunning's eclectic paradigm highlights key advantages that attract FDI, including: ownership, location, and internalization (Dunning and Lundan 2008a). While studies note that collaborative ownership structures, like joint ventures, are more prevalent when there are high levels of uncertainty (Chun 2009; Hennart 1991, Li et al. 2008; Zhang et al. 2016), research also highlights mixed findings when looking at different types of risks (Demirbag et al. 2010; Li et al. 2012; Rodriguez et al. 2005). Previous scholarship about the determinants of FDI mode of entry of is primarily based on cross-national studies (Burger et al. 2016; Lee, Biglaiser, and Staats 2014; Li et al. 2012) or comparative firm analysis (Chun 2009; Demirbag et al. 2010; Zhang et al. 2016). I seek to contribute to existing literature by examining how violent organized crime affects the ownership structure of new FDI at the sub-national level.

I codify ownership structure as collaborative versus independent. Collaborative arrangements involve shared ownership between a multinational enterprise (MNE) and a local partner while independent structures enable parent companies to maintain full ownership in their cross-border operations. I operationalize collaborative as sociedades mexicanas (participation of foreign investors in the capital stock of Mexican companies) and independent as personas morales extranjeras (foreign legal entities investing in Mexico independently of holding interest or capital stock in a Mexican company) (Government of Mexico 2017).

I contend that violent organized crime has varying effects on FDI decisions. Extreme violence is more likely to deter FDI from entering under a collaborative than an independent ownership structure. There are inherent risks associated with collaborative arrangements, such as weak management structures, poor communication, and ineffective goal setting, among others (Dinu 2016; Skitsko and Huzenko 2017). Furthermore, collaborative ownership structures involve more complex arrangements in which foreign investors are dependent on local partners. Extreme violent crime creates an uncertain investment environment by challenging the state's authority to provide governance and an effective rule of law. Political uncertainty derived from violent crime coupled with the risks associated with collaborative arrangements undermines opportunities for new FDI to enter a host location.

Conversely, independent arrangements enable MNEs to maintain ownership control of overseas operations. Independent structures offer foreign investors enhanced assurance because the cross-border operation is under the control and jurisdiction of the parent company, faces less tax liability abroad, and has greater flexibility in the amount and duration of the investment (Globalization Partners 2019; Gonzalo Law LLC 2018). Independent ownership structures reduce some of the risks for foreign investors as MNEs maintain direct control and oversight of

operations abroad. Since independent arrangements face less risks, violent organized crime has a minimal effect on FDI through this entry strategy.

Using panel data of Mexico's municipalities from 2011 to 2017, I examine how violent crime affects the ownership structure of new FDI at the subnational level. The findings support my central argument that uncertainty derived from violent crime has a varying effect on how FDI enters a new market.

These findings hold significant implications for the study of international political economy. First, the results provide important insights into FDI decisions at the sub-national level. Although substantial scholarship has examined the effects of uncertainty on FDI, less attention has been granted to the relationship between violent crime and new FDI entry at the sub-national level. My study distinguishes key factors in FDI decisions by focusing on new FDI entry within municipalities. Second, the findings enhance our understanding of investment by using ownership structure to operationalize FDI. The majority of studies explore political risks and uncertainty by focusing on FDI growth without considering how operational structures and political risks influence entry decisions. My study provides greater insight into the FDI decision-making process by analyzing how investors assess initial on the ground risks and rewards. Finally, the results provide relevant insight for policymakers seeking to attract FDI. Local policymakers can develop investment strategies that address ownership structure and concerns about extreme violence.

Violent crime plays a critical role in determining the ownership structure of new FDI. The remaining sections of this chapter include a literature review, theory, methods, results, and conclusion.

Literature Review

Political science, economics, and business management research examines FDI determinants. Existing research can be summarized into the following thematic areas: FDI ownership structure, FDI determinants, and organized crime and violence.

FDI Ownership Structure

Research on FDI ownership structure examines how risks versus rewards influence investment decisions. Transaction Cost Theory contends that foreign investors apply a comparative analysis of the costs versus benefits to determine if the enterprise will have complete or partial ownership (Hennart 1991). Selecting the appropriate ownership structure when entering a new market is critical (Zhang et al. 2016) as partner selection and preferences are instrumental in protecting a firm's assets and resources (Li et al. 2008). Factors such as political risks, economic uncertainty, barriers, and cultural differences are key determinants in the ownership structure of FDI entering a new market (Chun 2009; Demirbag et al. 2007; Du et. al 2012; Hennart 1991; Vadlamannati 2012).

While existing literature highlights a preference for shared arrangements when uncertainty prevails, the impact of violent crime has not readily been explored. Hennart (1991) argues that partial ownership occurs when full ownership is too costly and risks outweigh rewards. Pervasive corruption is more likely to result in FDI entry via wholly owned subsidiaries whereas arbitrary corruption leads to a shared ownership structure (Rodriguez et al. 2005). Similarly, a study of the perceptions of uncertainty, such as corruption, on the mode of entry of Turkish firms into Central Asian Republics concludes that joint ventures are preferred over wholly owned subsidiaries when ethical uncertainties are key factors in the decision-making process (Demirbag et al. 2010). A shared arrangement with a local partner is also preferred

when the host country exhibits high levels of uncertainty, such as a resource-based economy, black markets, and socio-cultural dissimilarities between the home and host countries (Chun 2009) or political risks, agglomeration, affiliate size, and location (Demirbag et al. 2007).

Although previous research examines the political risks associated with FDI ownership structure, studies primarily focus on factors, such as institutions and corruption, without adequately exploring the role of violent organized crime. I seek to advance existing scholarship and contribute to our understanding of FDI ownership structure by examining how the prevalence of various types of violent organized crime effects the ownership structure of FDI entering different locales.

FDI Determinants

FDI determinants are influential in FDI ownership structure. Root (1994) argues that the primary reason an enterprise invests abroad derives from the conclusion that strategic objectives cannot be achieved by remaining at home. Dunning's eclectic paradigm contributes to the literature on FDI determinants by developing a FDI risk-reward structure that explains the key ownership (gains in market competitiveness over foreign firms by operating in a specific country), location (unique resources specific to the operating location, such as natural endowments, geography, political and institutional features, and other benefits), and internalization (enterprises maintain control over operations and productions while minimizing transaction costs) advantages of operating in a foreign location (Dunning and Lundan 2008a).

Previous research focuses on location advantages in terms of government type and institutional structure (Biglaiser and Staats 2010; Chan and Mason 1992; Dunning and Lundan 2008b; Du et al. 2008, 2012; Lu 2015). Research findings point to a democratic advantage for countries seeking FDI (Jensen 2003; Li and Resnick 2003). For example, democracies are 70%

more likely to attract FDI than non-democratic regimes because their institutional structure minimizes political risks (Jensen 2003, 2008). However, the results primarily focus on if a country attracts FDI, but not how political risks influence the ownership structure of FDI.

Organized Crime and Violence

Violent crime represents an important political risk that warrants further attention. Additional research should explore how different types of violent crime create risks for foreign investors. Literature highlights that organized crime and violence have a negative effect on economic opportunities, such as FDI (Blanco et al. 2015; Verdugo-Yepes et. al 2015), as economic growth decreases when high levels of violence are present (Abadie and Gardeazabal 2003, 2008; Camacho and Rodriguez 2012; Ríos 2015). However, the effects of crime and violence on FDI varies. Studies examining the relationship between violent crime and FDI note different results with mixed outcomes (Ashby and Ramos 2013), insignificant results (Soler 2012), and negative effects (Brown and Hibbert 2017).

Although research examines crime and violence within Latin America through comparative studies, there is a gap in the literature when it comes to sub-national analyses of violent crime and FDI. A study of Latin America and the Caribbean from 1996-2010 concluded crime rates diminished the benefits of democratic institutions, such as opportunities for economic growth and external capital (Blanco et al. 2015) while research on firms located across Latin America also found that crime along with corruption decreased the competitiveness of firms (Gaviria 2002). Similarly, Soler's (2012) study of organized crime and FDI provides valuable insight on determinants across countries by studying nineteen Latin American countries using data from a variety of sources.

There is extensive literature examining the effects of crime on economic opportunity

across Latin American countries, but less attention has been afforded to sub-national studies on the impact of violent organized crime on new FDI, specifically ownership structure. I intend to contribute to previous research about the effects of violent crime on FDI decisions by employing a sub-national analysis that examines the ownership arrangement of FDI entering new markets.

Theory

Ownership structure is a critical factor in FDI decisions as it determines the operational structure of a foreign entity in a host location. Foreign investors select an ownership structure that best aligns with their strategy for long-term profitability. Transaction Cost Theory maintains that ownership structure derives from a cost-benefit comparison between different ownership options with preference given to the one that produces the greatest rewards for the lowest costs (Hennart 1991). Entry strategy plays a critical role in determining a foreign investor's level of control over cross-border operations (Root 1994).

The decision for FDI to enter into a new market derives from a comprehensive risk analysis centered on perceived risks and anticipated rewards. Risks manifest through political uncertainty, such as non-democratic regimes, weak institutions, and crime and violence (Biglaiser and Staats 2010; Blanco et al. 2015; Jensen 2003, 2008; Lee, Biglaiser and Staats 2014; Li and Resnick 2003; Verdugo-Yepes et. al 2015).

A relevant risk for new FDI is the presence of violent crime. The U.S. Department of Justice (2019) defines violent crime as victimization in which an individual is directly harmed or threatened with violence. I contend that violent crime exists on a continuum with high violent crime (HVC) and low violent crime (LVC). HVC involves criminal acts that directly harm the victim by employing violence that results in the loss of life, such as homicides. Unlike HVC,

LVC employs threats of harm or less severe harm. LVC involves criminal acts that are less brutal in their victimization, such as kidnappings, extortions, and disappearances.

Violent criminal activities are not an inherent detractor for FDI. Rather, the type of violent crime presents different levels of political risk for foreign investors. High violent crime represents extreme forms of violence that degrade institutional and social norms. HVC is an indicator of political uncertainty because it undermines the rule of law, challenges the efficacy of institutions, and contributes to political and economic instability. HVC signals an increasingly risky investment environment as the violence challenges the state's ability to contribute to security and an effective rule of law.

Conversely, LVC does not contribute to the same perceptions about risk and uncertainty. The level of violence and extremism is less severe with LVC than with HVC. As such, LVC does not pose an imminent and direct threat to the state's authority to provide governance and a rule of law.

I contend that the relationship between violent organized crime and FDI is contingent on the type of violent crime and the ownership structure of the investment. I codify the ownership structure as collaborative versus independent. A collaborative ownership structure involves partial ownership between the MNE and a local partner while an independent ownership structure allows for full control of operations in the host country.

Turning first to a collaborative ownership structure, MNEs establish a local partnership when this type of operational structure reduces transaction costs, produces production efficiencies, increases access to resources, and promotes goals and objectives (Dinu 2016; Dunning and Lundan 2008a). Collaborative ownership structures involve financial integration with a local company via a merger, acquisition, joint venture, or other arrangement.[1]

Collaborative ownership structures offer several rewards to foreign investors, such as production efficiencies, cost-savings, and opportunities for growth and expansion (Dinu 2016; Skitsko and Huzenko 2017). Despite these benefits, collaborative arrangements face substantial risks because the level of capital investment exposes foreign investors to financial hazards (Lee, Biglaiser, and Staats 2014). For example, joint ventures face significant failure rates as high as 70% (Lowen and Pope 2008; Park and Russo 1996; and Perkins et. al 2014) because of various factors, such as political instability (Lowen et al. 2008). Host locations that provide good governance, such as a rule of law, substantial veto players, and stable democratic institutions (Lee, Biglaiser and Staats 2014) are preferred for mergers and acquisitions, especially if shared technology and knowledge is part of the arrangement (Li et al. 2012).

While collaborative arrangements provide rewards to MNEs by granting them access to in-country advantages, these rewards are associated with significant risks for foreign investors. A collaborative ownership structure creates a dependency relationship for foreign investors because it includes long-term operations, involves in-country partnerships, and requires locally sourced labor.

First, collaborative ownership structures are frequently long-term arrangements (Dunning and Lundan 2008a). As such, foreign investors are more sensitive to a host country's political risks because their financial portfolios are directly affiliated with a local company over a longtime horizon. MNEs cannot easily extract themselves from the investment if the risks increase over time.

Furthermore, collaborative arrangements are vulnerable to changes in a host location's investment policies. In a 2014 World Bank survey of CEOs from multinational corporations, 43% of respondents identified transfer risks as one of their major concerns (Graham et al. 2018).

Transfer risks involve restrictive government policies that inhibit foreign investors from reaping full rewards by limiting their ability to control their profits, such as implementing taxes on exchange rates or creating barriers to moving currency out of the country (Graham et al. 2018). Political risks for investors are heightened when governments exhibit poor transparency (Barry and DiGiuseppe 2018). The absence of information sharing enhances foreign investors trepidation about entering a new location, especially if that location faces other forms of uncertainty, such as an ineffective rule of law.

A host location's foreign investment policies are subject to modifications over time based on changes in government leadership, economic and currency crises, geo-political tensions between the home and host countries, and other factors. Although a host location may provide investor-friendly incentives, there is always the possibility that the government may change investment policies in the future. For example, the 2013 amendment to Mexico's constitution resulted in a new governance structure for enforcing regulations related to mergers and acquisitions and joint ventures (Castañeda 2019). While collaborative structures present significant rewards for foreign investors, the extended time horizon requires a dependency relationship with the host country, which brings uncertainty over the lifespan of the investment. As such, foreign investors are cognizant of the current political risks and areas of uncertainty within the investment environment when deciding on whether to proceed with a collaborative arrangement for new FDI entry.

Second, shared ownership presents risks for foreign investors because MNEs concede autonomy to a local partner. While collaborative arrangements connect MNEs with local partners, the structure comes at a price as MNEs exchange full control for shared governance and management. As MNEs relinquish their independence, they create openings for vulnerabilities as

their futures are directly linked to the decisions and behaviors of a foreign entity. The global reputation of the MNE is affiliated with their partner's behavior (Hennart 1991) with the public holding MNEs accountable on a global level (Spar 1998). An MNE operating in a foreign country is not only answerable to their own behavior, but also to the actions of their local partner and the foreign government where they operate. Since the fate of an MNE is tied to local partners, foreign investors perceive on-the-ground risks, like crime and violence, as contributing to greater uncertainty about the efficacy of the investment.

Third, collaborative ownership structures are heavily dependent on local labor supplies. Labor is a critical determinant in FDI decisions (Biglaiser and Lee 2019; Demirbag et al. 2007; Derado and Horvatin 2019; Waldkirch 2011). Biglaiser and Lee (2019) find that FDI mode of entry shapes labor rights in developing countries with joint ventures and greenfield investments providing more benefits for workers. Similarly, the structure in which FDI enters also influences economic productivity. Mergers and acquisitions positively influence labor productivity while the benefits of greenfield investments are limited to sectors with high levels of innovation (Derado and Horvatin 2019).

The relationship between FDI ownership structure and local labor is critical for foreign investors. Local labor is an important factor in the negotiation of collaborative ownership structures as MNEs seek affordable labor, and local companies and governments aim to provide employment opportunities to their community. Foreign investors engage with their partners by hiring local labor rather than outside labor. Since the investment generally involves a long-term operational strategy, the use of local labor contributes to production efficiencies, such as lower labor costs and establishing rapport with the host community and government by promoting

economic prosperity. With partial ownership, foreign investors are bound to collaborate with their host communities.

Labor is a key factor endowment for collaborative ownership structures. However, the presence of extreme violence undermines potential rewards for foreign investors. Pervasive violence threatens the well-being of the host community as residents are directly threatened or harmed by organized crime. Criminal organizations employing high violence undermine a host location's labor supply as residents are coopted into illicit activities, choose to migrate to new locations, or become disengaged community members. Because collaborative ownership structures are highly dependent on local labor, foreign investors are more sensitive to potential risks that could undermine operational efficiencies, such as labor supplies.

Although foreign investors derive rewards from collaborative arrangements, there are real concerns associated with ownership structures that directly link MNEs to local partners. Collaborative ownership generally involves a long-term financial arrangement that is subject to future risks. As such, current political risks significantly factor into decisions about new FDI entry. In host locations with lower political risks, MNEs can tolerate the risk-reward structure of a collaborative arrangement. However, host locations with significant uncertainty created by high-impact risks warrant caution. The prevalence of high violent crime penetrates societal norms and undermines institutional effectiveness, signaling to investors uncertainty and poor governance within the host location. This risk intensification plays into the existing risk-reward structure and contributes to greater uncertainty about the efficacy of a collaborative arrangement. High violent crime is likely to deter FDI collaborative ownership structures when it contributes to heightened perceptions about a host location's political risks.

> *H1: As high violent crime (HVC) increases, the likelihood of new FDI entering through a collaborative ownership structure decreases.*

Violent crime is not inherently a deterrent for FDI. In contrast to HVC, LVC involves incidents in which harm is threatened or applied, but does not involve the killing of victims. As such, low violent crime behaves similarly to other types of crime. While crime in general indicates challenges to the rule of law, crime is commonplace across societies. As such, LVC does not significantly undermine a country's ability to provide good governance. Foreign investors are less likely to consider low violent crime as an imminent threat to their long-term investment. As such, collaborative arrangements are unlikely to be affected by LVC.

H2: As low violent crime (LVC) increases, there is no effect on the likelihood of new FDI entering through a collaborative ownership structure.

Turning to independent ownership structures, foreign investors prefer this option when they have no interest in collaborating with local companies (Dinu 2016) and when it advances strategic goals while decreasing operating costs (Dunning and Lundan 2008a). Independent arrangements provide MNEs with a smaller footprint within the host country.

Independent arrangements may include a branch, representative office, or other type of subsidiary of the parent. A branch office abroad is an extension of the parent organization and is not considered a separate legal entity (Gonzalo Law LLC 2018).[2] As an extension of the parent company, branch offices provide several rewards and streamline operations. Branch offices operate within the parent company's tax jurisdiction, are generally not required to file separate tax returns, and provide a shared financial risk structure (Gonzalo Law LLC 2018).

Likewise, representative offices provide rewards for foreign investors. Representative offices minimize risks because they are an extension of the parent company and have an operating structure limited to marketing and promotion (Dela Cruz 2017). Furthermore, representative offices sometimes serve as a precursor to long-term investment as they provide

foreign investors a minimal upfront commitment while they explore FDI opportunities in-country (Quer and Claver 2008).

Branches and representative offices generally face lower risks. Risk factors for branch offices include distance between the parent company and branch that inhibits collaboration, inexperienced leadership in the branch office, and corporate culture differences between the parent company and branch office (Conklin 2005). Representative offices are less vulnerable to potential risks as they are smaller operations. Representative offices are likely to occur after the home and host country have established an export market and before a commitment to long-term investment (Quer and Claver 2008).

FDI independent ownership structures provide several benefits that offset potential political risks for foreign investors. First, independent arrangements are less dependent on the conditions of their host location because they are closely linked to the parent organization. Independent ownership allows for a hierarchical relationship in which the parent organization retains control over the foreign entity and the parent organization's legal jurisdiction frequently extends to the foreign entity (Globalization Partners 2019). Branches and representative offices receive tax breaks as they are allowed to file tax returns through their parent company (Globalization Partners 2019; Gonzalo Law LLC 2018). Unlike collaborative ownership structures that involve investment affiliated with a local partner's capital stock, MNEs invest independently with varying levels of capital. MNEs have greater control over their long-term financial viability because branches and representative offices are under the control and jurisdiction of the parent company.

Second, independent arrangements are less complex than collaborative ownership structures. Independent ownership structures provide a less complicated establishment process

(Globalization Partners 2019). The parent company works directly with the host location to establish operations that involve commercial and income-generating activities (branch) or promotion and marketing (representative office). Independent arrangements provide a simplistic operational structure. With the ease of establishment, independent ownership structures are less sensitive to risks on the ground, such as uncertainty created by violent crime, that could impede the establishment or continuation of operations.

Finally, independent ownership structures are less reliant on local labor. Independent operations are generally smaller in nature than collaborative arrangements as they are involved in less complex and less diverse operations and have a lighter footprint in the host country. While independent ownership structures are likely to hire local labor, the labor requirements for independent arrangements are far less complex than collaborative ownership structures. As such, independent ownership structures have greater flexibility in their operations and ability to respond to risks within their operating location.

While substantial levels of violent crime indicate deteriorating security and a declining rule of law, FDI entering through independent arrangements is less likely to be affected due to their smaller footprint within the host location. Frequently, foreign investors select independent ownership structures as a means of assessing the investment environment without committing to extensive long-term FDI activities. Independent arrangements provide foreign investors with greater flexibility to respond to political risks on the ground, such as those posed by violent organized crime.

MNEs conduct a comprehensive assessment of the risk-reward structure in which they weigh identified risks against the potential for sustained profitability. As independent ownership structures provide significant rewards, including flexibility in investment strategies both in the

present period and in the future, MNEs are less sensitive to risks and uncertainty within the investment environment. Thus, political risks, such as HVC and LVC, will play an insignificant role in determining if new FDI will enter independently.

> *H3: As high violent crime (HVC) increases, there is no effect on the likelihood of new FDI entering through an independent ownership structure.*

> *H4: As low violent crime (LVC) increases, there is no effect on the likelihood of new FDI entering through an independent ownership structure.*

Research Design

In order to test my hypotheses, I use a panel analysis of Mexico's 2,464 municipalities over a six-year period from 2011-2017.[3] The unit of analysis is municipality-year. I employ two balanced panels. The first panel includes collaborative ownership structures while the second panel includes independent ownership structures.

The time period presented in the study is appropriate for two reasons. First, the 2011 through 2017 period accounts for variance in Mexico's ruling party as it includes two executive administrations from different political parties: the Calderón administration (PAN—National Action Party) and the Peña Nieto administration (PRI—Institutional Revolutionary Party). While this study focuses on new FDI entry at the sub-national level, there were important federal policies during each administration that make this time period even more relevant for this study. For example, President Calderón allocated $250 billion in infrastructure development for Mexico's airports and seaports to advance economic activity (Bamrud 2007) while President Peña Nieto implemented the 2014 energy reform that permitted foreign investment into Mexico's oil and gas industry for the first time since 1938 (Malkin 2014). Second, the National Public Security System's municipality-level data of Mexico's different types of crime are only available beginning in 2011.

Mexico's municipalities also provide a relevant case for examining the effects of violent crime on FDI ownership structure. Mexico is the second largest recipient of FDI in Latin America (Gonzalez 2019) and fifteenth largest recipient of FDI in the world (Santander 2019). Mexico's foreign capital flows to various economic sectors, including manufacturing, energy, retail and wholesale trade, financial services, mining, tourism, and more (Santander 2019). Mexico also experiences violent organized crime (Grillo 2012) that includes homicides, kidnappings, extortions, and disappearances (Beittel 2018).

Table 4.1 provides a summary of the variables and descriptive statistics. The dependent variable is FDI ownership structure and includes two measures: collaborative and independent. *Collaborative* is operationalized as sociedades mexicanas or foreign investors owning shares in Mexican companies. Mexico's Foreign Investment Law of 1993 establishes the regulatory framework for Mexico to attract foreign capital into the country noting that foreign investment may involve sociedades mexicanas or the "participation by foreign investors, in any percentage, in the capital stock of Mexican companies" (Government of Mexico 2017: 2). Collaborative is represented as a dichotomous variable that measures if new FDI structured as a shared arrangement entered a municipality in a given year. *Collaborative count* is an additional measure of the total number of new collaborative entries that occurred in a municipality in a given year. A one-year lag is applied to provide a robustness check of the results as conditions occurring in the preceding year could affect FDI decisions.

Independent is operationalized as personas morales extranjeras or foreign legal entities investing in Mexico independently of holding interest or capital stock in a Mexican company. Personas morales extranjeras is another vehicle for FDI permitted by Mexico's Foreign Investment Law of 1993 (Government of Mexico 2017). Foreign legal entities seeking to create

companies in Mexico have three options: branch offices that perform commercial acts and are recognized as separate legal entities; representative offices that perform administrative functions rather than commercial activities with the goal of eventually becoming an established company; and subsidiaries of the parent companies (Expansión 2017). Independent is represented as a dichotomous variable that measures if a new independent arrangement entered a municipality in a given year. *Independent count* is an additional measure of the total number of independent entries that occurred in a municipality in a given year. A one-year lag is also applied as a robustness check

The independent variables are high violent crime (HVC) measured as homicides and low violent crime (LVC) measured as kidnappings, extortions, and disappearances. The control variables include: GDP per capita, public expenditures per capita, population, resolved labor disputes, illiteracy, judicial strength, political party, border municipality, and U.S. FDI.

Homicides measure all intentional homicides by firearm that occurred in a municipality in a given year. Homicides represent HVC or the most extreme version of violent crime because they involve direct harm to the victim and result in the loss of life.[4]

Examples of LVC include kidnappings, extortions, and disappearances. While these types of crime are also violent in nature, their brutality is not as extreme as homicides. The intent of these violent crimes is to use harm or threats of harm as a means of extracting assets from a victim, such as a monetary payment or information that propagates other criminal activities. *Kidnappings* measure the number of kidnapping victims reported in a municipality in a given year. *Extortions* measure the annual number of victims in a municipality who reported being subjected to extortion. *Disappearances* measure the number of individuals who were reported missing or disappeared in a municipality in a given year.

GDP per capita measures the total value of all goods and services produced by a municipality in a given year. GDP per capita controls for the economic productivity of a municipality and indicates the potential financial viability and political stability of the municipality in terms of attracting FDI.

Public expenditures per capita measures a municipality's spending in a given year. Public expenditures per capita controls for a municipality's provision of public services and investment in the municipality. It indicates the potential financial viability and political stability within the municipality for the entry of new FDI.

Population measures a municipality's population in a given year. The natural log of population is used. Population controls for variance across municipalities in terms of the size of the municipality and potential workforce. Local labor is a key consideration for foreign investors.

Resolved labor disputes measures the number of labor disputes in a municipality that had resolution in a given year. Resolved labor disputes control for where foreign investors operate as they likely seek locations that provide a stable workforce.

Illiteracy measures the annual percentage of a municipality's population aged 15 or older who are illiterate. Illiteracy controls for the prevalence of violent crime in terms of criminal organizations recruiting illiterate individuals who have fewer employment opportunities. Illiteracy also controls for where foreign investors operate as they are likely to seek locations that produce a workforce with basic education and skills.

State capacity measures the total number of judicial and security government agents with federal jurisdiction assigned to a municipality in a given year. State capacity controls for the potential capacity of the local government to contribute to security within a municipality in

relation to the prevalence of violent crime and foreign investors' perceptions about political and economic stability.

Political party is a dichotomous variable that indicates if there was a change in the political party of the municipal president in a given year. The municipal president is elected by general election and oversees the municipal council and public services for the municipality. Political party controls for the political ideologies of the ruling party and changes in municipality policies that could affect the prevalence of organized crime and foreign investors' perceptions about political and economic stability. Furthermore, the municipality president also influences local policies, such as incentives to attract FDI. Changes in the political party of municipality presidents could signal adjustments in the policy preferences of a municipality regarding FDI incentives.

Border municipality is a dichotomous variable that indicates if a municipality shares a border with the U.S. Border municipality controls for concentrations of FDI along the U.S.-Mexico border as foreign investors seek close proximity to the U.S. consumer market. *U.S. FDI* is a dichotomous variable that indicates if the U.S. is the country of origin of FDI. The U.S. is Mexico's top investor with U.S. sourced FDI outpacing other top producers by more than 4 billion dollars annually (Gonzalez 2019). The U.S.-Mexico relationship provides significant rewards for foreign investors, such as proximity between the production of goods and services, a substantial consumer market, and production and resource efficiencies. With this reward structure, foreign investors with FDI originating in the U.S. may be more risk accepting than MNEs headquartered in other countries.

Table 4.1: Overview of Variables and Descriptive Statistics

Type	Variable	Description and Source	Obs	Mean	SD	Min	Max
DV	Collaborative	Dichotomous variable that measures if FDI entered a municipality in a given year in the form of "sociedades mexicanas" Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	17,206	.0724166	.259184	0	1
	Collaborative (lag)	One-year lag of Collaborative Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	14,748	.0713317	.2573868	0	1
	Collaborative Count	Count of the number of times FDI entered a municipality in a given year in the form of "sociedades mexicanas" Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	17,206	1.089736	13.11641	0	511
	Collaborative Count (lag)	One-year lag of Collaborative Count Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	14,748	1.093843	13.28971	0	511
	Independent	Dichotomous variable that measures if FDI entered a municipality in a given year in the form of "personas morales extranjeras" Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	17,206	.0065675	.0807758	0	1
	Independent (lag)	One-year lag of Independent Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	14,748	.0067806	.0820674	0	1
	Independent Count	Count of the number of times FDI entered a municipality in a given year in the form of "personas morales extranjeras" Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	17,206	.0150529	.2831201	0	16
	Independent Count (lag)	One-year lag of Independent Count Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras	14,748	.0158666	.2967109	0	16
IV (HVC)	Homicides	Annual total number of intentional homicides committed by firearm reported by municipality and measured as a crime rate Source: Executive Secretariat of the National Public Security System (Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública) (SNSP)	17,195	7.696974	27.04036	0	1666.667
IV (LVC)	Kidnappings	Annual total number of kidnappings reported by municipality and measured as a crime rate Source: SNSP	17,195	.6660751	3.629967	0	277.778

(table continues)

Type	Variable	Description and Source	Obs	Mean	SD	Min	Max
	Extortions	Annual total number of extortions reported by municipality and measured as a crime rate Source: SNSP	17,195	5.472704	53.07208	0	2184.466
	Disappearances	Annual total number of disappearances reported by municipality and measured as a crime rate Source: Executive Secretariat of the National Public Security System's National Data Registry of Missing or Disappeared Persons (SNSP's Registro Nacional de Datos de Personas Extraviadas o Desaparecidas) (RNPED)	17,195	23.24277	401.3631	0	21770.68
Control	GDP per capita	Annual total gross production (value of all goods and services produced by the economic unit) by municipality and measured in millions of pesos. As municipality level GDP is reported every five years, 2009 GDP data are used for 2011-2013 and 2014 GDP data are used for 2014-2017. Source: Instituto Nacional de Estadística y Geografía (National Institute of Statistics and Geography) (INEGI), Censos Economicos: Sistema Automatizado de Información Censal (SAC)	17,195	.0389281	.2479602	-.0065	9.4887
	Public Expenditures per capita	Annual amount of public expenditures by municipality divided by the municipality's population that includes: expenditures, personal services, materials and supplies, general services, fund transfers and subsidies, assets, public investment, financial investment, other expenses, public debt, and other expenditures Source: INEGI, Sistema Estatal y Municipal de Bases de Datos (State and Municipal Database System) (SIMBAD)	14,695	4987.882	3489.436	549.5	70946.15
	Population	Total annual population of a municipality. As the data are reported every 5 years, 2010 data are used for 2011-2014 and 2015 data are used for 2015-2017. Source: Secretario General del Consejo Nacional de Población (Secretary General of the National Population Council) (CONAPO)	17,195	9.430645	1.570682	4.466	14.4187
	Resolved Labor Disputes	Annual number of resolved labor disputes by municipality Source: INEGI, SIMBAD	17,206	.042892	1.857341	0	200

(table continues)

Type	Variable	Description and Source	Obs	Mean	SD	Min	Max
	Illiteracy	Annual percentage of a municipality's population aged 15 or older that is illiterate. As the data are reported every 5 years, 2010 data are used for 2011-2014 and 2015 data are used for 2015-2017. Source: CONAPO	17,195	13.07081	9.30135	.56	66.74
	State Capacity	Annual total number of judicial and security government agents with federal jurisdiction assigned to a municipality Source: INEGI, SIMBAD	17,090	.6297445	4.599774	0	137
	Political Party	Dichotomous variable that measures if there was a change in the political party of the municipality president during a given year Source: SEGOB, Instituto Nacional para el Federalismo y el Desarrollo Municipal (National Institute for Federalism and Municipal Development) (INAFED)	17,206	.2206788	.4147164	0	1
	Border Municipality	Dichotomous variable that measures if a municipality borders the U.S. Source: Wikipedia	17,206	.0150529	.1217668	0	1
	U.S. FDI	Dichotomous variable that measures if FDI originated in the U.S. Source: Secretaría de Gobernación (SEGOB), Las Empresas Extranjeras (foreign companies)	17,206	.0454493	.2082934	0	1

Methods

I employ a logistic regression model (logit model) when measuring FDI ownership structure as a dichotomous variable. The logistic regression includes two panels: collaborative and independent. Logistic regression is an appropriate statistical model for social science research when there is either a dichotomous or ordinal dependent variable (Menard 2011; Stoltzfus 2011; UCLA 2019).

I apply several diagnostic tests to determine the validity of the model. First, I confirm that the variables selected for the model are appropriate. Using a linktest, I verify that there are no specification errors in terms of the variables included in the regression models. Second, the model demonstrates a goodness of fit based on Hosmer and Lemeshow's goodness-of-fit test as well as a pseudo R-squared of .5 or higher across the models. Finally, multicollinearity is not present based on the VIF and tolerance results from the collinearity diagnostics.

Additionally, I perform a robustness check of the logistic regression model by including a probit regression model that incorporates separate panels for collaborative and independent. Like logistic regression, probit models are also appropriate for dichotomous variables and provide a normal probability distribution using a linear model of the explanatory variables (UCLA 2019).

Finally, I include a robustness check to verify the findings by using a count measure of the dependent variable rather than a dichotomous measure. I apply a Poisson model with robust standard errors for the robustness check. Poisson regression is an appropriate statistical method when the dependent variable includes count data (King 1988; Menard 2011; UCLA 2019). The models appear to present a good fit as they have a pseudo R-squared of .5 or higher. I also employ a negative binomial regression to determine if there is an overdispersion of count data.

The findings from the likelihood ratio test comparing the negative binomial regression model to the Poisson model indicate that the Poisson model is more appropriate.

A one-year lag is included in the logistic regression, probit, and the Poisson models as a robustness check. The one-year lag accounts for a potential delayed effect in FDI entry based on conditions from the previous year, such as HVC, LVC, and other influential factors.

Results

The results present strong evidence in support of my theoretical argument. HVC is more likely to deter FDI entry under a collaborative ownership structure than an independent ownership structure. On the other hand, LVC has no significant impact on FDI ownership structure. I first examine the likelihood of FDI entering under collaborative and independent arrangements by using logit and probit regression models. Table 4.2 presents the results of the logit and probit models for both collaborative and independent ownership structures.

The presence of HVC decreases the likelihood of new FDI entry under a collaborative arrangement. For every one-unit increase in homicides, the log odds of new FDI entering as collaborative decreases by .0221. This result is statistically significant at 99%. The robustness check of a one-year lag demonstrates the same findings. For every one-unit increase in homicides, the log odds of new FDI entering under a collaborative arrangement decreases by .0116. The lag effect is statistically significant at 95%. Using the average of the covariates, the marginal effects for homicides indicate the probability of new FDI entering via a collaborative ownership structure decreases by .0004 without a lag and by .0003 with a one-year lag.

Table 4.2: Logit and Probit Models of the Effects of Violent Crime on the Entry of New FDI by Ownership Structure

Variables	Logit				Probit			
	Collaborative	Collaborative (lag)	Independent	Independent (lag)	Collaborative	Collaborative (lag)	Independent	Independent (lag)
Homicides	-0.0221** (.0069)	-0.0116* (0.0056)	-0.0204 (0.0376)	0.0016 (0.0091)	-0.0118*** (0.0035)	-0.0058* (0.0028)	-0.0083 (0.015)	-0.0001 (0.0045)
Kidnappings	-0.0164 (.0332)	-0.0859* (0.0339)	-0.1973 (0.4328)	-0.1956 (0.1328)	-0.0089 (0.0172)	-0.0457* (0.0178)	-0.096 (0.1779)	-0.1037 (0.0606)
Extortions	0.0005 (.0034)	-0.0037 (0.009)	-0.0225 (0.0938)	0.0003 (0.0154)	0.0002 (0.0017)	-0.0014 (.0044)	-0.005 (0.0347)	0.0004 (0.0048)
Disappearances	-0.0118 (.0072)	-0.0005 (0.0015)	0.0002 (0.0015)	-0.0001 (0.0026)	-0.0054 (0.0033)	-0.0002 (.0007)	0.0001 (0.0007)	0.00004 (0.0005)
GDP per capita	0.4157 (.248)	0.4459* (0.2054)	0.0031 (1.5946)	0.5364* (0.2194)	0.217 (0.1276)	0.2421* (.1121)	0.0323 (0.5633)	0.2156* (0.1056)
Public Expenditures per capita	0.0001** (.00004)	0.0001*** (0.00003)	0.0002 (0.0001)	0.0002*** (0.00004)	0.0001** (0.00002)	0.0001*** (0.00002)	0.0001 (0.0001)	0.0001*** (0.00002)
Population	1.6521*** (.1217)	1.7161*** (0.1129)	1.2346* (0.5812)	1.5178*** (0.2063)	0.8316*** (0.0623)	0.901*** (0.0614)	0.4756* (0.2266)	0.6276*** (0.0927)
Resolved Labor Disputes	0.4276 (.2735)	0.2278 (0.2251)	0.0037 (0.0719)	0.007 (0.0125)	0.2397 (0.1505)	0.1236 (0.1211)	0.0025 (0.0276)	0.0048 (0.0075)
Illiteracy	-0.1597*** (.0229)	-0.1711*** (0.0213)	-0.168 (0.2261)	-0.1745* (0.0790)	-0.0808*** (0.0114)	-0.0892*** (0.0111)	-0.0524 (0.0812)	-0.0694* (0.0325)
State Capacity	0.0318 (.0224)	0.0528** (0.0204)	-0.0106 (0.0425)	-0.0029 (0.0101)	0.0185 (0.0115)	0.0306** (0.0108)	-0.0038 (0.0155)	-0.0001 (0.0052)
Political Party	-0.2914 (.1583)	-0.0299 (0.1298)	1.4585 (1.0368)	-0.3462 (0.3325)	-0.1733* (0.0831)	-0.0297 (0.0701)	0.630 (0.4221)	-0.1603 (0.1582)
Border Municipality	-0.7505 (.737)	0.4948 (0.5475)	-1.0984 (2.7171)	-0.2022 (0.6466)	-0.4437 (0.3711)	0.2493 (0.2916)	-0.3673 (0.9896)	-0.0428 (0.2982)

(table continues)

Variables	Logit				Probit			
	Collaborative	Collaborative (lag)	Independent	Independent (lag)	Collaborative	Collaborative (lag)	Independent	Independent (lag)
U.S. FDI	8.2236*** (.5507)	1.0777*** (0.1975)	13.6223*** (2.0386)	0.5756 (0.522)	4.1543*** (0.2485)	0.6386*** (0.112)	5.8257*** (0.7044)	0.4311 (0.290)
Constant	-21.0048*** (1.4514)	-21.1402*** (1.3292)	-23.3754** 7.6764	-22.713*** (2.8469)	-10.677*** (0.7369)	-11.1798*** (0.7183)	-9.4522** (3.0295)	-9.7721*** (1.2687)
N	14,583	12,441	14,583	12,441	14,583	12,441	14,583	12,441

Notes: * p<0.05, ** p<0.01, *** p<0.001. Standard errors are in parentheses.

Additionally, the presence of LVC has no significant effect for the most part on the likelihood of FDI entering through a collaborative arrangement. Extortions and disappearances are insignificant in both models. On the other hand, kidnappings are insignificant without a lag and statistically significant at 95% with a one-year lag. My first hypothesis is strongly supported. HVC deters FDI entry under collaborative ownership structures. My second hypothesis is also supported. LVC appears to have no statistically significant effect on collaborative FDI entry in all but one of the models.

Foreign investors using collaborative arrangements select locations without substantial HVC as is evident in the case of Audi. In 2016, Audi opened its first North American plant in San José Chiapa, Puebla, employing more than 3,300 local workers (Clothier 2016). While Puebla reported 320 intentional homicides by firearm in 2016, there were no reported cases in San José Chiapa. Audi México strategically selected a location that did not present extreme violence as this minimizes on the ground risks. FDI entering under collaborative arrangements prefer locations that minimize political risks.

Table 4.2 also presents results in support of my third and fourth hypotheses. As expected, HVC and LVC have no statistically significant effect on FDI entry through independent arrangements. FDI entering through independent ownership structures is not affected by the presence of violent crime.

Foreign investors entering under independent arrangements are indifferent to substantial HVC as is evident in the case of MFI International. MFI, a contract manufacturing company established an independent arrangement in Ciudad Juárez, Chihuahua in 2012. MFI International is involved in various activities in Mexico from manufacturing to providing business and administrative services to other MNEs (Whitcomb 2017). Although there were 239 intentional

homicides by firearm reported in Ciudad Juárez in 2012, this risk did not prevent the establishment of MFI Holdings. Foreign investors are more willing to withstand extreme violence when entering under an independent ownership structure.

Additionally, I provide a robustness check of the findings by including a probit regression model. Again, the results present findings in support of my hypotheses. Homicides are statistically significant at 99.9% without a lag and 95% with a lag in the collaborative panel. An increase in homicides decreases the predicted probability of a collaborative arrangement by .0118 without a lag and by .0058 with a one-year lag. Using the average of the covariates, the marginal effects of homicides indicate the probability of new FDI entering through a collaborative ownership structure will decrease by .0004 without a lag and by .0003 with a one-year lag. The results support my first hypothesis that HVC deters new FDI under a collaborative ownership model.

Additionally, the probit model supports my second hypothesis. LVC has no substantial effect on collaborative modes of entry. Extortions and disappearances are statistically insignificant in both models while kidnappings are insignificant without a lag. Kidnappings are 95% significant with a one-year lag.

Furthermore, HVC and LVC have no significant effect on independent arrangements. Homicides, kidnappings, extortions, and disappearances remain statistically insignificant when examining independent ownership structures and indicate support for my third and fourth hypotheses.

To further test these results, I incorporate a count of the number of times new FDI entered a municipality under collaborative and independent ownership structures. Table 4.3 presents the findings of the count measure by using a Poisson regression model.

Table 4.3: Poisson Model of the Effects of Violent Crime on the Entry of New FDI by Ownership Structure

Variables	Collaborative	Collaborative (lag)	Independent	Independent (lag)
Homicides	-0.0069*** (0.001)	-0.0013 (0.0015)	-0.0019 (0.007)	-0.0024 (0.0102)
Kidnappings	0.0249** (0.0089)	0.0101 (0.0097)	-0.0133 (0.0995)	-0.1756 (0.1196)
Extortions	0.0025** (0.001)	0.0026* (0.0012)	0.0003 (0.007)	0.0012 (0.0081)
Disappearances	-0.0014 (0.0014)	-0.0043 (0.0027)	0.00001 (0.001)	-0.0001 (0.0027)
GDP per capita	0.1824 (0.114)	0.006 (0.1147)	0.103 (0.2076)	0.3734 (0.2671)
Public Expenditures per capita	0.0001*** (0.00001)	0.0001*** (0.00001)	0.00001 (0.00004)	0.0002*** (0.00003)
Population	1.1889*** (0.0558)	1.2284*** (0.0592)	0.2904* (0.1434)	1.4424*** (0.1815)
Resolved Labor Disputes	0.0014* (0.0007)	0.0005 (0.0008)	-0.0016 (0.0055)	0.0051 (0.0055)
Illiteracy	-0.0534*** (0.0113)	-0.053*** (0.0122)	-0.1003 (0.0644)	-0.177* (0.072)
State Capacity	0.0046 (0.0031)	0.0089** (0.0033)	-0.003 (0.0044)	-0.0072 (0.0087)
Political Party	0.0709** (0.0238)	-0.0027 (0.0251)	0.2257 (0.222)	-0.4184 (0.2674)
Border Municipality	0.256 (0.4063)	0.4401 (0.4431)	-0.3974 (0.4871)	-0.4162 (0.6614)
U.S. FDI	0.9619*** (0.0539)	0.2417*** (0.0553)	6.5379*** (0.5613)	0.3536 (0.3238)
Constant	-14.6367*** (0.6503)	-14.847*** (0.6937)	-9.8547*** (1.8577)	-21.1479*** (2.4537)
N	14,583	12,441	14,583	12,441

Notes: * p<0.05, ** p<0.01, *** p<0.001. Standard errors are in parentheses.

HVC again appears to have a negative effect on new FDI entering under collaborative ownership structures. For every one-unit increase in homicides, the logs of expected counts of FDI entering via a collaborative arrangement will decrease by .0069. Using the average of the covariates, the marginal effects for homicides indicate a decrease of .007 in the probability of a collaborative ownership structure. HVC is 99.9% statistically significant without a one-year lag. While HVC is statistically insignificant with a one-year lag, it is negatively correlated with FDI entering under a collaborative arrangement.

Interestingly, LVC is statistically significant using the Poisson regression model when examining kidnappings and extortions. However, LVC has a positive influence on the count of new FDI entering through a collaborative arrangement.

As expected, the count of FDI independent ownership structures are also not affected by HVC or LVC. Thus, the Poisson regression model produces evidence in favor of my four hypotheses.

Looking at the control variables, the findings align with my theoretical argument. Foreign investors are drawn to economically active locations. GDP per capita and public expenditures per capita demonstrate a positive relationship with FDI entry that is statistically significant in many models. Likewise, foreign investors prefer locations that provide an adequate workforce. Population is statistically significant in all models and positively correlated with FDI entry while illiteracy is statistically significant in the majority of the models and negatively correlated with FDI entry. Interestingly, resolved labor disputes are insignificant in the majority of the models. The other control variables present mixed results with state capacity demonstrating a positive correlation and statistical significance in many of the collaborative models, but an insignificant relationship with independent arrangements. Political parties and border municipalities are

statistically insignificant across most models while FDI that originates from the U.S. is statistically significant and positively correlated with FDI entering through collaborative arrangements.

Overall, the results indicate consistent statistical significance providing evidence that an increase in HVC measured as homicides is likely to deter FDI entering under a collaborative ownership structure while LVC often has no substantial effect on collaborative arrangements. At the same time, HVC and LVC appear to have no negative effect on the likelihood of FDI entering under an independent ownership structure.

Conclusion

The results indicate that violent crime has varying effects on the ownership structure of new FDI at the sub-national level. While HVC is likely to deter collaborative arrangements, LVC has no significant effect on FDI entering under a collaborative ownership structure. As expected, new FDI associated with an independent ownership structure is not negatively impacted by violent crime.

Specifically, I find that homicides committed by firearm are a statistically significant and negative determinant for new FDI entering under collaborative means. This finding holds true when measuring collaborative ownership structures as a dichotomous variable as well as a count of the number of instances of FDI entering via collaborative arrangements. Furthermore, homicides, kidnappings, extortions, and disappearances are statistically insignificant when FDI enters through an independent ownership structure regardless of whether the independent entry is measured as a dichotomous or count variable.

My study presents valuable findings for both scholars and policymakers. First, it offers unique insight into FDI patterns at the sub-national level. Although several large-N cross

national studies exist, there is little research on FDI determinants at the sub-national level. By comparing FDI across municipalities, I advance existing scholarship by offering a more nuanced analysis of FDI and provide a framework for further exploration of foreign investment practices at the sub-national level.

Second, this study advances our understanding of FDI behavior by operationalizing FDI differently. Previous studies examine the conditions that determine FDI and levels of foreign capital flows by primarily using common measures of FDI, such as aggregate, natural log, and percentage of GDP, among others. However, there are fewer examples that analyze the risk perception of FDI through the lens of the ownership structure. By examining ownership at the time of entry, we gain a better understanding of how risk factors influence FDI decisions in terms of when and how foreign capital enters a new market.

Third, the results indicate that HVC and LVC have varying effects on FDI decisions. Host locations seeking to attract FDI through collaborative arrangements are more vulnerable to missed opportunities due to extreme violence. As such, these host locations should implement policies that offset the perceived risks and create incentives for foreign investors to enter under collaborative arrangements. Examples of policies that could attract FDI through collaborative ownership structures are anti-organized crime initiatives, increased policing, youth engagement programs, and incentives for new investment such as tax breaks, lower barriers to entry, and strategic investment initiatives. For example, Mexico's ProMéxico, established in 2007, is a pillar for attracting foreign direct investment and internationalizing Mexico's companies (Gobierno de México 2019). When host locations effectively implement policies that mitigate perceived risks, they create environments that are more competitive at attracting FDI in various forms. Nonetheless, it is important to note that host locations that attract FDI through

independent arrangements despite existing HVC and LVC should not ignore violent crime. The presence of criminal organizations creates insecurity and instability that could contribute to negative long-term effects for new investment.

My findings offer a foundation for future research that further examines the determinants of the ownership structure of new FDI given violent crime. First, a study that examines the effects of HVC and LVC on FDI ownership structure by economic sector as well as country of origin would provide further insight into the determinants of foreign investment. Second, a comparison of the effects of HVC and LVC on the ownership structure of FDI entering different countries and regions would contribute to the generalization of these findings. Third, a survey of multinational corporation executives with operations in Mexico and other locations with violent criminal organizations would provide further insight into each corporation's entry decision as well as the perceived risks associated with violent crime. Finally, disaggregating the data further to identify the mode of entry, such as a joint venture, merger and acquisition, greenfield investment, or other form, would provide further insight into how ownership structure influences FDI in high risk locations.

This study indicates the complexity in the relationship between violent crime and FDI. The types of violent crime play an important role in determining the ownership structure of FDI entering a new market.

Notes

[1] Financial integration can take various forms, such as a statutory, subsidiary, consolidation, reverse, or equals merger; take-over, reverse take-over, divestment acquisition (OECD 2009); or a new corporation, partnership, or other institutional establishment via a joint venture (OECD 2015). Mergers and acquisitions allow for the combination of two or more companies for the purpose of sharing resources toward achieving a common goal (merger) or a transactional arrangement in which one company purchases the assets and liabilities of another company (acquisition) (OECD 2009). Mergers and acquisitions represent one of the most prevalent forms of FDI (Skitsko and Huzenko 2017). Mexico has the second largest economy in

Latin America, making the country a primary target for cross-border mergers and acquisitions (Baker and McKenzie 2018). Joint ventures create strategic alliances between at least two companies for the purpose of maximizing rewards (Dinu 2016; Miller Canfield 2014).

[2] A branch office in Mexico is authorized to undertake commercial and income-generating activities without being fully incorporated (ShieldGeo 2020). When the long-term goal is for an MNE to have an established company in Mexico, a representative office is created that can perform administrative functions, but not commercial activities (ShieldGeo 2020).

[3] Municipalities include those from Mexico's 31 states and Mexico City. Some municipalities are excluded due to missing values.

[4] There are challenges in collecting data related to violent organized crime due to the lack of a central definition of organized crime related homicides and poor data collection methods (Heinle et al. 2017). Intentional homicides by firearm is an appropriate measure because firearms are frequently involved in Mexico's drug-related homicides.

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CHAPTER 5

CONCLUSION

This dissertation explores the puzzle behind why some locations attract FDI despite the presence of political risks caused by violent crime. I examine the impact of violent crime conducted by criminal organizations on FDI decisions at the sub-national level. I am particularly interested in exploring this phenomenon through the case of Mexico as the country presents an interesting juxtaposition between substantial violence and sustained FDI.

Foreign investors are rational actors seeking opportunities for long-term profit maximization. Within their risk-reward calculation, foreign investors weigh perceived risks against anticipated benefits. Foreign investors are not inherently averse to a host country's political risks. Rather, foreign investors assess the types of risk at the sub-national level. I contend that foreign investors perceive high violent crime as a significant risk because it directly challenges the state's authority. Conversely, foreign investors are more risk accepting of low violent crime because it does not contribute to the same level of uncertainty about effective governance and the rule of law.

My first article explores the relationship between violent crime and FDI decisions by examining FDI flows into Mexico's 31 states and Mexico City over a twenty-year period. I operationalize high violent crime as intentional homicides and use kidnappings, extortions, and disappearances to measure low violent crime. The findings support my argument that high violent crime is more likely to undermine FDI than low violent crime.

My second article seeks to provide a more nuanced understanding of the relationship between violent crime and FDI determinants. Using a study of FDI flows by economic sector into Mexico's states and Mexico City from 1999-2017, I examine the role of unskilled versus

specialized labor in FDI decisions when foreign investors face violent crime. Foreign investors have specific operational requirements based on their economic activity. Foreign investors operating in sectors of the economy requiring less skilled labor have greater flexibility within their operations whereas those dependent on specialized labor face constraints. My findings highlight the variance in FDI decisions by economic sector and type of violent crime. Foreign investors operating in economic sectors that require less skilled labor are more risk accepting. Conversely, the presence of extreme violence contributes to decreased FDI in economic sectors that require specialized labor.

My third article builds upon the first and second articles by examining how different types of violent organized crime shape the ownership structure of new FDI. I use a sub-national analysis of Mexico's municipalities between 2011-2017 to examine how high and low violent crime determines the ownership structure of FDI entering a new location. The ownership structure involves collaborative or partial ownership versus independent or full ownership. Collaborative ownership structures are more dependent on local labor than independent arrangements. My findings note that foreign investors using a collaborative ownership structure are less likely to enter locations with high violent crime whereas high and low violent crime have no substantial effect on foreign investors with independent arrangements.

While these findings present important insight about the impact of different types of violent organized crime on sub-national FDI decisions, it is important to note the limitations. First, the data on Mexico's organized crime are not perfect. Mexico does not have a consistent measure of organized crime and faces challenges with effectively collecting and reporting incidents of organized crime. Nonetheless, the government data on homicides, kidnappings, extortions, and disappearances are the best available measure and are widely used by scholars.

Second, a study of FDI patterns by municipality would provide a more granular analysis of the relationship between levels of FDI and violent crime by city and municipality. However, annual FDI flows are only reported at the national and state-level. Notwithstanding, insights at the state-level contribute to our knowledge about FDI decisions and offer contributions to previous work that mostly assessed FDI at the national level.

Regardless of these limitations, this dissertation presents important implications for scholars and policymakers. First, the findings indicate the importance of examining FDI at the sub-national level. There is significant variation in FDI patterns at the state and municipality level and across different economic sectors. Second, political risks are not inherently a deterrent for foreign investors. It is important to disaggregate risk factors within analyses to contribute to enhanced insight into FDI decisions. Specifically, studies examining violent organized crime should move beyond a single measure or aggregate forms of data to examine how different types of risks are perceived by foreign investors. Third, the rise in violent non-state actors across the world indicates the emergence of a new threat for FDI. Previously foreign investors were primarily concerned with a government's expropriation of their operations. While expropriation remains a significant risk for foreign investors, the role of violent non-state actors that operate outside of the rule of law and enforce their own governance is equally important in FDI decisions. Finally, the findings from this study extend beyond scholarly contributions. The results provide important information for policymakers seeking to attract investment and economic growth within their communities. Policymakers are privy to information about the impact of high versus low violent crime on FDI decisions, the variance in decisions across economic sectors, factors influencing how new FDI enters a location, and the importance of offering a viable workforce. Policymakers can use this information to implement policies that

counter high violent crime while creating incentives to attract and sustain FDI.

This dissertation also provides several avenues for continued research. First, the generalizability of these results can be tested through regional comparisons. For example, there are several countries in Latin America that face similar forms of crime due to transnational criminal organizations and other non-state actor groups. Expanding my study to include additional countries and regions provides further insight into the relevance of high and low violent crime on FDI decisions. Second, a greater understanding of the impact of different types of violent crime on FDI decisions can be gained through self-reporting from foreign investors. The use of interviews and surveys to gather information about risk perceptions related to high and low violent crime offers additional insight into the FDI decision-making process. Third, my results can provide additional insight into FDI determinants by focusing on the mode of entry of investment into locations that experience violent crime. The incorporation of FDI mode of entry into my study offers further information into foreign investors' risk-reward assessment and provides additional information for policymakers seeking to establish investor-friendly policies and incentives. Finally, further disaggregating the types of organized crime contributes to a greater understanding of the impact of violent crime on FDI decisions. Many of the homicides in Mexico are conducted within the public sphere by targeting politicians and journalists, displaying corpses in central locations, and posting messages alongside homicide victims. The visibility of violent crime plays an important role in how foreign investors perceive political risks within the host country.

FDI is risky business. The presence of high violent crime jeopardizes FDI opportunities while low violent crime remains an insignificant factor. While foreign investors prefer operating in low risk, high reward locations, they are willing to tolerate some political risks.

APPENDIX

ADDITIONAL TABLES FOR CHAPTER 2

Table A.1: Effects of HVC versus LVC on FDI (Test for Endogeneity: Flipping DV and Homicides)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
FDI	-0.0003* (.0002)	-0.0001 (.0002)	-0.0002 (.0002)	-0.0001 (.0002)	-0.0613 (.0761)	-0.1087 (.0612)	-0.1947 (.1267)	-0.220 (.1233)
Kidnappings	0.0242 (.0429)	0.019 (.0429)	0.2184 (.1128)	0.2119 (.1122)	0.0287 (.0456)	.1524 (.0438)	0.2308* (.1119)	0.1814 (.1123)
Extortions	0.0741 (.0456)	0.0855* (.0420)	0.185* (.0755)	0.175* (.0724)	0.0802 (.0472)	0.0833* (.0424)	0.1909* (.0756)	0.1618* (.0691)
Disappearances	753.2418*** (185.7435)	782.3156*** (195.8726)	1224.585*** (251.2972)	1267.966*** (266.4589)	757.9355*** (185.8139)	790.6348*** (195.0038)	1202.7*** (251.221)	1167.674*** (253.0674)
GDP per capita	-0.0012 (.0013)	-0.0003 (.0010)	-0.003 (.0022)	-0.0018 (.0019)	-0.0013 (.0013)	-0.0004 (.001)	-0.0032 (.0021)	-0.0017 (.0018)
Population	0.9527 (.728)	-0.0245 (.6007)	0.8539 (1.1589)	0.3543 (.9966)	0.9497 (.6925)	0.0897 (.5857)	0.9704 (1.1276)	0.6051 (.93)
State Capacity	0.0008 (.008)	0.007 (.0076)	-0.0005 (.0111)	0.011 (.011)	-0.0018 (.0081)	0.0068 (.0073)	-0.0013 (.0109)	0.0089 (.0092)
Education	1.3524*** (.2709)	-0.3442 (.3534)	0.8566 (.4624)	-1.5105* (.6402)	1.2938*** (.2745)	-0.2784 (.346)	0.8987 (.4611)	-1.3155* (.6059)
Labor Relations	51.7395 (366.4412)	480.7732 (340.1562)	-997.6791 (629.6581)	-157.8132 (623.239)	-60.3001 (361.6873)	463.9925 (339.4645)	-1009.15 (619.8442)	-9.1952 (607.6293)
Public Expenditures	2.18e-12 (1.18e-11)	1.69e-11 (1.14e-11)	-2.32e-11 (1.72e-11)	2.57e-13 (1.73e-11)	7.86e-13 (1.16e-11)	1.47e-11 (1.11e-11)	-2.29e-11 (1.69e-11)	2.86e-12 (1.53e-11)
Election Year	-0.0965 (.1792)	0.0753 (.1753)	0.0272 (.31)	0.1802 (.3154)	-0.0872 (.1888)	0.0713 (.177)	0.0597 (.312)	0.158 (.2963)
Foreign Firms	-4.2437* (2.0548)	-6.390*** (1.8385)	-1.4659 (3.6841)	-2.0472 (3.533)	-5.0367* (2.1125)	-6.9001*** (1.8395)	-1.8739 (3.6541)	-2.2296 (3.4757)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
Organized Crime	421674.6 (411538.3)	374479.8 (328526.3)	1665730.3* (716527.9)	1546212.8* (640987.6)	569196.0 (410849.6)	423310.4 (327156.3)	1678370.2* (708954.4)	1563350.1* (629837.9)
Anti-Violence Initiatives	0.0800 (.3358)	0.0913 (.3304)	0.3229 (.4947)	0.2197 (.5057)	0.0912 (.3499)	0.1167 (.3352)	0.3358 (.4999)	0.1966 (.479)
Border State	0.5572 (1.3233)	2.0144* (1.0115)	1.6598 (1.9297)	3.7209* (1.6469)	0.7035 (1.1893)	1.975* (.9898)	1.895 (1.8681)	3.7681* (1.6331)
Constant	-21.3535 (11.6047)	5.032 (10.353)	-8.2045 (18.4493)	15.4922 (16.8654)	-20.4795 (11.1417)	3.4656 (10.0352)	-9.321 (17.9511)	11.344 (15.433)
N	672	640	672	640	672	640	672	640

Notes: Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Table A.2: Effects of HVC versus LVC on FDI (Test for Endogeneity: Instrumental Variable and GMM)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
Homicides (Inequality)	-47.9208*** (8.7823)	-53.1285*** (11.0455)	-34.1632*** (6.4777)	-38.5177*** (8.3255)	-0.0463** (.0154)	-0.0364 (.0192)	-0.033** (.0109)	-0.0264 (.014)
Kidnappings	47.7742 (27.2795)	52.0671 (32.7863)	63.3918* (30.3589)	70.133 (36.8460)	0.0127 (.0267)	-0.0359 (.0458)	0.0278 (.027)	-0.0236 (.047)
Extortions	-8.9111 (8.7388)	-14.0295 (7.7058)	0.8964 (8.0487)	-0.4895 (7.9248)	0.0068 (.0101)	0.0035 (.0097)	0.0163 (.0107)	0.0128 (.0107)
Disappearances	-3858.124 (32980.08)	-31262.86 (33088.6)	-4903.241 (32365.08)	-31942.07 (37624.37)	-11.7589 (33.7936)	-10.7663 (38.3761)	-12.7685 (33.4905)	-11.2313 (39.9686)
GDP per capita	-0.1525 (.1164)	-0.1685 (.1129)	-0.1986 (.1281)	-0.2257 (.1296)	-0.0002 (.0003)	-0.0003 (.0003)	-0.0002 (.0003)	-0.0003 (.0003)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
Population	316.962** (102.3783)	385.3756*** (113.8221)	288.9974** (106.3198)	353.4355** (119.7664)	0.9516*** (.1158)	0.974*** (.1126)	0.9246*** (.119)	0.9522*** (.1177)
State Capacity	18.2779*** (2.713)	18.4731*** (2.2933)	18.4821*** (2.7122)	18.7877*** (2.3144)	0.0063*** (.0017)	0.0045* (.0022)	0.0065*** (.0017)	0.0047* (.0023)
Education	330.1011*** (60.5241)	316.9857*** (77.8053)	260.6709*** (60.0419)	232.0499** (83.0097)	0.6037*** (.0686)	0.624*** (.1005)	0.5366*** (.0714)	0.5658*** (.1199)
Labor Relations	255417.0*** (53810.3)	280734.9*** (59276.26)	218246.4*** (52941.19)	240220.9*** (59185.48)	395.9102*** (70.4593)	314.9608*** (81.7435)	360.0011*** (68.6067)	287.2252*** (74.9632)
Public Expenditures	2.45e-09 (2.05e-09)	1.95e-09 (2.15e-09)	2.50e-09 (2.08e-09)	1.93e-09 (2.19e-09)	-2.47e-12 (1.86e-12)	-2.43e-12 (1.68e-12)	-2.42e-12 (1.86e-12)	-2.45e-12 (1.72e-12)
Election Year	79.9689 (79.3893)	191.0062* (89.8155)	61.5365 (77.4226)	167.7317 (88.3061)	-0.0305 (.1355)	0.0006 (.1489)	-0.0483 (.1342)	-0.0154 (.1469)
Foreign Firms	1969.163*** (521.1627)	1246.383* (631.0812)	2615.705*** (527.4871)	1932.75** (630.2741)	-3.1832* (1.4736)	-1.2521 (1.5464)	-2.5586 (1.3309)	-0.7822 (1.399)
Organized Crime	153085836.9*** (4.55e+07)	188644455.4*** (4.53e+07)	119992102.6** (4.40e+07)	157907338.8*** (4.46e+07)	207122.2* (101895)	151365.7 (102625.1)	175151.5 (97674.71)	130323.2 (97390.06)
Anti-Violence Initiatives	75.2741 (121.8642)	-30.2284 (120.0112)	50.2375 (118.1654)	-61.9241 (114.1748)	0.1287 (.1195)	0.1667 (.1098)	0.1046 (.1153)	0.145 (.1054)
Border State	-236.0211 (120.9658)	-221.0956 (124.1746)	-95.8096 (117.1141)	-56.0317 (120.7262)	0.308** (.1073)	0.3191** (.1113)	0.4435*** (.0961)	0.4322*** (.1011)
Constant	-7692.186*** (1848.671)	-8495.306*** (2171.942)	-6580.531*** (1891.048)	-7189.398** (2281.723)	-13.5575*** (1.9479)	-13.8946*** (2.1437)	-12.4835*** (2.0106)	-13.0006*** (2.3828)
GMM C statistic chi2(1)	-411.817 (p = 1.0000)	-449.954 (p = 1.0000)	-410.431 (p = 1.0000)	-455.54 (p = 1.0000)	-9805.74 (p = 1.0000)	-11462 (p = 1.0000)	-9685.5 (p = 1.0000)	-11438.3 (p = 1.0000)

Notes: Robust standard errors in parentheses excluding the reported p-values * p<0.05, ** p<0.01, *** p<0.001 n=672 (Models: 1,3,5,7) n=640 (Models: 2,4,6,8)

Table A.3: Effects of HVC versus LVC on FDI (Test for Endogeneity: Instrumental Variable and Two-stage Least Squares for Panel Data)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
Homicides (Inequality)	-17.3334 (13.8085)	-12.4097 (15.9384)	-16.7978 (13.6211)	-12.7068 (16.4629)	-0.0394 (.0316)	-0.0286 (.0348)	-0.0382 (.0308)	-0.0293 (.0358)
Kidnappings	16.8709 (13.5446)	14.4012 (14.2314)	24.2973 (17.5384)	20.243 (19.5952)	0.0196 (.0309)	-0.0334 (.031)	0.0365 (.0396)	-0.0199 (.0426)
Extortions	-5.7441 (7.5073)	-3.5381 (7.5455)	-1.6392 (9.5071)	-0.2815 (9.6793)	0.0008 (.0172)	-0.0054 (.0165)	0.0102 (.0215)	0.0022 (.021)
Disappearances	29506.01 (24861.54)	-15936.51 (27738.76)	51393.66 (38437.1)	2772.139 (46674.11)	-42.38 (56.7978)	-7.1805 (60.4805)	7.3835 (86.7754)	35.9879 (101.4476)
GDP per capita	-0.2004 (.2505)	-0.2194 (.2521)	-0.217 (.2605)	-0.2353 (.2628)	0.0005 (.0006)	0.00003 (.0006)	0.0005 (.0006)	-0.00001 (.0006)
Population	1232.262** (469.3395)	536.7753 (521.5169)	923.6276 (475.3306)	316.2747 (540.2745)	-1.1368 (1.0722)	-3.1891** (1.1371)	-1.8385 (1.0731)	-3.6979** (1.1743)
State Capacity	6.349*** (1.798)	7.0686*** (1.934)	6.5534*** (1.8819)	7.3243*** (2.1008)	0.0065 (.0041)	0.0028 (.0042)	0.0069 (.0043)	0.0034 (.0046)
Education	128.7012 (73.4765)	165.7326 (90.4486)	139.0479 (80.4972)	167.5375 (92.1366)	0.8762*** (.1679)	1.464*** (.1972)	0.8997*** (.1817)	1.4682*** (.2003)
Labor Relations	70705.08 (69365.09)	111785.2 (74728.71)	88777.38 (71755.75)	127184.9 (79937.21)	-20.7943 (158.4691)	-288.4359 (162.9355)	20.2947 (161.9954)	-252.9027 (173.746)
Public Expenditures	2.37e-09 (1.39e-09)	2.09e-09 (1.46e-09)	1.05e-09 (2.09e-09)	1.08e-09 (2.18e-09)	-2.40e-12 (3.18e-12)	-5.57e-12 (3.18e-12)	-5.40e-12 (4.71e-12)	-7.91e-12 (4.74e-12)
Election Year	-9.7258 (53.4408)	85.9049 (58.0799)	-14.3136 (53.6749)	84.7456 (57.9865)	-0.0285 (.1221)	-0.0284 (.1266)	-0.0389 (.1212)	-0.0311 (.126)
Foreign Firms	1406.564** (501.1481)	670.2959 (514.9019)	1519.803** (517.713)	732.6196 (515.9613)	-3.3264** (1.1449)	-0.7137 (1.1227)	-3.0689** (1.1688)	-0.570 (1.1215)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (Lag)	Model 3	Model 4 (Lag)	Model 5	Model 6 (Lag)	Model 7	Model 8 (Lag)
Organized Crime	83250380.3 (5.77e+07)	121696121.3* (5.70e+07)	66778128.3 (5.19e+07)	109458822.0* (5.03e+07)	159542.6 (131850.8)	174317.3 (124330.9)	122091.4 (117230.3)	146080.9 (109427.7)
Anti-Violence Initiatives	48.3409 (74.4467)	-106.2286 (77.8839)	59.3368 (77.9711)	-95.4788 (83.9345)	0.0532 (.1701)	0.1029 (.1698)	0.0782 (.1760)	0.1277 (.1824)
Border State	0 (omitted)	0 (omitted)	0 (omitted)	0 (omitted)	0 (omitted)	0 (omitted)	0 (omitted)	0 (omitted)
Constant	-18968.17** (6803.218)	-9011.29 (7374.099)	-14370.26* (6701.397)	-5676.939 (7550.248)	15.4112 (15.5424)	41.3196* (16.0782)	25.865 (15.129)	49.0132** (16.4107)
Davidson-MacKinnon test of exogeneity	0.7479302 F(1,625) (p= 0.3875)	0.2044078 F(1,593) (p = 0.6514)	1.066629 F(1,625) (p = 0.3021)	0.3338995 F(1,593) (p = 0.5636)	0.2876748 F(1,625) (p = 0.5919)	0.4840101 F(1,593) (p = 0 .4869)	0.4334393 F(1,625) (p = 0.5105)	0.4263186 F(1,593) (p = 0.5141)

Notes: Standard errors in parentheses excluding the reported p-values * p<0.05, ** p<0.01, *** p<0.001 n=672 (Models: 1,3,5,7) n=640 (Models: 2,4,6,8)

Table A.4: HVC versus LVC: 1997-2006

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
Homicides	-8.831* (3.948)	-4.454 (4.156)	-0.118 (1.594)	-0.302 (1.583)	-0.045*** (.014)	-0.037** (.014)	-0.007 (.007)	-0.004 (.006)
Kidnappings	1.269 (4.599)	20.630 (21.002)	1.032 (4.402)	19.117 (21.051)	-0.02 (.026)	-0.321*** (.033)	-0.018 (.027)	-0.316*** (.034)
Extortions	-9.412 (6.71)	-16.283* (7.802)	-11.282 (6.804)	-17.99* (7.892)	-0.017 (.016)	-0.013 (.018)	-0.013 (.017)	-0.014 (.018)
Disappearances	-218814.8 (1357724)	-1992720.5 (1808413)	-1101009.5 (1245941)	-2359905.6 (172332)	-4706.846 (2609.946)	-6506.905 (3692.712)	-6355.757* (2482.13)	-6973.743 (3673.455)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
GDP per capita	-0.173 (.130)	-0.170 (.137)	-0.163 (.131)	-0.166 (.137)	-0.001 (.001)	-0.002** (.001)	-0.001* (.001)	-0.002** (.001)
Population	32.424 (68.943)	42.68 (68.173)	46.548 (69.281)	49.056 (68.845)	0.609*** (.145)	0.688*** (.12)	0.581*** (.145)	0.705*** (.123)
State Capacity	8.697*** (1.961)	6.502** (2.061)	8.013*** (1.929)	6.212** (2.040)	0.001 (.003)	0.005 (.003)	-0.002 (.003)	0.002 (.003)
Education	166.002*** (40.257)	189.851*** (41.913)	200.091*** (41.199)	203.076*** (41.615)	0.851*** (.103)	0.737*** (.093)	0.861*** (.104)	0.784*** (.0903)
Labor Relations	222940.9*** (53880.7)	264156.3*** (56399.81)	225663.1*** (52941.85)	270000.0*** (56551.83)	403.018*** (89.639)	399.299*** (90.487)	418.589*** (91.207)	392.198*** (93.381)
Public Expenditures	1.12e-08** (3.82e-09)	1.56e-08*** (4.19e-09)	1.11e-08** (3.74e-09)	1.53e-08*** (4.14e-09)	1.23e-11 (7.69e-12)	7.48e-12 (6.15e-12)	1.81e-11* (7.36e-12)	9.40e-12 (6.22e-12)
Election Year	9.709 (38.887)	20.45 (39.430)	2.728 (38.128)	13.671 (39.223)	-0.025 (.115)	0.101 (.105)	-0.042 (.116)	0.086 (.106)
Foreign Firms	282.542 (257.363)	332.189 (256.694)	417.886 (256.071)	360.018 (258.345)	-3.721*** (.979)	-1.780* (.869)	-3.680*** (.995)	-1.772* (.882)
Organized Crime	-28664135.8 (2.14e+07)	-44807161.3* (2.20e+07)	-36055932.9 (2.12e+07)	-48514808.6* (2.23e+07)	-52437.27 (75543.03)	-39746.29 (62164.55)	-94817.97 (76424.97)	-70493.7 (63278.18)
Anti-Violence Initiatives	49.753 (77.166)	-19.006 (81.322)	33.233 (76.314)	-25.401 (81.752)	0.142 (.144)	0.126 (.138)	0.055 (.147)	0.071 (.14)
Border State	6.006 (95.55)	85.183 (94.718)	12.254 (93.928)	83.899 (94.607)	0.282 (.155)	0.223 (.144)	0.354* (.158)	0.208 (.147)
Constant	-1859.8 (1194.624)	-2162.838 (1189.472)	-2336.54 (1218.798)	-2353.329 (1208.957)	-9.888*** (2.503)	-10.119*** (2.102)	-9.580*** (2.477)	-10.69*** (2.11)
N	320	288	320	288	320	288	320	288

Notes: Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Table A.5: HVC versus LVC: 2007-2017

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
Homicides	-3.827 (2.157)	-4.168* (2.048)	-3.300 (1.774)	-3.852* (1.661)	-0.009** (.003)	-0.008** (.003)	-0.006* (.003)	-0.005* (.003)
Kidnappings	16.807 (19.142)	18.10 (18.297)	21.015 (19.651)	24.097 (18.784)	0.068** (.026)	0.077** (.026)	0.071** (.027)	0.078** (.028)
Extortions	6.353 (4.032)	2.439 (3.787)	6.953 (3.996)	3.132 (3.682)	0.007 (.007)	-0.0001 (.007)	0.009 (.007)	0.002 (.007)
Disappearances	-7997.624 (18306.49)	-27742.22 (23707.14)	-7244.976 (18566.34)	-27700.37 (24335.57)	-1.599 (15.444)	-10.517 (17.606)	-1.100 (16.049)	-11.105 (18.136)
GDP per capita	0.086 (.099)	0.116 (.086)	0.083 (.099)	0.109 (.085)	0.00002 (.0003)	-0.0001 (.0003)	0.00003 (.0003)	-0.0001 (.0003)
Population	-128.549 (89.937)	-117.121 (90.125)	-134.076 (89.180)	-133.479 (88.781)	0.585*** (.116)	0.563*** (.129)	0.567*** (.118)	0.556*** (.131)
State Capacity	9.699*** (1.689)	11.474*** (1.671)	9.822*** (1.691)	11.660*** (1.672)	0.005*** (.001)	0.007*** (.001)	0.005*** (.001)	0.007*** (.001)
Education	82.908* (34.079)	84.447 (46.616)	79.28* (33.816)	72.347 (46.833)	0.234*** (.052)	0.212** (.067)	0.223*** (.053)	0.206** (.069)
Labor Relations	211641.2*** (33012.75)	201685.4*** (135260.01)	212611.6*** (33007.25)	205122.0*** (35339.7)	300.095*** (51.647)	369.47*** (55.359)	295.486*** (52.192)	360.546*** (55.833)
Public Expenditures	1.11e-08*** (1.53e-09)	1.07e-08*** (1.71e-09)	1.11e-08*** (1.53e-09)	1.09e-08*** (1.70e-09)	3.58e-12** (1.29e-12)	3.76e-12 (1.59e-12)	3.74e-12** (1.33e-12)	3.81e-12* (1.62e-12)
Election Year	42.475 (51.314)	60.776 (45.892)	42.791 (51.111)	60.006 (45.201)	0.048 (.082)	0.145 (.087)	0.0402 (.084)	0.131 (.087)
Foreign Firms	2639.096*** (685.703)	946.31 (568.568)	2650.032*** (682.177)	896.119 (561.335)	4.632*** (1.208)	0.515 (1.251)	4.856*** (1.219)	0.732 (1.256)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
Organized Crime	2110907.9 (3.49e+07)	2412267.3 (2.94e+07)	1857512.9 (3.45e+07)	2817951.6 (2.86e+07)	3755.472 (68489.77)	46563.86 (68044.72)	-13018.05 (68665.57)	32321.34 (68240.76)
Anti-Violence Initiatives	-27.763 (77.332)	23.424 (72.828)	-27.191 (77.074)	34.578 (71.664)	0.028 (.082)	-0.005 (.083)	0.0202 (.084)	-0.011 (.084)
Border State	284.849** (106.432)	243.08* (114.845)	293.18** (106.097)	254.572* (114.436)	0.532*** (.096)	0.421*** (.102)	0.567*** (.097)	0.456*** (.103)
Constant	531.424 (1481.185)	426.494 (1582.242)	649.848 (1467.472)	769.061 (1567.267)	-5.743** (1.946)	-5.079* (2.233)	-5.381** (1.98)	-4.922* (2.276)
N	352	320	352	320	352	320	352	320

Notes: Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001

Table A.6: Ratio of HVC and LVC to All Crime

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
Homicides	-8184.933*** (1998.475)	-6971.39*** (2012.146)	-3690.06** (1256.507)	-3077.025* (1245.811)	-29.3529*** (4.1714)	-23.9319*** (4.5338)	-19.9557*** (3.1043)	-13.6499*** (3.1692)
Kidnappings	4405.88 (4280.726)	2413.92 (4496.038)	5098.457 (5162.682)	3281.181 (5247.991)	10.7692 (12.2263)	-7.7024 (11.5331)	16.3497 (15.0569)	-4.537 (13.5755)
Extortions	-421.0861 (4942.057)	-1153.704 (4981.638)	-588.2721 (5105.478)	-520.2343 (5049.21)	-8.5459 (12.9463)	-7.340 (12.0141)	-7.2467 (13.3014)	-6.7478 (12.358)
Disappearances	-5231.208 (5298.757)	-15982.86* (8075.971)	-6889.633 (5344.735)	-21492.36* (8726.357)	-11.7929 (8.2466)	-12.3117 (8.8181)	-10.3664 (8.5785)	-12.0234 (9.1706)
GDP per capita	0.0613 (.105)	0.0708 (.1049)	0.0786 (.1093)	0.0890 (.1062)	-0.0003 (.0004)	-0.0006 (.0004)	-0.0002 (.0004)	-0.0005 (.0004)

(table continues)

Variables	HVC versus LVC		Robustness Check: Homicides		Robustness Check: FDI		Robustness Check: Homicides & FDI	
	Model 1	Model 2 (lag)	Model 3	Model 4 (lag)	Model 5	Model 6 (lag)	Model 7	Model 8 (lag)
Population	66.2725 (50.9876)	118.4395* (54.6473)	52.2767 (51.7776)	112.0998* (55.5023)	0.9846*** (.0816)	0.9782*** (.0698)	0.9635*** (.0852)	0.9872*** (.0735)
State Capacity	9.3526*** (1.379)	9.1482*** (1.4438)	9.4196*** (1.387)	9.2119*** (1.4392)	0.0056*** (.0014)	0.0044*** (.0012)	0.0056*** (.0014)	0.0041*** (.0012)
Education	95.1956*** (25.856)	101.9641*** (30.5233)	88.0704** (26.91)	103.4114** (32.0601)	0.4662*** (.0524)	0.5077*** (.0541)	0.4284*** (.0535)	0.5024*** (.0557)
Labor Relations	191247.1*** (28370.74)	206898.5*** (31245.14)	185096.3*** (28251.14)	198568.1*** (30840.6)	343.5739*** (52.7868)	253.7187*** (51.9114)	312.1432*** (52.59)	224.2804*** (51.5884)
Public Expenditures	6.55e-09*** (1.15e-09)	6.10e-09*** (1.26e-09)	6.47e-09*** (1.16e-09)	5.97e-09*** (1.27e-09)	-1.75e-12 (1.10e-12)	-1.78e-12 (9.41e-13)	-2.03e-12 (1.19e-12)	-2.29e-12* (1.02e-12)
Election Year	25.273 (37.317)	45.8672 (38.1773)	17.1613 (37.8682)	31.8757 (38.0188)	0.0452 (.0795)	0.128 (.0744)	0.0319 (.0804)	0.112 (.0755)
Foreign Firms	1008.601*** (294.4733)	1020.151*** (304.4804)	1137.831*** (299.4815)	1165.898*** (307.0888)	-2.4714*** (.7232)	-0.7894 (.6812)	-2.3524** (.731)	-0.546 (.6849)
Organized Crime	13600079.2 (1.97e+07)	26128776.8 (2.00e+07)	-1795114.8 (2.02e+07)	15507955.7 (2.02e+07)	230882.2*** (63015.62)	178664.0** (59831.26)	173873.2** (63563.46)	135941.5* (60271.83)
Anti-Violence Initiatives	4.6122 (59.3444)	18.117 (61.1631)	-6.4677 (59.9128)	-0.0350 (59.9679)	0.1287 (.0862)	0.0324 (.0818)	0.0905 (.0866)	0.0133 (.0824)
Border State	179.6483** (68.5849)	227.0341** (75.1534)	193.9114** (68.5665)	246.4897** (75.287)	0.3139*** (.0845)	0.3548*** (.0826)	0.3248*** (.0845)	0.355*** (.0833)
Presence of HVC and LVC	-59.7605 (66.3602)	-62.8179 (66.9335)	-74.0616 (74.1561)	-70.8281 (73.0302)	-0.2605 (.1837)	-0.0800 (.1714)	-0.3664 (.195)	-0.1559 (.1821)
Constant	-1945.243* (869.7927)	-2738.645** (956.3371)	-1656.124 (891.329)	-2641.981** (985.516)	-12.6796*** (1.3734)	-12.9248*** (1.2088)	-11.7879*** (1.437)	-12.8234*** (1.2703)
N	672	640	672	640	672	640	672	640

Notes: Standard errors in parentheses * p<0.05, ** p<0.01, *** p<0.001