2015

Crime, Institutions and Sector-Specific FDI in Latin America

Luisa Blanco
Pepperdine University, lblanco@pepperdine.edu

Isabel Ruiz
University of Oxford, isabel.ruiz@economics.ox.ac.uk

W. Charles Swayer
Texas Christian University, w.c.sawyer@tcu.edu

Rossitza Wooster
Portland State University, wooster@pdx.edu

Crime, Institutions and Sector-Specific FDI in Latin America

Luisa Blanco
Associate Professor of Economics
School of Public Policy
Pepperdine University
California, USA
lblanco@pepperdine.edu

Isabel Ruiz*
Official Fellow in Economics
Harris Manchester College
University of Oxford
Oxford, UK
isabel.ruiz@economics.ox.ac.uk

W. Charles Sawyer
Hal Wright Professor in Latin American Economics
Texas Christian University
Texas, USA
w.c.sawyer@tcu.edu

Rossitza Wooster
Associate Professor of Economics
Portland State University
Portland, USA
wooster@pdx.edu

***Correspondence:**
Isabel Ruiz
Harris Manchester College,
University of Oxford,
Oxford OX1 3TD,
United Kingdom
Tel: +44(0)1865 271026
Email: isabel.ruiz@economics.ox.ac.uk

Crime, Institutions and Sector-Specific FDI in Latin America

Abstract:

In this article, we explore how crime and institutions affect the flow of capital in the form of foreign direct investment (FDI) to Latin American and Caribbean countries in the primary, secondary and tertiary sectors during the 1996-2010 period. We use three different variables related to violent crime: homicides, crime victimization, and an index of organized crime. We find that there is a correlation between the institutional and crime variables, where the significance of institutional variables tends to disappear when the crime variables are added to the model. We find that higher crime victimization and organized crime are associated with lower FDI in the tertiary sector. However, we do not find robust evidence of crime affecting FDI inflows to the primary and secondary sectors. Our findings have several implications which are discussed in the paper. Among the most important, we highlight the importance of continuing the efforts to decrease crime and, from an academic perspective; FDI studies should consider sector specific dynamics. As indicated by our results, while there may be global drivers to FDI, each sector has its own idiosyncrasies that need to be assessed and accounted for.

Keywords: Foreign Direct Investment, sector specific FDI, crime, institutions, Latin America

JEL: F210, F230, O190

Crime, Institutions and Sector-Specific FDI in Latin America

I. Introduction

Foreign Direct Investment (FDI) has long been recognized as a fundamental factor in the process of economic development in developing countries. Any standard growth model shows that increases in capital tend to be positively associated with economic growth. Historically, inflows of FDI are particularly relevant for Latin America. Economic growth in the region has tended to lag behind rates of growth for middle-income countries in general, and for East Asia, in particular. The reasons for this are not perfectly understood but the accumulation of capital is part of the problem. National savings rates in Latin America tend to be low relative to faster growing middle-income countries. Given this, inflows of FDI become even more important to enhance economic growth. As a result, understanding the determinants of FDI in Latin America indirectly helps to explain overall economic growth in the region.

There is a substantial body of literature on the determinants of inward FDI into Latin America.[1] However, there are still a number of issues concerning these inflows for which there is little or no knowledge. Most importantly, the overwhelming majority of empirical research on FDI is concerned with overall inflows. While this is important, there is far less evidence regarding the determinants of FDI by sector. Unless one makes the strong assumption that FDI determinants are invariant across sectors, there may be important information about the drivers of FDI inflows that is lost in the process of aggregation. Even if the determinants are common, it is unlikely that their influence would be identical across all

[1] For general determinants, see Tumman and Emmert (2003); Trevino and Mixon (2004) Ferraz et al (2011) and Reyes and Sawyer (2011) among others.

sectors. This is particularly true in the case of Latin America as FDI in the region has been overweight in primary commodities. As a result, any disaggregation of the data by sectors may yield important insights regarding sectoral dynamics (Hecock and Jepsen, 2014; Ferraz et al., 2011).

Recently, there has been a large amount of research on the effect of institutional quality on growth and development. The presence of weak institutions is commonly described as a limiting factor of economic growth in developing countries (Acemoglu et al. 2003, 2005; Engerman and Solokoff, 1997). While it is clear that better institutional quality matters for growth and economic development, the channels through which this occurs are less clear. One of the channels may be that better institutions allow for increased inflows of FDI. This in turn could increase economic growth. While this idea is not original to this paper, it is of particular interest for Latin America. Institutional quality has usually not been thought of as a strength in the region. Prior to the 1980s, the region was characterized by a collection of authoritarian regimes not generally noted for enhancing institutions critical for economic development such as the rule of law.

Furthermore, the economic and political turmoil of the "Lost Decade" of the 1980s produced political changes that spurred improvements in institutional quality in many countries of the region. A historical account of the evolution of institutions for the region shows that there is a link between improvements in institutional quality and growth in Latin American economies (Przeworski and Curvale, 2007).[2] What is particularly interesting for our purposes is that FDI in the region began a long boom. It went from 0.7 percent of GDP in 1990 to nearly 4.6 percent of GDP in 2013 (United Nations, ECLAC, 2013). Logically, the increase in FDI and the improvement in institutional quality should be related. However,

[2] Bertola (2011) offers an interesting historical account of the roots of institutions in Latin America.

although there is some evidence that better institutional quality has a positive impact on the overall flows of FDI (Penfold, 2014, Fukumi and Nishjima, 2010), little is known about how changes in institutional quality affect FDI by sector and these effects are unlikely to be uniform.

Importantly, there is an aspect that remains critical when it comes to institutional quality and that is the role of crime. Institutional quality is a broad concept and, for Latin America in particular, when studying how institutions affect FDI it is important to consider crime. Crime is likely to be related to the institutional environment of a country. Moreover, in the case of Latin America, the relation between crime and institutions seems paradoxical. While there has been a reported improvement in the quality of institutions, crime has also increased and it is at the forefront of the public policy agenda. In the last decade crime rates have increased significantly, leading to the region receiving the title of one of the most violent regions of the world (Di Tella et al., 2010; UNDP, 2013). A recent study about crime and violence in Latin America states that the homicide rates in Latin American countries are considered by the World Health Organization to be at an epidemic level (UNDP, 2013). The statistics are staggering. According to a World Bank report, Latin America and the Caribbean countries not only account for over 30 percent of the world's homicides but also include seven of the top-ten countries with the world's highest homicide rates. In addition, 42 cities in the region make the list of the 50 cities with the highest homicide rates in the world (World Bank, 2013).

The improvement in institutional quality may be indeed counteracted by the crime trends and therefore, the overall effect needs to be explored. This divergence between improvements in institutional quality along with increasing crime rates may have potentially important impacts on the trajectory of FDI. There is evidence in the literature that in Latin America, violent crime has generated distrust in institutions (Blanco, 2013; Blanco and Ruiz, 2013;

Corbacho et al. 2015). Distrust in institutions can in turn be reflected in weaker business networks, and it can increase the costs of setting up and expanding businesses in Latin America. Therefore, crime should not be overlooked and needs to be taken into account in the study of the determinants of FDI. After all, as hypothesised by Pshiva and Suarez (2002), violent crime in developing countries may help explain the Lucas (1990) puzzle of capital not flowing to developing countries. In addition, as we have stressed above, a sectorial analysis becomes pertinent in this context as it would be naive to expect the impact crime to be identical across sectors.

The focus of this article is to investigate the degree to which institutional quality and crime affect FDI in different sectors. We contribute to the literature by looking at how crime and institutions are interrelated as determinants of FDI in different sectors in Latin America and the Caribbean. We use three different indicators related to violent crime: homicide rates, crime victimization index, and organized crime index. We find that crime, measured with the crime victimization and organized crime indices, has a robust negative effect on FDI in the tertiary sector. Our findings point at the importance of looking at sector specific dynamics. Activity in the tertiary sector encompasses services, tourism and other activities in which human interaction matters in a different way that it does when looking at other sectors. The findings also relate to anecdotal evidence from Venezuela where there is a reported decrease in business activity in the tertiary sector due to the increase in crime. In fact, Venezuela now stands as having one of the highest crime rates in the world; the second highest after Honduras (Rosati, 2015).

The next section (section II) provides a conceptual framework and the empirical evidence. This is followed by a section (section III) describing the data utilized and the

empirical methodology employed. Section IV and V provide a description of the results and the robustness tests, and this is followed by a conclusion (Section VI).

II. FDI, Institutions and Crime: Conceptual Framework and Empirical Evidence

Our paper focuses on the impact of crime on sectoral FDI. Loosely speaking, our approach looks at a wider definition of crime by focusing on violent crime, where we take into account three different crime measures: homicide rates, crime victimization and organized crime. Previous work in the literature has focused on the impact of political instability and corruption on domestic and foreign investment. While these are important, and could arguably be linked to the general definition of crime, they have already been studied on their own right and/or through the links between FDI and institutions. In general, some of the findings also indicate that the impacts of institutional improvement differ depending on the sector where FDI flows. For example, the primary sector seems to be less vulnerable to the quality of institutions while market seeking sectors seem to be more responsive.[3]

Why focus primarily on crime? There is a long quest in the economic literature trying to understand the determinants of FDI (see for example, Blonigen and Piger, 2011). In the particular case of Latin America, FDI has been thought of as conducive to economic growth (Borensztein et al., 1998), and the potential externalities of FDI are linked to economic development. Therefore, there has been a strong desire to understand the determinants of FDI into the region and the different channels through which Latin American countries are able to attract FDI in order to create a more positive environment for foreign investors. While many of the countries in the region have had impressive achievements in generating welcoming environments to foreign investors, crime has been a major concern for most countries of the

[3] See Daude and Stein (2007), Schulz (2009) and Ali et al. (2010) for a summary of this literature, and Fukumi and Nishjima (2010) and Penfold (2014) for evidence on the link between institutions and FDI in Latin America.

region and it has reached peak levels during the last decade (Gaviria, 2002; Soarez and Naritomi, 2010).

It is very likely that the increasing levels of crime can act as a deterrent for foreign firms into the region. In particular, crime can potentially affect both greenfield investments and merger and acquisitions (M&A) having consequences for both the stock of FDI through reduction or closure of operations and/or the flow of FDI through reduced new investment and reinvestment and by lowered incentives to expand. Firms may delay expansion or further investment because high crime can add to the firm's costs (damaged infrastructure, unstable market demand, high security costs, insurance and other legal costs) and can force firms to choose locations that are low in crime but otherwise suboptimal (Amin, 2014; Dadzie et al., 2014). Moreover, crime can have a strong impact on institutional stability and the overall business environment (Soares and Naritomi, 2010).

Arguably, the incidence of crime may have a differential impact on the type of FDI. Therefore, in our analysis we look at FDI by sector. Most importantly, we decompose total FDI inflows into three sectors: primary, secondary and tertiary. The previous literature has shown that different sectors are likely to have different determinants. It may also be argued that there is a strong interplay between crime and the quality of institutions. This follows from a small and nascent literature that has focused on the linkages between crime and institutions and that finds that crime can lead to distrust of institutions. Distrust in institutions may generate corruption and lack of social cohesion and it can, in general, create poorer demand conditions and lower the levels of social capital which is arguably important for the setting up and expansion of business (Blanco, 2013; Blanco and Ruiz, 2013, Corbacho et al, 2014). In fact, recent studies have found that corruption and violent crime in Latin America have been highly detrimental for domestic investment (Gaviria, 2002; Pshiva and Suarez, 2002; Dadzie et al., 2014).

Despite the escalating importance of crime in the Latin American region, the literature on crime and FDI is scant. While there is previous evidence on the impact of crime on domestic investment, to our knowledge, Gomez Soler (2012) might be the only empirical analysis on the impact of crime on FDI in the Latin America region. While there is a dearth of empirical evidence at the country level for the Latin American region, there are several analyses at the state level for Mexico (Madrazo Rojas, 2009; Ashby and Ramos, 2013; Ramos and Ashby, 2013) and at the firm level for Colombia (Pshisva and Suarez, 2010).

Using data on organized crime from the World Economic Forum for 19 Latin American countries between 2002 and 2010, Gomez Soler (2012) finds there is no significant correlation between crime and aggregate FDI. Analyses that focus on Mexico and use state level data show that crime has a negative effect on FDI. Madrazo Rojas (2009) finds that homicide rates have a negative effect on FDI when using total FDI at the state level between 1998 and 2006 from Mexico. Ashby and Ramos (2013) expand on Madrazo Rojas' (2009) approach by studying the impact of homicide rates on FDI in different sectors. They find that crime has a negative effect on FDI in the agriculture, commerce and financial services sectors, but a positive effect in the oil and mining sectors. They also find that crime has no effect on the manufacturing sector. Ramos and Ashby (2013) expand on this work by showing that high crime rates do not deter investment from high-crime countries into Mexico.

In a related vein of research, Pshisva and Suarez (2010) use firm level data for Colombia and document that crime (in the form of kidnappings) targeted at firm owners has a negative effect on investment. However, overall violent crime appears to have an insignificant impact. In their exploratory analysis, Pshisva and Suarez (2010) also consider aggregate FDI and do find a negative impact of kidnappings on net foreign direct investment for 196 countries. Other analyses on the effect of crime on FDI for other countries outside Latin America show

also a negative effect of crime on FDI. [4] The question remains as to why and how would FDI be impacted by crime. Looking at aggregates may confound the different dynamics occurring in different sectors. For example, one might hypothesize that crime should not be as detrimental in the primary sector and that, instead, armed conflict might be a more important explanation for natural resource driven investment. Thus the impact of crime clearly becomes an empirical question.

Our paper is distinct from the above literature in four broad ways. The obvious distinction is that we take into account the interplay between institutions and crime, therefore addressing not only the potential problems of omitted variable bias, but also the paradox described above in the introduction (better institutions but also increasing levels of crime). Second, we are studying flows of FDI into a single region, Latin America and the Caribbean. The vast majority of the literature on FDI is concerned with the overall flows of FDI into a host country or a relatively large number of countries. Third, and most important, our paper presents a decomposition of the overall flows into three broad sectors. We argue that moving forward, the studies of the determinants of FDI into developing countries needs to focus on sectorial differences. Fourth, our analysis uses three different indicators related to crime, which allows us to capture different dimensions of crime and provide new insights on the crime-FDI link. As outlined above, our paper falls into the broader literature on FDI in Latin America by combining these aspects in a unique way. The following section details the methodology and data used in the analysis.

[4] In fact, there is no much on the relationship between crime and FDI in general. Apart of the above described papers, a few of the papers have been done at the regional level for Italy (Daniel and Marani, 2011) and country level for Russia (Brock 1998). For the case of Italy, Daniel and Marani (2011) use data from 103 Italian provinces between 2002 and 2006 and find that organized crime has a negative effect on FDI. Brock (1998) finds that the total crime rate has a negative effect on FDI during the period 1993-1995 in Russia at the regional level.

III. Methodology and Data

For our investigation on the impact of institutions and crime on FDI we take a similar approach to Ashby and Ramos (2013) and Dadzie et al. (2014).[5] We specify our model as follows:

$$FDI_{i,j,t} = \beta_1 Crime * \sum_j^k Sector_j + \beta_2 Institution * \sum_j^k Sector_j + X_{i,t}^{'}\beta + \varepsilon_{i,t} \qquad (1)$$

In Equation 1, the dependent variable is the natural log of a country's FDI inflow as share of GDP in country *i*, sector *j*, and period *t*.[6] We interact the crime variables and institutional variables with sectoral dummies. $X_{i,t}$ represents standard control variables and $\varepsilon_{i,t}$ represents the error terms for country *i*, in period *t*.[7]

We use sectoral FDI for the 1996-2010 period for 18 Latin American and Caribbean countries for which we were able to get data on FDI and crime (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, and Venezuela). We use FDI data from the primary, secondary, and tertiary sectors, where sectoral data was obtained from UNCTAD/DITE (2013). Our estimations are based on an unbalanced panel data since many of the variables are not available at all times for all countries during the period of

[5] The literature on FDI has recently become more concerned with the presence spatial correlations (Blanco, 2012). It is worth noting that in our initial exploration of the data, we estimated the model separately for each sector and we did not find evidence of spatial interdependence. In our taken approach, looking at spatial correlation was not feasible as our methodological approach relies on stacking the sectoral FDI data and including sector-specific dummies. This does not allow for the introduction of a term that controls for spatial autocorrelation. Overall, we believe our approach is appropriate in this case because using the stacked data helps us to better account for the differential effect of crime and institutional variables on FDI.

[6] Some of the values for FDI inflows are non-positive (5 cases). The natural logarithm transformation for those values is equal to the natural logarithm of half the minimum value among observations in the sample greater than zero. This is the form of truncation recommended by Cameron and Trivedi (2005). Also, for robustness purposes, we estimated our model using total FDI inflows instead of FDI inflows as a share of GDP. As discussed in the robustness section, the results supported our conclusions.

[7] Our model specification, which excludes the crime and institutional variables in the model by itself, follows the recommendations by Yip and Tsang (2007). Not including the crime and institutional variables by themselves allows us to interpret the effect of these variables in the different sectors more accurately and in a clearer way than if we include these variables. We control for sector characteristics by using panel data techniques.

analysis.[8] The control variables considered here are those commonly included in FDI models: the initial level of real GDP per capita, total population, trade openness, exchange rate, and inflation (all variables in natural logs). Data for these variables was obtained from the World Development Indicators (World Bank, 2013). For robustness we will consider other variables such as surrounding market potential, capital openness, and polity. The accompanying notes in Table 1, which includes the summary statistics for all the variables used in our estimations, also includes a description about variable definitions and transformations.

We consider three crime variables: homicide rates, a crime victimization index, and an organized crime index. Homicide rates are obtained from the United Nations Surveys on Crime Trends and the Operations of Criminal Justice Systems (UN, 2014). We construct a crime victimization index using survey data from the Latinobarometro. Our crime victimization index represents the proportion of the population who has been themselves or their relatives victim of a crime.[9] We also include in the model an organized crime index, which is provided by the World Economic Forum (2014).[10] For the organized crime index, it is constructed with values of 1-7, where higher values represent fewer problems with organized crime. All the crime variables are entered in the model as natural logs. Taking the logs of homicides and crime victimization variables is appropriate since the distribution of these variables is skewed towards the right (the mean is greater than median). Organized crime does not show that the distribution is skewed towards the right, but we use the log of

[8] For the FDI variables we used linear interpolation to fill in for missing observations. After filling in for missing data in this way, we find that 14 percent of the total number of observations used in the analysis were created by linear interpolation, which is a reasonable percentage. We are aware that using this amount of interpolated data is likely to understate reported standard which is why we estimate our model in the robustness section using the FDI data without linear interpolation.

[9] There is some lack of consistency in the year 2000 and some of the 1999 data is missing for the Latinobarometro data. We therefore assume that the observations are missing for this year. Thus, we fill in with linear interpolation for the years 2000 and 1999. As a note of caution, we should add that this survey does not have weights that would allow us to infer that the proportions we estimate are completely representative of the entire population.

[10] We thank Nathan Ashby for sharing with us the data on organized crime from the WEF (2014).

this variable as well for simplicity. Results do not change when we estimate our model using the level of organized crime.

For the institutional variables, we first construct an indicator of governance related to institutions that are important for business. For this indicator we use the principal component of bureaucratic quality, control of corruption, and law and order. We also consider in our model other variables provided by the International Country Risk Guide Dataset (ICRG, Political Risk Services, 2013), such as the composite risk. Table 2 presents the components of the composite risk measure. We also explore with the political risk index and its components since our emphasis is on institutions. We include each institutional variable that composes the political risk index at the time interacted with the sector dummies to avoid problems of multicolinearity. The results section only presents the results of those estimations for which we find that the interaction between the institutional variable from the political risk index and sector dummy are significant. We note that institutional variables from this dataset with higher values represent higher institutional quality (for example, higher values mean higher bureaucratic quality and law and order and less corruption).

To estimate our model we consider Fixed and Random Effects models (FE, RE), and perform a Hausman test to determine what model is appropriate. We perform the test including the variables specified in Equation 1, using the three different crime indicators with the governance index, and find that the RE model is preferred in all cases. Our main analysis is based on a two-way RE model (three sectors, 18 countries), but we also discuss the results obtained when using the FE model in the robustness section. In what follows, we report the results using the two-way RE approach where data is stacked instead of running a regression for each sector. This is due to the nature of the data. By stacking the data (i.e. pooling data for the different sectors for each country) we are able to increase the number of observations

which is beneficial since it allows us to have a larger sample size. The UNCTAD FDI sectoral data is not consistently available over time and running a regression for each sector will result in a small number of observations.

We also include time dummies, which are found to be significant as a group with an F test.[11] Note that, in Equation 1, we use lags of all variables in the right hand side to avoid problems of endogeneity.[12] As mentioned above, Table 1 presents the summary statistics for the variables used in this analysis in levels and natural logarithms for those variables used in the model in that form.

IV. Results

Table 3 displays the correlation matrix between the crime variables and institutional variables. When looking at the correlation between the three crime variables it is important to note that organized crime is negatively and significantly correlated with homicides and crime victimization (a negative correlation indicates that as organized crime is reduced – that is, the organized crime index increases -, crime victimization and homicide rates increases). The correlation between organized crime and homicides is of larger magnitude than the correlation between organized crime and crime victimization (-0.66 versus -0.23).

As previously suggested in our discussion of the literature, crime is likely to be correlated to the institutional environment of a country. This table shows that the correlations are relatively high, especially for the institutional variables related to governance and law and order. Not surprisingly, these correlations also depend on the type of crime. For example, crime, as measured by homicides, is negatively and statistically significantly correlated with

[11] Due to space considerations, we do not show coefficients and standard errors for time dummies or the Hausman test statistics. These are available upon request.
[12] All variables are entered as lags, where only initial GDP is the initial level of GDP for each 5 year period. Using the initial level of GDP per capita is important because our dependent variable is FDI as a share of GDP, which help us dealing with the issue of having GDP in both sides of the equation in the same form.

governance (-0.55), law and order (-0.63) and socioeconomic conditions (-0.41). Crime victimization has the highest correlations with military in politics (-0.20) and internal conflict (-0.16). Finally, organized crime (for which higher numbers represent lower organized crime activity) has significant and positive correlations with law and order (0.63), governance (0.46), internal conflict (0.42) and political risk (0.33). Thus, the high correlation between institutional and crime variables might leads us to hypothesize that the channel through which institutions have an effect on FDI could be through the interplay between institutions and crime and which has not been explored in the literature. For this reason, we explore in our estimations the impact of the institutional variables on FDI first before and then we incorporate crime in the model.

Table 4 displays the results as indicated in Equation 1. Column 1 explores the importance of governance for FDI inflows and, therefore, omits any form of crime interactions. We interact governance by sector of the economy in order to understand the differential impacts of FDI. Governance seems to play a positive role on FDI inflows although the interaction turns out to be marginally significant (10 percent) only for the primary sector. Columns 2, 3 and 4 include, in addition to the sectoral interactions with governance, the sectoral interactions with crime as represented by homicide, crime victimization and the organized crime index, respectively. In Table 4, columns 3 and 4 show that when using crime victimization and organized crime as proxies for crime, crime seems to be associated with lower FDI at least at the 5 percent level in the tertiary sector.[13] Columns 5, 6 and 7 in Table 4 show the results when we exclude the governance indicator from these models. Specifically, these estimations show that crime continues to have a negative impact on FDI in the tertiary sector (only in the cases of crime victimization and organized crime) at the 1 percent level.

[13] Recall that higher values of the homicide and crime victimization variables represent more crime and higher values of the organized crime variable represent less crime.

Interestingly, the size of the coefficients for our crime variables for the tertiary sector in columns 6 and 7 are relatively larger than the ones shown in columns 3 and 4, respectively. This finding suggests that the significant crime variables are also able to pick up some of the effect that institutions have on FDI. However, the change on the coefficients of the crime variables might also be the result of multicolinearity between the governance index and, in particular, with the organized crime variable. We note that since the governance variable is a composite index that contains bureaucratic quality, control of corruption and law and order, the former likely reflects partially the trends in crime.[14] We will discuss the issue of multicolinearity further in the robustness section and estimate alternative models that deal with this possibility.

Table 5 shows the results when we include in the model the composite risk index (columns 1-4) and the political risk index (columns 5-8) separately. As discussed above, the political risk index is one of the components of the composite risk index and we include one crime variable at a time in the estimations. We find that when the composite risk index and the political risk index are included without the crime variables (columns 1 and 5), these indices are statistically significant at the 5 percent level for FDI in the tertiary sector. When the crime variables are added to the estimation together with the composite and political risk indices, crime turns out to be significant (in two of our measures, crime victimization and organized crime) but the significance of the institutional indices for the tertiary sector disappears. This is a similar finding to what we obtained when the governance indicator with the crime variables were included in the model in Table 4, but the significance of the governance indicator was only marginal in the model without the crime variables.

[14] The "law" element in "law and order" assesses the strength and impartiality of the legal system. The "order" element refers to a "popular observance of the law" (Political Risk Services, 2013). As explained by the ICRG, a country with a good judicial system may receive a high score but this is lowered if there is a high perception of crime (they cite widespread legal strikes). So while it does capture the "crime" aspect, the direct impact cannot be readily assessed. Our crime measures are akin to a "de Facto" measure of crime and are therefore a better indicator of its impact.

In Table 5 we observe that homicides rates do not have a significant effect on FDI in any sector when we include them with the composite and political risk indices (columns 2 and 4), while crime victimization continues to show a negative significant effect at the 5 percent level on FDI in the tertiary sector (columns 3 and 7). In the latter two estimations (columns 3 and 7), we observe that crime victimization also has a significant negative effect at the 5 percent level on FDI in the secondary sector, which is different to what we found before in Table 4. When we add the index of organized crime (columns 4 and 8), we continue to observe that organized crime affects FDI in the tertiary sector (coefficient for sectoral interactive term for the tertiary sector is positive and statistically significant at the 1 percent level).

We tested for the impact of all of the institutional variables that compose the political risk index (presented in Table 3) on FDI, without including the crime variables first. These estimations showed that bureaucratic quality, government stability, internal conflict and investment profile were the only ones to be statistically significant for FDI in the tertiary sector at least at the 5 percent level. Table 6 includes the estimates from the models that include the bureaucratic quality and government stability variables, and Table 7 includes the estimations for the models that include the internal conflict and investment profile variables. Table 6 shows that when we include the bureaucratic quality and government stability variables, one at the time and without the crime variables (columns 1 and 5), these variables have a significant positive coefficient for FDI in the tertiary sector. Similar to the results documented with the other institutional variables in Tables 4 and 5, the significance of the institutional variables goes away when the crime variables are added to the model. Estimates in Table 6 show that when crime victimization and organized crime are included in the model with bureaucratic quality (columns 3 and 4) and government stability (columns 7 and 8), crime continues to have a significant negative effect in the tertiary sector. One difference is that homicide has a positive significant coefficient for FDI in the tertiary sector when we

include this variable with the bureaucratic quality variable, which is counterintuitive (column 2). An ad-hoc hypothesis is that this could be because services generally locate in bigger cities where crime is generally higher (and therefore, crime could be acting as a proxy for big-city effect). However, the positive effect of homicides on the tertiary sector found here is not relevant since this is the only estimation in which homicides have a significant effect on sectoral FDI.

Results in Table 7, which include estimates from the model that takes into account internal conflict (columns 1-4) and investment profile (columns 5-8) separately, are very similar to what we found before. When including internal conflict in the model and investment profile by themselves (columns 1 and 5), we find that lower internal conflict and higher investment profile are associated with greater FDI in the tertiary sector (recall that higher values of these variables represent better political and institutional environments). In columns 2-4, where we add the crime variables to the model with internal conflict, we continue to observe that crime victimization and organized crime have a significant impact on FDI in the tertiary sector. This result is maintained in column 3, where we added crime victimization: internal conflict continues to have a positive effect on FDI in the tertiary sector. In columns 6-8, we include the crime variables in the model with investment profile and, once again, we observe that crime victimization and organized crime have a significant negative impact on FDI in the tertiary sector. We observe that the significance of the investment profile variable for FDI in the tertiary sector becomes insignificant (at least at the 10 percent level) when we include homicides and organized crime, respectively (columns 6 and 8) and marginally significant (10 percent level) when we include homicides (column 7)..

Finally, since the interaction term for the crime and institutional variables with the tertiary sector dummy is significant across estimations, we next turn to the magnitude of the effect of

crime and institutions on FDI in this specific sector. Table 8 presents the estimated marginal effect for a 1 percent change and for a 1 standard deviation change using the coefficients for the estimations shown in Tables 4-7, that include the crime and institutional variables separately for the full sample. We note that, in terms of standard deviations, the marginal effects of institutional variables have a large impact on FDI. Nonetheless, it is expected that the variability of the institutional variables has been reduced in the last decades. For the crime variables we observe that a one percent increase in crime victimization is associated with a reduction of FDI in the tertiary sector of 1.52 percent. We also observe than an increase in the organized crime index of 1 percent, which represent a reduction of organized crime, results in an increase of FDI in the tertiary sector by 1.37. It is interesting to note that the marginal effect of the institutional variables is similar to the marginal effect of the crime variables. We find that a 1 percent increase in the institutional variables is expected to lead to an increase on FDI in the tertiary sector in the range 1.55-1.03 percent.

Before we move into the discussion of the robustness checks used in this analysis, we summarize here the main findings. First, we find that there is a correlation between institutional and crime variables, which is important to keep in mind when we have a model where institutional and crime variables are accounted for at the same time. Second, we observe that there are several institutional variables that have a significant effect on FDI in the tertiary sector but no effect in other sectors (composite risk, political risk, bureaucratic quality, government stability, internal conflict, and investment profile). Third, in most cases we observe that when crime variables are added to the model, the significance of the institutional variables disappears. This finding is supportive of the important interconnection between institutions and crime. Fourth, we find that crime victimization and organized crime have a robust significant effect on FDI in the tertiary sector while homicides had an impact in only one estimation. Thus, an important implication of our findings is that, when analysing

the impact of crime on FDI, it is important to use alternative measures of crime and not just focus on the most commonly used indicator (homicide rates). Moreover, as the quality of data improves over time, using disaggregated data by sector (and even firm specific data) should be the direction of future research on FDI in developing countries. While there may be global drivers to FDI, each sector has its own idiosyncrasies which need to be assessed and accounted for. Originally, we were cautious in hypothesizing what results should be expected at the sectoral level but, in hindsight, crime should logically be a deterrent mainly for investment in the tertiary sector. As pointed out above, activity in the tertiary sector encompasses services, tourism and other activities in which human interaction matters in a different way that it does when looking at other sectors.

V. Robustness Tests

We tested for the robustness of our results by using the following strategies: 1) we use FDI inflows instead of FDI as a share of GDP, 2) we followed the previous strategy where we use FDI as a share of GDP as our dependent variable but include in the model only data that has not been interpolated, 3) we include sector dummies in addition to our interaction terms, and 4) we examine additional control variables to account for the possibility of omitted variable bias (surrounding market potential, capital openness and polity) to the baseline model with each crime variable included one at the time. While we do not present the results for these specifications due to space considerations, in general, all of our results remain qualitatively unchanged when we change estimation strategies suggesting that the findings presented above are robust to the specification changes we employed. Overall, the conclusion that the crime victimization and organized crime variables have a significant effect on FDI in the tertiary sector, is maintained throughout all these estimations.

For robustness purposes, we also explore further the issue of multicolinearity. We performed a multicolinearity test for the models estimated in Table 4, columns 2-4, which include the governance indicator and the crime variables one at the time. The results of the test show that the Variance Inflation Factors (VIF) are greater than 10 for crime victimization and organized crime. For some of the control variables, as we expected, we also find that VIF are greater than 10 (i.e. for initial GDP, population, and trade). This is not uncommon with aggregate data but to identify whether multicolinearity is severe, we estimate the models shown in columns 5-7 of Table 4, without the control variables that showed high VIF. We do not observe loss of significance or changes of signs in the reduced models and find that crime victimization and organized crime continue to have a significant effect on FDI in the tertiary sector. Thus, we conclude that while inclusion of the variables discussed above may introduce some multicolinearity in the estimations presented in Table 4, it is not severe enough to qualitatively change our results.

We also estimate our model including only Latin American countries. One could argue that there is a significant difference between Latin American and Caribbean countries, and for these reasons we estimate all the models shown in Tables 4-7 excluding the Dominican Republic, Jamaica, and Trinidad and Tobago. Table 9 shows a selected set of estimates for the models estimated with the reduced sample.[15] In Table 9 we only present the results that include crime victimization and organized crime in the estimations since homicides was never significant either for the full sample or for the reduced sample. Our previous results for the full sample are robust to using a reduced sample that includes only Latin American countries suggesting that the results are not driven by the Caribbean countries.

[15] Results for all estimations shown in Tables 4-7 for the reduced sample are available upon request.

In columns 1 and 2 of Table 9, where we include crime victimization and organized crime separately, we find similar results to the estimates shown in Table 4, columns 6 and 7, for the full sample. The size of the coefficients of the interactive term of the crime variables and the tertiary sector dummy are even larger when we restrict the sample to Latin American countries. One difference for this set of estimations is that organized crime also has a significant effect at the 5 percent level on FDI in the secondary sector, which is different from what was found for the full sample. Crime victimization has a marginal significant effect (10 percent level) on FDI in the secondary sector.

Table 9, columns 3 and 4, show that the estimates of the composite and political risk indices interacted with the tertiary sector dummy are of the same magnitude as the ones shown in Table 5, columns 1 and 5. When estimating the model that includes the different components of the political risk index shown in Tables 6 and 7 using the reduced sample, we find very similar results (compare estimates in columns 5-8 of Table 9, with estimates in columns 1 and 5 of Tables 6 and 7). Interestingly, the size of the coefficients for the institutional variables discussed here are slightly smaller than those found for the full sample.

Furthermore, we also include the results obtained when we estimate the same models shown in Table 4 using a Fixed Effect model. It could be argued that one of the reasons why the Hausman test might reject the fixed effects model is that some of the independent variables are highly persistent, making it difficult to derive statistical significance. Table 10 presents the estimates obtained when we include in the model the interaction of the sector dummy with the governance indicator without including the crime variables (column 1), the interaction of the sector dummy with the governance and crime variables (columns 2-4), and the interaction of the sector dummy with the crime variables without including the governance indicators (columns 5-7). The impact of crime victimization and organized crime

on FDI in the tertiary sector is robust to using the FE model (Table 10) confirming the results of the RE model (Table 4). One difference we observe when using the FE model is that the homicide rate has now a significant negative effect on FDI in the secondary sector (columns 2 and 5, Table 10) at the 5 percent level, which was not observed when using the RE model (columns 2 and 5, Table 4). Another difference is that crime victimization has a negative significant effect on FDI in the secondary sector at the 10 and 5 percent level (columns 3 and 6, Table 10), which was also not observed when using the RE model (columns 3 and 6, Table 4). Thus, the inclusion of the estimates from the FE model allows us conclude that the negative effect of crime on FDI in the tertiary is robust, while there are also some signs that crime affects FDI in the secondary sector. Since the impact of crime on the secondary sector is not as robust, we prefer to focus on the evidence that strongly supports our results regarding its impact on the tertiary sector.

VI. Conclusion

It has long been recognized that foreign direct investment has been a motor for economic development in middle and low income countries. Latin America has benefited in many ways from these inflows and therefore, not only academics but also policy makers have sustained a quest to investigate, determine and discern the drivers and determinants of FDI into the region. Of particular importance has been the role of institutions and its interplay with violence and crime. While Latin American countries have made great advances in terms of institutional improvements, the region still remains as one of the most violent regions in the world.

In this paper, we study the impact of crime and institutions on foreign direct investment to Latin America. We pay particular attention to the interplay between crime and institutions. We find that there is correlation between the institutional and crime variables,

where the significance of institutional variables tends to go away when the crime variables are added to the model. In particular, we explore three different variables related to crime (homicides, crime victimization, and organized crime index), and find crime victimization and organized crime index to be statistically significant in most estimations for the tertiary sector where increases on crime victimization and organized crime are associated with lower FDI in that sector. This leads to an unfortunate conclusion. The transition to democratic government in the region over the last 25 years has led to significant improvements in institutional quality. Ceteris paribus, these improvements should have led to higher levels of FDI. However, our results are indicating that the surge in crime which has occurred seems to be virtually negating the positive effects of better institutions. Our results therefore point to another important reason for decreasing crime, and increasing efforts to make crime reduction an important matter of public policy.

Our analysis also provides important insights related to the motivations of FDI and the importance of conducting sectoral analysis. We did not find a significant impact of crime on FDI in the primary sector. This makes sense as FDI in the primary sector is largely motivated by the availability of natural resources in a specific country. Therefore, we might expect firms to be indifferent to crime and our results corroborate this. A similar story applies to FDI in the secondary sector. In few instances, we found that our crime variables had a significant effect on FDI in the secondary sector, but this was not a robust finding. FDI in the secondary sector is motivated by cost advantages in the form of low labor costs and investment is also motivated with the purpose of serving the global market. From our findings, we could hypothesize that when firms chose to invest in the secondary sector in Latin America and the Caribbean, the rate of return is potentially high enough to offset the costs derived from crime. In the tertiary sector, firms are motivated in general, to invest with the purpose of serving that specific market. Investment in this sector is associated with tourism, education, financial

services, real state, among others. Thus, the impact of crime is likely to affect only the tertiary sector, which is what our analysis shows. Thus, our analysis indicates that lower levels of FDI in the tertiary sector are to be expected if crime continues to be an issue in this region, which will preclude these economies towards developing this sector.

To develop a deeper understanding of the interconnection of institutions and crime for capital flows, further research at the firm level that focuses on the motivations of FDI is warranted. Data collected through interviews with top managers of multinational enterprises could provide important insights on how institutional deficiencies and high crime rates affects investment decision, and whether they will be discouraged by these environments or accommodate for these deficiencies. Previous experience in a specific country is likely to play a role mitigating some of the detrimental effects of low institutional quality and crime, and this could be studied with firm level data.

References

Acemoglu, D, Johnson, S, Robinson, J, and Thaicharoen Y. (2003) "Institutional Causes, Macroeconomic Symptoms: Volatility, Crises and Growth." ***Journal of Monetary Economics***, 50 (1): 49-123.

Acemoglu, D., Johnson, S. and Robinson, J, (2005) "Institutions as a Fundamental Cause of Long Run Growth." In P. Aghion and S. Durlauf (eds), ***Handbook of Economic Growth***, Amsterdam: Elsevier.

Ali, Fathi A., Norbert Fiess, and Ronald MacDonald. (2010) "Do Institutions Matter for Foreign Direct Investment?" ***Open Economies Review*** 21(2): 201-219.

Amal, M., Tomio, B., & Raboch, H. (2010) "Determinants of Foreign Direct Investment in Latin America." ***Globalization, Competitiveness and Governability***, 4(3): 116-133.

Amin, M. (2014) Avoiding Crime in Latin America and the Caribbean, World Bank Group.

Asiedu, Elizabeth and Donal Lien. (2009) "The Effect of Corruption on Investment Growth: Evidence from Firms in Latin America, Sub-Saharan Africa and Transition Countries." ***Review of Development Economics*** 13(2): 99-111.

Ashby, Nathan J., & Ramos. Miguel A. (2013) "Foreign direct investment and industry response to organized crime: The Mexican Case." ***European Journal of Political Economy***, 30: 80-91.

Bertola, L. (2011) "Institutions and the Historical Roots of Latin American Divergence". Ch.2 in ***The Oxford Handbook of Latin American Economics***, edited by Jose A. Ocampo and Jaime Ros, Oxford University Press

Blanco, Luisa. (2012) "The Spatial Interdependence of FDI in Latin America." ***World Development*** 40(7): 1337-1351.

Blanco, L. (2013). The Impact of Crime on Trust in Institutions in Mexico. ***European Journal of Political Economy,*** 32, 38–55.

Blanco, L., and Ruiz, I. (2013). The impact of crime and insecurity on trust in democracy and institutions. ***American Economic Review***: Papers and Proceedings, 103, 323–346.

Blonigen, Bruce A. and Jeremy Piger. (2011) "Determinants of Foreign Direct Investment." NBER Working Paper 16704.

Borensztein, E. and De Gregorio, J. & Lee, J-W. (1998). How does foreign direct investment affect economic growth? ***Journal of International Economics***, Elsevier, vol. 45(1), pages 115-135.

Brock, Gregory J. (1998) "Foreign Direct Investment in Russia's Regions 1993-95. Why so Little and where has it gone? ***Economics of Transition***, 6(2): 349-360.

Cameron, Colin and Trivedi, Pravin. (2005) "Microeconometrics: Methods and Applications." Cambridge University Press. Cambridge

Campos, Nauro and Yuko Kinoshita. (2008) "Foreign Direct Investment and Structural Reforms: Panel Evidence from Eastern Europe and Latin America." IMF Working Paper 08/26.

Chinn, M., & Ito, H. (2008). A new measure of financial openness. ***Journal of Comparative Policy Analysis: Research and Practice***, 10, (3), 309-322. [Dataset] Accessed on April 2013. from http://web.pdx.edu/~ito/Chinn-Ito_website.htm

Corbacho, A., Philipp, J., Ruiz-Vega, M. (2015) "Crime and Erosion of Trust: Evidence for Latin America", ***World Development***, Volume 70, June 2015, Pages 400-415

Dadzie, Christabel, Blanco, Luisa, and Dony, Coline. (2014) "Study on Crime and Investment in Latin America and the Caribbean. USAID." Development Experience Clearinghouse, PA-00K-4WM.

Daude, C., and Stein, E. 2007. The Quality of Institutions and Foreign Direct Investment. ***Economics & Politics***, 19(3): 317-344.

Daniele, Vittorio, and Marani, Ugo. (2011) "Organized crime, the quality of local institutions and FDI in Italy: A panel data analysis." ***European Journal of Political Economy***, 27(1): 132-142.

Di Tella, Rafael, Edwards, Sebastian, & Schargrodsky, Ernesto. 2010. The Economics of Crime: Lessons For and From Latin America. University of Chicago Press, Chicago, IL.

Engerman, Stanley L. and Kenneth L. Sokoloff. (1997) "Factor Endowments, Institutions, and Differential Paths of Growth Among New World Economies: A View from Economic Historians of the United States," pp. 260-304 in Stephen Haber (ed), How Latin America Fell Behind. Stanford: Stanford University Press.

Ferraz, J., Mortimore, M., and Tavares, M. (2011) "Foreign Direct Investment in Latin America". Ch.18 in The Oxford Handbook of Latin American Economics, edited by Jose A. Ocampo and Jaime Ros, Oxford University Press

Fukumi, Atsushi and Shoji Nishijima. (2010) "Institutional Quality and Foreign Direct Investment in Latin America and the Caribbean." ***Applied Economics*** 42(13): 1857-1864.

Gaviria, Alejandro, (2002). "Assessing the effects of corruption and crime on firm performance: evidence from Latin America," ***Emerging Markets Review***, Elsevier, vol. 3(3), pages 245-268, September.

Gómez Soler, Silvia. 2012. The Interplay between Organized Crime, Foreign Direct Investment and Economic Growth: The Latin American Case. Pontificia Univ. Javeriana: Bogota.

Hecock, Douglas and Eric Jepsen. (2014) "The Political Economy of FDI in Latin America 1986–2006: A Sector-Specific Approach." ***Studies in Comparative International Development***, 49(4): 426-447.

Kolstad and Wiig. 2012. "Digging in the Dirt? Extractive Industry FDI and Corruption." Economics of Governance, forthcoming.

Lucas, R. E. Jr 1990 "why doesn't capital flow from rich to poor countries? ***American Economic Review***, 80 (2):92-6

Madrazo Rojas, Federico. 2009. The effect of violent crime on FDI: The case of Mexico 1998-2006 (Master Thesis). Department of Public Policy, Georgetown Public Policy Institute.

Manrique, L. E. (2006) "A Parallel Power: Organized Crime in Latin America." Real Instituto Elcano.

Marshall, M., & Jaggers, K. (2013). Polity IV Project [Dataset]. Accessed on April 2013. http://www.systemicpeace.org/polity/polity4.htm

Penfold, M. (2014) "Institutions and Foreign Direct Investment in Latin America: A New Emerging Reality" ***LAC Working Papers in Political Economy***, No.3

Political Risk Services, (2013). International Country Risk Guide [Dataset]. Data purchased on January 2013. http://www.prsgroup.com/ICRG.aspx.

Przeworski, A. and Curvale, C. (2007) "Instituciones políticas y desarrollo económico en las Américas: el largo plazo." In ***Visiones sobre el Desarrollo en América Latina***, CIDOB/CEPAL.

Pshisva, R. and Suarez, G. A. 2010 "Capital Crimes: Kidnappings and Corporate Investment in Colombia." In: ***The economics of crime: Lessons for and from Latin America.*** University of Chicago Press, pp. 63-97.

Ramos, Miguel A., & Ashby, Nathan J. (2013). "Heterogeneous firm response to organized crime: Evidence from FDI in Mexico." ***Journal of International Management***, 19(2): 176-194.

Reyes, Javier A. and W. Charles Sawyer. 2011. Latin American Economic Development. London: Routledge.

Rosati, Andrew. 2015 (June 11). Hugo Chavez' Legacy: Venezuelans are terrified of the Dark. Bloomberg business. Retrieved online: http://www.bloomberg.com/news/articles/2015-06-11/caracas-bar-hopping-rule-no-1-never-get-caught-out-after-dark

Soares, R. and Naritomi, J. 2010. "Understanding High Crime Rates in Latin America." In: ***The Economics of Crime: Lessons for and from Latin America***. University of Chicago Press, pp. 63-97.

Schulz, Heiner. 2009. "Political Institutions and Foreign Direct Investment in Developing Countries: Does the Sector Matter?" Social Science Research Network.

Tintin, C. 2013, "The Determinants of Foreign Direct Investment Inflows in the Central and Eastern European Countries: The Importance of Institutions", ***Communist and Post-Communist Studies*** 46(2), 287-298.

Trevino, L., and F. Mixon. (2004). "Strategic factors affecting foreign investment decisions by multinational enterprises in Latin America." ***Journal of World Business*** 39, no. 3: 233–43.

Tuman, J., and C. Emmert. (2003) "The political economy of U.S. foreign direct investment in Latin America: a reappraisal"**.** ***Latin American Research Review*** 39, no. 3: 9–28.

United Nations Surveys on Crime Trends and the Operations of Criminal Justice Systems, UN-CTS (2014) Crime Trends and the Operations of Criminal Justice Systems Data collection. Available at: https://www.unodc.org/unodc/en/data-and-analysis/United-Nations-Surveys-on-Crime-Trends-and-the-Operations-of-Criminal-Justice-Systems.html

UNCTAD/DITE (2013) United Nations Conference on Trade and Development Data Extract Service Desk, (UNCTAD/DITE) FDI disaggregated by sectors in Latin America [data purchased by authors].

United Nations Development Programme (2013) Citizen Security with a Human Face: Evidence and proposals for Latin America. Regional Human Development Report 2013-2014. UNDP, New York, NY.

World Bank. (2013) World Development Indicators [Dataset]. Accessed on April 2013. http://data.worldbank.org/data-catalog/world-development-indicators

World Economic Forum. 2014. Global Competitiveness Index. http://www.weforum.org/reports/global-competitiveness-report-2014-2015

Yip, Paul, and Eric Tsang. (2007) "Interpreting Dummy Variables and their Interaction Effects in Strategy Research." ***Strategic Organization***. 5 (1): 13-30.

Table 1. Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Levels					
FDI GDP share (160)	1134	0.8588	1.3446	0.0000	16.5152
FDI inflow (160)	1134	238.0611	416.7552	0.0000	7022.6000
GDP per capita initial[b]	1599	3560.6580	2220.2920	833.8649	14297.8900
Population	1674	24300000	39500000	1069199	193000000
Trade openness (12) [b]	1635	64.2583	40.8049	11.5457	562.0604
Exchange rate[b]	1665	615.7166	2933.8790	0.0000	25000.0000
Inflation (15)	1665	146.6854	936.6053	-27.6317	13611.6300
Homicide rate	663	25.1210	22.3102	3.2000	139.1321
Crime victimization (90)	669	0.3865	0.0964	0.1188	0.7824
Organized crime	465	3.8694	0.9689	1.8000	6.2781
Governance	1404	0.0809	1.0215	-2.4956	2.4671
Composite risk	1404	62.5685	10.8940	25.3800	82.3800
Political risk	1404	61.3277	10.6323	29.5000	81.7500
Bureaucratic quality	1404	1.8118	0.8632	0.0000	3.0000
Corruption	1404	2.7310	0.9564	0.0000	5.0000
Democracy	1404	3.9379	1.1537	1.0000	6.0000
Ethnic tension	1404	4.5567	1.1366	0.5000	6.0000
External conflict	1404	9.9808	2.0278	2.0000	12.0000
Government stability	1404	6.9728	1.9560	2.0000	11.0000
Internal conflict	1404	8.2023	2.3806	0.0000	12.0000
Investment profile	1404	6.7265	2.2496	1.1700	11.5000
Law and order	1404	2.8828	1.0695	1.0000	5.0000
Military in politics	1404	3.3827	1.5641	0.0000	6.0000
Religion in politics	1404	5.1860	0.6819	4.0000	6.0000
Socioeconomic conditions	1404	5.1653	1.4771	1.0000	8.5000
Capital openness [c]	1674	0.0938	1.5508	-1.8640	2.4390
Surrounding mkt. pot. [c]	1674	3333.1910	672.1175	2116.4440	6019.4790
Polity [c]	1581	5.9696	4.6597	-9.0000	10.0000
Natural logarithm					
Ln(FDI GDP share)	1134	-1.1382	1.5771	-6.3157	2.8043
Ln(FDI inflow)	1134	4.2418	1.8611	-2.9957	8.8569
Ln(GDP per capita initial)	1599	7.9847	0.6396	6.7261	9.5679
Ln(Population)	1674	16.1277	1.2689	13.8824	19.0807
Ln(Trade openness)	1635	4.0024	0.5748	2.4463	6.3316
Ln(Exchange rate)	1665	1.0110	5.9610	-25.1748	10.1266
Ln(Inflation)	1665	2.4478	1.7780	-1.7749	9.5187
Ln(Homicide rate)	663	2.8779	0.8343	1.1632	4.9354
Ln(Crime victimization)	669	-0.9812	0.2507	-2.1301	-0.2454
Ln(Organized crime)	465	1.3200	0.2632	0.5878	1.8371
Ln(Surrounding mkt. pot).	1674	8.0923	0.1953	7.6575	8.7028

Notes:

[(a)] Summary statistics for all variables but FDI are using the first lag. The natural logarithm for the non-positive values (FDI and Inflation) are truncated with the natural logarithm of half the minimum positive value. We use linear interpolation for the variables. In parenthesis we denote the number of observations filled in with linear interpolation.

[(b)] For initial GDP per capita we use real GDP in 2000 constant US dollars. This variable is time variant as it is initial level a five year period. Trade openness is exports plus imports as a share of GDP and the exchange rate variable is the official exchange rate, where it is expressed as the number of local currency units per US dollar.

[(c)] We construct surrounding market potential as in Blanco (2012). Capital openness data is obtained from Chinn and Ito (2008), and polity data from the polity IV database (Marshall and Jagger, 2013).

Table 2. Components of the Composite Risk Index

Economic Risk	GDP per head Real GDP growth Annual inflation rate Budget balance as a percentage of GDP Current account as a percentage of GDP
Financial Risk	Foreign debt as a percentage of GDP Foreign debt service as a percentage of exports of goods and services Current account as a percentage of exports of goods and services Net international liquidity as months of import cover Exchange rate stability
Political Risk	Government stability Socioeconomic conditions Investment profile Internal conflict External conflict Corruption Military in politics Religious tensions Law and order Ethnic tensions Democratic accountability Bureaucracy quality

Table 3. Correlations

	Homicide rate	Crime victimization	Organized crime
Homicide rate	1.0000	0.0598	-0.6618*
Crime victimization	0.0598	1.0000	-0.2329*
Governance	-0.5583*	0.0660	0.4654*
Composite risk	-0.2818*	-0.0840*	0.2642*
Political risk	-0.3945*	-0.0922*	0.3329*
Bureaucratic quality	-0.1577*	0.1259*	-0.0171
Corruption	-0.2934*	0.1097*	0.2326*
Democracy	-0.3721*	-0.0812*	0.2984*
Ethnic tension	0.1353*	-0.1463*	-0.0714
External conflict	-0.0316	0.0404	-0.0021
Government stability	0.0927*	0.1099*	-0.1771*
Internal conflict	-0.2353*	-0.1636*	0.4210*
Investment profile	-0.1584*	-0.1262*	0.1031*
Law and order	-0.6396*	-0.053	0.6903*
Military in politics	-0.3048*	-0.2025*	0.2427*
Religion in politics	-0.1214*	0.0984*	0.0624
Socioeconomic cond.	-0.4157*	-0.0433	0.2983*

Correlations between the crime variables and the institutional variables and between the crime variables themselves. (*) Represents statistical significance at least at the 5 percent level

Table 4. Model with governance indicator and crime variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Governance * Prim Sector	0.4172*	0.3547	0.1911	0.346			
	(0.2518)	(0.2362)	(0.1739)	(0.2613)			
Governance * Secondary Sec	-0.0086	-0.0084	-0.1336	0.1438			
	(0.1411)	(0.1353)	(0.1322)	(0.1563)			
Governance * Tertiary Sector	0.2431	0.0387	-0.0061	-0.1421			
	(0.2641)	(0.1504)	(0.1696)	(0.1593)			
Ln(Crime) * Primary Sector		-0.0402	-0.1598	0.406	-0.1447	-0.1619	0.4741
		(0.1799)	(0.4872)	(0.5384)	(0.1398)	(0.4826)	(0.5340)
Ln(Crime) * Secondary Sector		-0.1027	-0.6435	0.4589	-0.1636	-0.6517	0.5511
		(0.1695)	(0.4132)	(0.4959)	(0.1389)	(0.4172)	(0.4741)
Ln(Crime) * Tertiary Sector		0.2931	-1.5047***	1.2746**	0.2225	-1.5176***	1.3674***
		(0.1800)	(0.4361)	(0.4952)	(0.1482)	(0.4363)	(0.4744)
ln(GDP per capita)	-0.5392*	-0.4590*	-0.5559*	-0.4126	-0.3922	-0.5309*	-0.3634
	(0.3069)	(0.2520)	(0.2916)	(0.2717)	(0.2564)	(0.2743)	(0.2698)
ln(Population)	-0.1314	-0.2948	-0.0397	-0.2859	-0.2998	-0.0471	-0.2888*
	(0.1897)	(0.1833)	(0.2640)	(0.1743)	(0.1839)	(0.2558)	(0.1733)
ln(Trade openness)	0.077	0.1486	0.3875	0.0224	0.1559	0.3863	0.0152
	(0.2525)	(0.2407)	(0.4233)	(0.1941)	(0.2391)	(0.4203)	(0.1961)
ln(exchange rate)	0.0435	0.04	0.0526	0.0328	0.0341	0.0481	0.0355
	(0.0396)	(0.0451)	(0.0481)	(0.0464)	(0.0479)	(0.0503)	(0.0473)
ln(inflation)	-0.0472	0.0265	0.0266	-0.018	0.0306	0.0326	-0.0215
	(0.0440)	(0.0513)	(0.0661)	(0.0592)	(0.0527)	(0.0680)	(0.0577)
Constant	3.8372	6.4748*	1.7059	6.3750*	6.3536*	1.6496	5.9874*
	(4.3073)	(3.6676)	(5.6742)	(3.5702)	(3.6908)	(5.6706)	(3.5509)
R-squared	0.216	0.244	0.309	0.261	0.258	0.308	0.251
Observations	951	486	513	342	486	513	342
Number of groups	52	49	43	48	49	43	48
Obs. per group, min.	2	2	2	1	2	2	1
Obs. per group, max	26	15	15	9	15	15	9
Obs. per group, avg.	18.29	9.918	11.93	7.125	9.918	11.93	7.125

Standard errors in parenthesis. ***, **, and * represent statistical significance at the 1, 5, and 10 percent level. Estimations derived from the model including homicide rates shown in columns 2 and 5, including crime victimization index shown in columns 3 and 6, and including organized crime index in columns 4 and 7. Random Effects model used in all estimations.

Table 5. Model with composite and political risk indices and crime variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Risk * Prim Sec	0.0224	-0.0109	0.0023	0.0194	0.0065	-0.0029	0.0057	0.0027
	(0.0178)	(0.0194)	(0.0197)	(0.0300)	(0.0136)	(0.0190)	(0.0159)	(0.0278)
Risk * Sec Sec	0.0227	-0.0076	-0.0052	0.0115	0.0091	-0.0005	-0.0029	0.0056
	(0.0165)	(0.0214)	(0.0193)	(0.0309)	(0.0119)	(0.0189)	(0.0145)	(0.0195)
Risk * Ter Sec	0.0405**	-0.0027	0.0097	0.0126	0.0255**	0.0027	0.0105	0.0053
	(0.0167)	(0.0177)	(0.0177)	(0.0287)	(0.0128)	(0.0157)	(0.0142)	(0.0198)
Ln(Crime) * Prim Sec		-0.0761	-0.1271	0.264		-0.0943	-0.0809	0.5567
		(0.2552)	(0.6792)	(1.1377)		(0.2419)	(0.6636)	(1.2002)
Ln(Crime) * Sec Sec		-0.1667	-0.9583***	0.7051		-0.161	-0.9421**	0.504
		(0.1654)	(0.3608)	(0.4714)		(0.1764)	(0.3891)	(0.4634)
Ln(Crime) * Ter Sec		0.1265	-1.0908**	1.4848***		0.1698	-1.1935***	1.3402***
		(0.2169)	(0.4350)	(0.4803)		(0.2133)	(0.4616)	(0.4903)
ln(GDP per capita)	-0.6455**	-0.34	-0.5594*	-0.4515	-0.5310*	-0.386	-0.5865*	-0.3821
	(0.3235)	(0.2799)	(0.3101)	(0.2967)	(0.3166)	(0.2854)	(0.3085)	(0.3104)
ln(Population)	-0.1129	-0.3005	-0.0442	-0.2778	-0.0958	-0.2939	-0.0324	-0.272
	(0.2028)	(0.1929)	(0.2609)	(0.1887)	(0.2091)	(0.1992)	(0.2612)	(0.2010)
ln(Trade openness)	0.041	0.1573	0.3927	0.0096	0.075	0.1583	0.3872	0.0175
	(0.2446)	(0.2357)	(0.4163)	(0.1864)	(0.2404)	(0.2351)	(0.4096)	(0.1978)
ln(exchange rate)	0.0355	0.032	0.0518	0.0388	0.0441	0.0345	0.0549	0.0374
	(0.0407)	(0.0481)	(0.0501)	(0.0483)	(0.0401)	(0.0493)	(0.0497)	(0.0483)
ln(inflation)	-0.0241	0.0254	0.0329	-0.0091	-0.0504	0.0307	0.0355	-0.0207
	(0.0420)	(0.0517)	(0.0705)	(0.0720)	(0.0461)	(0.0518)	(0.0683)	(0.0605)
Constant	3.0672	6.4769	1.6935	5.4787	2.5051	6.214	1.5606	5.537
	(4.0172)	(3.9522)	(5.7155)	(4.2833)	(4.0339)	(4.0085)	(5.6470)	(4.0255)
R-squared	0.234	0.266	0.308	0.251	0.232	0.266	0.309	0.253
Observations	951	486	513	342	951	486	513	342
Number of groups	52	49	43	48	52	49	43	48
Obs. per group, min.	2	2	2	1	2	2	2	1
Obs. per group, max	26	15	15	9	26	15	15	9
Obs. per group, avg.	18.29	9.918	11.93	7.125	18.29	9.918	11.93	7.125

Standard errors in parenthesis. ***, **, and * represent statistical significance at the 1, 5, and 10 percent level. Estimations derived from the model including homicide rates shown in columns 2 and 6, including crime victimization index shown in columns 3 and 7, and including organized crime index in columns 4 and 8. Estimations derived from the model including the composite risk index shown in columns 1-4 and including the political risk index in columns 5-8. Random Effects model used in all estimations.

Table 6. Model with components of the political risk index and crime variables – bureaucratic quality and government stability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pol risk var * Prim Sec	0.1468	0.4309**	0.1725	0.5506	0.0618	-0.0715	-0.0099	-0.0037
	(0.2846)	(0.1797)	(0.2324)	(0.3830)	(0.0670)	(0.0710)	(0.0760)	(0.0899)
Pol risk var * Sec Sec	0.0624	0.3083**	0.0979	0.1659	0.0504	-0.0537	-0.0565	0.0037
	(0.1634)	(0.1478)	(0.2085)	(0.2773)	(0.0569)	(0.0622)	(0.0652)	(0.0695)
Pol risk var * Ter Sec	0.4408**	0.0519	0.179	0.0809	0.1720***	-0.0294	0.0044	0.0027
	(0.2243)	(0.1806)	(0.1687)	(0.3349)	(0.0642)	(0.0617)	(0.0650)	(0.0591)
Ln(Crime) * Prim Sec		-0.2012	-0.1743	0.1156		-0.0934	-0.1084	0.5072
		(0.1556)	(0.5620)	(0.8368)		(0.1910)	(0.5351)	(0.7699)
Ln(Crime) * Sec Sec		-0.1673	-0.7511*	0.6959*		-0.1621	-0.8342*	0.5451
		(0.1298)	(0.4075)	(0.4122)		(0.1617)	(0.4364)	(0.4637)
Ln(Crime) * Ter Sec		0.3765**	-1.5158***	1.6379***		0.1758	-1.3854***	1.3713***
		(0.1746)	(0.4309)	(0.4679)		(0.1765)	(0.4539)	(0.4540)
ln(GDP per capita)	-0.5264*	-0.5613**	-0.6183**	-0.5323*	-0.4654*	-0.3689	-0.5243*	-0.358
	(0.3168)	(0.2598)	(0.2941)	(0.2750)	(0.2567)	(0.2594)	(0.2738)	(0.2793)
ln(Population)	-0.1501	-0.3076*	-0.0848	-0.2953*	-0.1015	-0.3110*	-0.0729	-0.2866
	(0.2010)	(0.1810)	(0.2731)	(0.1725)	(0.1959)	(0.1826)	(0.2538)	(0.1767)
ln(Trade openness)	0.0145	0.1444	0.3196	0.0171	0.1264	0.1553	0.361	0.0148
	(0.2775)	(0.2404)	(0.4636)	(0.1985)	(0.2399)	(0.2332)	(0.4102)	(0.1972)
ln(exchange rate)	0.0435	0.0391	0.0535	0.0349	0.043	0.0286	0.0466	0.0355
	(0.0396)	(0.0478)	(0.0492)	(0.0453)	(0.0402)	(0.0494)	(0.0512)	(0.0488)
ln(inflation)	-0.0591	0.0331	0.0407	-0.0136	-0.0535	0.0311	0.0306	-0.0229
	(0.0473)	(0.0503)	(0.0679)	(0.0595)	(0.0457)	(0.0523)	(0.0684)	(0.0583)
Constant	3.9625	7.2372*	2.8745	6.8616*	2.0812	6.6992*	2.2775	5.8927
	(4.7498)	(3.8013)	(6.2403)	(3.7191)	(3.9300)	(3.5698)	(5.5924)	(3.6422)
R-squared	0.228	0.259	0.32	0.29	0.243	0.261	0.31	0.251
Observations	951	486	513	342	951	486	513	342
Number of groups	52	49	43	48	52	49	43	48
Obs. per group, min.	2	2	2	1	2	2	2	1
Obs. per group, max	26	15	15	9	26	15	15	9
Obs. per group, avg.	18.29	9.918	11.93	7.125	18.29	9.918	11.93	7.125

Standard errors in parenthesis. ***, **, and * represent statistical significance at the 1, 5, and 10 percent level. Estimations derived from the model including bureaucratic quality shown in columns 1-4 and using government stability shown in columns 5-8. Estimations derived from the model including homicide rates shown in columns 2 and 6, including crime victimization index shown in columns 3 and 7, and including organized crime index in columns 4 and 8. Random Effects model used in all estimations.

Table 7. Model with components of the political risk index and crime variables – internal conflict and investment profile

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pol risk var * Prim Sec	0.0036	-0.0252	0.0812	-0.0634	-0.0353	-0.0369	0.0284	0.0375
	(0.0474)	(0.0703)	(0.0589)	(0.1181)	(0.0563)	(0.0842)	(0.0598)	(0.1076)
Pol risk var * Sec Sec	0.0425	0.0595	0.0654	0.0323	-0.0223	-0.0338	-0.0258	-0.021
	(0.0415)	(0.0890)	(0.0629)	(0.0933)	(0.0365)	(0.0541)	(0.0393)	(0.0526)
Pol risk var * Ter Sec	0.1254***	0.0437	0.1300**	0.0351	0.1132***	0.0386	0.0685*	0.034
	(0.0458)	(0.0612)	(0.0552)	(0.0813)	(0.0355)	(0.0446)	(0.0375)	(0.0499)
Ln(Crime) * Prim Sec		-0.0023	-0.1779	0.8569		-0.0931	-0.1165	0.3431
		(0.2035)	(0.6222)	(0.9717)		(0.1818)	(0.5492)	(0.9219)
Ln(Crime) * Sec Sec		-0.2465	-0.7704*	0.3478		-0.1203	-0.8850**	0.7384*
		(0.1720)	(0.4141)	(0.4379)		(0.1604)	(0.3951)	(0.3927)
Ln(Crime) * Ter Sec		0.1851	-1.1812**	1.1388**		0.1053	-1.2620***	1.2688***
		(0.1822)	(0.4738)	(0.4601)		(0.1635)	(0.4504)	(0.4026)
ln(GDP per capita)	-0.4956*	-0.4001	-0.6623**	-0.3606	-0.3983	-0.369	-0.5601**	-0.3841
	(0.2552)	(0.2601)	(0.2680)	(0.2738)	(0.2668)	(0.2672)	(0.2788)	(0.2651)
ln(Population)	-0.1059	-0.2781	0.0039	-0.2771	-0.1185	-0.2974	-0.0301	-0.2765
	(0.2030)	(0.1910)	(0.2454)	(0.1912)	(0.2072)	(0.1930)	(0.2527)	(0.1826)
ln(Trade openness)	0.0786	0.1573	0.2905	0.0111	0.0651	0.1582	0.3842	0.0191
	(0.2427)	(0.2435)	(0.4107)	(0.2044)	(0.2414)	(0.2371)	(0.4032)	(0.1939)
ln(exchange rate)	0.0403	0.036	0.0657	0.0352	0.0415	0.0344	0.0497	0.0352
	(0.0420)	(0.0484)	(0.0513)	(0.0476)	(0.0400)	(0.0471)	(0.0507)	(0.0478)
ln(inflation)	-0.049	0.0346	0.0639	-0.0206	-0.0675	0.0282	0.0352	-0.0232
	(0.0500)	(0.0530)	(0.0657)	(0.0602)	(0.0504)	(0.0512)	(0.0680)	(0.0587)
Constant	2.6613	5.7856	1.1928	5.8038	2.5416	6.2102*	1.4866	5.7994
	(4.0533)	(3.9080)	(5.4417)	(3.9187)	(3.9774)	(3.7388)	(5.5352)	(3.7935)
R-squared	0.232	0.275	0.319	0.275	0.241	0.273	0.31	0.25
Observations	951	486	513	342	951	486	513	342
Number of groups	52	49	43	48	52	49	43	48
Obs. per group, min.	2	2	2	1	2	2	2	1
Obs. per group, max	26	15	15	9	26	15	15	9
Obs. per group, avg.	18.29	9.918	11.93	7.125	18.29	9.918	11.93	7.125

Standard errors in parenthesis. ***, **, and * represent statistical significance at the 1, 5, and 10 percent level. Estimations derived from the model including internal conflict shown in columns 1-4 and using investment profile shown in columns 5-8. Estimations derived from the model including homicide rates shown in columns 2 and 6, including crime victimization index shown in columns 3 and 7, and including organized crime index in columns 4 and 8. Random Effects model used in all estimations.

Table 8. Marginal Effect

	Std. Dev	Coefficient	Reference	Change 1 (1%)	Change 2 (1 SD)
Ln(Crime victimization)	0.25	-1.52	T4, C6	-1.52	-0.38
Ln(Organized crime)	0.26	1.37	T4, C7	1.37	0.36
Composite risk	10.89	0.04	T5, C1	1.04	11.34
Political risk	10.63	0.03	T5, C5	1.03	10.91
Bureaucratic quality	0.86	0.44	T6, C1	1.55	1.34
Government stability	1.96	0.17	T6, C5	1.19	2.32
Internal conflict	2.38	0.13	T7, C1	1.13	2.70
Investment profile	2.25	0.11	T7, C5	1.12	2.52

Table 9. Selected estimations using a reduced sample of Latin American countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Inst. var * Prim Sec			0.0235	0.007	0.069	0.0454	-0.0085	-0.0593
			(0.0198)	(0.0150)	(0.3181)	(0.0735)	(0.0476)	(0.0650)
Inst. var * Sec Sec			0.0306*	0.0165	0.1598	0.0792	0.0700*	0.0067
			(0.0181)	(0.0129)	(0.1663)	(0.0598)	(0.0407)	(0.0381)
Inst. var * Ter Sec			0.0454**	0.0298**	0.5251**	0.1867***	0.1398***	0.1253***
			(0.0181)	(0.0137)	(0.2383)	(0.0655)	(0.0460)	(0.0379)
Ln(Crime) * Prim Sec	-0.121	0.8875						
	(0.5009)	(0.6199)						
Ln(Crime) * Sec Sec	-0.7143*	1.2456**						
	(0.4233)	(0.5594)						
Ln(Crime) * Ter Sec	-1.4734***	1.9624***						
	(0.4520)	(0.5527)						
ln(GDP per capita)	-0.5869**	-0.6652**	-0.8290**	-0.7474**	-0.6718**	-0.5209**	-0.6949**	-0.4667*
	(0.2813)	(0.3092)	(0.3476)	(0.3575)	(0.3362)	(0.2614)	(0.2768)	(0.2565)
ln(Population)	0.0255	0.1782	0.1418	0.1836	0.036	0.0943	0.1618	0.0721
	(0.2651)	(0.2933)	(0.2240)	(0.2386)	(0.2421)	(0.2270)	(0.2260)	(0.2195)
ln(Trade openness)	0.4959	0.7423	0.3198	0.397	0.2694	0.4308	0.3766	0.3605
	(0.4307)	(0.5069)	(0.3223)	(0.3214)	(0.3797)	(0.3129)	(0.3230)	(0.3105)
ln(exchange rate)	0.0497	0.0492	0.0319	0.0419	0.0374	0.0438	0.0378	0.0401
	(0.0512)	(0.0515)	(0.0433)	(0.0423)	(0.0421)	(0.0413)	(0.0446)	(0.0408)
ln(inflation)	0.0278	-0.0263	-0.0183	-0.0477	-0.0626	-0.0524	-0.0492	-0.0694
	(0.0700)	(0.0738)	(0.0477)	(0.0509)	(0.0506)	(0.0492)	(0.0539)	(0.0544)
Constant	0.4821	-2.9582	-0.934	-1.789	1.042	-1.8472	-1.3381	-1.1519
	(5.8666)	(6.4552)	(4.5266)	(4.5884)	(5.7431)	(4.4968)	(4.6727)	(4.5572)
R-squared	0.301	0.326	0.278	0.276	0.267	0.286	0.273	0.294
Observations	499	280	819	819	819	819	819	819
Number of groups	40	39	43	43	43	43	43	43
Obs. per group, min.	4	1	2	2	2	2	2	2
Obs. per group, max	15	9	26	26	26	26	26	26
Obs. per group, avg.	12.47	7.179	19.05	19.05	19.05	19.05	19.05	19.05

Standard errors in parenthesis. ***, **, and * represent statistical significance at the 1, 5, and 10 percent level. Estimations derived from the model including crime victimization and organized crime shown in columns 1 and 2, respectively. Estimations derived from the model including the composite and political risk indices shown in columns 3 and 4, respectively. Estimations derived from the model including bureaucratic quality, government stability, internal conflict and investment profile shown in columns 5-8, respectively. Random Effects model used in all estimations.

Table 10. Model with governance indicator and crime variables using Fixed Effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Governance * Prim Sector	0.4354*	0.4620*	0.1922	0.3764			
	(0.2559)	(0.2576)	(0.2099)	(0.2876)			
Governance * Secondary Sec	-0.0607	-0.1346	-0.2341	0.1511			
	(0.1437)	(0.1615)	(0.1774)	(0.1734)			
Governance * Tertiary Sector	0.2536	-0.0348	-0.0676	-0.1817			
	(0.2579)	(0.2130)	(0.2381)	(0.2451)			
Ln(Crime) * Primary Sector		0.4144	-0.4573	0.8092	0.082	-0.3893	0.8127
		(0.4860)	(0.6791)	(1.5633)	(0.4598)	(0.6698)	(1.5641)
Ln(Crime) * Secondary Sector		-0.6046**	-0.8364*	0.2971	-0.5337**	-0.9057**	0.3248
		(0.2395)	(0.4312)	(0.5288)	(0.2404)	(0.4459)	(0.5247)
Ln(Crime) * Tertiary Sector		0.2257	-1.1062**	1.7524***	0.3201	-1.1274**	1.8044***
		(0.4169)	(0.4750)	(0.5864)	(0.3715)	(0.4274)	(0.6097)
ln(GDP per capita)	-1.3384	0.3638	-0.1568	1.4339	0.4206	-0.2565	1.4138
	(0.8664)	(0.9370)	(1.2457)	(1.6587)	(1.0372)	(1.2343)	(1.6567)
ln(Population)	1.9288	4.4147	4.622	9.0916	4.7685	4.6513	9.4962
	(2.4111)	(3.2102)	(2.7904)	(5.5340)	(3.4080)	(2.9123)	(5.8344)
ln(Trade openness)	0.0211	0.1793	0.645	0.1053	0.236	0.6815	0.1106
	(0.2890)	(0.2692)	(0.5994)	(0.2128)	(0.2905)	(0.5866)	(0.2193)
ln(exchange rate)	0.0069	0.1171	0.277	-0.2171	0.036	0.2649	-0.2402
	(0.0529)	(0.3377)	(0.2724)	(0.3765)	(0.3339)	(0.2817)	(0.3447)
ln(inflation)	-0.0586	0.0216	0.0013	-0.019	0.0362	0.0138	-0.018
	(0.0444)	(0.0522)	(0.0643)	(0.0593)	(0.0566)	(0.0663)	(0.0599)
Constant	-22.4077	-75.0473	-78.4297	-157.803	-80.8827	-78.2678	-164.0349
	(42.4791)	(52.1586)	(48.9377)	(94.1872)	(55.9210)	(50.2772)	(99.3476)
	0.2588	0.086	0.0989	0.1261	0.0645	0.0902	0.1182
R-squared	951	486	513	342	486	513	342
Observations	52	49	43	48	49	43	48
Number of groups	2	2	2	1	2	2	1
Obs. per group, min.	26	15	15	9	15	15	9
Obs. per group, max	18.29	9.918	11.93	7.125	9.918	11.93	7.125
Obs. per group, avg.	0.4354*	0.4620*	0.1922	0.3764			

Standard errors in parenthesis. ***, **, and * represent statistical significance at the 1, 5, and 10 percent level. Estimations derived from the model including homicide rates shown in columns 2 and 5, including crime victimization index shown in columns 3 and 6, and including organized crime index in columns 4 and 7. Fixed Effects model used in all estimations.