ORGANIZED CRIME AND DEVELOPMENT IN LOW AND MIDDLE-INCOME

COUNTRIES

by

Katie Kelshaw

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Arts in Political Science

Boise State University

May 2020

BOISE STATE UNIVERSITY GRADUATE COLLEGE

DEFENSE COMMITTEE AND FINAL READING APPROVALS

of the thesis submitted by

Katie Kelshaw

Thesis Title: Organized Crime and Development in Low and Middle-Income Countries

Date of Final Oral Examination: 02 March 2020

The following individuals read and discussed the thesis submitted by student Katie Kelshaw, and they evaluated their presentation and response to questions during the final oral examination. They found that the student passed the final oral examination.

Ross Burkhart, Ph.D.   Chair, Supervisory Committee

Nisha Bellinger, Ph.D.   Member, Supervisory Committee

Chris Birdsall, Ph.D.   Member, Supervisory Committee

The final reading approval of the thesis was granted by Ross Burkhart, Ph.D., Chair of the Supervisory Committee. The thesis was approved by the Graduate College.

DEDICATION

I am dedicating this thesis to my family. Not one of them will read it. However, I

failed to thank them during my undergraduate graduation, and they have not let it go.

ABSTRACT

The presence of organized crime is common across all income levels, but the effects of organized crime differ between low-income and middle-income countries. Institutionally, socially, and economically, criminal organizations make contributions which affect the states they are in. This paper theorizes that the contributions made by organized crime help development in low-income countries, then later harms development in middle-income countries. Empirical tests find that the direct effects of organized crime are not significant in low and middle-income countries. The indirect effects of organized crime – corruption in the public sector — have a negative effect on development.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF MODELS

LIST OF ABBREVIATIONS

MIT	Middle Income Trap
LIC	Low-Income Country
MIC	Middle-Income Country
HIC	High-Income Country
HDI	Human Development Index

INTRODUCTION

As of 2018, 75% of the world's population live in middle-income countries. Most of the world's countries have been able to develop out of low-income status, but are now stuck in the middle, unable to develop into high-income. This phenomenon is referred to as the Middle Income Trap, or MIT (Glawe & Wagner, 507). This paper builds off theories of MITs presented in Glawe and Wagner (2016) and assumes factors that help development in low-income countries (LICs) do not affect development in the same way in middle-income countries (MICs). The factor this study looks at specifically is organized crime. I argue organized crime can positively influence the development of LICs, and with the same mechanisms, negatively influence the development of MICs.

LICs and MICs require different factors of development to be emphasized in order to advance. Economic freedom and informal institutions are traditional contributing factors for development in LICs (Medina-Moral & Montes-Gan 2018). Economic freedom allows for things such as trade openness, savings, and population growth that encourage both economic and human development. Social organization also leads to advancement (Acemoglu & Robinson 2006). In LICs, organization often comes from informal institutions. Informal institutions exist alongside formal institutions, and consists of rules and norms enforced by the consensus of the population. Informal institutions may have an exaggerated role in places where formal institutions are still developing. While informal institutions may not directly become formal institutions, they do influence who has power and what the population considered important. Informal

institutions are often more persistent than formal ones, and can undermine them (Pansters, 2018). One way organized crime sets up informal institutions is by establishing their own market system with trade networks and an informal economy to support their illegal activities. Especially in LICs, criminal organizations are able to reach sections of the population the state cannot. Either the population is geographically isolated, or not considered a priority enough to allocate the state's limited resources to. In these cases, organized crime offers public goods and services in place of the state. Organized crime can also establish and enforce rules within a society. These may be social or economic rules, such as protecting private property -- and they again make up the informal institutions that may compete with formal institutions as the state develops and expands its reach. Through their illegal activities, organized crime can help develop an organized labor force as well as build up human capital. In places with little organization and few legitimate employment opportunities, organized crime creates an informal economy that financially supports people and increases trade. These help develop a labor force and build up human capital by offering employment opportunities where there may otherwise be none.

For further development in MICs, the literature points to improved governance and state capacity as significant factors. Improved governance includes establishing higher government effectiveness, regulation, better legal systems, higher property rights, and more political stability (Medina-Moral & Montes-Gan 2018). Organized crime has a vested interest in stopping these items and will work actively to make the state less effective in these areas. As such, we should expect MICs with high organized crime to have less capacity to continue developing. Additionally, the contributions made by

organized crime to development in the low-income stage mean obstacles to further development are already in place. The informal institutions set by organized crime may compete with or undermine formal institutions, and the informal economy or black market is difficult to tax and regulate. Formal institutions established with the presence of organized crime may have high levels of corruption, which further impedes development.

This study finds the direct effects of organized crime are not significant, regardless of income level. An additional indicator of organized crime which captures the indirect effects, ethics and corruption, has negative effects on development in both LICs and MICs. These results point to governance being a more important factor in development than trade in LICs and MICs, despite what the literature argues. Additionally, this paper does not find support for organized crime helping the development of LICs, but does find evidence organized crime harms the development of MICs.

The following paper outlines the differences between development in low and middle-income countries in more detail, a section on how organized crime contributes to development, a research design, findings and a conclusion.

THE DIFFERENCE BETWEEN LOW-INCOME AND MIDDLE-INCOME

For the current fiscal year of 2020, the World Bank defines low-income as economies with a GNI per capita of $1,025 or less, and middle-income as economies with a GNI per between $1,026 and $12,375. Each year these classifications are adjusted to accurately capture each lending group. Table 1 shows how income classifications have changed over the time period of this study.

Table 1.   World Bank Income Group Classifications 2008- 2018

Year	2008	2010	2012	2014	2016	2018
Low income	<= 975	<= 1,005	<= 1,035	<= 1,045	<= 1,005	<= 1,025
Lower middle income	976-3,855	1,006-3,975	1,036-4,085	1,046-4,125	1,006-3,955	1,026-3,995
Upper middle income	3,856-11,905	3,976-12,275	4,086-12,615	4,126-12,735	3,956-12,235	3,996-12,375
High income	> 11,905	> 12,275	> 12,615	> 12,735	> 12,235	> 12,375

Countries move up income levels as their institutions improve and the state gains more capacity. Medina-Moral and Montes-Gan (2018) argue specific institutions increase economic and social performance in different stages of development. The authors group countries into clusters of development-- less developed, intermediate, and advanced, then compare the countries' status between 1996 and 2011. Successful countries are ones that have moved from either less developed to intermediate, or from intermediate to advanced, in that time. Measurements are based on a combination of GNI and HDI.

The authors find less developed countries had the worst scores in the legal system, property rights, rule of law, and government effectiveness. This finding indicates that a lack of governance hinders development. Intermediate countries scored better in governance and democracy. The authors find freedom to international trade to be the most important factor in a less developed country's advancement. In intermediate countries, good governance is the most significant factor in development. Countries that were the most successful were the ones able to adopt good institutions around economic freedom and governance. These included access to international trade, government effectiveness, regulation, legal frameworks and property rights, political stability, and rule of law. Based on these results, less developed countries are more likely to develop when they prioritize economic freedom early on.

The likelihood of development also depends on institutions and social choices. Acemoglu and Robinson (2006) address development by creating a framework around how and why democracy does, or does not, consolidate in developing countries. While economic development is not as closely tied to democratization as once believed (Olson, 1993; Alamdari, 1994), democratic institutions are still a significant factor in a country's ongoing development, should they be well designed and implemented (Tarverdi, Seha & Campbell, 2019). Acemoglu and Robinson's (2006) main argument is democracy consolidates when elites do not have a strong incentive to overthrow it. Incentives are determined by the strength of civil society, the structure of political institutions, the nature of political and economic crises, the level of economic inequality, the structure of the economy, and the form and extent of globalization.

These determinants outline conditions that help countries develop. Civil society contributes to development as a well-organized population is necessary for positive changes in institutions (Acemoglu & Robinson, 2006, p. 31). The structure of these political institutions determines how much influence the elite have over the population and whether or not repression is a viable option (p. 33). Conditions outside the control of the state or the population also influence the course of development. Times of political or economic crises, and the nature of these crises, change how society and the state interact (p. 31). Likewise, the level of economic inequality also changes this interaction. Increased inequality corresponds with an increased revolutionary threat (p. 35). Additional determinants are the structure of the economy and the form and extent of globalization. These two determinants influence sources of income and how costly repression versus concessions is to the elite.

While Medina-Moral and Montes-Gen (2018) argue trade is the most important factor in development for LICs and that governance is more important in MICs, that does not mean governance is not also important in LICs. This is something Acemoglu and Robinson (2006) touch on in their framework of democracy with political institutions (34). However, many LICs simply lack the capacity to govern all of the population. When that is the case, often extra-legal authorities emerge to fill the vacuum left by the state. de Oliveria and Penev (2011) pose that the buildup of globalization and the current method of governance has led to new forms of authority in states. These include sub-state actors on local levels, but also non-state actors taking on roles previously held by the state. Organized crime is one such non-state actor which, given the right circumstances, may emerge as an alternative authority to the state.

According to the authors, states that have broken up social relations or areas of contested sovereignty are most likely to have extra-legal authorities taking on roles traditionally held by the state. Other characteristics that lead to a power vacuum are low levels of state legitimacy, territorial vulnerability, privileged or dominant elites as well as little economic and social provision for the population, underdeveloped social institutions, and a high level of corruption. Taken together, these factors present low levels of governance. Most often, these types of states are located in the Global South.

In addition to increased globalization, since the end of the Cold War, organized crime has become more centralized and more organized. Increased regulation in states has provided an incentive for criminal organizations to increase their capacity and expand their activities. Now many operate with a centralized structure in a defined, but changeable, territory outside the reach of the state. This autonomy combined with organization has allowed criminal enterprises to assume the role of an authority over the population where the state is lacking. While the state also has an organizational structure and some level of capacity, formal governments are a lot more restricted than criminal organizations. The state develops while being responsible for the whole country at once, as well as being responsible to standards set by international observers. Criminal organizations emerge where and when there is opportunity, without the rigidity of being a formal government. In order to carry out their goals of illicit profit, organized crime naturally assumes a role of power wherever they are. Organized crime also naturally takes advantage of networks of kinship, clan, and ethnic and social ties. This undermines the monopoly of power and authority the state should have over the population. In places

where the state is unable to enforce its authority, organized crime may take advantage of that absence and become an extra-legal authority for the population.

While filling the vacuum left by the state, organized crime offers public goods to the population. Though organized crime exists primarily for the economic gain of those perpetuating it, Skaperdas (2001) explains how organized crime can interact with the population and offer a type of support when the state cannot.

Organized crime emerges from a particular set of conditions -- regime change or revolution, prohibition, geographic isolation, and ethnic and social distance from the center of political decision making. All of these conditions represent an area that is not addressed by the state. With geographic isolation, places the state cannot or will not exert the energy to control allow for organized crime to emerge and fill in that role. With prohibition, any illicit goods or services with a high demand is attractive to organized crime. In this case, there is a need for an organizational structure and supply chain to deliver those goods or services and efficiently collect the profits. In a state of prohibition, organized crime steps in and becomes the unofficial channel to complete this process. In times of major political change, established institutions are often dismantled by the new regime, and the new ones take time to come into effect. This time allows organized crime to emerge as a power within the population. Finally, ethnic or social distance alienates a part of the population from the state authority or from society. From this, organized crime often emerges as an authority for this particular population.

Out of these conditions, organized crime exhibits primitive state functions (Fiorentini, 2009; Sung, 2004). In order to conduct their business, criminal organizations establish rules and enforce contracts, roughly equaling the rule of law. It also builds up a

market structure within the informal economy. In order to maintain their hold on the population, criminal organizations give out public goods such as protection and limited financial support. Essentially, organized crime will provide public goods and services in place of the state, but it will come at a much higher cost to the population.

The previous literature establishes that LICs need a market structure and internal organization in order to develop, and that the state cannot always provide those factors. In places where low income states cannot reach, organized crime is able to fill the vacuum by organizing the population, building up a market, and offering public goods. While this is helpful to LICs, MICs require different factors of development in order to keep advancing. As MICs have developed out of LICs, it is assumed middle-income states already have some degree of economic freedom, informal institutions, and social organization. These factors are essentially prerequisites for a country to reach middle-income status. Once in the middle-income stage, it is important for countries to start emphasizing other factors of development. The following literature outlines what those factors are and how organized crime contributes to development in MICs.

Countries develop from LICs to MICs by establishing economic and social institutions that bring in revenue and organize the population (Medina-Moral & Montes-Gen, 2018; Acemoglu & Robinson, 2006) Given the fact that few countries have been able to develop to high-income status, development in MICs is much more difficult. Economic and social institutions must be improved or changed, and improved governance becomes highly important.

Agenor, Canuto, and Jelenic (2012) explain how a sharp deceleration in growth is common among countries that reach the middle middle-income stage of development,

referred to as the Middle Income Trap, or MIT. MITs are characterized by decreased growth with contrasting increasing productivity, a rate of stable but low growth, and stagnant innovation where talent is routinely misallocated. According to the authors, improving access to advanced infrastructure, enhancing the protection of property rights, and reforming the labor market to reduce rigidity counteracts MITs.

While LICs are able to develop by relying on labor intensive, low cost manufacturing based on imported technology, as the economy develops this system becomes less sustainable (Agenor et. al, 2012). Companies become more competitive, labor becomes less abundant, and wages become higher leading to a slow rate of growth. The solution to the MIT is to innovate and invest in different places. The authors recommend states early on pursue public policies aimed at improving access to advanced infrastructure such as high high-speed communication networks. These facilitate the spread of information and innovation. Better protection of property rights also advances innovation. Lastly, reformed labor markets allow people to seek higher education and not be dependent on factory work. These measures begin to discontinue the misallocation of talent and again foster innovation.

Low cost labor and manufacturing may help LICs develop, but in MICs, there needs to be more focus on innovation in order to continue developing. This means states need to pursue policies that change the market structure and allow the population to receive more education. These changes are not necessarily supported by organized crime.

Organized crime's primary purpose is economic gain; therefore, it naturally brings in wealth and positively contributes to economic development. However, it is

organized crime's negative contribution to governance that harms development, particularly in MICs. van Dijk (2007) explores the relationship between organized crime and the state while looking at the effects of organized crime on the rule of law, corruption, and the net wealth of countries. The author finds while organized crime has some ability to bring in wealth through its illicit activities, the negative effects of organized crime on governance undermines this addition to the economy. The author emphasizes how important good institutions are to economic development. Good governance leads to economic development, a professional police force, good rule of law, and an independent judiciary are more likely to lead to advancement than a sudden economic boost or foreign aid. The presence of organized crime then has negative effects on governance. There is a close link between organized crime and corruption, both in the police force and in the government in general. In such cases, the undue influence of organized crime hampers good governance and development.

Despite its negative effect on governance, organized crime may in some cases have a positive effect on the economy. Illicit trafficking often brings in a large amount of revenue to the formal and informal economy, as does rent seeking and money laundering. Van Dijk (2007) finds some middle middle-income countries, particularly in Latin America, would have far less wealth and may still be classified as low income without the contributions made by organized crime. Though overall, organized crime has negative effects on human development as well as a stronger negative effect of GDP (Uger & Dasgupta, 2011).

THREE AREAS OF CONTRIBUTION

Organized crime interacts with and contributes to its social and economic environment (Van de Bunt, Siegal & Zaitch, 2014). In terms of development, organized crime has three main areas of contribution: institutional, social, and economic. Criminal organizations make these contributions at any income level, but the effects are different across income levels. This paper argues organized crimes effects are positive to development in LICs, and harmful to development in MICS.

Institutionally

Organized crime functions as an extra legal authority, it builds up informal institutions and establishes rules and norms for the population. Criminal organizations are able to do this as they have a high degree of organization and an interest in maintaining their environment. In places where the state cannot reach the population, organized crime takes advantage of this vacuum by offering public goods and setting rules and norms. While criminal organizations services come at a much higher cost that the states would (Skaperdas, 2001), they are still able to be used to set up political and economic rules. And although informal institutions set up by criminal organizations skirt legality, and do not directly translate to formal institutions, they still work to order and organize the population. In LICs, this is a positive contribution as organized crimes' informal institutions offer support where the low capacity formal state does not (Yahagi, 2017). In MICs, informal institutions set up by organized crime contribute negatively to development as they undermine formal institutions, bring corruption into institutions, and generally harm good governance (van Dijk, 2007).

An example of the institutional contributions of organized crime is the history of drug cartels in Mexico. When Mexico was a low-income one-party state in the late 1900s, rural populations had little contact with the formal government. In this vacuum, the needs not being met by the state were met by informal institutions backed by cartels. Employment opportunities, loans, security – were all provided through informal channels. Once Mexico's ruling party left power in 1994, there was a greater state presence in rural areas. Still, cartels were still active and informal institutions persist (Pansters, 2018). The extra-legal authority of drug cartels helped Mexico as a LIC, and how harms it as a MIC.

Socially

There is a high degree of interaction between organized crime and the social environment. Criminal organizations take advantage of and build upon existing social structures (Van de Bunt et. al, 2014). As part of their embeddedness in society, criminal organizations use societal connections in order to conduct business. As their business expands, so do social networks. Additionally, criminal organizations have a high degree of internal organization. When dealing with the population, this organization is influential. It is important for the survival of organized crime to maintain organization and social cohesion, therefore when dealing with outsiders the same rules would be applied (Kleemans & Van de Bunt,1999). In LICs, social embeddedness is a positive contribution, as organized crime helps organize the population and expand social networks. However, in MICs the social aspect of organized crime is harmful as parts of the population become tied to illegal activities and the legal institutions that regulate the social order may be corrupted or ineffective (Buscaglia & van Dijk, 2003). Additionally,

organized crime has a vested interest in hindering effective governance, which inevitably has a negative impact on society.

The social aspect of organized crime is best seen in Italy. While Italy is a HIC, organized crime is historically embedded within the social environment – particularly in the southern regions (Bascaglia & van Dijk, 20017. p. 7). Organized crime is a recognized force for organization in Italy, and is perhaps the reason the southern regions are consistently out-performed by the northern regions economically (Skaperdas, 2001).

Economically

Establishing an informal economy and trading illegal goods for economic gain is the primary function of criminal organizations. They build up markets and trading where there is some demand not being met by official entities, usually based on illegal goods and services (Skaperdas, 2001). In fact, unemployment and low economic opportunity are some of the main drivers of organized crime (Ruth, 2014). When formal economic opportunity is lacking, that demand is filled by organized crime and the informal economy. In LICs, the informal economy brings in revenue and employment (Buscaglia & van Dijk, 2003). These benefits do not last to MICs, however, as the informal economy cannot be taxed or regulated, hindering development (Shelley, 1998).

An example of the economic effects of organized crime is in Ukraine, a country where shortly after their independence in 1987, an estimated 50% of the economy was informal (Shelley, 1998). Ukraine's GDP rapidly increased between 1999 and 2008, and the country is now firmly stuck in the lower-middle-income category (Ricciardi et. al, 2020).

Table 2 summarizes each contribution and how the effects are different at the two different income levels.

Table 2. **Organized Crime's Areas of Contribution**

Organized Crime's contribution	How it helps develop LIC	How it harms develop MIC
Institutional: Functions as extra-legal authorities	Establishes informal institutions	Undermines and corrupts government formal institutions
Social: Interacts with environment	Organizes population and expands social networks	Captures population, impedes legal institutions
Economic: Establishes informal economy	Brings in revenue, encourages trade and offers employment	Cannot tax or regulate

From this, I develop the following hypothesis:

Hypothesis 1: In low-income countries, increased organized crime corresponds to increased development

As discussed above, organized crime enables LICs to advance to middle-income status by establishing informal institutions, playing ordering roles in the population, and building up an informal economy. However, these same effects are constraining in MICs as it inhibits the state institutions necessary to further promote economic growth. As such, I expect the opposite effect in MICs for my second hypothesis.

Hypothesis 2: In middle-income countries, increased organized crime corresponds to decreased development.

DATA AND METHODS

To test the aforementioned hypotheses, this study uses multivariate Ordinary

Least Squares (OLS) regressions. Models are tested on 26 LICs, and 70 MICs from 2008

to 2018.

Dependent Variable

HDI is used to capture human development. HDI is a summary measure of three

key dimensions of human development: life expectancy at birth, education, and gross

national income per capita. The scores of each dimension are aggregated into a composite

index. HDI is useful to capture development in this study as it incorporates outcomes

from multiple institutions and areas of life.

GDP per capita is included to represent economic development. Data is taken

from the World Bank International Comparison Program. This indicator is used

specifically to capture how trade and business changes between income levels.

Independent Variable

The GCI measure of organized crime is the measure I employ to capture the direct

effects of organized crime. This indicator measures the response to the survey question

"In your country, to what extent does organized crime (mafia-oriented racketeering,

extortion) impose costs on businesses?". The GCI codes this indicator from 1 to 7, a 1

being to a great extent, and a 7 being it imposes no costs. This indicator is included in

order to capture the direct effects of the most sophisticated and well-organized criminal

organizations, which have the highest capacity to act as extra-legal authorities. This is a

good measure as it specifically deals with organized crime's operations in the private sector.

The GCI measure of ethics and corruption is also included to better represent the indirect effects of organized crime on governance. Corruption and ethics is a composite measure of responses to questions around the diversion of public funds, public trust in politicians, and irregular payments and bribes. A value of 1 represents high corruption, 7 is low corruption. This measure is useful to capture organized crime in the public sector.

Due to its informal and secretive nature, the concept of organized crime is difficult to measure. It is possible the GCI measures of organized crime and corruption are in some ways unreliable. However, it is generally recognized in the scholarly community that the GCI's survey data provides the best available empirical measures of organized crime.

Control Variable

Population size is included as a control for the effects of country size on development. The data is taken from World Bank reports from 2008 to 2018. It is made up of census reports from national statistical offices, Eurostat Demographic Statistics, the United Nations Statistical Division, the Population and Vital Statistics Report, the U.S. Census Bureau International Database, and the Secretariat of the Pacific Community Statistics and Demography Programme (Ricciardi et. al, 2020).

Polity (Polity2) is used to capture the effects of regime type on development and organized crime. Polity measures if a country is democratic or authoritarian on a scale from -10 (strongly autocratic) to +10 (strongly democratic). Polity2 standardizes Polity for time series analysis (Marshall, Gurr & Jaggers, 2019).

Durable is used as a proxy measure for conflict in order to control for the effect conflict and violence has on developing countries. Durable is a running measure of the durability of a regimes authority that represents the number of years since the last substantive change in authority characteristics (Marshall et. al, 2019) This is a useful control as it focuses on regime change -- which disrupts institutions, and does not include general conflict -- which interacts with organized crime and could skew results.

Table 3 outlines the mean, range, and number of observations for each variable and each income class.

Table 3.   Variable Descriptions

Variable	Mean All Incomes (Mean Low-Income) (Mean Middle-Income)	Range All Incomes (Range Low-Income) (Range Middle-Income)	Number of Observations (Number Low-Income) (Number Middle-Income)
HDI	0.71 (0.48) (0.69)	0.35 to 0.95 (0.45 to 0.66) (0.45 to 0.84)	1423 (260) (703)
GDP per capita	14,989.39 (737.6748) (5,365.792)	198.3529 to 118,823.65 (198.3529 to 1602.4035) (802.5180 to 16,377.00)	1401 (260) (692)
Organized Crime	5.00 (4.57) (4.60)	1.53 to 6.91 (2.91 to 6.88) (1.53 to 6.76)	1423 (260) (703)
Ethics and Corruption	3.5 (2.8) (3.1)	1.5 to 6.5 (1.7 to 5.7) (1.5 to 5.3)	1423 (260) (703)
Population Size	50,079,421 (23,748,756) (74,409,052)	488,650 to 1,392,730,000 (1,689,285 to 152,764,676) (517,123 to 1,392,730,000)	1423 (260) (703)
Polity2	5 (2.2) (4.7)	-10 to 10 (-9 to 9) (-9 to 10)	1423 (260) (703)
Durable	31.46	0 to 209	1423

	(4.57)	(0 to 55)	(260)
	(4.60)	(0 to 99)	(703)

FINDINGS

The following models test the relationships between organized crime and development at different income levels. Model 1 tests the dependent variable HDI with the independent variables organized crime and ethics and corruption in low-income countries. Model 2 also includes low income, but tests the dependent variable GDP per capita, representing democracy, against organized crime and ethics and corruption. Model 3 and model 4 represent middle-income countries and test the independent variables against HDI and GDP per capita, respectively.

Model 1.   HDI in Low-Income Countries

Term	estimate	std_error	t-statistic	p_value
intercept	0.408	0.027	15.02	0
organized_crime	0.003	0.007	0.44	0.661
Ethics/corruption	0.023	0.008	2.814	0.005
polity2	0.003	0.001	2.348	0.02
durable	-0.002	0.001	-3.022	0.003
population_size	0	0	1.465	0.144

R_squared	0.099

Model 1 shows that organized crime is not a statistically significant factor in HDI. However, ethics and corruption is significant at the .01 level. Meaning, as corruption becomes less prevalent, HDI increases. The control variables are also insignificant.

Model 2.   GDP per capita in Low-Income Countries

term	estimate	std_error	t-statistic	p_value
intercept	442.4	111.3	3.976	0
Organized_crime	107.2	28.91	3.707	0
ethics/corruption	57.38	33.21	-1.728	0.085
polity2	5.72	4.759	1.204	0.32
durable	-2	2.471	-0.81	0.419
population_size	0	0	-1.23	0.22

R_squared	0.051

Both direct and indirect effects of organized crime are significant and positive factors for GDP per capita in LICs. Lower levels of organized crime and ethics and corruption are strongly correlated with increases in GDP per capita. This model contradicts hypothesis 1, which says that in LICs organized crime should help development. Interestingly, neither regime type nor durability is significant for GDP per capita.

Model 3.   HDI in Middle-Income Countries

term	estimate	std_error	t-statistic	p_value
intercept	0.581	0.021	28.2	0
organized_crime	0.004	0.004	0.924	0.356
ethics/ corruption	0.024	0.006	4.12	0
polity2	0.002	0.001	3.044	0.002
durable	0.001	0	3.182	0.002
population_size	0	0	-3.111	0.002

R_squared	0.08

Model 3 moves on to middle-income countries, where organized crime is again not significant. Ethics and corruption is significant at the .05 level, meaning less corruption leads to an increase in HDI. In this model the control variables are also

significant, showing long lasting democracies are positively correlated with increased

HDI.

Model 4.   GDP per capita in Middle-Income Countries

term	estimate	std_error	t-statistic	p_value
intercept	988.4	826.6	1.196	0.232
organized_crime	267.4	170.7	1.566	0.118
ethics/corruption	705.6	231.2	3.052	0.002
polity2	76.79	27.7	2.772	0.006
durable	35.19	8.528	4.127	0
population_size	0	0	-3.084	0.002

R_squared	0.084

In model 4, ethics and corruption is significant for GDP per capita, but organized

crime is not. This mixed result offers mixed support for hypothesis 2, as corruption

negatively effects development but organized crime has no effect. The significance of

polity 2 and durable shows that long lasting democracies are associated with higher levels

of GDP per capita.

The direct effects of organized crime is only significant in one model, GDP per

capita in LICs. However, the indirect measure of organized crime on governance, ethics

and corruption, is significant in every model. This shows that regardless of income level,

governance is a key factor in development. These results somewhat supported hypothesis

2, that organized crime should hinder development in MICs. The results do not find any

support for hypothesis 1, that organized crime should help development in LICs.

CONCLUSION

This paper tests how organized crime affects the development of low and middle-income countries, assuming factors the affect one income group have different effects in the other. While economic freedom and informal institutions are traditionally the drivers of development in LICs, MICs require more emphasis on good governance to advance (Medina-Moral & Montes-Gan, 2018). Good governance is more difficult to establish in LICs, as there are often sections of population beyond the reach if the state where, due to the vacuum left by the state, organized crime operates as an informal institution to order the population (de Olivera & Penev, 2011). Along with informal institutions, criminal organizations establish informal economies which offer a source of revenue and employment for a part of the population (van Dijk, 2007).

For good or ill, organized crime contributes to the environment in three ways-- institutionally, socially, and economically. Institutionally, criminal organizations establish informal institutions which set rules and norms for the population. These rules and norms are helpful in LICs, but harmful in MICs as they undermine and corrupt formal institutions. Socially, organized crime works to organize the population and expand social networks. While offering social organization in LICs is a positive contribution, in MICs organization from criminals entraps the population and hinders legal institutions. Economically, organized crime brings in revenue and employment by establishing a formal economy-- behavior which helps the trade focused aspects of LIC

development. However, the informal economy hinders development in MICs as it cannot be regulated or taxed.

In order to apply this framework empirically, this study tests the effects of mafia type organized crime and a measure of ethics and corruption in the public sphere against development, measured with HDI and GDP per capita. In nearly every case organized crime is not significant to development, with the exception of a strong positive correlation with GDP per capita in LICs. In all models, ethics and corruption have a significant positive correlation with development, for both HDI and GDP per capita. As ethics and corruption is the indicator used to capture the indirect effects on governance from organized crime, its significance shows governance is important regardless of income level.

Organized crime does not positively affect development in low-income countries as this study hypothesized. In almost all tests, it is insignificant. In middle-income countries, less organized crime and ethics and corruption leads to more development. It is possible organized crime has a positive or negative effect on certain institutions in LICs that is significant, which would constitute further research.

This paper follows an assumption laid out in literature on the middle income trap (Galawe & Wagner, 2016) that factors of development have differing effects at different income levels, and that the difference in effect explains why so few middle-income countries advance to high income. By finding organized crime to be insignificant, this paper rules out organized crime as a factor that positively contributes to development in low-income countries. Meaning the negative effects of organized crime in middle income countries have little to do with the development process.

Based on the literature, it is still probable that factors such as economic freedom, informal institutions, and social organization positively effect a countries ability to further develop. This study only found that organized crime contribution to these developmental factors is not significant.

REFERENCES

Acemoglu, D., & Johnson, S. James A. Robinson. 2006. *Economic Origins ofDictatorship and Democracy*.

Agénor, P. R., Canuto, O., & Jelenic, M. (2012). Avoiding middle-income growth traps.

Alamdari, K. (1994). IS DEMOCRACY A PREREQUISITE OF ECONOMIC GROWTH?. *Michigan Sociological Review*, 19-47.

Buscaglia, E., & van Dijk, J. Controlling organized crime and Corruption in the public sector, 2003. In *URL: http://www. unodc. org/pdf/crime/forum/forum3_Art1. pdf*.

de Oliveira, P. B. R., & Penev, P. P. (2011). The Emergence of Organized Criminal Networks as Extralegal Authorities. *Connections*, *10*(4), 51-60.

Fiorentini, G. (1999). Organized crime and illegal markets. *Bouckaert B. e De Geest G.(a cura di), Encyclopedia of Law and Economics*, 434-459.

Glawe, L., & Wagner, H. (2016). The middle-income trap: Definitions, theories and countries concerned—A literature survey. *Comparative Economic Studies*, *58*(4), 507-538.

Kleemans, E. R., & Van de Bunt, H. G. (1999). The social embeddedness of organized crime. *Transnational organized crime*, *5*(1), 19-36.

Marshall, M., Gurr, T. R., & Jaggers, K. (2019). Polity IV Project: Political Regime Characteristics and Transitions, 1800-2018. *dataset). Center for Systemic Peace. Accessed October*, *20*, 2019.

Medina-Moral, E., & Montes-Gan, V. J. (2018). Economic freedom, good governance and the dynamics of development. *Journal of Applied Economics*, *21*(1), 44-66.

Olson, M. (1993). Dictatorship, democracy, and development. *American political science review*, *87*(3), 567-576.

Pansters, W. G. (2018). Drug trafficking, the informal order, and caciques. Reflections on the crime-governance nexus in Mexico. *Global Crime*, *19*(3-4), 315-338.

Rehman, H. U., Khan, S., & Ahmed, I. (2008). Income distribution, growth and financial development: A cross countries analysis. *Pakistan Economic and Social Review*, 1-16.

Ricciardi, V., Azevedo, J. P., Fu, H., & Agarwal, P. (2020, April 29). World Bank Open Data. Retrieved from https://data.worldbank.org/

Ruth, T. (2014). The Relationship of State Political Instability and Economic Failure to Predatory Organized Crime in Multiple Nations: A Global Comparative Anaylsis.

Shelley, L. (1998). Organized crime and corruption in Ukraine: impediments to the development of a free market economy. *Demokratizatsiya*, *6*(4), 648-63.

Skaperdas, S. (2001). The political economy of organized crime: providing protection when the state does not. *Economics of Governance*, *2*(3), 173-202.

Sung, H. E. (2004). State failure, economic failure, and predatory organized crime: A comparative analysis. *Journal of Research in Crime and Delinquency*, *41*(2), 111-129.

Tarverdi, Y., Saha, S., & Campbell, N. (2019). Governance, democracy and development. *Economic Analysis and Policy*, *63*, 220-233.

Ugur, M., & Dasgupta, N. (2011). Corruption and economic growth: A meta-analysis of the evidence on low-income countries and beyond.

Van de Bunt, H., Siegel, D., & Zaitch, D. (2014). The social embeddedness of organized crime.

Van Dijk, J. (2007). Mafia markers: assessing organized crime and its impact upon societies. *Trends in organized crime*, *10*(4), 39-56.

West, J. (2002). The political economy of organized crime and state failure: The nexus of greed, need and grievance. *Development and Change*, *33*, 935-955.

Yahagi, K. (2018). Welfare effects of forming a criminal organization. *European Journal of Law and Economics, 46*(3), 359-375. doi:10.1007/s10657-018-9600-0

APPENDIX A

Organized Crime and High-Income Countries

This paper assumes organized crime's contributions to LICs continued to hinder development in MICs. However, HICs are already developed, so the effects of organized crime on development are moot. Given most HICs have a high capacity and reach among the population, it is more likely in HICs the state has an effect on organized crime -- not the other way around. This appendix tests the effect of development on organized crime in and speculates how the organized crime behaves differently in HICs.

The three areas of contributions are different in HICs compared to LICs and MICs. Presumably, institutions should already be established and be able to reach the whole population, leaving no room for organized crime to act as extra-legal authorities outside of very specific circles. Formal institutions at this income level will present as a challenge to criminal organizations, having the capacity to override the informal institutions of organized crime in most cases. Corruption will still be present, but should be at a lower rate than in LICs or MICs.

While in HICs organized crime is still embedded within the population, it does not have the same ordering roles as it does in LICs and MICs. Theoretically, criminal organizations act as an organizing force and social network in lieu of legal channels, as it does with the other areas as well. But in HICs, there are legitimate social networks and social movements which may be used at a much lower cost than taking part in the social aspects of organized crime. Essentially, there is social competition in HICs that does not exist in LICs.

HICs, being high-income, have much larger sources of revenue than the other two income groups. As such, the revenue associated with organized crime is insignificant-- both to the population and to the state. The majority of citizens do not need to turn to the

informal economy to survive, and the lost revenue from not being able to tax the informal

economy is not large enough to affect the economy of HICs. Instead, the amount of trade

should influence the amount of organized crime, reverse of what was expected in LICs

and MICs.

Table 4.   High-Income Variable Descriptions

Variable	Mean	Range	Number of Observations
HDI	0.87	0.78 to 0.95	460
GDP per capita	37,796.17	11,527.59 to 118,823.65	449
Organized Crime	5.75	4.00 to 6.90	460
Ethics and Corruption	4.56	2.0 to 6.5	460
Population Size	27,779,946	488,650 to 327,167,434	460
Polity2	6.6	-10 to 10	460

As shown in table 4, on average HICs have an organized crime value of 5.75,

compared to MICs 4.60 and LICs 4.57. This means business costs of organized crime are

lower in HICs than the other two income groups. Ethics and corruption is also lower in

HICs, with a value of 4.56 compared to MICs 3.05 and LICs 2.84.

In order to capture the effect of development on organized crime, in this appendix

independent and dependent variables are reversed. The dependent variables are now the

GCI measures of organized crime and ethics and corruption. The independent variables

are HDI and GDP per capita.

Model 5.   Organized Crime in High-Income Countries

term	estimate	std_error	t-statistic	p_value
intercept	1.354	0.802	1.689	0.092
hdi	5.184	0.991	5.233	0
gdp_per_cap	0	0	3.407	0.001
polity2	-0.046	0.005	-9.635	0
durable	0.001	0.001	1.515	0.131
population_size	0	0	-9.041	0

R_squared	0.395

As expected, in HICs both HDI and GDP per capita are positive and significant.

As development increases, the costs associated with organized crime decreases. Polity 2

and durable are also positive and significant, meaning stable democracies are likely to

have low amounts of organized crime.

Model 6.   Ethics and Corruption in High-Income Countries

term	estimate	std_error	t-statistic	p_value
intercept	-7.211	0.955	-7.549	0
hdi	13.18	1.18	11.17	0
gdp_per_cap	0	0	7.03	0
polity2	-0.077	0.006	-13.32	0
durable	0.005	0.001	5.003	0
population_size	0	0	-6.958	0

R_squared	0.65

For ethics and corruption, HDI and GDP per capita are also significant. As HICs

become more developed, levels of corruption become lower. Polity 2 and durable are

again significant, stable democracies should have lower levels of corruption.

The contributions of organized crime laid out in this paper assume the state is

lacking in some aspect which organized crime is able to fill in for. This does not extend

to HICs, as generally countries that have reached the high-income level have functioning

institutions and the capacity to reach the whole of the population. As such, development

is what effects organized crime, instead of organized crime affecting development.