Informal Sector and Institutions

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26 September 2022

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Abstract

In this paper, I investigate the relationship between informal sector size and various institutional quality variables: government stability, external conflict, internal conflict, corruption control, military influence over politics, religious tensions, ethnic tensions, law-and-order, democratic quality, and bureaucratic accountability. To this end, I use annual cross-country panel data covering 130 countries from 1990 to 2018. Having conducted a correlation analysis, I find that the size of informal economy and institutional quality indicators are inversely linked, and the most important institutional quality determinants are law-and-order (-0.53), bureaucratic quality (-0.51), military in politics (-0.45), corruption control (-0.42), and internal conflict (-0.35).

Keywords: informal sector, institutional quality, cross-country analysis, panel data,

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1. Introduction

In this paper I explore the statistical correlation between informal sector size and various institutional quality variables, namely, government stability, external conflict, internal conflict, corruption control, military's influence over politics, religious tensions, ethnic tensions, law-and-order, democratic quality, and bureaucratic accountability. To do so, I conduct a correlation analysis by using annual cross-country panel data covering 130 countries over the period from 1990 to 2018. Having conducted a correlation analysis I find that the size of informal economy, and institutional quality indicators are inversely linked to each other, and the most important institutional quality determinants are law-and-order (-0.53)[2], bureaucratic quality (-0.51), military in politics (-0.45), corruption control (-0.42), and internal conflict (-0.35).

The informal economy can be described as a set of economic activities that take place outside the framework of official institutions, which has arisen initially in response to the proliferation of self-employment and casual labor in third-world cities. However, later, the expression came to reference societies like Britain, competing with other adjectives describing deindustrialization, namely, underground, hidden, black, second, etc. (Hart, 1985). The literature recognizes that informality can exist in formally recorded companies and economically developed countries, whereas hidden economies occur ubiquitously in developing countries and smaller-scale firms.

Even though the informal sector can benefit individuals with lower education levels and provide opportunities for capital by enhancing markets by avoiding taxes and government regulations, thus increasing the overall production, unrecorded volume of hidden sectors, according to International Labor Organization (ILO), more than 60 percent of employees and 80 percent of entrepreneurship operate in the informal economy. Black economies are typically settled apart by a greater occurrence of poverty and a severe decent work deficit. Although the informal sector is the sum up economic activities that cannot be included in the gross domestic product, governments strive to formalize the hidden economy as the days pass, not only to be able to include the economic potential of the black economies in the gross domestic product, but also prevent the social justice negativities caused by shadow economy namely lower rates of due diligence, poor purchasing practices, decreased proportion of visibility of supply chains, and exploitation of the workers through no secure contracts. The existence of informal economies is like a symptom of a disease; informal economies exist because the institutions cannot control and formalize them.

According to ILO, the root causes of informal sectors include elements related to the economic context, the legal, regulatory, and policy frameworks, and some micro-level determinants such as low level of education, discrimination, poverty, and lack of access to economic resources. Moreover, to promote decent work, there needs to be a comprehensive and integrated strategy, cutting across a range of policy areas and involving various institutional and civil society actors. These should eliminate the negative aspects of informality while preserving the informal economy's significant job creation and income generation potential. It should promote the protection and incorporation of workers and economic units in the informal economy into the mainstream economy.

[2] Correlation coefficients are reported in parantheses.

Moreover, the social sciences adopted the idea that "institutions matter" to examine the development patterns of various countries for the last few decades. (Aoki, 2001) Moreover, remembering a very frequently cited definition of institutions by North (1990) that" Institutions are the humanly devised constraints that structure political, economic, and social interaction," it would be a mistake to overlook what is potentially the strongest determinants of informality and tax evasion: quality of institutions. Empirical research findings across countries show that institutions influence economic growth and development. (Hall and Jones 1999; Acemoglu et al. 2001, 2005; Vijayaraghavan and Ward 2001; Rodrik et al. 2004) Institutional quality has been concentrated around versatilities that can be modulated by public policy. Law and order, democratic accountability, and bureaucratic quality are the main significant determinants of institutional quality.

Looking forward to peruse the conduct of the informal economy and its correlation with institutional quality, in this paper, I explore the relationship between informal sector size and various institutional quality variables, namely government stability, the rule of law, bureaucratic quality, internal, external, and military conflicts, religious and ethnic tensions, and democratic accountability. To this end, I use annual cross-country panel data covering 130 countries over the period from 1990 to 2018. I find that indicators of governance quality have been linked negatively with the size of the informal sectors within countries from 1990 to 2018. To explain in detail, the correlation coefficient of bureaucratic quality has been reported to be -0.51. The co-efficient of law-and-order has been -0.53, which states that informal sectors are less likely to occur in the countries that have a higher probability of the bureaucracy to expertise to govern without being influenced by interruptions in government systems and legitimacy of the rule of law. Henceforth, corruption, the military's influence in politics, and internal conflicts have been ubiquitously examined phenomena in countries with higher rates of the hidden sector to GDP.

My paper is related to several others in the existing literature. For example, La Porta and Shleifer (2014) argued that the informal sector adds up to half of the economic activity in developing countries. They offer opportunities to billions of people; however, their role in economic development remains controversial. Some economists, namely Hernando De Soto (1989, 2000), view the shadow economy as an unleashed potential held back by bureaucratic regulations. According to this opinion, revealing this energy by reducing entry barriers or developing property rights would fuel growth and development. Others, such as Levy (2008), underline the benefits of informal companies and employees from avoiding taxes and regulations. A report from McKinsey Global suggests that informal and formal sectors are structurally different from each other. Efficient formal employers carry the cost of government regulation to expand their influence in the market. Indicated employers are often educated and prefer to run larger formal companies over the smaller informal ones, which have been thought to be more profitable. Informal companies do not threaten formal ones; conversely, the modernization of the economy due to the expansion of the formal sector has been detrimental to the informal sector. La Porta and Shleifer (2014). present five critical facts about the shadow economy: It is ubiquitous in developing countries, it is productive inefficient, and productivity is so inefficient that informal companies cannot achieve success in the formal sector, hence eliminating the unleashed potential of the shadow economy and prevents economic growth.

Moreover, informal companies hardly ever become formal firms; thus, they will not be able to grow or improve. Also, it has been found that the informal economy and the growth and development of a country's economy are inversely related. In addition, Jahan et al. (2020) discussed that "official" salary and institutional quality exhibit a positive correlation. It is unclear, however, whether this relationship holds once the "unofficial" economy is accounted for or not. An improvement in institutional quality leads to a rise in official income in exchange for the shrinkage of the informal economy. Jahan et al. (2020) used data from Brazilian municipalities to explore the influence of institutional quality on PCI. It has been found that better institutions are linked with lower rates of informal sectors. Like the work of Jahan et al. (2020), Razmi et al. (2013) found that the larger the formal economy and more freedom of individuals and firms, the smaller the shadow economy is expected. Ramzi et al. (2013) have reached that conclusion by considering control of corruption, political stability, and the rule of law as leading indicators of institutional quality. A statistically negative correlation has been found between the indicated institutional quality measures and the size of the black economy. Furthermore, paper of Torgler and Schneider (2009) illustrated the influence of governance, institutional quality, and tax morale over the informal sector using an international country panel and within a country data. The quantitative significance of the indicated elements to comprehend the extent and changes of the informal sector have been stressed in the literature. Conversely, the limited number of investigations use cross-sectional country data with a relatively small number of observations, and hardly any paper has investigated tax morale and provided evidence using within-country data. It has been found that well-built obedience to tax morale results in a smaller informal sector. In this paper, I explore the correlation between the informal economy and institutional quality by contemplating government stability, internal conflict, external conflict, control of corruption, military influence over politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucratic quality. To this end, I used cross-country panel data covering 130 countries over the period from 1990 to 2018. I have found that institutional quality measures have been linked inversely with the existence of a hidden economy; conversely, law-and-order, bureaucratic quality, the military's influence over politics, control of corruption, and internal conflicts have significant impacts on informal sectors.

The rest of the paper is organized as follows: In the next section, I discuss the conceptual framework behind my article. Then in section III, I present my data. In section IV, I describe my empirical methodology. In section V, I present my empirical results, and finally, in the last section, I provide some concluding remarks and discussion.

2. Data

Table 1. Descriptive Summary Statistics

	Mean	Median	Standard Deviation	Minimum	Maximum
Informal Sector	29.38	28.04	13.03	7.97	67.66

Gov. Stab.	7.90	7.83	1.87	1.00	12.93
Int. Conf.	9.14	9.46	2.06	0.00	12.00
Ext. Conf.	10.02	10.04	1.58	0.00	12.00
Corr. Cont.	2.93	2.63	1.28	0.00	6.00
Military	3.89	4.00	1.75	0.00	6.00
Relig. Tens.	4.60	5.00	1.29	0.00	6.00
Law&Order	3.80	4.00	1.38	0.00	6.00
Ethn. Tens.	4.05	4.00	1.32	0.00	6.00
Democ. Acc.	4.00	4.00	1.60	0.00	6.00
Bur. Qual.	2.24	2.00	1.12	0.00	4.00

Data on Informal sector size is obtained from Elgin (2021). All other institutional quality variables are acquired from the International Country Risk Guide of Political Risk Services Group.

Table 1 presents descriptive summary statistics of all variables used in the empirical analysis.

3. Empirical Methods

My empirical analysis will rest upon two dimensions. In one, I will calculate and report the correlations of each relevant institutional quality variable with informal sector size, and I will visualize those correlations.

As well known, a correlation coefficient is always between -1 and 1. A negative correlation between two variables indicates that the two variables generally move in opposite directions and a positive correlation suggests that they move in the same direction. However, a correlation coefficient that is remarkably close to 0, even though it can be negative or positive, may not be significant. The rule of thumb here is that a positive correlation should be above 0.1 and a negative one should be below -0.1 to be statistically significant.

4. Results

Table 2 presents correlation between informal sector size and all institutional quality variables. Accordingly, the institutional quality variables that have the most statistically significant relationship with informal sector size are law and order, bureaucratic quality, military in politics, corruption control, and internal conflict.

Table 2. Correlations between Informal Sector Size and Institutional Quality Measures

Variable	Correlation Coefficient
Government Stability	-0.12639748
Internal Conflict	-0.354381795
External Conflict	-0.172880889
Corruption Control	-0.419004728

Military in Politics	-0.450019974
Religious Tensions	-0.103106149
Law and Order	-0.528008733
Ethnic Tensions	-0.206538096
Democratic Accountability	-0.28957589
Bureaucratic Quality	-0.511252561

Table 2 presents the correlations between the informal economy and institutional quality indicators: government stability, internal conflict, external conflict, corruption control, military in politics, religious tensions, law-and-order, ethnic tensions, democratic accountability, and bureaucratic quality. Government stability and internal and external conflict institutional quality measures have been graded between 0 and 12, as values closer to 12 have been determined as positive. Similarly, other institutional quality indicators, corruption control, military in politics, religious tensions, law and order, democratic accountability, and bureaucratic quality, have been scored between 0 and 6, and scores illustrate a positive value as they get closer to 6. Table 2 indicates that the size of the informal sector is negatively linked to the institutional quality measures, and the most critical institutional quality indicators have been law-and-order, bureaucratic quality, military in politics, corruption control, and internal conflict.

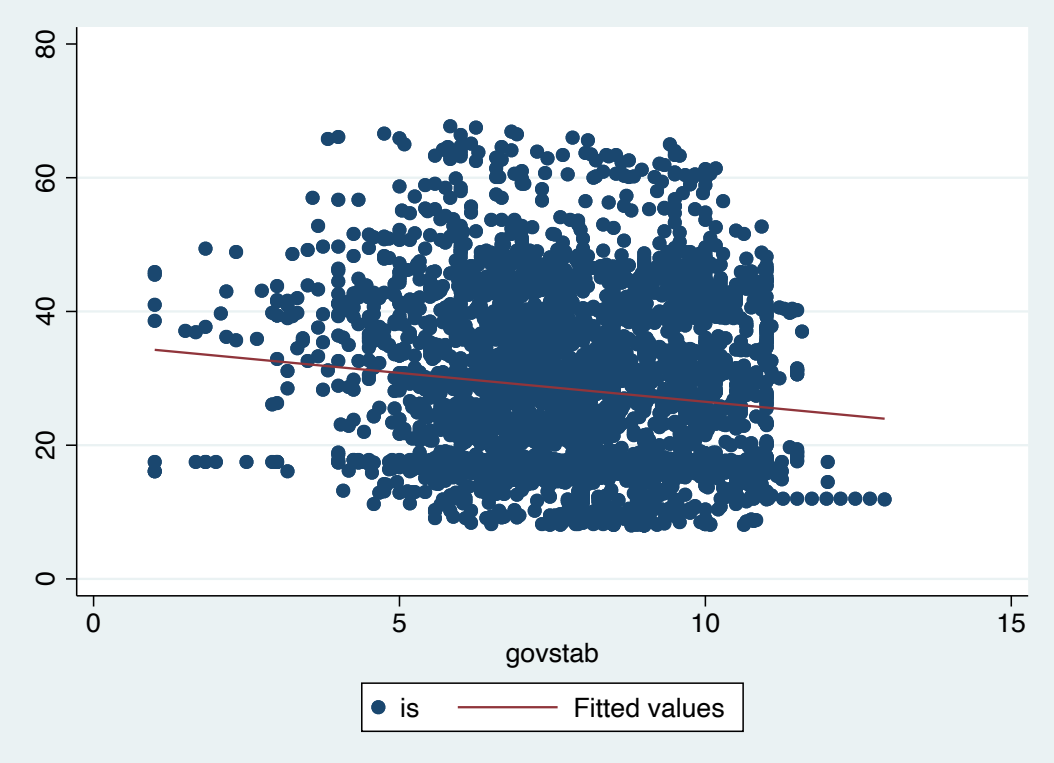

Figure 1. Informal Sector vs. Government Stability

Figure 1 presents a scatter plot diagram where I illustrate the correlation between informal sector size (on the y-axis) and government stability (on the x-axis). Statistics represent the information that government stability and the size of informal economy are not strongly related. The scatterplot implies a weak link between government stability and IS/Y since the data has been spread across the sheet. Furthermore, the correlation coefficient of government stability and shadow economy has been reported to be -0.12.

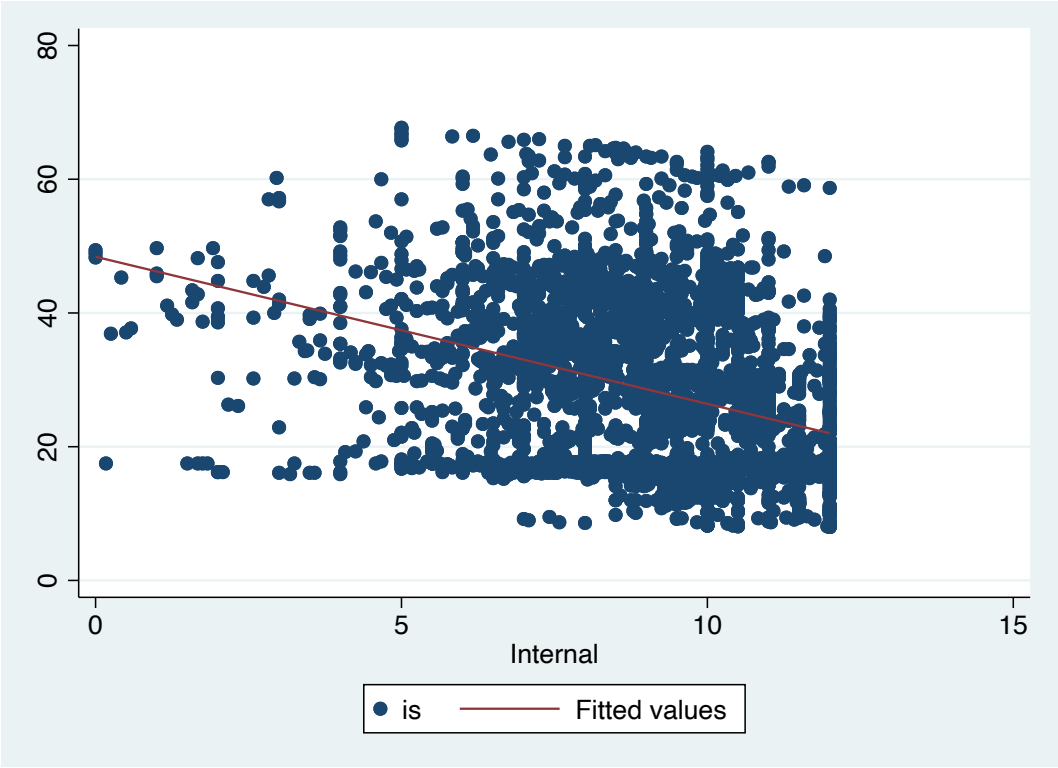

Figure 2. Informal Sector vs. Internal Conflict

Next, Figure 2 illustrates the association between unseen economy vs. internal conflict. An inverse correlation has been reported between the variable "internal conflict" and the ratio of IS/Y. For example, the countries that have experienced the internal conflict index between 0 and 2 have experienced a higher ratio of shadow economy to gross domestic product, clustered around 40 and 60 percent. It has been reported that the countries that have experienced an internal conflict index close to 12 have a lower proportion of the informal sector. The correlation coefficient is -0.35, which can be considered a respective association.

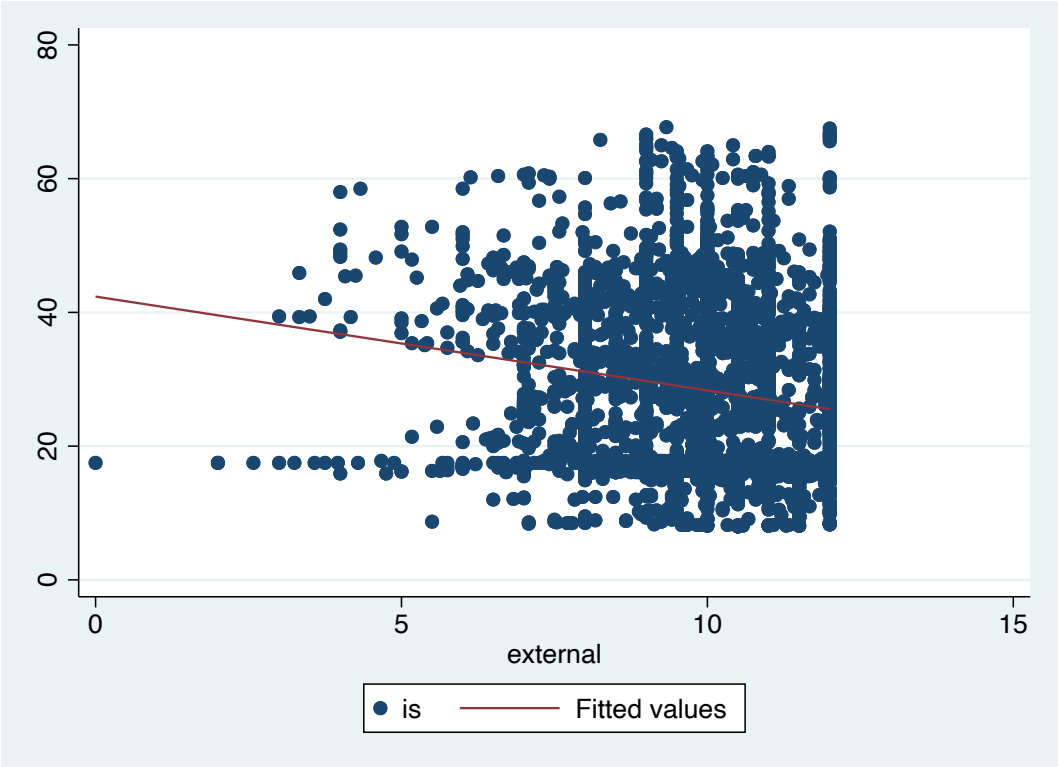

Figure 3. Informal Sector vs. External Conflict

In the scatterplot in Figure 3, I also illustrate a weak negative correlation between external conflict and IS/Y. It has been reported that the size of the informal sector is not much affected by external conflicts. Almost half of the data is between the index points of 0 and 6, which indicates a higher amount of external conflict coefficient and has IS/Y ratios of 20 per cent. In contrast, the countries' IS/Y ratios have been clustered between external conflict index points of 6 and 12. The correlation coefficient of external conflict and IS/Y is -0.17, which indicates a weak negative correlation.

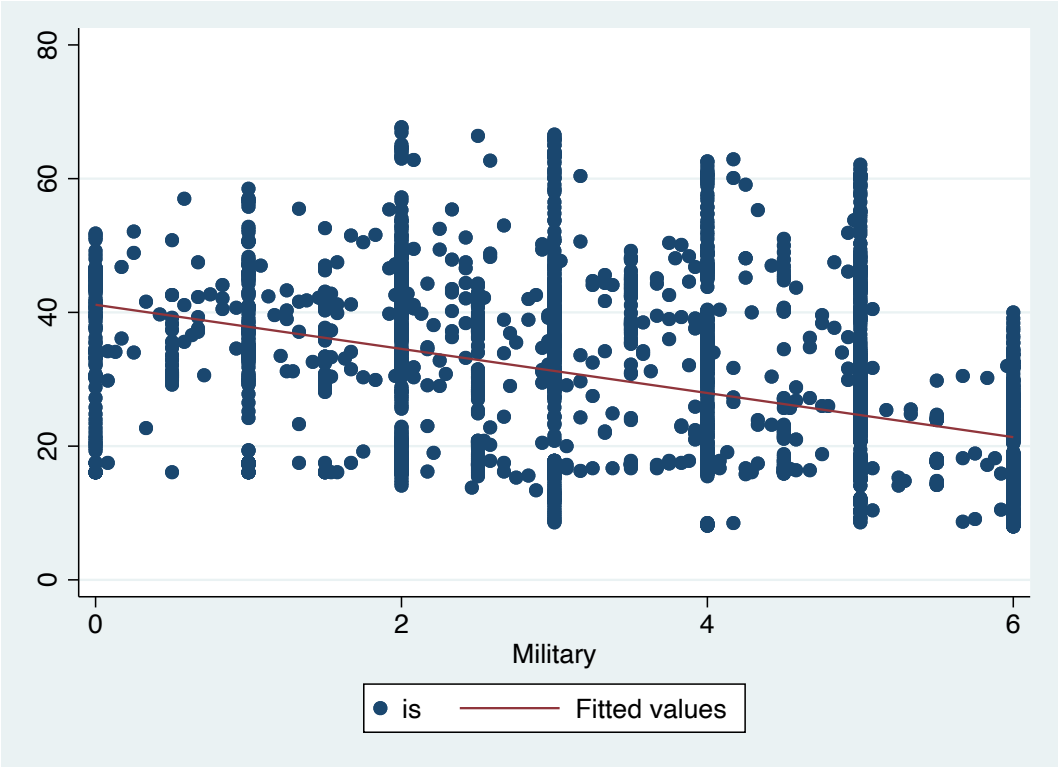

Figure 4: Informal Sector vs. Military in Politics

Moreover, the graph in Figure 4 indicates an inverse relationship between the proportion of the shadow economy to gross domestic product and the military's role in politics. Between the index points of the military in politics, sections 0 and 3, which illustrate the military's increased role in politics, the IS/Y ratio has reached the highest point of almost 70 percent. In contrast, at the index point of 6, which illustrates the decreased role of the military in politics, the maximum IS/Y ratio has been found to be nearly equal to 40 percent. The correlation coefficient of the role of the military in politics and IS/Y is reported to be -0.45.

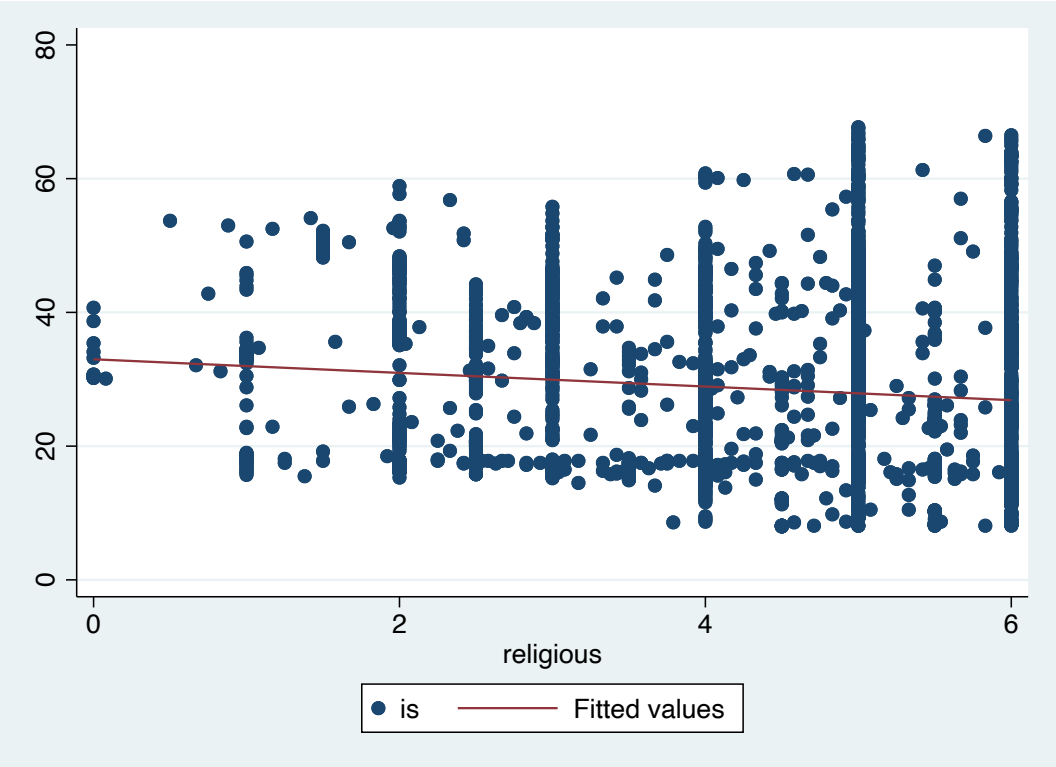

Figure 5: Informal Sector vs. Religious Tensions

The indicated scatterplot in Figure 5 represents a weak negative correlation between religious tensions and IS/Y. Higher proportions of IS/Y is clustered at the index points of religious tensions at 5,00 and 6,00, which indicates a significantly lower religious tension coefficient. The correlation coefficient of religious tensions and IS/Y has been -0.1, which has also been the weakest negative link of all independent variables.

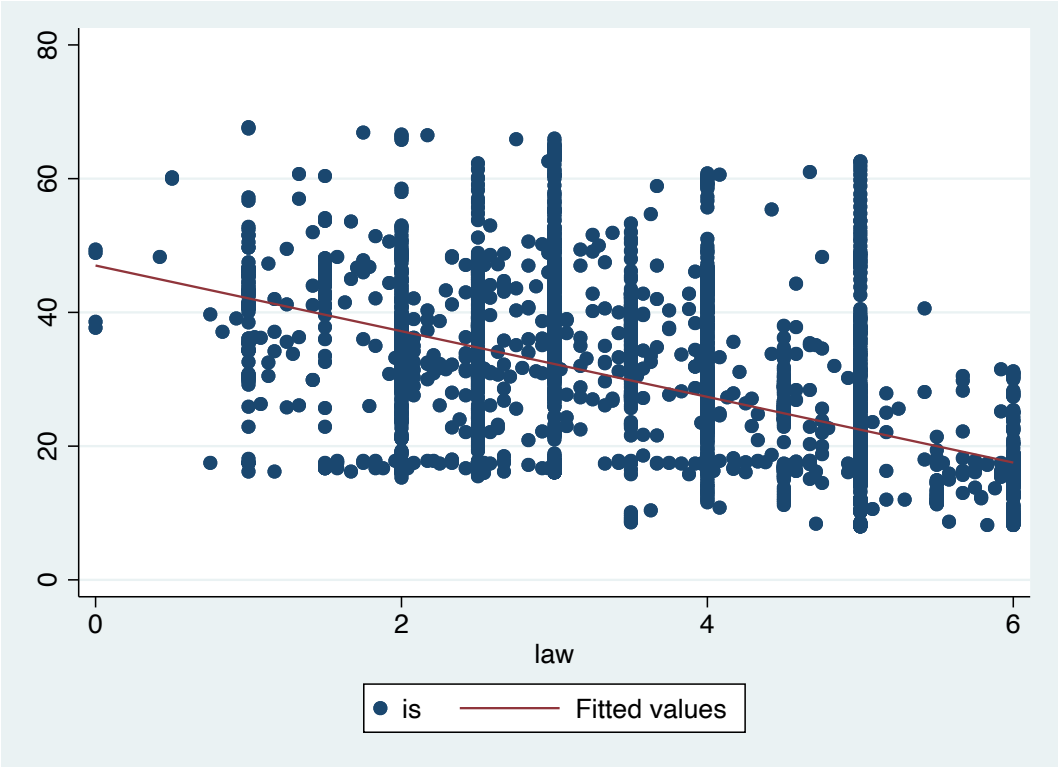

Figure 6: Informal Sector vs. Law and Order

In Figure 6, I draw a strong negative correlation between law and order and the informal sector. The ratio of the informal sector to gross domestic product (GDP) tends to decrease as the index of law-and-order increases. When the law-and-order index is close to 6, the IS/Y ratio is reported to be lower than 35 percent; conversely, the proportion of IS/Y is shown to upsurge as the law-and-order index decreases. The IS/Y ratio is clustered around 50 percent between the 1,00 and 4,00 index points of law-and-order. The negative correlation between the law-and-order index and the ratio of IS/Y has been found to be the strongest among the other variables, with a correlation coefficient of -0.53.

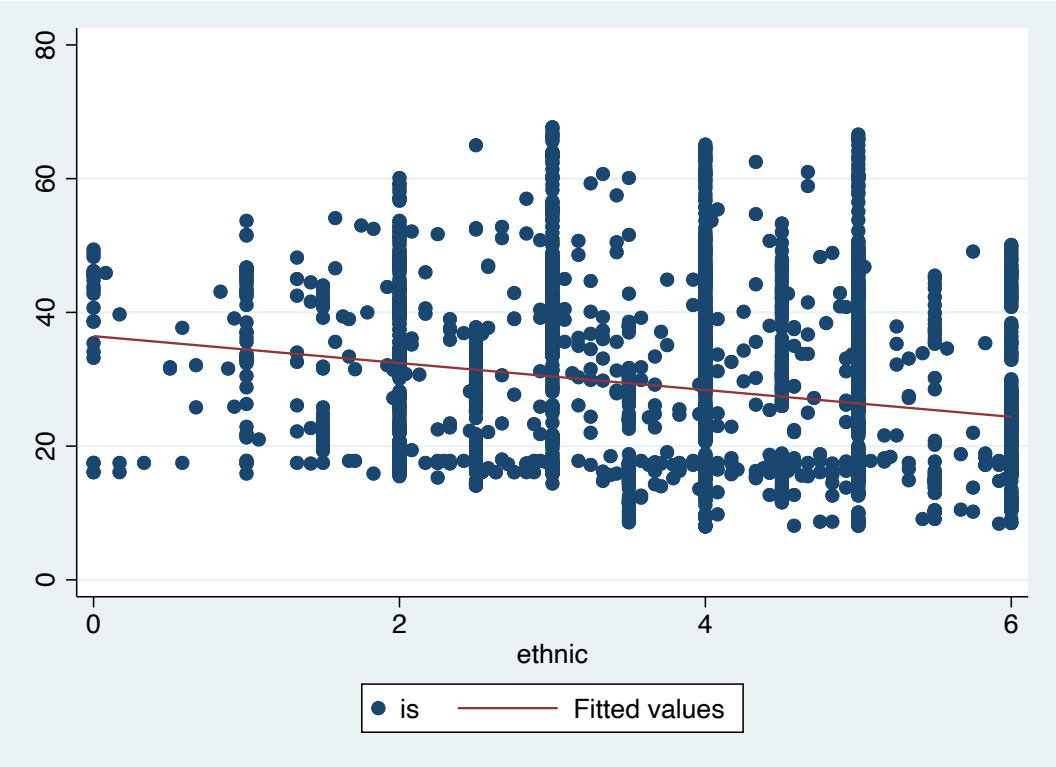

Figure 7: Informal Sector vs. Ethnic Tensions

Figure 7 presents the negative correlation between ethnic tensions and IS/Y. The proportions of countries' IS/Y ratios and their index points of ethnic tensions have created a similar pattern. The data between the index points 1 and 6, which indicates high and low ethnic tension coefficient, shows that ethnic tensions and IS/Y have not been strongly negatively correlated since the ranges of the index points' IS/Y ratios have been like each other. The correlation coefficient of ethnic tensions and IS/Y is -0.21.

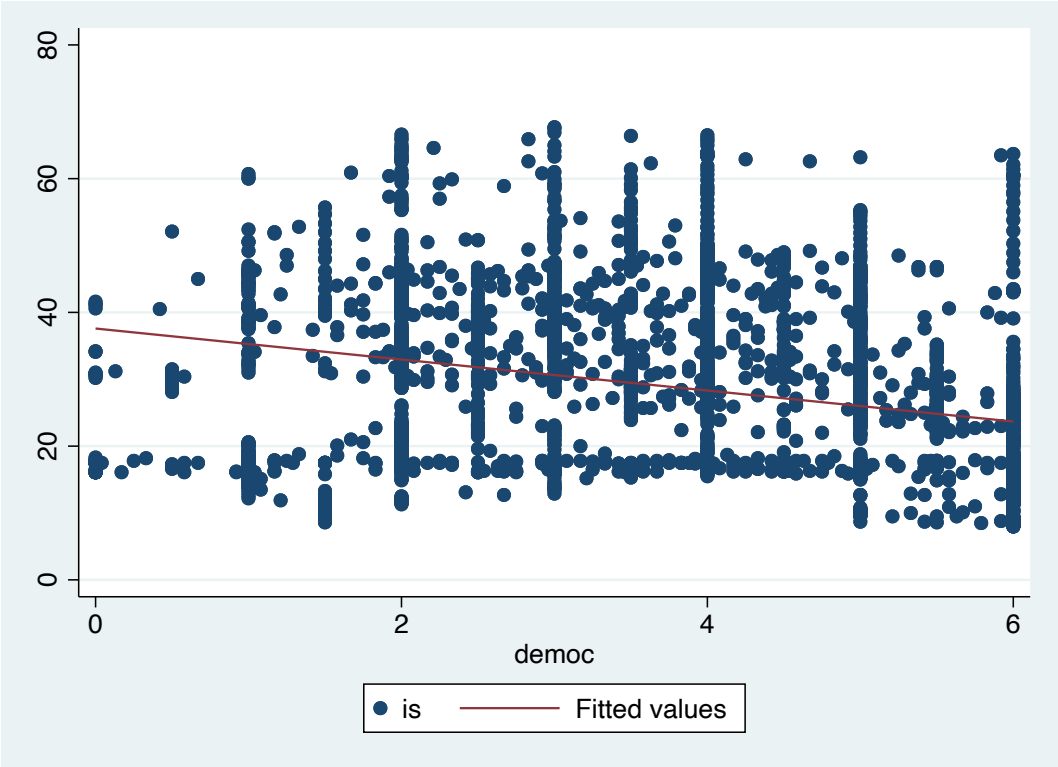

Figure 8: Informal Sector vs. Democratic Accountability

In the scatterplot above in Figure 8, I present information about the panel analysis between informal sector vs. democratic accountability and the negative correlation between democratic accountability and the ratio of the informal sector to gross domestic product. Countries' index values have been clustered between 15 percent and 50 percent; however, the negative correlation between democratic accountability and the proportion of hidden economy to GDP is weak because the data has not been explicitly classified between different index points of democratic accountability. Moreover, the correlation coefficient of democratic accountability and IS/Y has been -0.29.

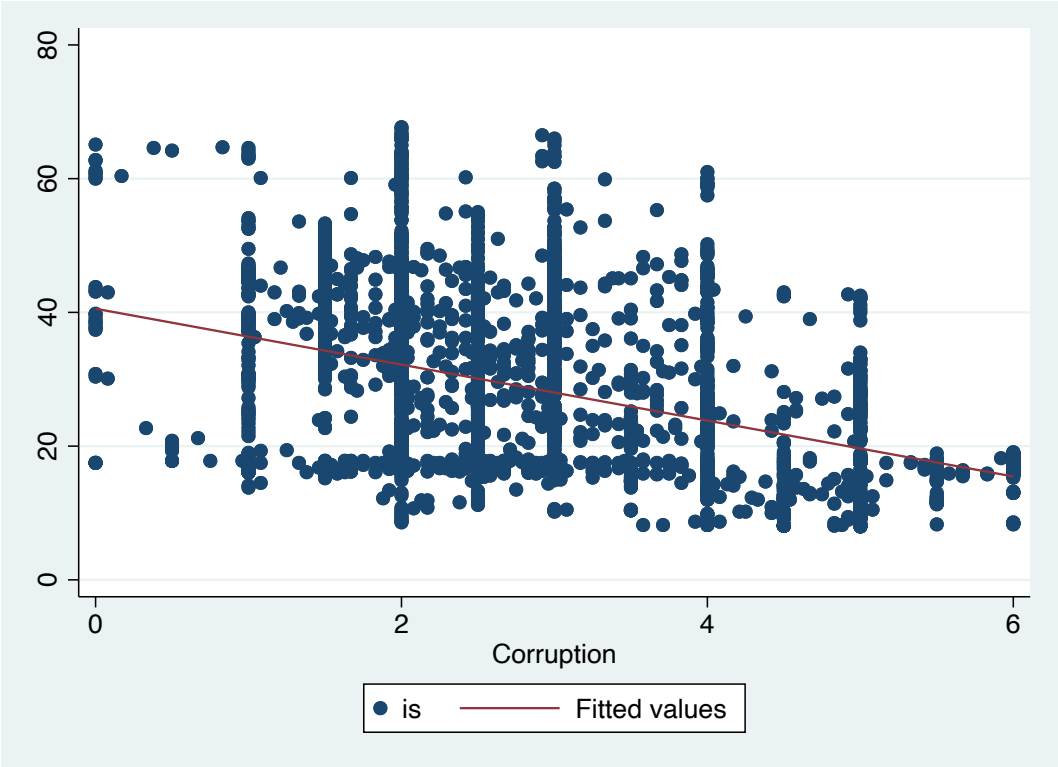

Figure 9: Informal Sector vs. Corruption Control

Figure 9 draws the negative correlation between informal economy vs. corruption control. As can be seen from the scatterplot, the existence of an informal economy rarely occurs on the index score of corruption, which has been closer to 6. In countries between the index scores of 4 and 6, the informal economy has occurred by twenty percent. In addition, cross-country panel data has been clustered between the institutional quality index score of 2 and 3. The occurrence data of informal economy has been chiefly recorded between 20 and 50 percent. It has been reported that the correlation coefficient of the informal sector vs. corruption control is -0.42, which has been a strong negative link.

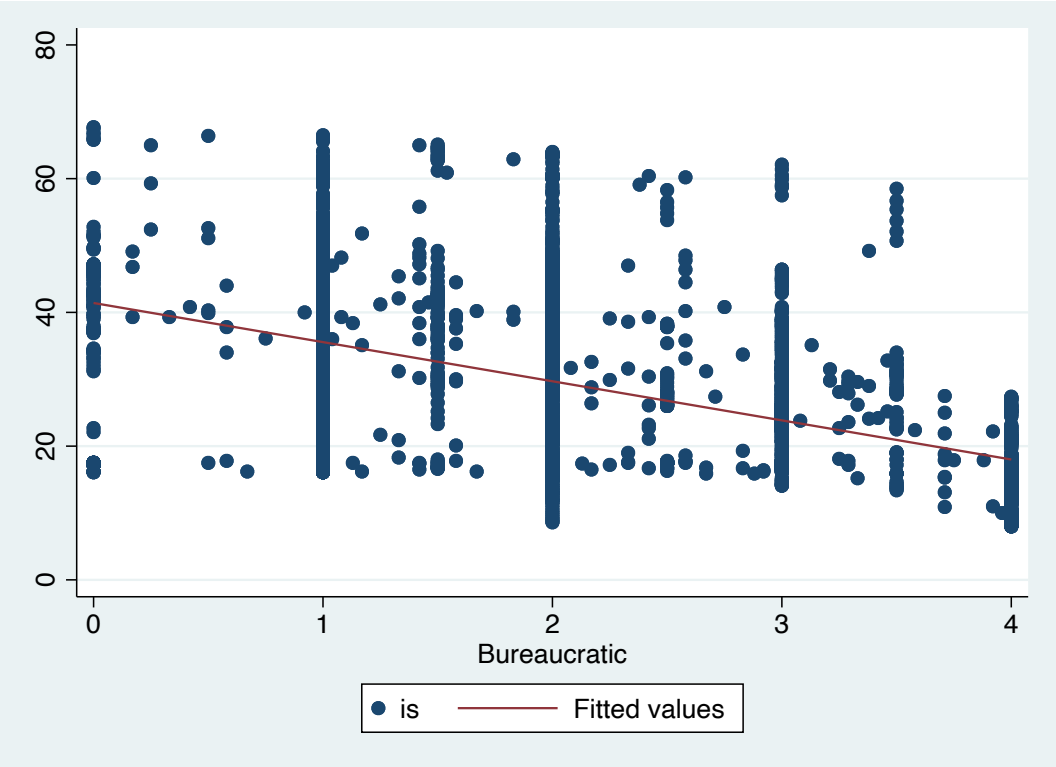

Figure 10: Informal Sector vs. Bureaucratic Quality

Figure 10 reports the inverse correlation between shadow economy vs. bureaucratic quality. The association co-efficient between informal sector vs. bureaucratic quality has been reported as -0.51, which is one of the strongest negative correlations of institutional quality indicators and hidden economy. This suggests that the higher the bureaucratic quality the smaller the informal sector size across countries.

5. Conclusion

In this paper, I analyzed the association between the size of the informal economy and various institutional quality variables such as government stability, external conflict, internal conflict, corruption control, military influence over politics, religious and ethnic tensions, law-and-order, democratic quality, and bureaucratic accountability. Henceforth, I have observed that informal sector size and institutional quality determinants have a negative correlation, and the most significant institutional quality variables have been law and order (-0.53), bureaucratic quality (-0.51), military in politics (-0.45), corruption control (-0.42), and internal conflict (-0.35)

It was my responsibility to suggest possible reasons for results, speculate on the significance of the results, and suggest what additional research would be worthwhile. The narration of the sample group explores the link between institutional quality variables and the informal economy. To explain in detail, I have found strong negative associations between the size of the informal economy and institutional quality indicators of law and order, bureaucratic quality, the military's influence over politics, corruption control, and internal conflict. In my opinion, indicated

indicators' association with the informal economy can be explored in detail by narrowing the sample size and monitoring the political and social events that can influence the size of the unseen sector. Also, further research can increase the sample size and separately examine the results of a possible correlation to analyze the political, social, and economic dynamics.

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