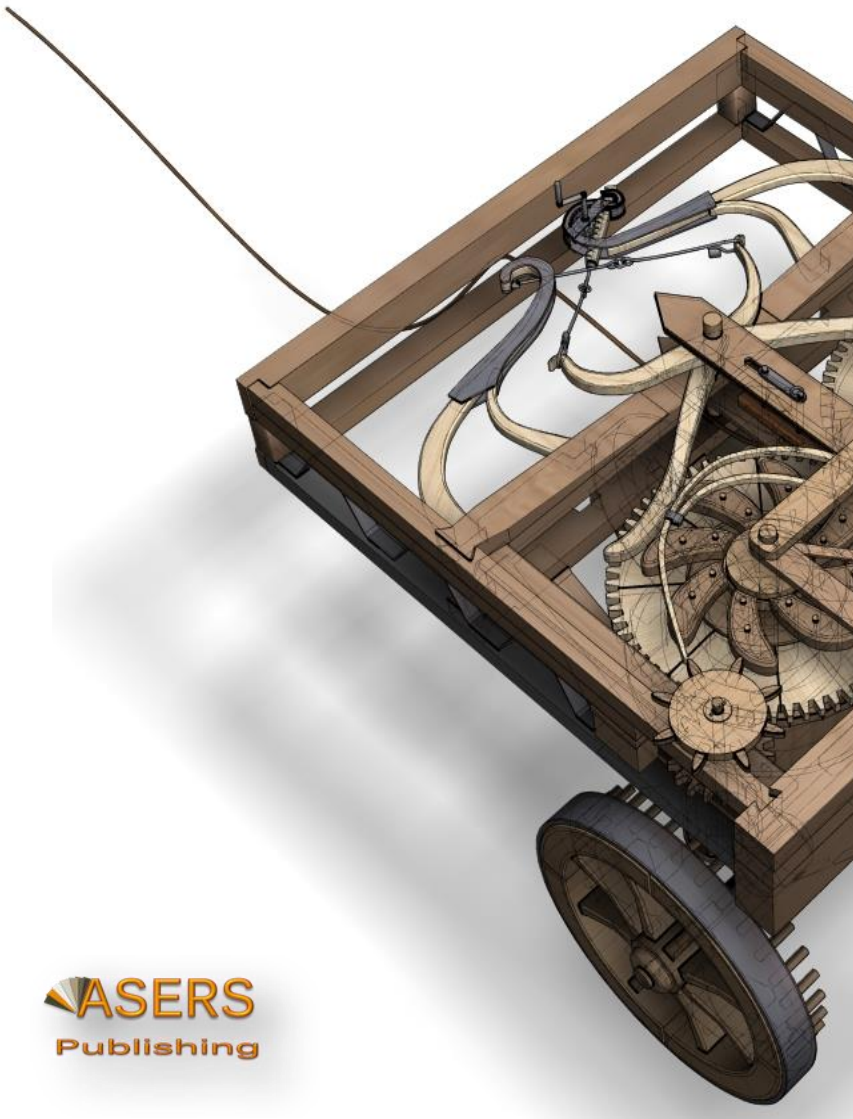
Theoretical and Practical Research in Economic Fields



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Many economists today are concerned by the proliferation of journals and the concomitant labyrinth of research to be conquered in order to reach the specific information they require. To combat this tendency, **Theoretical and Practical Research in Economic Fields** has been conceived and designed outside the realm of the traditional economics journal. It consists of concise communications that provide a means of rapid and efficient dissemination of new results, models and methods in all fields of economic research.

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INFORMAL SECTOR AND INSTITUTIONS

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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, the size of informal economy and institutional quality indicators are inversely linked. The most crucial 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.

JEL Classification: E20; E02.

Introduction

The informal economy can be described as a set of economic activities that take place outside the framework of official institutions. 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, and lack of access to economic resources. Research in the field proved 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. In this paper, I explore the statistical correlation between informal sector size and various institutional quality variables: 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. Having conducted a correlation analysis, I find that the size of informal economy and institutional quality indicators are inversely linked to each other. The most important institutional quality determinants are law-and-order (-0.53)[1], bureaucratic quality (-0.51), military in politics (-0.45), corruption control (-0.42), and internal conflict (-0.35).

[1] Correlation coefficients are reported in parentheses.

1. 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.

2. Methodology

I conduct a correlation analysis using annual cross-country panel data covering 130 countries from 1990 to 2018. And 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 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.

3. 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

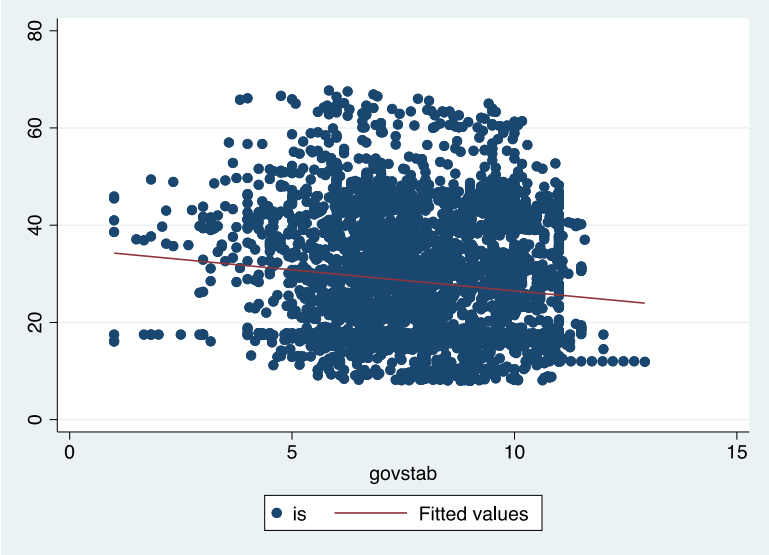
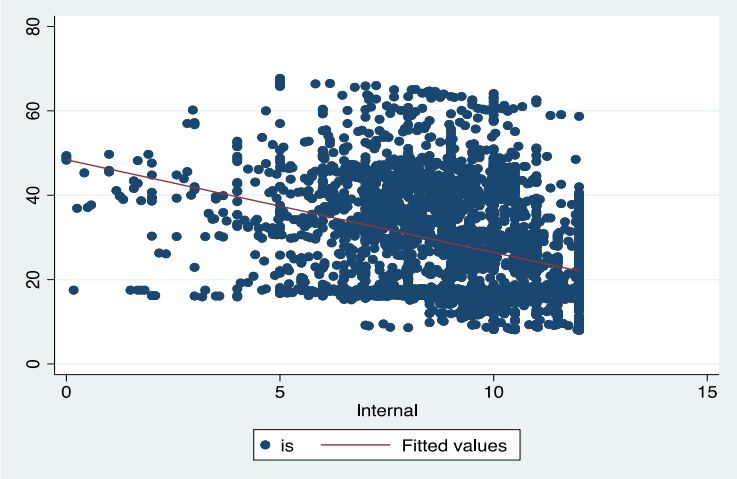


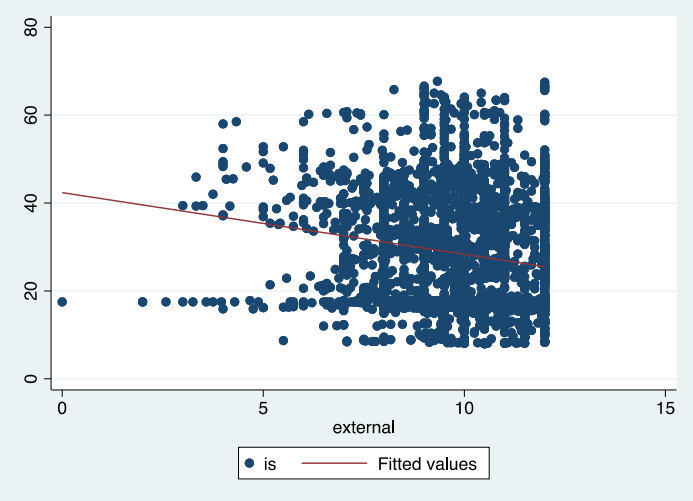
Figure 1 presents a scatter plot diagram where I illustrate the correlation between informal sector size (on the y-axis) and government stability (on the x-axis). Statistics represent the information that government stability and the size of informal economy are not strongly related. The scatter plot 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



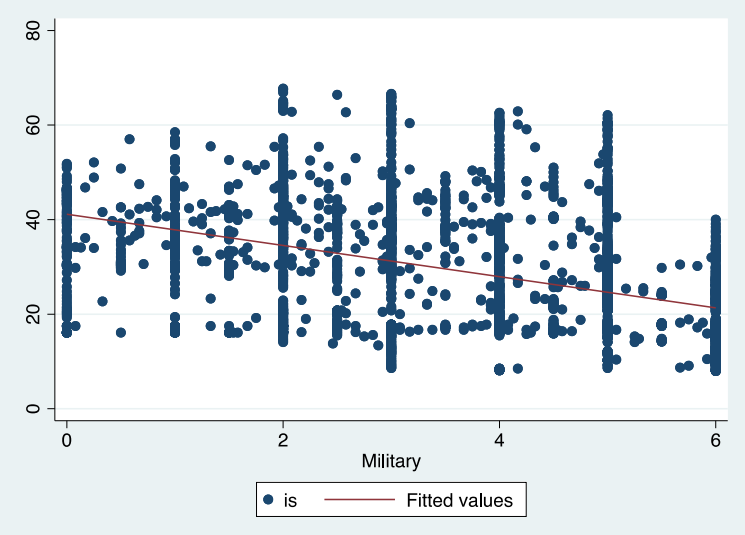
Next, Figure 2 illustrates the association between unseen economy vs. internal conflict. An inverse correlation has been reported between the variable "internal conflict" and the ratio of IS/Y. For example, the countries that have experienced the internal conflict index between 0 and 2 have experienced 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 scatter plot 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 percent. 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.

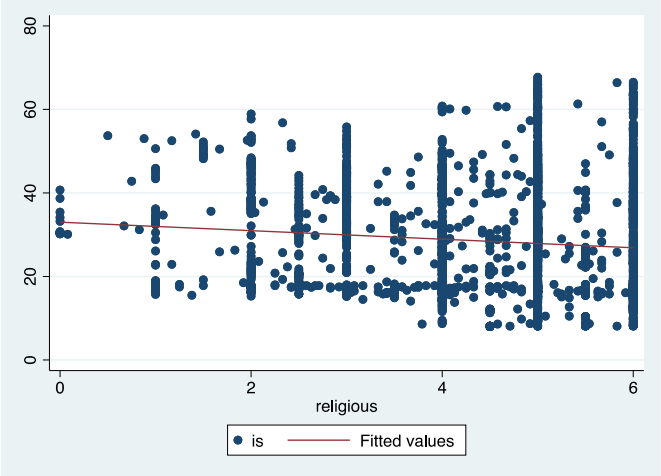
Figure 4. Informal Sector vs. Military in Politics



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

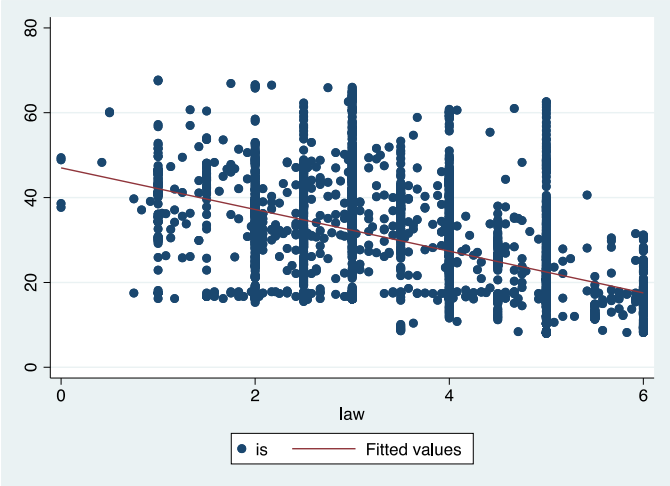
of the military in politics, sections 0 and 3, which illustrate the military's increased role in politics, the IS/Y ratio has reached the highest point of almost 70 percent. In contrast, at the index point of 6, which illustrates the decreased role of the military in politics, the maximum IS/Y ratio 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 scatter plot in Figure 5 represents a weak negative correlation between religious tensions and IS/Y. Higher proportions of IS/Y are 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

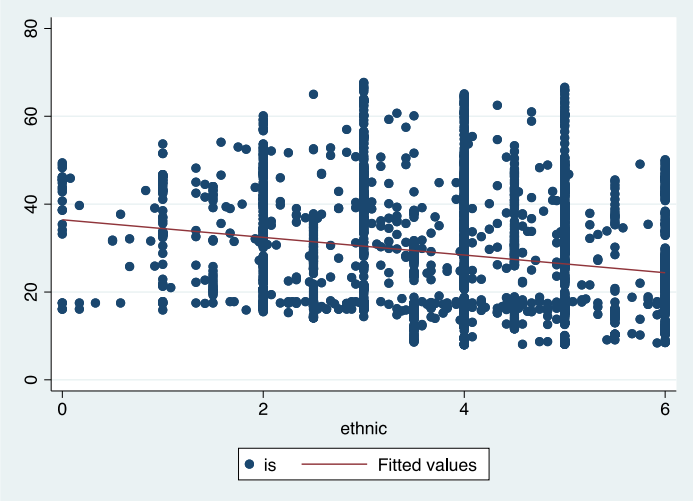
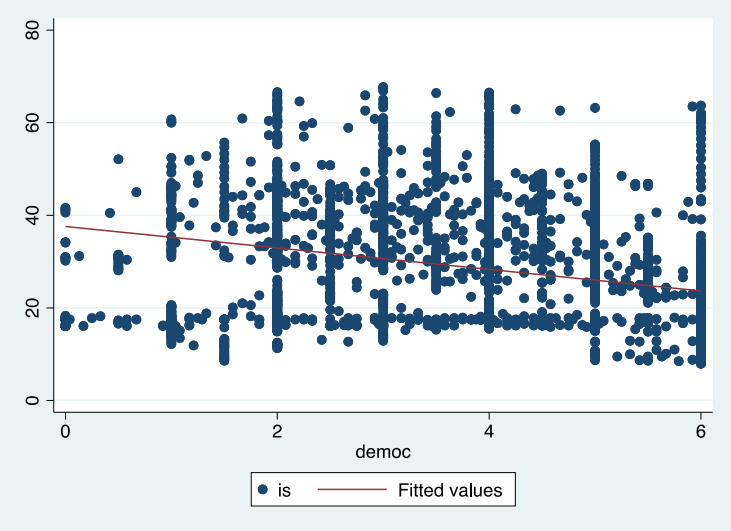


Figure 7 presents the negative correlation between ethnic tensions and IS/Y. The proportions of countries' IS/Y ratios and their index points of ethnic tensions have created a similar pattern. The data between the index points 1 and 6, which indicates high and low ethnic tension coefficient, shows that 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 scatter plot 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

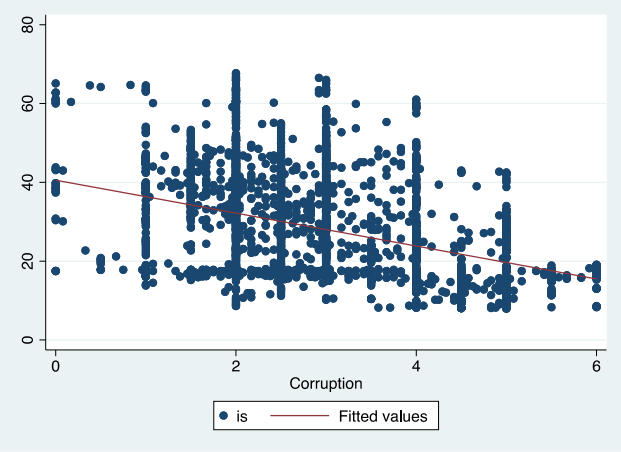


Figure 9 draws the negative correlation between informal economy vs. corruption control. As can be seen from the scatter plot, the existence of an informal economy rarely occurs on the index score of corruption, which has been closer to 6. In countries between the index scores of 4 and 6, the informal 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

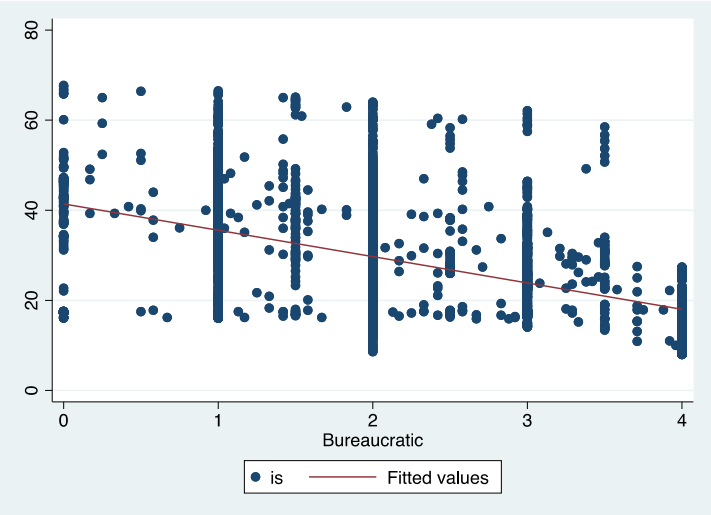


Figure 10 reports the inverse correlation between shadow economy vs. bureaucratic quality. The association coefficient between informal sector vs. bureaucratic quality has been reported as -0.51, one of the strongest negative correlations between institutional quality indicators and hidden economy. This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

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 the 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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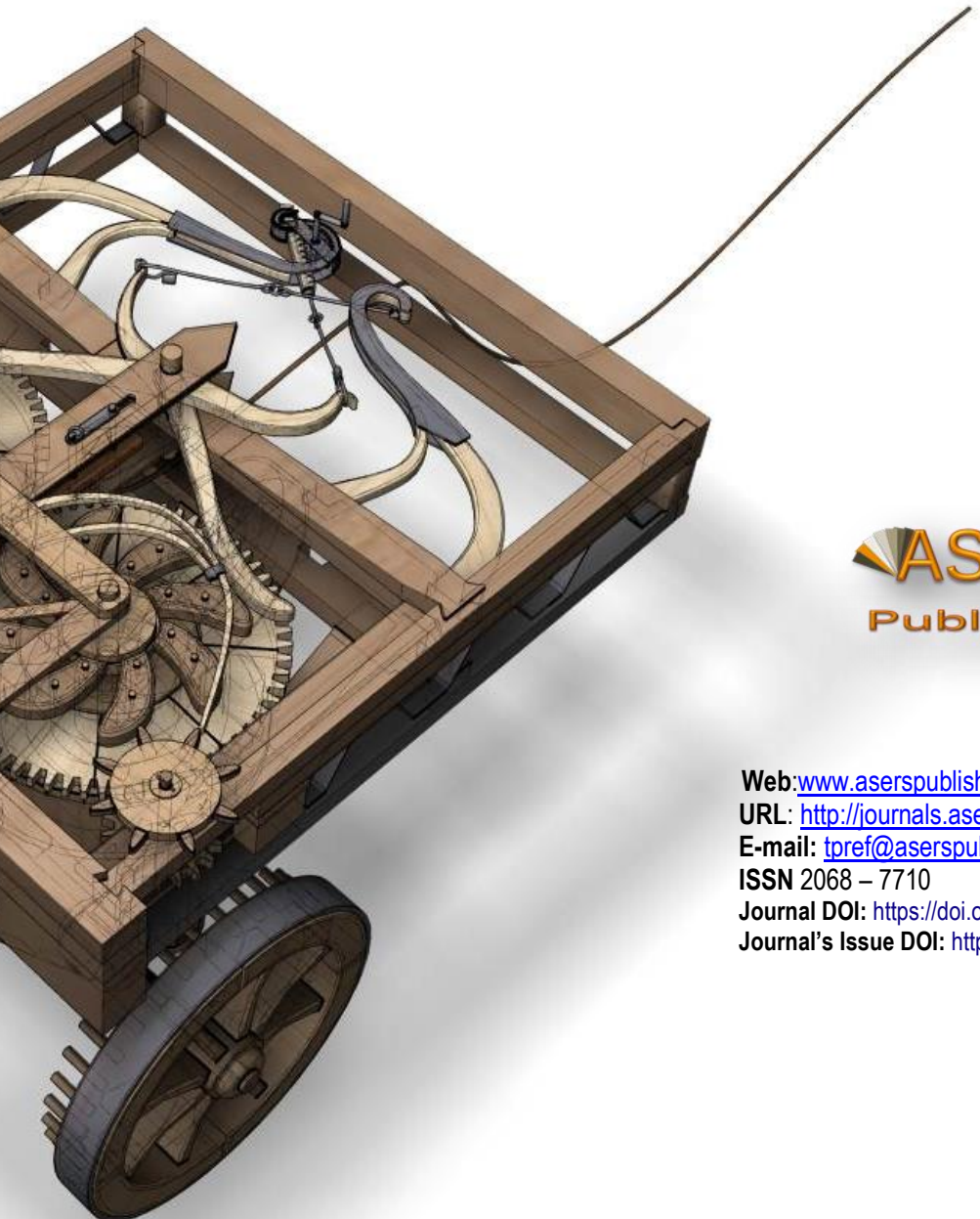

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