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The relationship between corruption and government involvement in economic activity

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Abstract

Purpose Corruption (dishonest or fraudulent conduct by those in power, typically involving bribery) hinders economic development, particularly for developing countries. The purpose of this paper is to determine the relationship between government involvement in economic activity and corruption.

Methodology The model proposes that the variation in a country's corruption index can be explained by changes in the average tax rate, government spending as a percentage of GDP, the Regulatory Index and the tax burden as a percentage of GDP. These were the independent variables that were selected to show government involvement in economic activity. The regression analysis used data from 137 countries.

Findings The analysis found that %80 of the variation in the corruption index can be explained by the independent variables used. Further, each independent variable had a significant impact on changes in the corruption index. This suggests that as government involvement in the economy increases, corruption also increases. The countries with the most economic freedom and least government involvement had significantly lower readings on the corruption index.

Originality/value While the literature is full of scholarly work showing the effect that corruption has on a number of key variables, there is little relating the government's role in economic activity to the corruption index. This research represents original work in this area.

Keywords Corruption, Government involvement, Economic development, Tax rates, Freedom index

Introduction

Corruption has become one of the major economic issues today. If we use the definition of corruption as being the dishonest or fraudulent conduct by those in power (usually elected or appointed government officials), typically involving bribery, then it becomes easy to see the negative effects that corruption has on the country. Some scholars have expanded the definition of corruption beyond those in power, by noting that corruption can also occur by two private parties, as is the case with commercial bribery (Coase 1979). Macrae (1982) defines corruption as "an exchange between two parties which has an influence on the allocation of resources". He further notes that this could be either public or private.

The presence of corruption tends to have significant negative effects on economic development (Pellegrini and Gerlagh, 2004). Ackermann (2004) notes that corruption should be the subject of more serious economic work because of the negative effects. Mo (2001) and Mauro (1997) found that corruption tends to slow economic growth. Keefer and Knack (1995) and Tanzi and Davoodi (1997) concluded that corruption reduces both the amount and productivity of investment. Alesina and Weder (1999) as well as Wei (2000) found that corruption will discourage direct foreign investment. In addition, corruption contributes to income inequality and poverty (Gupta et al., 2002) and reduces expenditures on social welfare (Mauro 1995 and 1997).

To determine the causes of corruption, scholars cite the level of economic development as an important factor (Macrae 1982). Allam (1995) theorized that corruption occurs because of the government monopoly over some resources that are needed by private citizens, implying that government control and regulations tend to increase corruption. Husted (1999) found a number of factors that may cause corruption. Most notable was the level of economic development as measured by the purchasing power parity estimate of per capita GDP. Corruption tended to decline as economic development increased.

Anderson (2014) added some new variables to the mix. While this article replicated previous research regarding the relationship to corruption of variables such as economic growth, capital formation and direct foreign investment, Anderson (2014) added Female Labor Participation and GINI index. While she found relationships between these new variables and corruption, she found no relationship of these variables to economic growth.

Since there is a problem with quantitatively measuring corruption, a number of different approaches have been taken. Goel and Nelson (1998) used the number of public officials convicted of abuse of public power as a corruption measure. They argued that by relating this variable to real per capita total expenditures by local governments, rent-seeking behaviour activities result that lead to corruption. Still others recognize the difficulty in measuring corruption and thus seek an index. The most widely used index seems to be the corruption perception index calculated by Transparency International (TI). This is a composite index which

measures the perceived corruption in countries based on specific factors. This is the index used in this study as the dependent variable (http://cpi.transparency.org/cpi2013/). A number of independent variables were used to measure government involvement in economic activity.

Research questions:

1) What is the relationship of government involvement in economic activity to the level of perceived corruption?

2) Is there a significant relationship between the average income tax rate and the perceived corruption level?

3) Is there a significant relationship between the government expenditures as a percentage of GDP and the perceived corruption level?

4) Is there a significant relationship between the regulatory index and the perceived corruption level?

5) Is there a significant relationship between the tax burden as a percentage of GDP and the perceived corruption level?

While a number of studies have examined similar questions and found similar results, there are some expected caveats to these questions. Tanzi (1998) pointed out that "Corruption is a complex phenomenon that is almost never explained by a single cause. If it were, the solution would be simple". Manzetti and Blake (1996) found that extensive government control and regulation provide an environment that leads to increases in corruption. Ades and DiTella (1997) found similar results by noting that corruption is associated with governments that promote an industrial policy. Elliot (1997) concluded that corruption was more prevalent, the larger the role of state-operated

enterprises in non-agricultural activities, while Huther and Shah (1998) found that corruption increases as the centralization of government expenditures increase.

Moreover, Elliot (1997), Erias (2003), Lash (2004) and Snider (2003) found that there was a positive correlation between economic intervention by government and corruption. This is the result that this paper intends to replicate, but herein different variables are used to measure economic intervention. These scholars used a number of different measures to gauge government involvement. Most related involvement to a degree of freedom or a measure of regulation. This study differs in that the independent variables used to measure government involvement centre on monetary issues, although the regulatory index is used. The justification is that since corruption ultimately involves the transfer of funds between corrupt parties, monetary measures should be used to gauge government involvement.

From the research questions, the variables selected were the average income tax rate (ITR), Government expenditures as a percentage of GDP (GE), the Regulatory Index (RI) as compiled by the Heritage Foundation based on a number of variables that measure business freedom (http://www.heritage.org/index/ranking), and the tax burden as a percentage of GDP (pergdp). Tests were also done to determine any multicollinearity between independent variables. It was somewhat surprising that none of the independent variables displayed a strong correlation to any others.

There were a total of 161 countries where complete data could be found for each of the variables selected for 2013. Other studies have used a number of different variables to measure gov

ernment involvement. The results of these studies are mixed. For instance, Lash and Batavia (2013) concluded that government spending and taxation were negatively correlated to corruption, which is in direct contrast to the conclusions of this paper. Instead, they noted, that what contributes most to corruption is government regulation and the failure to adequately protect property rights. This paper argues that in advanced democracies where property rights receive adequate protection, government spending and taxation are significantly and positively related to corruption.

The model

The regression equation developed took into account the various measures of government involvement in economic activity and regressed those variables on the corruption perception index. The equation was:

$$CI = \beta_0 + \beta_1\, ITR + \beta_2\, GE + \beta_3\, RI + \beta_4\, Pergdp + error$$

Where:

CI = Corruption perception index
ITR = Average income tax rate
GE = government expenditures as a percentage of GDP
RI = Regulatory Index
Pergdp = Tax burden as a percentage of GDP

Data for these variables were available for 161 countries. The results of the regression found the values presented in Table 1.

$R^2 = .80$

Table 1. Regression results

	Coefficients	Standard Error	t Stat	P-value
Intercept	66.5094-	4.511066	14.7436-	1.96E31-
ITR	0.238262	0.054478	4.373546	2.22E05-
GE	0.538716	0.065187	8.26418	5.54E14-
RI	1.370143	0.065576	20.89396	3.39E47-
pergnp	0.109621	0.03062	3.579998	0.000458

It is interesting to note that all of the independent variables selected were very significant and each had a positive correlation to the dependent variable CI. Interpretation of the results leads to some interesting conclusions. Before analysing the results, a test for multicollinearity between the independent variables is needed. Instinctively there was some concern that the average income tax rate and government expenditures as a percentage of GNP could be correlated. Similarly tax burden as a percentage of GDP could correlate to government spending as a percentage of GNP. The correlation matrix was calculated, as presented in Table 2.

Somewhat unexpected, none of the correlation coefficients exceeded .30 which is the standard for measuring multicollinearity. And all had p values of less than .05, indicating that none of the relationships between independent variables were significant.

Table 2. *Correlation matrix*

	ITR	GE	RI	pergnp
ITR	1			
GE	0.258202 p=.0389	1		
RI	0.03225- p=.0066	0.13423 p=.0286	1	
Pergdp	0.063537 p=.01033	0.173456 p=.0233	0.00919 p=.0094	1

Results

Given that corruption has a negative impact on most measures of economic development, this research indicates that 80% of the variation in the corruption index can be explained by the variables selected to measure government involvement in economic activity. Government policy makers should take note. As government raises the average tax rate paid by individuals who contribute to the economy, the level of corruption increases. Intuitively this seems to make sense. When an individual provides his labour and/or risks capital for economic gain, the level of corruption increases as the tax rate increases. Therefore in economies with lower rates of taxation there is less of an incentive to commit corrupt acts that would slow economic development. This is consistent with prior research from Busler (2013) which indicated that lower rates of taxation (as well as less progressive rates) will lead to increases in economic growth, which presumably is at least a partial result of less government involvement and therefore less corruption. In addition, if individuals are able to keep more of what they earn, there is less incentive to become corrupt.

Government expenditure can take two forms. One is the direct purchasing of goods and services and the other is for income transfer programmes. In each case there is a logical conclusion that can be made. While in most democracies government expenditure should be transparent and should seek to operate efficiently, the reality is that purchases of goods and services are often done in a corrupt manner. Regarding income transfer programmes, individuals on the receiving end of these expenditures often feel they are entitled to them even when the legally defined bene

fit period expires. This leads to those individuals providing false information in order to continue to receive benefits. This form of corruption is usually evident in democratic societies which have large social welfare programmes.

As the average rate of taxation increases, perceived corruption also increases. Higher tax rates result in the feeling by individuals that they are not receiving a fair return for their labour or capital, encouraging corrupt behaviour. On a macro level this also is the case since there research showed a significant positive relationship between the tax burden and corruption.

Finally, less government regulation leading to more economic freedom will reduce the perception of corruption. Often individuals will not follow regulations that they believe to be unjust.

Conclusions and recommendations

Numerous scholars have studied the negative impact that corruption has on economic development, reduces economic growth, reduces both the amount and productivity of investment, reduces direct foreign investment, contributes to income inequality and poverty and reduces expenditures on social welfare. There are numerous studies to determine the causes of perceived corruption, but most centre on the increasing role of government, so that the perception of corruption increases as government involvement increases. This relationship exists in countries which have strong property rights laws and generally have a democratic society with strong law enforcement. In such societies economic development and growth will be greater when corruption is reduced. To reduce the perception of corruption the government should have low and non-progressive rates of taxation. Government expenditures should be sufficient to efficiently provide the public goods and income transfer programmes required by the majority of the people, but should encourage growth in the private sector. Regulation should be sufficient to provide necessary protections but not too much that it discourages economic growth and encourages corruption.

Let me mention one final note. There was an interesting finding here. When testing for multicollinearity, government expenditure as a percentage of GDP was correlated to tax burden as a percentage of GDP, the finding was interesting. If a government balanced their budget, these two variables would be perfectly correlated and have a correlation coefficient of 1.00. The calculated correlation coefficient was .17 ($P<05$) indicating a very weak relationship. This means that changes in government spending and changes in tax burden are essentially unrelated.

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