Control of corruption and inflation tax: new evidence from selected developing countries

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Abstract

Corruption is one of the most important factors harms all aspects of macroeconomic performances in all countries especially developing countries. In this paper the impact of corruption on inflation tax in selected developing countries was investigated. In an earlier work\textsuperscript{1} we applied Corruption Perception Index (CPI) for corruption and used different definitions of inflation tax. However, present paper employs Control of Corruption Index (CCI) as a measurement of corruption and also apply different definitions for inflation tax. The study concentrated on a sample of 40 countries consist of Middle East and North Africa countries and other selected developing countries, for which necessary data were available for the period 2003-2010. Our findings based on a panel data regression model support the view of a positive relationship between corruption and inflation tax. Therefore, policies to alleviate corruption are recommended in these countries.

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1. Introduction

In recent years, a phenomenon broadly referred to as corruption has attracted a lot of attention in all countries. Governments have fallen because of accusations of corruption, prominent politicians (including president of countries and prime ministers) have lost their official positions in all developed and developing countries. Corruption is not a new phenomenon. Two thousand years ago, Kautilya, defined corruption as the misuse of public office for private gain that has attracted a great deal of attention in recent years. Nowadays different organizations regard corruption as major obstacles to good policy making. The ways in which corruption can impact on the economy are varied, and it is important to understand the range and diversity of the mechanisms involved. The relationship between corruption and inflation tax has been identified in some empirical studies indirectly (e.g., Blackburn, Neanidis and Haque 2009). These and other investigations provide insight into the many channels through which corruption with take effect. We can mention a non-exhaustive list of these effects as follow: corruption would lead to a misallocation of skills away from productive activities (e.g., Acemoglu 1995);

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corruption would undermine the protection of the property rights, create obstacles to doing business and impede innovation and technological transfer (Hall and Jones 1999; North 1990; World Bank 2002); corruption may lead to firms to expand less rapidly, to adopt inefficient technologies and to shift their operations to the informal sector (Svensson 2005); corruption may limit the extent of a country’s trade openness and decrease inflows of foreign investment (Pellegrini and Gerlagh 2004; Wei 2000); corruption may lead to costly concealment and detection of illegal income, resulting in a deadweight loss of resources (Blackburn et al. 2006; Blackburn and Forgues-Puccio 2007); corruption may compromise human development through a deterioration in the scale of public health and education programs (Blackburn and Sarmah 2008; Gupta et al. 2000; Reinikka and Svensson 2005); and corruption may lead to a general misallocation of public expenditures as certain areas of spending (military spending) are targeted more for their capacity to generate bribes than their potential to improve living standards (Gupta et al. 2001; Mauro 1995; Tanzi and Davoodi 1997).

Sivapalan et al., (2011) analyzed the impact of trade restriction and facilitation regulations on the cross border trade of Dumai in Indonesia’s Province of Riau. The methodology consisted of interviewing key government officials and cross border trades and examining documentary sources. According to this study, the institutional restriction on and facilitation mechanisms of Dumai’s cross border trade had worked to the disadvantage of local trading communities and local economy. In conclusion, local states would be handicapped in enabling cross border trades if cross border regulations were controlled by the central government. As such, further cross border trade studies, should explore inter and intra state relations gauge further insights into the complexity of the matter.

Jafari and Jamshidbaygi, (2011) studied the relationship between budget deficit and inflation in Iran in the period of 1990-2008. They concluded that there is a positive and significant impact of budget deficit on monetary variables and as a result on inflation. They have also found a positive and significant impact of price index on budget deficit. Finally regarding the sensitivity analysis their finding support the robustness of their estimation results with respect to definitions of inflation as well as money supply.

Jafari and Hosseinmardi, (2011) used a sample of 25 selected developing countries from 2000-2008, examined women participation in politics and labor force and some other social impact on gender corruption. Specifically investigate the hypothesis is that increasing women participation in parliament and labor force can reduce financial corruption.

2. Model, Data and Estimation Methodology:

The basic model is estimated for a sample of 2003-2010 on panel data.

\[ IT_{it} = \beta_0 + \beta_1 SFT_{it} + \beta_2 \log(PGDP_{it}) + \beta_3 CORR_{it} + \beta_4 IN_{it} + \beta_5 [IT] - 1_{it} + \beta_6 [CORR \times DUM]_{it} + \epsilon_{it} \]

First we use Levin, Lin, Chu unit root test to test the stationary of the variables. The results show that all variables are stable.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Statistic test</th>
<th>Unit root test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT_{it}</td>
<td>-13.97</td>
<td>Stability</td>
</tr>
</tbody>
</table>

4- Ratio of inflation tax to GDP (Friedman definition).
In Hausman test null hypothesis show Fixed Effect. According to the above test, as shows in table 1, we run some of the regressions with Random Effect test and others with Fixed Effect test.

### Table 3: Model’s regression findings.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Equation (1)</th>
<th>Equation (2)</th>
<th>Equation (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>**(-5.78E+19)</td>
<td>**(-1.50E+11)</td>
<td>**(-8.22E+09)</td>
</tr>
<tr>
<td>SFT</td>
<td>*** (2.12E+19)</td>
<td>***(-1.55E+09)</td>
<td>*** (7.09E+09)</td>
</tr>
<tr>
<td>LOG(PGDP)</td>
<td>*** (3.92E+18)</td>
<td>**(2.86E+10)</td>
<td>(**-8.80E+09)</td>
</tr>
<tr>
<td>CORR(CCI)</td>
<td>*** (-3.35E+19)</td>
<td>(-8.17E+09)</td>
<td>*** (3.24E+08)</td>
</tr>
<tr>
<td>IN</td>
<td>(6.33E+16)</td>
<td>(5.01E+08)</td>
<td>(7.95E+09)</td>
</tr>
<tr>
<td>IT(F)(-1)</td>
<td>*** (-2.78E+10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT(IB)(-1)</td>
<td></td>
<td>*** (5.93E+10)</td>
<td></td>
</tr>
<tr>
<td>IT(V)(-1)</td>
<td></td>
<td></td>
<td>*** (-2.58E+10)</td>
</tr>
<tr>
<td>CORR(CPI)*DUM</td>
<td>**(2.26E+19)</td>
<td>**(2.97E+10)</td>
<td>**(7.95E+09)</td>
</tr>
<tr>
<td>R- squared</td>
<td>0.99</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>Adjusted R- squared</td>
<td>0.99</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>R- test result</td>
<td>R.E.</td>
<td>F.E.</td>
<td>R.E.</td>
</tr>
<tr>
<td>N</td>
<td>114</td>
<td>114</td>
<td>114</td>
</tr>
</tbody>
</table>

Source: Authors calculations using Eviews 6
According to equation 1, Friedman definition for inflation tax and Control of Corruption Index (CCI) for corruption have been applied. Based on regression results, the estimated parameters coefficient of CORR in equation 1 is negative and significant, so the more increase at controlling of the corruption in a country will contribute to reducing the inflation tax. The coefficient of the ratio of foreign trade to GDP (SFT) is positive and also significant. GDP per capita (PGDP) is positive and significant too. The coefficient of inflation (IN) is positive but it is not significant. The coefficient of the ratio of inflation tax with a lag ($IT_{t-1}$) is negative and significant. The coefficient of Dummy variable is positive and it is significant. To investigate the difference between MENA country’s performances and the average of other countries, we plus the coefficient of Dummy variable with the coefficient of corruption index. If the result is near the coefficient of corruption index, means that any difference cannot be seen between MENA country’s performances in comparison with other countries; and if the result is far from the coefficient of corruption index, means that a significant difference between MENA country’s performances and other countries can be seen. According to this, the result shows that the relationship between corruption and inflation tax, in MENA, would not have a significant difference in comparison with the average of other countries.

According to equation 2, World Bank definition for inflation tax and Control of Corruption Index for corruption (CCI) has been used. Accordingly, the estimated coefficient of Corruption (CORR) in equation 2 is negative but not significant. The coefficient of the ratio of foreign trade to GDP (SFT) is negative and significant. GDP per capita (PGDP) is positive and significant. The coefficient of inflation (IN) is positive and significant. The coefficient of the ratio of inflation tax with a lag ($IT_{t-1}$) is positive and significant. According to the coefficient of Dummy variable and the coefficient of corruption index, the relationship between corruption and inflation tax, in MENA, would have a significant difference in comparison with the average of other countries.

According to equation 3, Tanzi definition for inflation tax and Control of Corruption Index for corruption (CCI) have been applied. Based on regression results, the estimated coefficient of Corruption (CORR) in this equation is negative and significant. The coefficient of the ratio of foreign trade to GDP (SFT) is positive and significant. GDP per capita (PGDP) is negative and insignificant. The coefficient of inflation (IN) is positive and significant. The coefficient of the ratio of inflation tax with a lag ($IT_{t-1}$) is negative and significant. According to the Dummy variable, the relationship between corruption and inflation tax, in MENA, would have a significant difference in comparison with the average performances of other countries under consideration.

3- Conclusion remarks

Corruption is one of the most important factors creating inflation tax through budget deficit. Preset paper employed Control of Corruption Index (CCI) as a measurement of corruption and concentrated on a sample of 40 countries consist of Middle East and North Africa countries and other selected developing countries, for which necessary data were available for the period 2003-2010 The results show that, in the countries under consideration, higher controlling of corruption, would lead to a lower inflation tax rate. In addition, corruption is sensitive to different definition of corruption.

References


