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Political Stability and Inflation Tax: Evidence from MENA Region

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Abstract: The purpose of the present paper is to investigate the impact of political stability on inflation tax in selected developing countries located in the Middle East and North Africa. To do so, we concentrated on a sample of 17 countries for which the necessary data were available for the period 2003-2008. We have also used an index for political stability, named Political Stability and Absence of Violence/ Terrorism. Our findings based on a panel data regression model support the view of a negative relationship between political stability and inflation tax. In other words, t he higher is the political stability, the lower will be the inflation tax. But the results in this research project show that, in MENA countries and in this period, the more increase in political stability will contribute to more inflation tax, which, this result is not acceptable; that is because of the increasing in government's expenditures, especially non-productive government expenditures and insufficient tax revenues to finance them. Therefore, investigation over different period and more countries have been suggested.

Key words: Political stability · Inflation tax · MENA

INTRODUCTION

Over the years, economists and other social scientists have recurrently wondered why inflation rate and seigniorage have, over long periods of time, differed so markedly across countries. Most economists acknowledge that differences in monetary and fiscal among countries are the main reasons behind the inflation variability they sustain. However, this explanation leads to a much deeper and fundamental question, which is why countries differ on the way they conduct fiscal and monetary policies. One of the many attempts that have been made to answer this question is based on the idea that structural features of a specific economy determine its government's ability to collect taxes. Chelliah, Baas and Kelly (1975), for example, provide evidence that countries with lager per capita non-export income, that are open to trade and have larger mining sectors, but smaller agricultural sectors, have, on average, a higher "taxable capacity" or ease of collection. This view implies, among other things, that the countries' ability to tax is technologically constrained by their stage of development and by the structure of their economies (e.g., size of the agricultural sector in GDP) and as tax collecting costs are high and tax evasion pervasive, countries might use the inflation tax more frequently. One interpretation is that governments in poor countries might find it optimal to rely more heavily on seigniorage instead of output taxes to finance their expenditures. In this connection, the Theory of Optimal Taxation [1-3], according to which governments optimally equate the marginal cost of inflation tax with that of output taxes, is consistent with the structural view of the determinants of inflation. Edwards and Tabellini [4] fail to find evidence that this theory of Optimal Taxation motivated the use of theoretical and empirical models focusing on the role played by political and institutional variables. A different approach has focused on the characteristics of the tax system, arguing that for the institutional or technological reasons the less developed countries are unable to build sophisticated tax systems and thus have to rely heavily on inflation to finance government expenditure. However, this line of thought fails to explain the significant inflation differentials in many countries with roughly the same level of development or the same economic structure. For instance,contrary to popular mythology. Not all Latin American countries are highly inflationary [5].

Paldam [6] studies the relationship between inflation political instability in eight Latin American countries. He argues theoretically _and examining the data (but without a formal econometric analysis) _ that this relationship works both ways. The main connections from inflation to

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political instability would be related to the costs of inflation and to the responsibility hypothesis, according to which, people hold governments responsible for economic outcomes. The causality from politics to inflation is primarily related to the demand for public expenditures (which weak governments seldom resist) that are then financed by the inflation tax. Later on, when inflation has risen to high levels, it is much harder for a weak and unstable government to resist the political pressures asking for accommodating policies.

Cukierman, Edwards and Tabellini [4] develop a theoretical model whereby political instability and polarization determine the equilibrium efficiency of the tax system and the resulting combination of tax revenues and seigniorage government's use. They provide evidence to support the model showing that higher degrees of political instability and polarization lead to higher inflation tax revenues.

Some authors have also stressed the importance of institutions on economic performance. Acemoglu and others [7] show that institutions are a very important element explaining volatility, crises and growth, presenting evidence for a large cross-section of countries. They argue that poor macroeconomic performance is explained by weak institutions, such as the lack of a mechanism to ensure adequate contract enforcement and property rights, which, in turn, give rise to bad macroeconomic policies. We think that countries with stronger institutions not only have higher and less volatile growth but may also present lower inflation. In the line with Cukierman, Edwards and Tabellini [4], we conjecture that economies with weaker institutions might be unable to build efficient tax systems leading them to use inflation tax more frequently as a source of revenue, adversely, economies with stronger institutions, higher political stability, might be able to build efficient tax system. Consequently, might contribute to a lower inflation tax in the course of time.

The theory of optimal taxation [1] contends that the government tries to equate the marginal cost of inflation tax with the marginal cost of output taxes in order to minimize the distortions of taxation. Therefore, the government may choose to use seigniorage as a way to finance public expenditures and budget deficit. When there is possible for the government to use seigniorage to finance government expenditures and budget deficit, it is easier to increase government expenditures compared with the situation that government has to raise taxes to finance government expenditures. Governments, especially in developing countries, try to obtain revenue from printing money by creating inflation as a way to finance budget deficit. Inflation and money supply growth are higher when central banks are less independent [8]. Alesina and Perotti [9] discuss the political economy of budget deficit. Fischer*et al*., [10] discuss the effect of budget deficit, seigniorage and some other determinants of modern hyper and high inflations. Although seigniorage can explain the high rates of inflations in many developing countries, but it does not analyze the underlying forces that are behind budget deficit and inflation while they are not socially favorable. Corruption provides the economics of budget deficit through increasing government expenditure especially non-productive government expenditure, that in many countries, budget deficit may finance through printing money that if occurs without production support, will contribute to inflation which is called "inflation tax".

Younis *et al*., [11] found that political stability is playing an important role in determining economic growth in Asian economies. There is direct and indirect relationship between political stability and economic growth. Political stability effects economic growth not only indirectly by sources of capital accumulation but also directly on growth than labor, human capital and economic freedom in Asia. In a quantitative approach, Political stability is playing a predominant role in determination of economic growth directly and indirectly in Selected Asian economies.

Taleshi, [12] in his research concluded that the centralization of the economical and service facilities and welfare prosperity, the increase of immigrants and the lack of economical power of rural immigrants has caused informal settlement. It creates environmental issues and social economic problems such as drug addiction, the spread of the center of moral corruption and finally instability in the urban system. The participation of new urban immigrants in these unstable parishes and the organization of the urban self sufficient units as self regulating municipalities with financial, service and developmental support of governmental systems for a short period, as long as these management units can get autonomy.

Jafari *et al*., [13] concluded that political stability has appositive and significant impact on Foreign Direct Investment in the MENA region. Biglaseir and Brown [14], assessed that the political stability on Foreign Direct Investment. Alesina *et al*., [15] in a sample of 113 countries from 1950 to 1982, analyze the joint determination of political instability and per capita GDP growth and find that instability has a negative and significant effect on growth rate.

Mohd Foad *et al*., [16] analyzed the ethnic attitudes and political preferences among of the three main ethnic groups in the Malaysian State Legislative Assembly. A survey using questionnaires was conducted from involving a sample of 500 Malays, Chinese and Indian voters. The results showed that the Malay voters were more interested and cared very much which party won the election than the Indian and Chinese voters. Generally, most of the Malaysian electorate were willing to vote for BN regardless of candidate ethnicity, but the turn out will be higher when the candidates comes from the same ethnic backgrounds as the voters. The main reason Malaysian voted for the BN is to preserve comfort of the familiar in the guise of political stability. This study has an impact on ethnic policy, programs and compromises over differences.

Sivapalan *et al*., [17] in an article 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. The finding of this study revealed that 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. Not only did restriction regulations curtail cross border trade and thus local economic development, it had also prohibited the growth of trade related facilities such as one stop logistics centers. 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.

Model, Data and Estimation Methodology: We have studied the case of 17 developing countries (MENA) and applied annual data for the 2003- 2008. The time period and frequently is largely dictated by the availability of data. Data on IT is the ratio of inflation tax to GDP (percent). PGDP is GDP per capita and IN is the inflation that all of them are from WDI[1]. We also use an index for political stability named Political Stability and Absence of Violence/Terrorism that oriented from WGI[2].

The basic model is estimated on panel data for 17 developing countries from Middle East and North Africa and the sample period is 2003- 2008.

$$IT_{it} = C_i + \beta_1 LOG(PGDP_{it}) + \beta_2 PS_{it} + \beta_3 IN_{it} + \beta_4 [IT]_{-1_{it}} + \beta_5 [PS * DUM]_{it} + \varepsilon_{it}$$

Where;
i = Time.
t = Country.
IT = Ratio of inflation tax to GDP.
PGDP = GDP per capita.
PS = Political stability index.
IN = Inflation.
$[IT]_{-1}$ = Ratio of inflation tax to GDP with one lag.
DUM = Dummy variable.

$\beta_1, \beta_2, \ldots, \beta_6$ are parameters in the model and ε_{it} is error term.

First, we test heterogeneous between units by F-statistic. If null hypothesis is not accepted, we use panel data. Null hypothesis is:

$$H_0 : \mu_1 = \mu_2 = ... = 0$$

$$H_0 \neq H_1$$

$$F = \frac{\frac{(RRSS - URSS)}{(N-1)}}{\frac{URSS}{(NT - N - K)}} \sim F_{[(N-1),(NT-N-K)]}$$

PRSS = Restrict Residual Sum Squares.
URSS = Unrestricted Residual Sum Squares.
N = Number of units.
K = Number of parameters.

Then for choice between Fixed Effect (F.E) and Random Effect (R.E) models, we used Hausman Test:

$$H = (b_s - B_s) \qquad (M_1 - M_0)^{-1}$$
$$(b_s - B_s) \approx X^2(r)$$

Where r = number of parameters, M_1 = Covariance matrix for coefficient of F.E model (b_s).

In Hausman test null hypothesis show Fixed Effect. In according above test, as shows in Table 1, we run some of the regressions with Random Effect test and some of them with Fixed Effect test.

According to equation 1, Friedman inflation tax definition and Political Stability Index have been applied. Based on regression results in this table, the estimated parameters coefficient of PS in equation 1 is positive and it is not significant. GDP per capita (PGDP) is negative and it is not significant. The coefficient of inflation (IN) is negative and it is not significant.

[1]World Development Indicators.
[2]World Governance Indicators.

Table 1: Model's regression findings

Variable	Equation (1)	Equation (2)	Equation (3)
C	*0.00095 (1.7)	**0.11 (2.05)	**0.01 (2.9)
LOG(PGDP)	-0.00005 (-1.07)	-0.009 (-1.4)	**-0. 001 (-2.5)
PS	0.00006 (0.94)	*0. 015 (1.67)	***0.001 (3.2)
IN	-0.000005 (-0.34)	.00009 (0.84)	***.0006 (7.3)
IT(F)(-1)	***0. 15 (21.7)		
IT(IB)(-1)		***0.86 (11.6)	
IT(V)(-1)			***0.51 (7.5)
PS*DUM	0.00005 (0.48)	**0.01 (2.2)	0.002 (1.6)
R- squared	0.28	0.77	0.63
Adjusted R-squared	0.23	0.75	0. 6
D.W	1.73	1.58	1.45
F_{test}	2.4	4.59	7.64
H_{test}	0	0	88.2
H_{test} result	R.E.	R.E.	R.E.
N	84	84	84

Source: Researcher calculations using Eviews 6.

*, **&*** respectively significant in 10%,5%&1% level.

The numbers in the parentheses show t-statistic.

The coefficient of the ratio of inflation tax with a lag ($[IT_F]_{-1}$) is positive and significant. The coefficient of Dummy variable is positive and it is not significant. To understand the difference between Iran's performances and the average of other countries, we plus the coefficient of Dummy variable with the coefficient of political stability index. If the result is near the coefficient of political stability, means that any difference cannot be seen between Iran's performances in comparison with other countries; and if the result is far from the coefficient of political stability index, means that a significant difference between Iran's performances and other countries can be seen. For this respect, the result shows that the relationship between political stability and inflation tax, in Iran, would not have a significant difference in comparison with the average of other countries.

According to equation 2, International Bank inflation tax definition and Political Stability Index have been applied. Based on regression results in this table, the estimated parameters coefficient of political stability (PS) in equation 2 is positive and significant. GDP per capita (PGDP) is negative and it is not significant. The coefficient of inflation (IN) is positive but it is not significant. The coefficient of the ratio of inflation tax with a lag ($[IT_{IB}]_{-1}$) is positive and significant. According to the coefficient of Dummy variable and the coefficient of political stability, the relationship between political stability and inflation tax, in Iran, would not have a significant difference in comparison with the average with the average of other countries.

According to equation 3, Tanzi inflation tax definition and Political Stability Index have been applied. Based on regression results in this table, the estimated parameters coefficient of political stability (PS) in equation 3 is positive and significant. GDP per capita (PGDP) is negative and significant. The coefficient of inflation (IN) is positive and significant. The coefficient of the ratio of inflation tax with a lag ($[IT_V]_{-1}$) is positive and significant. According to the coefficient of Dummy variable and the coefficient of corruption index, the relationship between political stability and inflation tax, in Iran, would not have a significant different in comparison with the average of other countries.

CONCLUSION

Seigniorage is a relatively inexpensive source of government revenue if there is widespread tax evasion or if there are larger tax-collection costs. In the existing literature, the nature of this costs is left unspecified, or it is postulated to depend exclusively on exogenous features of a country, such as its stage of development or the structure of the economy. In this paper, we argue that the efficiency of the tax system also reflects deliberate political decisions. In particular, the equilibrium efficiency of the tax system and, hence, inflation tax also depend on political stability and polarization. The evidence supports this implication: more unstable countries rely relatively more on inflation tax to finance the government budget than do stable and homogenous societies. Political instability can be effective in creation of inflation tax through budget deficit; adversely political stability can be effective in reducing inflation tax in countries. The results show that, in MENA countries, the more increase in political stability will contribute to more inflation tax, that, this result is not acceptable; because of the increasing in government's expenditures, especially non-productive government expenditures and insufficient tax revenues to finance them. In addition, political stability is sensitive to different definitions of inflation tax. So, the governments should apply policies to increase political stability and also try to support budget deficit. As a consequence more, investigation over different period and more countries have been suggested.

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