

HOW POLITICAL INDICES AFFECT THE SHADOW ECONOMY

Mohammad Javad Razmi¹
Arash Jamalmanesh²

Abstract

This paper analyses how rule of law, property rights, and other political indices affect the shadow economy, using country panel data. The literature strongly emphasizes the importance of these factors to know the level and changes of shadow economy. However, the limited number of researches uses panel country data with a relatively small number of observations, and hardly any paper has investigated rule of law and property rights and provides evidence using within country data. We use 34 countries data for 8 years from 2000-2007 that measure political indices we find strong support that its increase (improve) leads to a smaller shadow economy. Countries with some common economy features, they have normally been studied and analyzed jointly.

Keywords: Rule of law, Property Rights, Asian Countries, Panel Data Analysis

Jel: O17; O5; D78; H2; H11; H26

1. Introduction

Prospering the shadow economy may cause severe difficulties for governors because official indicators, e.g. on unemployment, labor force, income, GDP, and consumption, are distorted. Policy based on erroneous indicators is likely to be ineffective, or even wrong. Therefore, the reciprocal effects between the shadow and the official economy have to be considered when planning measures of economic policy, especially fiscal policy.

The shadow economy is commonly a well known phenomenon. It is present all over the world and has been so for a long time. Analysis of this phenomenon reveals that the related definitions, terminology, and methodology are far from being unified. For instance, the definitions focus on all productive activities whose goods and services are legal, but which are themselves deliberately concealed from the authorities, usually to make financial gains (e.g. tax avoidance or non compliance with regulations and standards). However, illegal activities (smuggling, drug dealing and the like) are occasionally included. Furthermore, terms such as the shadow,

¹ Department of Economics, Ferdowsi University of Mashhad (FUM), Mashhad, Iran

² International Campus, Ferdowsi University of Mashhad (FUM), Mashhad, Iran - PhD Student, Corresponding Author, E-mail: Jamalmanesh@gmail.com

underground, hidden or grey economy, the informal sector, and undeclared or illicit work are used, but not always consistently and correctly. Measuring the shadow economy has a challenge to researchers, it is often impossible to measure its size directly. Moreover, several methods have been developed to quantify the size of the shadow economy. In general, three main groups can be identified: (1) modeling, investigating the causes (determinants) and reflecting indicators through the latent shadow economy variable, which is then estimated; (2) direct methods, comprising surveys of the shadow- economy behavior of households and enterprises; and (3) indirect methods, quantifying the shadow economy through the marks it leaves on the (official) economy.

In developing economies, privatization, liberalization, fairer taxation, and less regulation were all associated with a smaller underground economy and smaller state capture. Better provision of public goods to the official economy was associated with a relatively larger official economy. From a public choice perspective a government may not have a strong interest to reduce the shadow economy to a large extent due to the facts, that tax losses may be moderate as a large amount of the income earned in the shadow economy is immediately spend in the official economy. Similarly, income earned in the shadow economy increases the standard of living of a large portion of working population and the decline of the shadow economy will increase the social welfare only if a larger part of production and labor is transferred into the official economy, and also people who work in the shadow economy have less time for other things like to go on demonstrations.

Developing countries with less tax and regulator systems collected more tax income and provided more public goods to their official economies. There was a positive relationship between governance, privatization, regulation, bureaucratic discretion, and corruption in developing countries. Progress in privatization was associated with a higher quality of governance in these countries. The relationship between government expenditures and economic performance is a subject of continuing discussion in economics and public policy making. Considering both lines of theoretical argument about the effects of government size on government effectiveness, the effects of an increase in the size of the shadow economy on government effectiveness may be ambiguous (Jamalmanesh 2011,b).

Different studies have produced different estimates of the size of the shadow economy. Thus, for comparison a common methodological approach needs to be considered. One such attempt is from Schneider (2004), with a data update used in the econometric part for the period 2000–2005. At first glance, the results on the shadow economy size are surprising in their trend. The latter in particular is of relatively very low intensity. We can see that the size of the shadow economy in the countries studied ranges from around 18 to 40 percent of GDP, but over the analyzed years it has increased slightly further. The shadow economy varies considerably across the Asian countries. We follow this line of thought by using Schneider's (2010) the effect of political indices affect the shadow economy.

2. The Shadow Economy Literature

The shadow economy can then serve as an incubator for emerging small enterprises, which, once they are successfully. It is a difficult task to determine which, positive or negative, consequences of the shadow economy prevail. Several studies have been conducted across countries and over time to gain more information on the phenomenon and its causes and consequences (e.g. (Smith, 2002), (Schneider, Enste, 2002), (OECD, 2002), (Schneider, 2007), Buehn and Schneider (2012)). Determining the share of the shadow economy in GDP is important for obtaining the true state of the economy. Countries with some common shadow economy features, they have normally been studied and analyzed jointly. For instance, Feige and Ott (1999), European Commission (2004), Feige and Urban (2005), Nastav and Bojnec (2007), Schneider (2007), Buehn (2012), and many others apply various methodologies and provide an insight into shadow economy activities in transition countries. They, as well as other studies (e.g. (Johnson et al., 1999), (Schneider, Enste, 2002), (OECD, 2002), (Hatipoglu and Ozbek, 2007), (Elgin, 2010), (Cicek and Elgin, 2011), (Elgin, 2012), (D'Erasmus and Moscoso Boedo, 2012), (Biswas, et.al., 2012), Buehn et al. (2013)), have identified high administrative barriers, corruption, and non-existent or deficient rule of law as the main causes of the existence and development of the shadow economy.

The causes, effects and problems generated by increasing shadow economic activities are extensively discussed in Asian countries. Attention is drawn to the shadow economy due to the rising unemployment and the financing problems of public expenditure, as well as the rising disappointment with economic and social policies.

Illicit work is the fact that illegal activities are undesirable to official institutions. A growing shadow economy can be seen as the reaction of individuals who feel overburdened by the state and who choose the “exit option” rather than the “voice option”. If the increase of the shadow economy is caused by a rise in the overall tax and social security burden together with institutional sclerosis (Jamalmanesh 2011,a).

The effects of the shadow economy on the official economy should also be taken into consideration because illicit work can be a source of allocation distortions, since resources and production factors are not used in the most efficient way. A growing shadow economy may attract workers away from the official labour market and create competition for official firms. On the other hand, at least two-thirds of the income earned in the shadow economy is spent in the official economy, thereby having a positive and stimulating effect on the official economy.

According to Chen (2004), there are at least three schools of thought on link between shadow and formal economies: dualism, structuralism, and legalism. The “dualists” argue that shadow activities have few linkages to the official economy but, rather, operate as a separate sector. This approach is based on the neoclassical hypothesis that rigidities in the official sector, introduced through legislation or negotiation, segment the market (Harris and Todaro, 1970). The dualist hypothesis asserts that these two sectors are subsidiaries through common factors that lead to

the flow of workers and activities from formal to the shadow economy. The “structuralists” consider the shadow and formal sectors as intrinsically linked. Formal enterprises promote informal production and employment relationships with subordinated economic units and workers to reduce their input costs (Chen, 2004). According to this approach, both informal enterprises and informal wage workers are inclined to meet the interests of increasing the competitiveness of regular firms, providing cheap goods and services.

Consequently, growing official economy boosts unofficial production. ³ The “legalists” direct their interest on the relationship between shadow activities and the formal regulatory environment, not formal firms (Chen, 2004), which is attributed to the fact that the capitalist interests collude with government to set the formal “rules of the game”. Another viewpoint to examine the economic consequences of shadow economy on official economy is based on the analysis of the nature of this relationship. It means that the interest of economist is to know if substitution effects prevail on complementary ones. When the complementarities between unofficial and official economy overcome the substitution effects, larger shadow economy should stimulate the official growth. It fits the structuralist hypothesis. The economic explanation is that the value-added created in the shadow economy is spent (also) in the official sector. At the same time, more official production increases the demand of unofficial goods and services.

Empirical findings of Schneider (1998) also show clearly that over 66 percent of the earnings in the shadow economy are rather immediately spent in the official sector. The positive effects of this expenditure for economic growth and for the (indirect) tax revenues must be taken into account as well. Bhattacharyya (1993, 1999) found clear evidence for the United Kingdom (1960–84) that the hidden economy has a significant effect on consumer expenditures. He points out that the hidden economy has a positive effect on consumer expenditures of nondurable goods and services, but an even stronger positive effect on consumer expenditures of durable goods and services. Adam and Ginsburgh (1985) also focus on the implications of the shadow economy on “official” growth in their study concerning Belgium. They find a positive relationship between the growth of the shadow economy and the “official” one and, under certain assumptions (i.e., very low entry costs into the shadow economy due to a low probability of enforcement), they conclude that an expansionary fiscal policy has a positive stimulus for both the formal and informal economies. Shadow economy grows when individuals choose the “exit” option rather than “voice” option as the reaction to increasing burdens (Schneider and Enste, 2000). In modern societies government has a deep role including setting rules and laws, defending against external forces, supplying public goods and services, providing infrastructure, providing security and justice, and undertaking policies to facilitate domestic calmness. However, the power of government may enhance general welfare or erode it. Friedman (1997) observed that “Government has an essential role to play in a free and open society. Its average contribution is positive; but I believe that the marginal contribution of going from

15% of the national income to 50% has been negative.” Karras (1996) noted that “the optimal government size is 23 percent for the average country but ranges from 14 percent for the average OECD country to 33 percent in South America; and the marginal productivity of government services is negatively related to government size.” (karras, 1996).

In their study, Tanzi and Schuknecht (1995) argue that increasing government expenditure cannot be justified by social improvements since “Higher spending on social programs has not commensurately improved critical social indicators such as life expectancy, infant mortality, or school enrolment, suggesting that increases in public spending are not necessarily productive beyond a certain level”. Gupta et al., (2001) also conclude that “Government spending needs to be no higher than 30 percent of GDP to achieve socially desirable goals” Thus, large size governments do not work better than small governments to reach these goals.

Schneider (2005) by estimating a basic equation for a sample of 110 developing and developed countries with further estimates for two separate sub samples of 21 OECD countries and 89 developing and transition countries, point out all three sets of regression show that shadow economy has a significant influence on official economic growth. This influence is positive for transition and OECD countries and negative for developing countries.

3. Theoretical and empirical view of shadow and official economy

Within the frame of macro-economic theories the research on the reasons for the appearance and effects of this phenomenon can be depth with. The role of financial policies, money, exchange, and commerce is shaping and development of shadow economy and development of shadow activities on different markets and effectiveness of governing policies on national accounting is highly considerable. Economic development literature has not ignored the important understanding of this domain related to production to realize the process of economic development. The role of factors such as poverty, unemployment, and expand of migration; have provided important basis for shadow economic growth which should be taken under consideration.

The dualist hypothesis asserts that these two sectors are subsidiaries through common factors that lead to the flow of workers and activities from formal to the shadow economy. The “structuralists” consider the shadow and formal sectors as intrinsically linked. Formal enterprises promote informal production and employment relationships with subordinated economic units and workers to reduce their input costs (Chen, 2004). According to this approach, both informal enterprises and informal wage workers are inclined to meet the interests of increasing the competitiveness of regular firms, providing cheap goods and services.

In terms of the hidden nature of underground activities, sectors are classified under darkish activities (household activities); darksome activities (informal sector), dark activities (irregular sector), and darkle activities (illegal activities) as it is shown in Table 2(Bovi 2005; Sajoed 2006; Pieters 2007). The informal and irregular sector is

sometimes categorized as the shadow economy, while the illegal sector would be named as the black economy. The reason that some household activities are not as a part of GDP is that they don't have to market supply. The informal sector activities are not reported in national accounts due to their minor activities, while the irregular and illegal activities are not represented in national accounts because of their hidden nature (Madzarevic, and Davor 1997).

Table 1. Classification of Activities under Underground Economy

Sector characteristic	Household	Informal	Irregular	Illegal
Produce	Legal	Legal	Legal	Illegal
Distribute	Legal	Legal	Illegal	Illegal
Market Supply	No	Yes	Yes	Yes
Tax Evasion	-	-	Yes	-
Examples	-Housewife Activities - red Cross Activators -Religious Activators	-Informal worker - Unwarranted Foreign Labor	- Smuggling - Gambling - Fraud - Money laundering	-Drug dealing Organizational Crime
Murky Degree	Darkish	Darksome	Dark	Darkle
Cause of not reporting	Non- Market Supply	Minor Activities	Hidden Activities	Hidden Activities

The status of lots of countries may be making clear by beneath institutional governance and political situations. Good institutions seem to increase formal GDP, while at the same time reducing informal GDP. Institutional governance reduces the volume of the shadow economy in developed and developing countries. However, the informal sector plays an important role in transition countries. Knowing the shadow economy causes is a tendency to control illegal activities through measures such as punishment, prosecution, economic growth or education (Schneider and Enste, 2002). With doing this study the governments will find out that which institution reduce shadow economy and which one increase it.

From the demand side, a lack of transparency may distort the information flows, thus making difficult market competition and an efficient comparison of goods and services.

So there are two views about the relationship between these two variables. One of these argues the relationship between shadow and official economy is negative and the other one emphasizes is positive.

The political system affects formal and informal economic activities. The outcome in many countries may be explainable by underlying political conditions. Bird et al. (2006) stress that “Countries may tend to achieve an equilibrium position with respect to the size and nature of their fiscal systems that largely reflects the balance of political forces and institutions, and stay at this position until ‘shocked’ to a new equilibrium”. It is worthwhile to investigate whether the recent political economy literature on the importance of governance and institutions allow to understand the level and the changes of the shadow economy. If citizens perceive that their interests (preferences) are properly represented in political institutions and they receive an adequate supply of public goods, their identification with the state increases, their willingness to contribute increases. On the other hand, in an inefficient state where corruption is rampant the citizens will have little trust in authority and thus a low incentive to cooperate. If the government and the administration have a great discretionary power over the allocation of resources corruption is enhanced. Friedman et al. (2000) show empirically that countries with more corruption have a higher share of unofficial economy. Dreher et al. (2009) have also investigated the correlation between shadow economy and corruption. They observe the tendency that shadow economy and corruption are substitutes in high-income countries, but complements in low-income countries. Agents as the political elite, administration staff, and legislators have a discretionary power if institutions are neither credible nor working well (Teobaldelli and Schneider, 2012). The effect of institutions for the shadow economy is demonstrated empirically in Dreher et al. (2009). This has the negative consequence that citizens lose their trust in the authority. In countries where corruption is systemic and the government budget lacks transparency and accountability the obligation of paying taxes cannot be assumed to be an accepted social norm. Institutional instability, lack of transparency and rule of law undermine the willingness of frustrated citizens to be active in the formal economy (Teobaldelli, 2011). Furthermore, there might be a crowding-out effect of morality among the tax administrators when there are a great number of corrupt colleagues. Moreover, regulatory restraints and bureaucratic procedures not only limit competition and the operation of markets, but also provide a better fundament for corrupt activities. If individuals and businesses believe that neither contracts will be neither enforced nor productive efforts protected, their incentive to be active in the shadow economy increases. Citizens will feel cheated if they believe that corruption is widespread, their government lacks accountability, and that they are not protected by the rules of law. This increases the incentive to enter the informal sector.

4. Panel Data Analysis for Political Indices effects on Shadow Economy in Asian Countries

The estimates of relationship between political indices and shadow economy present 34 Asian countries³. First, we present results of fixed effect models in table 1.

³ - We used these 34 Asian countries data for estimate of models: Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Brunei, China, Hong Kong, Indonesia, India, Iran, Japan, Jordan, Kazakhstan, South Korea, Kuwait, Lebanon, Malaysia, Mongolia, Oman, Pakistan, Philippines, Qatar, Russia, Saudi Arabia, Singapore, Syria, Taiwan, Thailand, Turkey, UAE, Ukraine, Vietnam, and Yemen.

Variables used in these models are extracted from valid statistical resources and is resulted to different specifications.

Table 2: Component of the Shadow Economy in Asian countries (Fixed Effect Models)

Depended Variable: Shadow Economy (SE)	Model 1	Model 2
Rule of Law (RL)	0.49 (2.7) ***	0.41 (5.3) ***
Government Effectiveness(GE)	-0.21 (-1.7) *	-0.41 (-1.89) **
Property Rights (PR)	-0.08 (-2.3) ***	-0.06 (-1.42)
Political Stability (PV)	-0.13 (-1.8) *	-0.13 (-3.1) ***
Fiscal Freedom (FF)	0.08 (3.2) ***	
Control of Corruption (CC)	-0.33 (-1.4) *	
Regulation Quality (RQ)		-0.18 (-2.6) ***
Growth Rate of Labor Force (GL)		-0.007 (-2.1) **
Voice and Accountability (VA)		-0.09 (-1.9) **
Constant	-0.71 (-3.4) ***	-0.46 (-10) ***
R ²	0.72	0.67
Observations	272	272
F-test	22.6	20.3
Normality test	(192) ***	(369) ***
Test cross-section, period fixed effects	(79) ***	(64) ***

*-In both specifications, * denotes significant at 10% level; ** significant at 5% level; *** significant at 1% level.

In table 2 both models are OLS and most used variables in these models are consonant with shadow economy. Fiscal Freedom (FF) which in the first model has been significant indicates a measure of the burden of government from the revenue side, extends shadow economy. The above result showed with increase Fiscal freedom the shadow economy decrease. Also, in first model clearly it is seen that control of corruption (CC) cause decrease in volume of shadow economy. Political stability (PV) in first and second model has been significant. These models indicate that this variable causes limitation of shadow economy in Asian countries. Regulation quality (RQ) is indicating of institutional quality in societies and it is anticipated that decreased shadow economy by increasing it. This variable which has been significant in both model, authenticates this matter. Growth Rate of Labor Force (GL) in formal economy results in decrement in shadow economy actives. This problem has been indicated in second model. One of the democracy indications is that importance of governance corporation debate not only before decision making, but also after that and in execution performs well. For this matter voice and accountability (VA) has introduced. This variable which has used in 2nd results in decreasing of shadow economy volume.

One of the issues in shadow economy study is subject of applicability and efficiency of government. Whatever the government is more effective, it can practice more effectiveness against non-efficient bureaucratic and shadow economy. Government Effectiveness (GE) variable has been significant in three models and confirm this subject. Rule of Law (RL) is one of the key variables in institutional studies concerning shadow economy that could be resulted in good governance. There is not this variable consonant with theoretical bases, in two models coefficient of this variable has been positive. Property rights (PR) also cause limitation of shadow economy and this variable has been significant in two models.

5. Conclusion

We have study of the effect of the political incidences like rule of law, government effectiveness, and regulation quality for 34 Asian countries on shadow economy for 2000-2007 using the panel data analysis. The empirical results of this study indicate that in Asian countries; improve in political structure leads to decrease the shadow economy considering high value of regulation quality. Also the results demonstrate that the voice and accountability, political stability and control of corruption can decrease shadow economy for Asian countries. Change informal activities to formal, rule of law, simplification of rule, control of corruption, and knowledge enhancement, increasing the opportunities for prompting the official institutions in clearly area can improve the formal economy and decrease the shadow economy.

Appendix A

Vaiables	Source	Mea n	SD	Min	Max
Shadow Economy	Schneider 2007	28.1	12.46	10.3	61
Political Stability and absence of violence	World Bank	-0.16	0.87	-2.39	1.36
Government Effectiveness	Heritage	0.08	0.78	-1.25	2.45
Rule of Law	World Bank	0.01	0.79	-1.31	1.79
Control of Corruption	Heritage	-0.02	0.85	-1.41	2.37
Regulation Quality	World Bank	0.05	0.83	-1.97	2.0
Political Stability (ICRG)	ICRG	4.72	0.96	1.84	6.43
Government Spending	World Bank	71.17	18.13	7.60	95.40
Fiscal Freedom	IMF	4.88	0.79	2.4	6.2
GDP Grow	IMF	5.91	4.37	5.69	34.50

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