

Institutional Governance Effect on the Shadow Economy in Asia

Arash Jamalmanesh

Department of Management, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran
PhD Candidate of Economics, Faculty of Economics and Business, National University of Malaysia (UKM).

arshjamalmanesh@yahoo.com

Abstract: This paper analyses how institutional governance, affect the shadow economy, using an Asian country data. The literature strongly emphasizes the quantitative importance of these factors to understand the level and changes of shadow economy. However, the limited number of studies uses cross-sectional country data with a relatively few number of observations, and hardly any paper has investigated governance and provides evidence using within country data. Using more than 35 proxies that measure institutional governance factors and political behavior we find strong support that its increase leads to a smaller shadow economy. Furthermore, an increase in poverty and political stability increases the size of the shadow economy.

[Arash Jamalmanesh .Institutional Governance Effect on the Shadow Economy in Asia. Journal of American Science 2011; 7(7):325-333] (ISSN: 1545-1003). <http://www.americanscience.org>.

Keywords: Institutional Governance, Shadow Economy, Poverty, Asian Countries, Political Stability, Panel Data Analysis

1. Introduction

Considered planning for economic development needs to awareness of general operation of country economy, but in all countries more or less a part of economic activities, because of evaded and enacted limits or non-comprehensiveness of laws and regulations of country, is performed as hidden or non-registered. Producing goods and services in this group of generating activities which is named shadow economy, in each rate that are out of information collection related to general operation of official economy, relative to volume they have, they can cause deviation of correct recognition of situation and prescription of incorrect policies. Separate from this aspect, recognition of nature, size, trend of evolutions, cause and effect of these phenomena can be reimbursed in formative manner of encountering to it, specially, in respect to its illegal part.

While fluctuations of shadow economy in comparison with relative changes in formal economy are much, eliminate it in programming and policy making; reduce foreseen strength and accuracy of economy strictly. In four last decades, measurement of underground economy size and investigation of its causes and effects is considered by economists more than before and bigger part of economic literature is dedicated to this matter. Hidden nature of underground economy, make difficult measurement and direct study of it, for this reason most common measurement methods are indirect estimate of volume of these activities and are together with

limiting assumptions. Experiences related to measurement of shadow economy in different countries emphasize that rate of shadow economic activities are spread general operation of economies and more expended volume of this phenomenon in under developing countries.

However, illegal activities (smuggling, drug dealing and the similar to) are infrequently included. In addition, terms such as the shadow, underground, hidden or grey economy, the informal sector, and undeclared or illicit work are used, but not always consistently and correctly. Several methods have been developed to measure the size of the shadow economy. Furthermore, measuring the shadow economy also poses a challenge to researchers, mainly due to its nature: by definition the shadow economy is covered and therefore it is often impossible to measure its volume directly. The shadow economy has both negative and positive sides. The shadow economic activities causes the revenue authorities to collect less in taxes, may origin damage to official economy firms, as they features higher costs (and are thus decrease competitive), and may make consumers inferior, as they have no warranty for the services and products they buy in the shadow economy. On the other hand, the shadow economy has positive consequences as well. Firms engaged in the shadow economy can operate at lower (employment) costs and more people can be employed.

The Shadow economy has serious macro and micro consequences for the economy. It worsens poverty and acts as a check on development. Some argue that the Shadow economy is not a problem since it exists in all nations or that it recycles incomes within the country and generates employment. It can be verified that since the Shadow economy is the only main cause of all the overall and micro problems the economy has confronted (Kumar, 1999).

Shadow Economic activities occur and extent of these activities is vital for building a good effective and efficient decision regarding allocation of resources in this area. Moreover the Shadow Economy called the informal, Black, parallel economy, or, underground, includes illegal activities and unreported income from the production of permissible goods and services, either from monetary or barter transactions. The expansion of the Shadow economy can cause a destructive cycle. Transactions in the Shadow economy run away taxation, thus keeping tax incomes lower than they otherwise would be. A raising Shadow economy may give strong incentives to be a focus for domestic and foreign employees away from the official economy.

Shadow economy is characterized by disobedient economic behaviors linking evasion, abuse, circumvention, avoidance, and corruption of the rules, as well as accompanying efforts to conceal these illicit behaviors from the vision of public authorities (Feige, 97).

Although today's, the shadow economy literature especially on definition, methods to estimate and core causes has improved well, the effects on official economic expansion are yet uncertain. Summarizing the literature, all in this field attended on a case study for a particular country. Thus, the subject needs to be approached because of empirical work across the countries to prove the relation between shadow economy and economic growth (Nikopour, Shah Habibullah and, Schneider, 2008).

For instance, Arvay (1993), Feige and Ott (1999), European Commission (2004), Feige and Urban (2005), Nastav and Bojnec (2007), Schneider (2007), and many others apply various methodologies and provide an insight into shadow economy activities in developing countries. They, as well as other studies (e.g. (Johnson et al., 1999), (Schneider, Enste, 2002), (OECD, 2002), (Choi, Thum, 2006), have identified high tax burdens, corruption, administrative barriers, and nonexistent or deficient rule of law as the main causes of the existence and development of the shadow economy.

Thus, for proper 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 size of the shadow economy are surprising in their magnitude and trend. The latter in particular is of relatively very low intensity. We follow this line of thought by using Schneider's (2007) latent-variable and currency-demand-method estimates of the shadow economy in the countries studied and in the time frame analyzed.

2. The Shadow Economy: Appearance and Expansion Reasons

From the outlook of micro economy we must search the proper answer in the way and producer of rational decision-making by individuals and institutes as well. Within such a frame, individuals compare this illegal method with legal method and costs and other expenses in order to get some benefits. If the former is preferred compared with the latter, naturally partnership in secret and illegal production will be selected. A number of researchers made efforts to analyze human behavior in this domain, especially the tendency to avoid paying tax to government. For instance Alm et al. (1998) show that more lack of needed trust and rejection and avoidance of law regulations are increasing.

Researches related to a suitable approach to macro economy study and analyze the shadow economy have mostly been aimed to test statistic correlation between macro variables (which chiefly demonstrate the presence of government in economic scene) related to the procedure in this phenomenon.

Tanzi (1980) assumes that taxes and limitations are the two economic factors in producing shadow economy due to considerable effect of taxes in every country (income tax in the US, social welfare taxes, extra cost in Europe, and foreign trade tax in developing countries) all emphasize on the development of this phenomenon. Frey and Weck-Hunneman 1983, 1984 mention the imposed burden by government sector to individuals (including tax burden, lawmaking burden, law limitations) unemployment, level of development at a low level as factors responsible for the appearance of hidden economy and add other factors such as tax bad-temperedness in the industrial countries in the experiment. Giles, et al. (1999) mentions burden of taxes, inflation, additional incomes, decline in standards of morality and ethics and claims that these factors support the idea. Giles 1998 emphasizes the government role in the development of shadow economy by public tax burden, combination of taxes and imposing more comprehensive regulations on job markets and productions as factors increasing this phenomenon in a variety of countries in the world. Schneider (2000) in his research for the effective factors on shadow economy in eighteen developed

countries to the burden of direct and indirect tax as the main reason for economy and tax culture and peoples attitude toward government as a non-economic factor. Draeseke and Giles (1999) also emphasize on the rate of tax and the level of regulations (approval and execution related to legal limitation) under existing conditions.

Ahn and De La Rica (1997) emphasize the effect of unemployment rate on the development rate on the strongly believe that this factor can direct the individuals decision to select a job in official sector or private sector and insists that unemployment is affected by this factor and attracts individual to secret economic activities. Tanzi (1999) also emphasize developed connection between secret economics and the rate of unemployment in OECD countries. Giles and Johnson (1999) verify the connection and positive correlation between effective tax rate and approximate volume shadow economy in Newlands. Also in this connection Giles et al. (2001) have measured the amount of reaction due to synchronism of shadow economy proportional to effective tax rate, fluctuation of rate and has concluded that no significant difference is observable in these reactions. Giles and Caragata (2000) pointed to such a connection suggest that it is of great importance in underground activities even in the absence of taxation system and try to deal with its calculation. Fiege (1990) argues that; the more historic economic development literature, has pointed to this condition as an informal development due to limitation of employment, the import of new technology and investment related to the world of development based on this outlook a heterogeneous economical structure in formal firms with a high amount of capital with high gain compared with a firm with low amount of capital and little payoff may exist in market. The only way out for the latter firm to exist and continue its activity to survive is to reduce the transaction costs and avoid tax regulations and the laws governing the organizations. However, what seems to be of great importance is the fact that the process of decision-making and selection of individual and firms within the frame of formal limitations, formal or informal is common considering the executive methods and operation is this direction occurs all the time. Considering the lack of trust and other factors such as tax morality, commitments about micro economy mentioned before, all from a link to the way out of institutionalization. Accordingly, manifestation part of formal limitations within the frame of macro policies and economic development shows some sort of approaches related to macro insights and development.

It seems that institutionalization is a suitable ground to harmonize these outlooks and make them

convergence for deep understanding and take illegal economic activities under careful consideration. North is of the opinion that: Institutions affect economies through imposing some sort of pressure on exchange and production costs. Institutions and the use of technical knowledge and expenses related to business transactions and expenses for change (production) determine the total costs. The complexity created in communities and individual interactions taken place in the world all have had some sort of role in the combination of institutions. Basically institutions and organization have come into existence to reduce the lack of trust and confidence in mutual operations between individuals, obviously the complexity in current affairs has affected these interactions. As for the combination of institutions, movement and transition from informal restrictions to formal ones in long term is due to move complexity in communities which in its own turn has a close connection with specialization and job division which are getting higher and higher every day. As a matter of fact formal restrictions are the solution to more complicated exchange.

The institutional economist's prepare a theoretical frame suitable for analyzing the effective factors on laws and regulations and the ways they are executed and supervision methods in order to bring about formal limitations of the institutes and economic application. From this viewpoint the increase in social complexity will be due to development of communities and the volume of social communities. On the other hand the urgent need to institutes to decrease insecurity in economic exchanges is increasing constantly, besides the changes of informal institution such as culture and customs affects formal institutes intensively. These formal institutes are at the thought of encountering some sort of exchange and ban and set limitations for other activities. The lack of efficiency in establishing the institutes (law making and society regulations) and execution and supervision bring about a condition which creates avoidance and ignorance to laws and regulations. The continuation of this situation in its turn breaks the connection between "cause and effect" and fails to meet economic needs and follows developed and widespread destructive, political, and social effects. Consequently the approach of institutionalized thought is created in this field which plays an effective part in non-economic development of the communities, besides, some sort of connection and convergence is created between micro and macro economics to encounter the phenomena of shadow economy and other consequences beyond it.

Considering the emphasis of the present research on the criteria of illegality in definition of shadow economy it is clear that our concentration on formal

restrictions is something made up of the total amount of institutions. Within this frame shadow economy is due to "bureaucracy gambit" (over emphasizing the rules and regulations) by individuals and organization which in its own turn is due to restrictions or executive methods and supervision to operations. That is to say bureaucracy games have been designed in such a way that and are being put into operation and execution that tempt and direct both individuals and firms to get involved in illegal economic activities.

3. Theoretical Framework for shadow Economy in All Economic Activities

Within the frame of macro economical 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.

Most authors trying to compute the shadow economy face the difficulty of how to define it. One commonly used functioning definition is all currently unrecorded economic actions, which contribute to the formally practical Gross National Product. The definition below which has been defined as figure1 is combination of other's definitions such as Thomas (1999), Schneider (2004), author's elaboration. All economic activities are divided in two legal or illegal parts. Each of these activities has been divided into reported or unreported. Feature of these underground activities is that unrecognized activities divided two part of activity; householder sector and informal and it is not illegal but black economy is more dark and ambiguous, so that their calculation and measurement would is become stringent and essence of this section is become more unknown. This definition present by considering legal and illegal market transactions and non-market transactions and separation of underground economic sections from each other and has considered to manner of their encountering to tax.

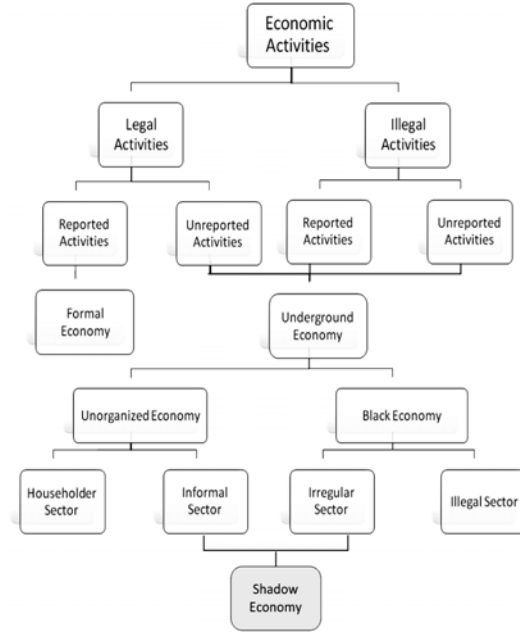


Figure 1: Shadow economy in economic activities framework

Black economic activities are all illegal actions with the characteristics of classical crimes like burglary, robbery, drug, smuggling tax evasion, and etc. The shadow economy includes all market-based legal production of goods and services that are consciously concealed from public authorities for the following reasons (Schneider, 2004). 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.

4. The relationship between corruption and shadow economy

Economists have classified corruption as a special relation of governance-society and differentiate between "Political corruption", "bureaucratic corruption" and "financial corruption", and they also define corruption as a process "pressure from up" with "distribution to down". But because of companionship of power corruption and financial corruption, practically these two understanding are closer to each other and have created a non-separable condition. World Bank has defined financial corruption, to abuse of government power and authorities for providing personal resources. Corruption, effort for gaining wealth and power through illegal manner; private interest instead of public interest; and or to abuse of governmental power is for personal benefits and is considered an anti-social behavior which has awarded benefits out of rule and against moral and legal norms and is weakening strength of improvement of life condition of people. Studies about governments' corruption indicate that corruptions mainly are made in two levels: first level, corruptions that mainly are related to political elites and high grade staffs and superiors of governments are involved in this type of corruption. Public sector officials may have low motivation for performance of their work and may be the reason is official scales of worthless amount and low level of internal supervision in their organizations. They may create delays and other barriers in their works, therefore bribes can act as rewards motivating. Illegal economic activities often purchase corrupt benefits from government. In some cases, illegal economic activities and ruler of organized crimes through corruption and intimidation are dominant to disciplinary force and other government sections. Therefore bribes permit criminal activities.

Second level, includes the simple activities that doing by low level personnel. Some employees carry out unlawful activities such as illegal gaining to abuse of authorize as bribery.

Friedman et al. (2000) show empirically that countries with further corruption have a higher share of unofficial economy. In countries where corruption is systemic and the state's budget, lacks transparency and accountability (VA) the obligation of paying taxes cannot be presume an accepted social rule. Institutional unsteadiness, lack of transparency and rule of law (RL) weaken the willingness of aggravated citizens to be active in the formal economy.

Bureaucratic and political corruption enjoys of an association and enhances each other reciprocally. Political corruption is expanded by political corruption and political factors in high rank and political group by corruptive behavior expand

bureaucratic corruption. For control of corruption, economists recommend cases which the government should do it: Privatization and decrease government size (GEF), economic freedom (EF), information freedom, transparency of economic activities, political stability, enhance regulation quality, voice and accountability (VA), government effectiveness (GE), rule of law (RL), property rights (PR), restrict monopoly, financial freedom (FIF), international cooperation, press freedom.

Some of these recommendations that have introduced and calculated by Kaufmann and World Bank and heritage foundation that published in several years, in empirical results of this research have been used and their relation with shadow economy for Asian countries have been studied. Institutional governance can reduce corruption and shadow economy which is focused in this research. Corruption in all its various type is influenced on shadow economy. Dreher and Schneider (2006) have studied the correlation between shadow economy and corruption and they observe in developed countries, corruption operates as substitute and causes expansion of shadow economy and developing countries; corruption is accounted as complementary of shadow economy and decreases it. 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.

5. The Relationship between Shadow Economy, Government Size and Institutional quality

It is advisable to investigate the recent political economy literature on the importance of governance and institutions permit to know the plane and the changes of the shadow economy. If citizens realize that, their preferences are properly represented in, political institutions and they obtain a passable supply of public goods, their classification with the state increases, their enthusiasm to contribute increases. On the other hand, in an ineffective state where corruption is extensive the citizens will have little reliance in authority and thus a low incentive to cooperate. More encompassing and legitimate state increases citizens' willingness to contribute. If the government and the administration have, a great discretionary power over the allocation of resources corruption enhanced. A sustainable tax system is base on a fair tax system and responsive government, attained with a powerful connection between tax payments and the supply of public goods (Bird et al. (2006).

Shadow economy rises when individuals want the leave option quite than voice option as the reaction to growing burdens (Schneider and Enste, 2000). In new societies government has a profound role including setting laws and rules, defending outside forces, providing public goods and services, infrastructure, security and justice, and undertaking policies to make possible domestic calmness. However, the authority of government may augment general welfare or reduce it. Friedman (1997) observed that "Government has a crucial role in a freedom society. Karras (1996) argued that "the good government size is 23 percent for the average country but choices 14 percent for the average OECD country and 33 percent for South America. Interestingly, both the quality of governance and the state imprison index are correlated with the change in share of state expenses in GDP. This can be explained by the fact that the small decrease in state expenditure as a percentage of GDP made possible the sufficient financing of social programs, so individuals and firms did not need to resort to illegal activities.

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. Developing countries with less tax and regulatory 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 (Johnson and Kaufmann 2001). 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.

6. The Relationship between Institutional Governance and Shadow Economy

Not only the economic, but also 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. A

sustainable tax system is based on a fair tax system and responsive government, achieved with a strong connection between tax payments and the supply of public goods (Bird et al., 2006). This has the negative consequence that citizens lose their trust in the authority. 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 tax burden is not spent well, their government lacks accountability, and that they are not protected by the rules of law. This increases the incentive to enter the informal sector. Giles (1997a, b, 1999) and Giles et al. (2002) investigate the relationship between the shadow and official economies for New Zealand and Canada, and find clear evidence of Cause from official GDP to the shadow economy and only very mild evidence of Granger Causality in the reverse direction. Considering both lines of theoretical and empirical argument, the relationship between the shadow economy and institutional governance with medium Conceptions is shown in figure 2.

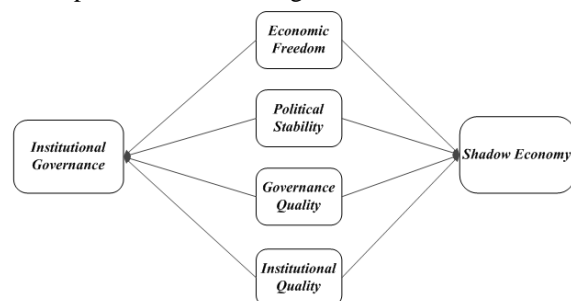


Figure 2: Relationship between the Institutional Governance and the Shadow Economy

The above shape is indicating large part of theorize that will examine in this research. It is shown the relation between institutional governance and shadow economy is connected by some indexes.

7. Panel Data Analysis for Institutional Governance indicators on Shadow Economy in Asian Countries

The estimates of relationship between institutional governance and shadow economy present about 35 Asian countries. First, we present results of Fixed Effect models in table 1. Then we will present GMM models in table 2. Variables used in these models are

extracted from valid statistical resources and is resulted to different specifications.

Table 1: Component of the Shadow Economy in Asian countries (Fixed Effect Models)

Depended Variable: Shadow Economy (SE)	Model 1	Model 2	Model 3	Model 4
Fiscal Freedom (FF)	0.08 (3.2)***			
Control of Corruption (CC)	-0.33 (-1.4)*			-0.005(-3.1)
Political Stability (PV)	-0.13 (-1.8)*	-0.13 (-3.1)***		
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)**	0.01 (3.5)***	
Financial Freedom (FIF _{t-1})			-0.002 (-4.7)***	
Government Spending (GEF)			-0.07 (-7.1)***	
SE*GEF			-0.008 (-6.7)***	
Poverty			0.02 (2.5)***	0.001(3.7)***
SE*RL				0.68 (3.9)***
Business Freedom (BF)				-0.01 (-2.7)***
Rule of Law (RL)	0.49 (2.7)***	0.41 (5.3)***		-0.68 (-4)***
Government Effectiveness (GE)	-0.21 (-1.7)*	-0.41 (-1.89)**	-0.02 (-1.76)*	
Property Rights (PR)	-0.08 (-2.3)***	-0.06 (-1.42)	-0.02 (-6.7)***	
Constant	-0.71 (-3.4)***	-0.46 (-10)***	1.5 (1.89)***	-2.2 (3.75)***
R ²	0.42	0.27	0.62	0.50
Observations	296	296	185	185
F-test	3.6	7.3	4.6	3.1
Normality test	(192)***	(369)***	(189)***	(795)***
Test cross-section, period fixed effects	(79)***	(64)***	(121)***	(110)***

*In all specifications, * denotes significant at 10% level, ** significant at 5% level, *** significant at 1% level.

In table 1 all models are OLS and most used variables in these models are consistent 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. In first model clearly it is seen that control of corruption (CC) cause decrease in volume of shadow economy. This matter in 4th model which is a logarithmic model also occurs. 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 and 3rd model, results in decreasing of shadow economy volume. Independence monetary policy from government control has shown with financial freedom (FIF). Financial freedom and business

freedom (BF) cause limitation of shadow economy and each of them have been significant in one model. 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. Only in fourth model this variable is consonant with theoretical bases, that there is in another two model coefficient of this variable has been positive. Third and fourth models indicate that poverty causes expansion of shadow economy. Property rights (PR) also cause limitation of shadow economy and this variable has been significant in three models. In the following we consider to table 2 which investigate two step dynamic panel GMM models. To experientially test the relationship between institutional governance and shadow economy, a two-way model is considered. These models are explored using two step GMM method with t-values and analysis statistics.

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

Depended Variable: Shadow Economy*	Model 2	Model 3
SE (-1)	-0.34 (-6.4)***	-1.23 (15.7)***
Freedom of Corruption (FC)	0.03 (2.33)**	
Growth Rate of Labor Force (GL)	-1.4 (-1.9)*	
Rule of Law (RL)	-2.71 (-2.76)***	
Political Stability (PV)	1.57 (1.89)*	1.7 (5.1)***
Fiscal Freedom (FF)		0.06 (7.3)***
Regulation Quality (RQ)		-1.25 (-3.3)***
Dummy2002	-0.02 (-0.27)	-0.21 (-4.5)**
Dummy2003	-0.14 (-1.7)	-0.14 (-2.3)**
Dummy2004	0.18 (1.5)	0.08 (1.7)*
Dummy2005	-0.15 (-1.4)	-0.07 (-1.1)
Dummy2006	0.004 (0.03)	0.08 (1.6)
Dummy2007	-0.07 (-0.8)	-0.21 (3.6)***
Total panel observations	222	259
Sargan statistic	0.75	0.15
Jarque-bera	204	46
Arellano-Bond test AR(1)	0.003	0.00
Arellano-Bond test AR(2)	0.006	0.21

*In all specifications, * denotes significant at 10% level, ** significant at 5% level, *** significant at 1% level. Variables used in table 2 have been explained and most of them have consonant with shadow economy literature.

Two models include a place of year dummies. In two specifications, levels equation and year dummies are used as instrument variables because every other regressors are not sternly exogenous. Two types of test are used for the empirical models. The first test is proposed by Arellano and Bond (1991), which examines the hypothesis that the residual from the estimated regressions is first-order correlated but not second order correlated. This test examines the statistics, AR (1) and AR (2) for presence of serial correlation in the first differenced residuals of first and second order, reported as the asymptote standard normal distribution values. The equations for Asian

countries fit the data well as indicated by the regression statistics in two specifications, due AR (1) statistics, reported in table 2 are significant, but AR(2) there is not significant for second model.

Second test is the Sargan test of identifying restrictions under the null hypothesis of the validity of the instruments. The results of the Sargan test in system GMM estimator are reported in table 2. Based on the Sargan test statistic for all models, the high p-value point to that the null hypothesis of no over-identifying restrictions fail to reject. Consequently, the Sargan test statistics indicate that two specifications are well specified and that the instrument vector is appropriate. Statistical resources of variables used in above models and some of their statistical characteristics would be considered in paper Appendix.

8. Conclusion

Major parts of studies have not made use of policy recommendations suitable for all the capability patterns. Consequently there exists some gaps between the assumption of shadow economy and political implications, and, the methods to measure this phenomenon exist and the studies mentioned before were aimed to unravel this problem or avoid it.

The empirical results of this study indicate that in Asian countries, increasing poverty, corruption, and fiscal freedom leads to increase shadow economy. Participate in the shadow economy increase the standard of living for a large of these participants. However, the empirical results of this study show that for Asian countries, increases growth rate of labor force in formal sector (GL), decreases shadow economy. Also, the observed results of this study indicate that increasing political stability, control of corruption, regulation quality, growth rate of labor force, voice and accountability, financial freedom, government spending, business freedom, and government effectiveness leads to decrease shadow economy. In fact, as the results show, institutional governance can decrease shadow economy for developing countries. Therefore:

1. In order to raise the necessary possessions for financing of key development tasks outlined in the developing governments need to restrict shadow economy.
2. The governance and corruption problems are effective on shadow economy in Asian countries and these should not be considered as a reason for moving into shadow economy. It implicitly recommends that the size of government should be optimal.

The analysis of the causes and consequences of the increase of the shadow economic activities is much

more important. The important issue to consider is to dominate whether to encourage and support this economic trend or make an attempt to limit or vanish it completely, and above all, how can we get to the desired goal and what sort of political tools and authority do we possess to achieve our goal. Naturally, assignment of proper policies should ideally be based on possibilities and required costs to put them into operation and basically they should be based on the cognition and philosophy of their appearance and reform in hidden activities in illegal way. So it is considered that the discussions in this section are some sort of political recommendations and prescriptions to deal with shadow economy effectively. We need to do three policy recommendation and suggestions for restriction shadow economy:

1. Reducing the pleasant appearance evasion of tax and regulations,
2. Increasing the opportunities for influencing the formal institutions in the accurate direction, and
3. Change informal activities to formal, simplification of rule, tight perform rule, and knowledge enhancement.

Appendix: Sources and characteristics of sample data

Variables	Mean	SD	Min	Max	Data Sources
Shadow Economy	29.3	12.5	10.3	60	Schneider et al. (2010)
Poverty	1.8	1.1	0	4	ICRG
Fiscal Freedom (FF)	79.9	13.0	99.9	39.0	Heritage Foundation
Control of Corruption (CC)	-0.1	0.9	2.4	-1.4	Heritage Foundation
Political Stability (PV)	-0.3	0.9	1.3	-2.4	World Bank
Regulation Quality (RQ)	-0.1	0.8	2.0	-2.0	World Bank
Growth Rate of Labor Force(GL)	0.6	0.7	4.3	-0.1	World Bank
Voice and Accountability (VA)	-0.6	0.7	1.0	-1.8	World Bank
Financial Freedom (FIF)	44.0	18.9	90.0	10.0	Heritage Foundation
Government Spending(GEF)	75.4	15.6	95.4	33.2	Heritage Foundation
Business Freedom (BF)	62.7	14.2	100.0	39.2	Heritage Foundation
Rule of Law (RL)	-0.1	0.8	1.8	-1.5	World Bank
Government Effectiveness(GE)	0.0	0.8	2.4	-1.4	World Bank
Property Rights (PR)	46.9	21.5	90.0	10.0	Heritage Foundation

Corresponding Author:

Arash Jamalmanesh

PhD Candidate of Economics, Faculty of Economics and Business, National University of Malaysia (UKM).

E-mail: arshjamalmanesh@yahoo.com

References

- [1] Ahn and De La Rica (1997). *The underground economy in Spain: an alternative to unemployment?*. Applied Economics , volume 29, issue 6.

- [2] Alm, J et al. (1993). *Audit selection and income tax underreporting in the tax compliance game*. *Journal of Development Economics*, 42, 1–33.
- [3] Árvay J (1993): *Methods of Measuring the Hidden Economy in the Transition Economies*. Paris, OECD.
- [4] Bird, et al.(2006). *Societal Institutions and Tax Effort in Developing Countries. The Challenges of Tax Reform in the Global Economy*. New York: Springer, pp. 283-338.
- [5] Choi JP, Thum M (2006): *Corruption and the Shadow Economy*. <http://www.msu.edu/~choijay/shadow.pdf> [downloaded: 18.04.2006].
- [6] Clotfelter, C. (1983). *Tax evasion and tax rates: An analysis of individual returns*. *Review of Economics and Statistics*, 65, 363–373.
- [7] Committee of Public Accounts (2004). *Tackling fraud against the Inland Revenue, London: the Stationery Office*.
- [8] Draeseke, R and Giles, D. (2002). *A Fuzzy Logic Approach to Modeling the New Zealand Underground Economy*. *Mathematics and Computer in Simulation*. Vol.59.
- [9] European Commission (2004): *Undeclared work in an enlarged Union*. Brussels, European Commission.
- [10] Feige, E, (2005). *Overseas Holdings of U.S. Currency and the Underground Economy*. *Macroeconomics 0501022*, EconWPA.
- [11] Feige E. and Ott, K. (1999). *Underground Economies in Transition – Unrecorded activity, tax evasion, corruption and organized crime*. Aldershot, Ashgate.
- [12] Frey, B. S. (1997). *A constitution for knaves crowds out civic virtues*. *Economic Journal*, 107, 1043–1053.
- [13] Frey, B. and Weck-Hannemann, H. (1984). *The hidden economy as an unobserved variable*. *European Economic Review*, 26, 33–53.
- [14] Friedman et al. (2000). *Dodging the grabbing hand: The determinants of unofficial activity in 69 countries*. *Journal of Public Economics*, 76/4,
- [15] Giles, et al. (2002), *Taxes and the Canadian Underground Economy*, Canadian Tax Paper No. 106.
- [16] Giles, D. (1999). *Measuring the hidden economy: Implications for econometric modeling*. *Economic Journal*, 109, F370–F380.
- [17] Johnson S, Kaufmann D, McMillan J, Woodruff C (1999): *Why Do Firms Hide? Bribes and Unofficial Activity after Communism*. <http://web.hhs.se/site/Publications/workingpapers/>.
- [18] Karras, G. (1996). *The Optimal Government Size: Further International Evidence on the Productivity of Government Services*. *Economic Inquiry* 34.
- [19] Kaufmann, D., A. Kraay and M. Mastruzzi, (2003). *Governance Matters III: Governance Indicators for 1996 - 2002*, World Bank, June, 30.
- [20] Kumar, A. (1999). *The Underground Economy in India*. New Delhi: Penguin, India.
- [21] Macafee, K. (1980). *A glimpse of the hidden economy in the national accounts*. *Economic Trends*, 316, 81–87.
- [22] Nastav B, Bojnec Š (2007). *Shadow Economy in Bosnia and Herzegovina, Croatia, and Slovenia: the Labour Approach*. *Eastern European Economics*, 45.
- [23] Nikopour, H. et al. (2008). *The shadow economy Kuznets's curve panel data analysis*. MPRA, Paper No. 12956.
- [24] OECD, (2002), *Measuring the Non-Observed Economy: A Handbook*. OECD Publications Service, Paris, France.
- [25] Schneider, F. and Enste, D. (2002). *The Shadow Economy. An International Survey*. Cambridge: Cambridge University Press.
- [26] Schneider F (2004). *The Size of the Shadow Economies of 145 Countries all over the World: First Results over the Period 1999 to 2003*. Bonn, IZA Working Paper, no. 1431.
- [27] Schneider F (2007). *Shadow Economies and Corruption all over the World: New Estimates for 145 Countries*. Unpublished manuscript.
- [28] Schneider F (2010). *Corruption and the shadow economy: an empirical analysis*. *Public Choice* (2010) 144: 215–238
- [29] Smith, R. (2002). *The Underground Economy: Guidance for Policy Makers?* *Canadian Tax Journal*, 50(5):1655–1661.
- [30] Smith, S. (1986). *Britain's Shadow Economy*. Oxford : Clarendon press.
- [31] Tanzi, Vito (1999). *Uses and Abuses of Estimates of the Underground Economy*, *The Economic Journal* 109/456, pp.338-340.
- [32] Thomas, J. (1999). *Quantifying the black economy: 'Measurement without theory' yet again*. *The Economic Journal*, 109, F381–F389.
- [33] Torgler, B. Schneider, F. (2007). *Shadow Economy, Tax Morale, Governance and Institutional Quality: A Panel Analysis*. IZA DP No. 2563.

5/25/2011