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Political Stability and the Shadow Economy in Asia: An Empirical Analysis

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This study investigates the impact of political stability and other governance indicators on the size of the shadow economy across Asian countries using panel data estimations. While the existing literature acknowledges the critical role of institutional quality and governance in shaping the informal sector, most prior research has relied on cross-sectional analyses with limited observations. Consequently, evidence based on within-country variations remains scarce. Employing a balanced panel of 34 Asian economies, this paper applies both Ordinary Least Squares (OLS) and Generalized Method of Moments (GMM) estimators to ensure the robustness of the results. The empirical findings provide strong evidence that higher levels of political stability, government effectiveness, and the absence of violence are associated with a smaller shadow economy. Conversely, declining government stability tends to expand the informal sector. Overall, the results highlight the importance of political and institutional stability as key determinants in reducing the scale of the shadow economy in Asia.

Keywords: Political Stability; Shadow Economy; Governance Indicators; Government Effectiveness; Panel Data.
JEL Classification*:* P48, P26, J18

1 Introduction

Understanding the socio-economic structure of a society requires a comprehensive awareness of all economic activities, both formal and informal. The shadow economy complicates this process by limiting policymakers' access to reliable economic information, thereby reducing the accuracy of macroeconomic forecasts and weakening the effectiveness of

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public policy. In earlier decades, the shadow economy was considered a vague and unquantifiable phenomenon; however, it has now become a well-recognized component of modern economic systems. Although the literature on its definition and measurement has expanded substantially in recent years, the influence of political stability on the shadow economy remains insufficiently explored.

Over the past few decades, increasing attention has been given to estimating the size of the shadow economy and identifying its determinants and consequences. The hidden nature of this sector makes its measurement difficult, and most estimations are indirect. As Dreher and Schneider (2010) emphasize, the shadow economy constitutes a significant share of total economic activity worldwide, with a particularly large presence in developing countries.

The literature offers no unified approach to defining or measuring the shadow economy. Definitions generally refer to all productive activities that generate legal goods and services but are deliberately concealed from authorities to evade taxes, social contributions, or regulatory burdens. Methods of measurement are typically classified into three main categories: (i) direct methods, based on surveys and audits; (ii) indirect methods, which infer the size of hidden activities through their traces on the official economy; and (iii) model-based approaches, which estimate the shadow economy using theoretical and econometric frameworks.

The shadow economy has both adverse and potentially beneficial implications. On the one hand, it erodes tax revenues, distorts competition, and exposes consumers to unregulated and potentially unsafe goods and services. On the other hand, it may provide employment opportunities and serve as a safety valve during economic downturns by allowing firms and individuals to operate at lower costs. Measuring the shadow economy's share in GDP is thus crucial for understanding the true scale of an economy and for designing sound policy responses, particularly in developing countries where informal structures are widespread.

From a theoretical perspective, various schools of thought offer distinct explanations for the shadow economy. The neoclassical view emphasizes its dynamic role in fostering entrepreneurship, enhancing competition, and constraining excessive government intervention. In contrast, the dualist hypothesis regards formal and informal sectors as substitutes, where rigid regulations and high taxes push workers and firms into informality. The structuralist perspective considers the two sectors as interdependent, with

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formal enterprises often relying on informal labor and production networks to reduce costs (Dreher et al., 2009).

Recent research in political economy highlights the significance of government stability, institutional effectiveness, and political order in determining the extent of the shadow economy. When citizens perceive that political institutions are responsive and public goods are effectively provided, trust in government increases, compliance with the law improves, and participation in the formal economy expands. Conversely, political instability, corruption, weak rule of law, and bureaucratic inefficiency discourage formal activity and promote hidden transactions. Excessive regulations and opaque administrative procedures further incentivize firms and individuals to operate informally.

Ultimately, governance quality—encompassing political stability, control of corruption, and government effectiveness—plays a critical role in shaping the size of the shadow economy. Countries characterized by coups, revolutions, civil conflicts, or fragile political institutions tend to experience lower levels of investment and GDP, accompanied by larger informal sectors. Understanding the link between political stability and the shadow economy is therefore essential for designing institutional reforms that foster sustainable economic growth and formalization in developing Asia.

The remainder of this paper is organized around the following themes. A comprehensive review of the theoretical and empirical literature on the shadow economy and its determinants—with particular emphasis on governance and political stability—is first provided. The research hypotheses are then formulated, and the conceptual framework guiding the empirical analysis is presented. Subsequently, the data sources, variable definitions, and econometric methodology, including both OLS and GMM estimation techniques, are described in detail. The empirical findings and robustness checks are then discussed. Finally, the study concludes by summarizing the key findings, drawing policy implications, and suggesting avenues for future research.

2 Literature

The shadow economy—also referred to as the informal, hidden, or underground economy—encompasses all economic activities that generate legal goods and services but are deliberately concealed from official authorities in order to evade taxation, social security contributions, or regulatory burdens. Early foundational works by Medina and Schneider (2018) highlighted its magnitude and macro-economic implications across

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countries. Subsequent research has expanded measurement methods into three broad categories: (i) direct approaches based on surveys and administrative audits; (ii) indirect methods inferring hidden operations from observable markers in the formal economy; and (iii) model-based approaches, such as the Multiple Indicators Multiple Causes (MIMIC) model, which estimate latent variables.

Empirical evidence consistently shows that a large shadow economy adversely affects major macro-indicators such as GDP growth, official investment, consumption, and tax revenues. For example, the recent review by Boston Consulting Group (2023) reports that sizeable informal sectors reduce productivity, distort economic statistics, and undermine institutional trust. In particular, countries with lower GDP per capita or weak institutional frameworks tend to exhibit larger informal economies.

In parallel, research has increasingly turned to the determinants of the shadow economy, identifying regulatory burdens, high tax rates, unemployment, and technological lag as important drivers. More recently, the governance and institutional dimension has drawn renewed attention. For instance, Gërxhani & Cichocki (2023) argue that the interaction between formal and informal institutions matters: strengthening rule of law alone is not sufficient unless informal norms (such as tax morale and trust) are also aligned. Empirical findings show that stronger regulatory quality, control of corruption, and trust in government significantly reduce participation in the shadow economy.

On the specific role of political stability, there is emerging evidence. A panel study of BIMSTEC countries by Riaz and Hayat (2022) finds that higher political stability significantly reduces the size of the shadow economy. They also document negative effects of greater fiscal and business freedom and positive effects of unemployment on informal activity. These findings suggest that stable political institutions encourage formalization of economic activity.

Complementing these findings, more recent work by Achim & Mare (2024) focuses on regulatory quality and finds that improved governance reduces the informal economy in a panel of countries. Additionally, a study on environmental sustainability by Sultana et al. (2022) demonstrates that governance indicators not only shrink the shadow economy but also mitigate its adverse environmental effects.

Despite this growing body of work, important gaps remain. First, many studies rely on cross-sectional data or short periods, limiting inference on within-country dynamics over time. Second, few studies have explicitly combined governance, political stability, and the shadow economy in a panel-

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data framework focusing on Asian countries. This study addresses these gaps by employing panel data for 34 Asian economies and estimating both Ordinary Least Squares (OLS) and Generalized Method of Moments (GMM) models to explore how political stability and governance effectiveness influence the shadow economy. Some research has been done on the shadow economy using political and economic variables. Variables used in these studies are compiled in Table 1. This Table represents good information about the variables used in the shadow economy literature.

Table 1
The effect of diverse variables on the shadow economy in recent literature

Researchers	Year	Data Source	Political Stability	Government Effectiveness	Rule of Law	Government Spending	Regulation Quality	Control of Corruption	Bureaucratic Quality	Corruption	Government Stability	GDP Growth	Unemployment	Log GDP per Capita	Population
Buehn & Schneider	2011	World Bank		(+)								(−)	(+)		
Singh et al.	2012	World Bank			(−)		(+)				(−)		(+)		
Fedajev et al.	2022	World Bank	(−)			(+)	(+)	(+)		(−)		(+)		(+)	
Huynh & Nguyen	2020	World Bank	(−)	(+)		(+)	(+)	(+)		(−)		(+)	(−)	(+)	
Dreher et al.	2009	World Bank		(−)	(−)	(+)	(−)					(+)		(−)	(+)
Rehman et al.	2022	World Bank	(−)			(+)	(−)			(−)		(+)		(+)	
Riaz & Hayat	2022	World Bank		(−)	(+)		(+)			(−)	(−)		(+)		
Wang et al.	2024	IMF/WB	(+)		(−)	(+)		(−)		(−)		(+)	(−)		
Gërxhani & Cichocki	2023	World Bank	(+)	(+)		(−)	(+)		(+)	(−)	(−)		(−)	(+)	
Achim et al.	2025	World Bank	(−)	(+)		(+)		(−)				(+)	(−)	(+)	
Barra et al.	2024	World Bank	(+)		(−)		(+)		(+)	(+)	(−)	(+)		(+)	
Achim & Mare	2024	PRS Group		(−)	(−)		(+)			(+)		(+)	(−)	(+)	(−)
Bati	2025	IMF/WB	(−)	(+)		(−)	(+)		(+)	(−)	(−)		(+)		
Fenzl	2025	PRS Group	(+)			(+)		(+)				(−)		(+)	
Thuong& My-Linh	2025	World Bank		(−)	(+)		(−)			(+)	(−)	(+)		(−)	(+)

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As summarized in Table 1, most empirical studies suggest that institutional quality and political stability play a crucial role in reducing the shadow economy size across different regions, particularly in developing countries.

Within the framework of macroeconomic theory, investigating the underlying causes and consequential impacts of this phenomenon presents considerable complexity. The influence of fiscal policies, monetary instruments, exchange rate mechanisms, and trade regulations on both the formation and expansion of the shadow economy is substantial. Furthermore, the ways in which shadow activities interact with various markets, along with their effect on the effectiveness of governance policies in the context of national accounting, warrant serious attention (Dreher et al., 2009).

Studies on the shadow economy can be divided into two main groups; first, studies to measure the size of the shadow economy, and second, causality studies that investigate the composition of the shadow economy utilizing first group results. This paper is considered as second group and investigates this phenomenon with regard to economic and political characteristics. This paper follows the line of thought that try to understand the relationship between the shadow economy and governance situations in cross-country analyses.

3 Hypothesis

This study addresses several research questions. Is there any relationship between the shadow economy and political stability in Asian economies? If such a relationship exists, to what extent, shadow economy affects the political stability? Whether political factors or economic factors affect shadow economy more?

The political conditions of countries can be better understood through the quality of their institutional governance. Good institutions seem to increase formal GDP and political stability, while at the same time reducing the size of the informal economy. Political stability reduces the volume of the shadow economy in developed and developing countries. However, the informal sector plays an important role in transition countries. Understanding the determinants of the shadow economy is essential for designing policies aimed at controlling informal and illegal activities through measures such as law enforcement, prosecution, economic growth, and education (Medina and Schneider, 2018).

Institutional framework for political stability can be strengthened by the social infrastructure, social capability, governance and regulations and rules.

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Political conflicts, ethnic heterogeneity, and ethnic variety also influence the shadow economy.

Based on a combination of theoretical reasoning and empirical findings, the association between the shadow economy and political stability—defined within moderate conceptual boundaries—is depicted in Figure 1.

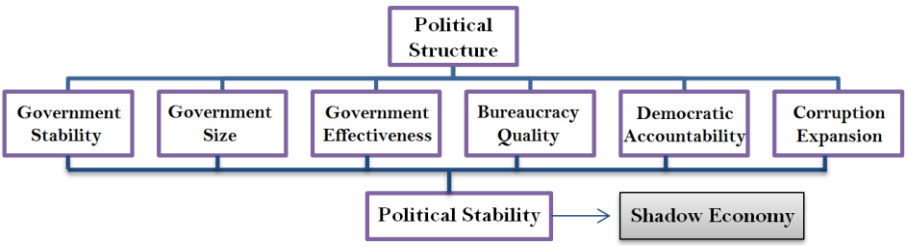

Figure 1. Relationship between the institutional governance and the political stability
Source: Research Findings

The figure above illustrates the main theoretical framework examined in this study. It demonstrates the relationship between institutional governance and the shadow economy, which is explained through several key indicators.

Apart from publications related to the effect of this phenomenon on statistic complexity and policy-making and economic planning researches, some shadow economy studies have been made on monetary and fiscal policies. Dreher and Schneider (2010) by investigating an economic model demonstrated that illegal activities in economy to increase production and employment with conjugate decrease in irregular sector in shadow economy leads to a disorganized situation and the disharmony in political recommendations has critical some sort of ambiguity and caused the authorizes to get away from the intended goals.

Political stability to be positively correlated with GDP per-capita. According to his study, shadow economy and political stability be negatively correlated. Shadow economy grows when individuals desire the “exit” option rather than “voice” option as the reaction to rising burdens. In new the social order government has an intense role including setting rules and laws, providing public goods and services, protective outside forces, infrastructure, justice and security, and undertaking policies to make prospective domestic calmness.

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

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of goods and services. Dreher and Schneider (2010) shows clearly that the payments in the shadow economy are disbursed in the official economy. Therefore, the positive effects of such expenditures on economic growth and indirect tax revenues should also be taken into consideration. In informal economy theories is involved with turning over labor force from formal economy to informal economy it is expected the formal GDP decrease. Hence we expect with increase in GDP grow and GDP per capita, shadow economy decrease. We use the summarizing of the literature in Table 1, for structure of the study with respect to shadow economy and political stability. In summary we assume:

Hypothesis 1 The more expand the political stability causes the lower the shadow economy.

Hypothesis 2 An increase in official economy reduces the shadow economy.

In other words, we suppose political stability and shadow economy have negative relationship. It is recommended to examine recent literature on political economy concerning the role of governance and institutions in order to understand the structure and transformations of the shadow economy. When citizens perceive that their preferences are adequately reflected within political institutions and that they receive a reasonable provision of public goods, their identification with the state strengthens, thereby increasing their willingness to contribute. Conversely, in an ineffective state characterized by widespread corruption, citizens tend to have little trust in the authorities and, as a result, exhibit a low propensity for cooperation. A more inclusive and legitimate state enhances citizens' readiness to contribute. However, when the government and its administration possess considerable discretionary authority over resource allocation, corruption is likely to intensify. A sustainable tax system relies on both fair taxation and a responsive government, achieved through a strong linkage between tax payments and the delivery of public goods. By establishing and refining rules, the principle of diminishing returns begins to take effect. For instance, while providing infrastructure such as road construction helps generate development gains, the production of secondary roads yields comparatively lower marginal positive impacts. Moreover, by increasing taxes and enforcing it with adverse effects on economic behavior, government expenditure through tax or borrowing executes increasing burdens. Thus, new government costs no longer increase economic growth (Barra et al., 2024).

Regulatory restraints and bureaucratic procedures not only restrict competition and the operation of markets, but also offer a better fundament for shadow activities. Individuals and businesses think that neither contracts

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will be enforced productive efforts protected, their incentive to be active in the shadow economy increases. Citizens will feel cheated if they believe that corruption is extensive, their tax burden is not tired well, their government lacks liability, and that they are not protecting by the rule of law. This increases the incentive to enter the shadow economy.

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. Since researchers such as Dreher and Schneider (2010) argue that the relationship between government size and government effectiveness is positive in less developed and negative in developed countries, the relationship between shadow economy and government effectiveness may depend on the level of GDP per capita. Institutional economics and shadow economics are therefore highly harmonizing. The next section summarizes our estimation procedure and presents the data.

4 Data and Estimation Techniques

We use this structure to estimate the effect of political stability on shadow economy. All data is over the time period 2007-2015. Data on the shadow economy are obtained from the estimates provided by Medina and Schneider (2018), and other variables from some valid data base like, IMF, Heritage, PRS Group, and World Bank for other data. Data structure will be described within OLS analysis.

4.1 OLS Analysis

We first estimate OLS for a panel or pool taking the following form:

$$SE_i = \alpha + \beta_1 GS + \beta_2 GE + \beta_3 GG + \beta_4 GDPC + \beta_5 CV + \varepsilon_i \quad (1)$$

The study first applies the F-Limer test to evaluate the appropriateness of pooled versus panel data estimation. The model one estimates individual effects as fixed or random. We also tested the appropriateness of random-effects versus fixed-effects specification using a Hausman test, whit regard to chi-squared statistic for all models mentioned in Table 1 and 2, confirming there is no misspecification with random effect models.

Where;

SE Shadow Economy
GS Government Stability,
GE Government Effectiveness,
GG GDP Growth,

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GDPC GDP per Capita,
CV Control Variables.

CV includes political stability and absence of violence (PS), government size (GS), democratic accountability (DA), corruption (COR), and Bureaucracy quality (BQ).

Government Stability (GS) is an assessment both of the government's ability to carry out its declared program(s), and its ability to stay in office. Its subcomponents are: government unity, legislative strength, and popular support (PRS Group, 2020).

Government effectiveness (GE) captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Political Stability and absence of violence (PS) measures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism (Dreher and Schneider, 2010).

Government size (GS) is the level of government expenditures as a percentage of GDP. Government expenditures—including consumption and transfers account for the entire score.

Democratic accountability (DA) measures the extent to which the government is responsive to its citizens, on the basis that the less responsive it is, the more likely it is that the government will fall, peacefully in a democratic society, but possibly violently in a non-democratic one. The points in this component are awarded on the basis of the type of governance enjoyed by the country in question (PRS Group, 2020). Corruption (COR) measures corruption as a threat to foreign investment in the political system based on the network of experts (PRS Group, 2020). Bureaucracy quality (BQ) The institutional strength and quality of the bureaucracy is another shock absorber that tends to minimize revisions of policy when governments change. Therefore, high points are given to countries where the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. In these low-risk countries, the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training. Countries that lack the cushioning effect of a strong bureaucracy receive low points because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions (PRS Group, 2020).

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Political stability is referred to as the durability of governance in a country. Governance system may be an autocratic or a union of some parties in a multi-party political structure. But the important matter is that it rules the country for a lengthy period without any major political disorder. One of the core concerns analyzing the relationship between shadow economy and political systems is the stability of the system of government. A country is generally considered politically stable when governance is maintained through non-violent mechanisms. The countries with reasonable level of political rights may decelerate growth because the political system possibly more concerned with income distribution and social program. The impact of political regimes on economic growth is also influenced by the level of democracy a country appreciates.

The GDP in many countries possibly will be explainable by basic political conditions. Dreher and Schneider (2010) argues that "Countries may possibly tend to realize an equilibrium situation with respect to their fiscal systems nature that largely reflects the stability of political forces, and stay at this situation until 'shocked' to a different equilibrium". It is useful to study whether the new political economy literature on the position of institutions and governance allow understanding the level and the changes of the shadow economy. In ineffective states where corruption is widespread, citizens tend to have low trust in public authorities, which in turn reduces their motivation to contribute to the formal economy. A more effective and legitimate state encourages citizens' willingness to cooperate (Dreher et.al, 2009).

The shadow economy can be larger when there is more regulation and thus more discretion for bureaucrats. Politicians use the right to regulate to follow their own interests, like supporting allies. Political actors might abuse their regulatory discretion to enrich themselves, accepting bribes as consideration for waiving rule compliance. Dreher et.al (2009) argue that regulations to signify a greater shadow economy, and larger corruption. We expect rule of law, democratic accountability, and economic freedom improve political stability and restrict the shadow economy.

The governance data sets we used in the analysis are newly gathered and calculated data by Kaufmann et al. (2008). These indicators are created based on information gather round through a wide variation of cross-country analyses as well as elections of experts. Kaufmann et al. (2008) use a model of latent components, which aids them to achieve levels of survey of approximately all countries for each of their indices. They pattern six different indices, each representing a different aspect of governance: Voice and Accountability, Political Stability and Lack of Violence, Government

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Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. The relationship between governance and economic growth has long been a central theme in economic research, with institutions widely recognized as critical determinants of economic performance. Governance, often defined as the mechanisms, institutions, and traditions through which authority is exercised, encompasses dimensions such as the rule of law, control of corruption, regulatory quality, government effectiveness, political stability, and voice and accountability (Daliri,2024).

Political stability appears to increase formal GDP while simultaneously reducing informal economic activity. It is expected that Political stability reduces the volume of the shadow economy in developed and developing countries. However, the informal sector plays an important role in Asian countries. This study aims to examine how political stability influences the shadow economy and whether it reduces or increases its size.

The average size of the shadow economy in the 34 Asian countries (as a percentage of formal GDP) is 28% in 2007-2015. In this study, government stability (PRS Group) is used as a proxy for political stability.

4.2 Generalized Method of Moments (GMM) Analysis

GMM models are used for resolving OLS panel data defect and compare whit that. In this study the time period is low and this creates some problem for models. OLS fails to account for unobserved country-specific heterogeneity, which may lead to biased and inconsistent estimates. GMM is done with panel data that present a problem collaborated with panel dynamic system.

GMM is appropriate estimators for designed models with few time periods (small T) and many individuals (large N) panels with a linear relationship. GMM has a dynamic variable, and explanatory variables are correlated with past and probably current error. This estimation method accounts for fixed cross-sectional effects and allows for autocorrelation and heteroskedasticity within cross-sectional units, while assuming that these error components are not correlated across units.

These dynamic relationships are considered by a lagged dependent variable among the estimating include causality variables, x and y:

$$y_{it} = \alpha + \delta_i y_{i,t-1} + \beta_i \sum X_{i,t-1} + \gamma_i \sum Z_{i,t-1} + u_{it}$$
$$i = 1,\dots,N;\ t = 1,\dots,T$$

Where Y is shadow economy, X is a vector of main variables and Z is a vector of control variables. u_{it} trail a one-way error component model.

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$u_{i\,t} = \mu_i + \nu_{i\,t}$

Where $\mu_i \sim$ IID $(0, \sigma^2_\mu)$ and $\nu_{it} \sim$ IID $(0, \sigma^2_\nu)$ independent of each other. Arellano and Bond (1991) established a GMM estimator to resolve these problems. With first differencing, individual effects (ν_i) will be removed and whit instrumental variables becomes estimable.

More moment conditions are available if we assume that the explanatory variables are uncorrelated with the individual effects. In this case, the first lags of these variables can be used as instruments in the levels equation. When the dependent variable and/or the independent variables are persistent, lagged differences of the dependent variable may also be valid instruments for the level's equations. Blundell and Bond (2023) show that this extended GMM estimator is preferable to that of Arellano and Bond (1991) in this particular case.

5 Empirical Results for Political Stability and Shadow Economy

All models reported in Table 2 are estimated using Ordinary Least Squares (OLS). The main variables included in these models are consistent with the shadow economy literature and are considered reliable. Government stability has been significant in all models and reasons limitation of shadow economy. The variable is expected to reduce the shadow economy in Asian countries, but we find it opposite and it is just carrying on expectation in model 6 in Table 2. Government effectiveness, GDP growth and GDP per capita have been significant in all models in Tables 2. They are significant in one percentage level. Corruption is based on quantitative data that assess the perception of corruption in the business environment, including levels of governmental legal, judicial, and administrative corruption. In developing countries, like Asian countries, corruption is accounted as complementary of shadow economy and decreases it. In first and second models as expected it is seen that freedom of corruption cause increase in volume of shadow economy. Rule of Law (RL) is one of the key variables in institutional studies concerning shadow economy that could be resulted in good governance. Rule of law measures the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence. In first and second models this variable is consonant with theoretical bases, because as expected coefficient of this variable has been negative. Growth Rate of Labor Force (GL) in formal economy results in decrement in shadow economy actives.

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This problem has been indicated in second model. Political Stability (PV) measures absence of violence perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism. Political stability in second and third models has been significant. 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. Regulation Quality (RQ) measures the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Regulatory quality 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 third model authenticates this matter. Bureaucratic and political corruption enjoys of an association and enhances each other reciprocally. Political corruption is expanded by political factors in high rank and political group by corruptive behavior expand bureaucratic corruption.

In the following Table is considered which investigate two step dynamic panel GMM models. To experientially test the relationship between institutional governance and shadow economy, these models are explored using two step GMM method with t-values and analysis statistics. The estimates of relationship between of institutional governance variables and shadow economy presents about 35 Asian countries which its columns different specifications.

Table 2
Contributes of the shadow economy, OLS and GMM panel analysis

	Depended Variable:							
Shadow Economy*	OLS (1)	GMM (2)	OLS (3)	GMM (4)	OLS (5)	GMM (6)	OLS (7)	GMM (8)
Lag dependent variable (SE(-1))		0.96(14.4)***		0.89(9.18)***		0.27(3)***		0.58(3.5)***
Government Stability	0.20(5.12)***	0.19(1.97)***	0.17(4.24)***	0.10(0.82)	0.13(3.24)***	-0.2(-1.6)*	0.13(2.52)**	0.13(1.8)*
Government Effectiveness	-0.72(-2.8)***	-0.90(-2.8)***	-0.92(-3.42)***	-0.64(-1.27)	-1(-3.78)***	-1.3(-2.9)***	-0.94(-2.9)***	-0.9(-4)***
GDP Growth	-0.05(-4.1)***	-0.09(-5.5)***	-0.05(-4.13)***	-0.09(-5.02)***	-0.05(-4)***	-0.09(-6)***	-0.05(-3.4)***	-0.09(-3.3)***
Log GDP Per Capita	-2.5(-20.4)***	-1.40(-5.4)***	-2.51(-20.7)***	-1.63(-3.42)***	-2.5(-18.4)***	-2.6(-4.8)***	-2.6(-10.7)***	-4(-5.6)***
Political Stability and Violence			0.37(2.42)**	-0.85(-1.79)*	1.29(3. 7)***	4.62(3.05)***		0.63(2.3)**

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P Stability × G Stability					-0.11(-2.9)***	-0.5(-3.4)***		
Political Stability and Violence(-1)							0.36(1.82)*	-1.75(-2.16)**
Constant	46.9(21.6)***		47.3(21.6)***		47.6(21.1)***		48.3(11.3)***	
R^2	0.76		0.77		0.69		0.44	
Total panel observations	272	204	272	204	272	204	204	170
F-test	214.66***		177.14***		100***		31***	
Hausman test. Chi-sq	10**		10.1**		9.3*		9.6**	
D.W	0.72		0.75		0.76		0.97	
Sargan statistic		0.86		0.99		0.9		1.00
Arellano-Bond test AR(1)		0.00		0.00		0.08		0.02
Arellano-Bond test AR(2)		0.00		0.32		0.43		0.07
Wald Test (H0: dummy t = 0)		41***		2.8***		6.43***		5.05***

* denotes significant at 10% level; ** Significant at 5% level; *** Significant at 1% level.
Source: Research Findings

The variables included in Table 2 have been defined in the preceding sections and are generally consistent with the shadow economy literature. Almost in all specifications, the coefficients of institutional governance variables are statistically significant at 1% level.

All models include year dummies and selection of one lag period is required for dependent variable (shadow economy) in order to relieve the serial correlation of residuals. In three specifications, the levels equation along with year dummies is used as instrumental variables, as the remaining regressors cannot be assumed to be strictly exogenous. The Wald test statistics reject the null hypothesis that the independent variables are jointly equal to zero at the 1% level.

Two diagnostic tests were employed to evaluate the validity of the estimated dynamic panel models. The first, developed by Arellano and Bond (1991), examines the null hypothesis of no serial correlation in the first-differenced residuals. Specifically, the AR (1) and AR (2) statistics test for first-order and second-order serial correlation, respectively, and are asymptotically distributed as standard normal variates.

The AR (1) test rejects the null hypothesis of no first-order serial correlation, as expected in first-differenced models, with the reported p-values in Table 2 being significant at the 1% level. In contrast, the AR (2) test fails

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to reject the null hypothesis of no second-order serial correlation, indicating that the model satisfies the moment conditions required for the consistency of the Arellano–Bond estimator. These findings provide evidence that the model specification is appropriate with respect to serial correlation.

The validity of the instrumental variables should be evaluated separately using the Hansen or Sargan test of overidentifying restrictions. Assuming that these tests also support instrument validity, the estimated models can be regarded as econometrically reliable.

Overall, the estimation results for the Asian countries indicate that the diagnostic tests support the adequacy of the estimated specifications. Both the AR (1) and AR (2) assumptions are satisfied across all estimated models, except for the second model, in which the AR (2) test indicates a violation of the no-second-order serial correlation assumption.

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. Across all specifications, the relatively high p-values suggest that the null hypothesis of valid over-identifying restrictions cannot be rejected. Consequently, the Sargan test statistics indicate that all 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.

6 Conclusions

Political stability plays an important role in determining economic growth in Asian economies. There is direct and indirect relationship between shadow economy and political stability. The shadow economy is influenced by political stability and may face future challenges due to institutional and political changes associated with evolving democratic systems in Asian countries. The empirical results of this study indicate that in Asian countries, increasing governance leads to increase shadow economy considering high value of government size. From the perspective of public choice theory, a state may lack a strong incentive to significantly reduce the shadow economy for several reasons. First, tax revenue losses resulting from undeclared economic activities can be partially offset, as a substantial portion of income generated within the shadow economy is subsequently spent within the official economy. Second, income earned through shadow activities contributes to raising the living standards of a considerable segment of the working population. Furthermore, the contraction of the shadow economy would

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enhance social welfare only under the condition that a substantial share of production and labor transitions into the formal economy. Additionally, individuals engaged in the shadow economy have less time available for other pursuits, such as participating in demonstrations or engaging in activities that could lead to political instability. Therefore:

1) Improving political stability requires effective control of the shadow economy.
2) The increase in welfare associated with the shadow economy in Asian countries should not be interpreted as an incentive to expand participation in the shadow economy. Rather, it suggests that the size of government should be optimized and that efforts should be made to enhance government effectiveness.

Moreover, analyses of the causes and consequences of the growing shadow economy have often failed to adequately incorporate findings and theoretical insights from other social science disciplines. Thus, a broad overview of this multifaceted phenomenon is required. Research on the shadow economy attentions on three of its most important aspects:

i) In economic policy the strength in trade with banned work is the fact that these illegal activities are unattractive to formal institutions. A growing shadow economy may be interpreted as the reaction of persons who perceive themselves as excessively burdened by government regulations and who decide on the "exit option" rather than the "voice option". If the growth of the shadow economy is driven by high tax burdens, excessive social security contributions, and institutional rigidities, continued movement into the informal sector may erode the tax base and weaken social security financing. Consequently, governments may face increasing fiscal pressures, which can lead to higher taxes or contributions, thereby further encouraging participation in the shadow economy and creating a self-reinforcing cycle.

ii) The shadow economy is notable challenge for economic theory and policy as answers must be provided to questions; why individuals work illegitimately, why relations are built in the shadow economy and what consequences arise from such activities. At this time there are approaches in different social sciences which concentrate on individual aspects of shadow economy.

iii) The most problematic task for economists working in this field is to convey the often not directly valued results of their work to politicians and to satisfy them, that the findings are correct and relevant. But the offers with regard to particular economic policies are based on a resolution of the relationship between the shadow economy causes and the effects.

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Understanding the underlying causes and resulting consequences of the expansion of shadow economic activities holds considerable significance. A central question to address is whether this economic trajectory should be encouraged and supported, or alternatively, whether efforts ought to be directed toward limiting or entirely eliminating it. More fundamentally, one must determine how the desired objective can be achieved and what types of political instruments and authoritative means are at our disposal to reach that goal.

Naturally, the design of appropriate policies should ideally be grounded in available possibilities and the requisite costs for their implementation. Moreover, such policies ought to be informed by a thorough understanding of the rationale behind the emergence and transformation of hidden activities conducted through illicit means. In this regard, the discussions presented in this section may be considered as a set of political recommendations and prescriptions aimed at effectively confronting the shadow economy:

1) Gradually reducing the attractiveness of tax evasion and regulatory evasion,
2) Expanding the opportunities for impelling the official institutions in the right direction, and
3) Formalizing informal activities, simplifying rules, enforcing regulations strictly, and enhancing knowledge.

To control the shadow economy, economists recommend that governments take the following measures: privatization and reducing the size of government, promoting economic and informational freedom, increasing transparency in economic activities, ensuring political stability, improving regulatory quality, restricting monopolies, and enhancing international cooperation.

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Appendix

Table A.1
Panel unit root test and characteristics of sample data

vaiables	Source	I(d)*	Mean	SD	Min	Max
Shadow Economy	Medina, L., & Schneider, F. (2018)	1	28.1	12.46	10.3	61
Log GDP Per Capita	IMF	1	8.14	1.54	4.46	11.13
Political Stability and absence of violence	World Bank	1	-0.16	0.87	-2.39	1.36
Government Effectiveness	Heritage	1	0.08	0.78	-1.25	2.45
Rule of Law	World Bank	1	0.01	0.79	-1.31	1.79
Control of Corruption	Heritage	1	-0.02	0.85	-1.41	2.37
Regulation Quality	World Bank	1	0.05	0.83	-1.97	2.0
Political Stability (ICRG)	PRS Group	0	4.72	0.96	1.84	6.43
Bureaucracy Quality	PRS Group	0	2.18	0.86	1.00	4.00
Government Spending	World Bank	0	71.17	18.13	7.60	95.40
Corruption	PRS Group	0	2.28	0.79	1.00	4.50
Democracy	PRS Group	0	2.97	1.74	0.00	6.00
Government Stability	PRS Group	0	9.61	1.44	4.00	12.00
GDP Grow	IMF	0	5.91	4.37	5.69	34.50

*- for Panel unit root test we use this test; Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP- Fisher Chi-square. Source: Research findings

Table A.2
Definitions and Sources of Variables

Variable	Description	Source
Shadow Economy	Size of the shadow economy in percent of GDP calculated with the new methods, especially the new macro method, Currency Demand Approach (CDA) and multiple indicators multiple Causes (MIMIC), comparison of different estimation methods, the light intensity approach, predictive mean matching (PMM).	Medina & Schneider (2018)
Government Stability	This is an assessment both of the government's ability to carry out its declared program(s), and its ability to stay in office. The risk rating assigned is the sum of three subcomponents, each with a maximum score of four points and a minimum score of 0 points. A score of 4 points equates to Very Low Risk and a score of 0 points to Very High Risk. Its subcomponents are: Government Unity, Legislative Strength, and Popular Support.	International Country Risk Guide (PRS Group)
Political Stability and absence of violence	measures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism	World Bank

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Government Spending	This component considers the level of government expenditures as a percentage of GDP. Government expenditures—including consumption and transfers account for the entire score. Some level of government expenditures represents true public goods, implying an ideal level greater than zero. $GE_i = 100 - \alpha .(Expenditures_i)^2$	Heritage
Corruption	Measures corruption in the political structure as a threat to foreign investment founded on the investigation of a worldwide complex of experts. 0 represents minimum corruption and 6 maximum corruptions.	International Country Risk Guide (PRS Group)
GDP Growth	Growing GDP in during time. $\frac{GDP_t - GDP_{t-1}}{GDP_{t-1}}$ *100	World Bank
GDP per capita	GDP per capita is GDP/midyear population. Figures are in constant US dollars.	World Bank
Government Effectiveness	Captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	
Democratic Accountability	This is a measure of how responsive government is to its people, on the basis that the less responsive it is, the more likely it is that the government will fall, peacefully in a democratic society, but possibly violently in a non-democratic one. The points in this component are awarded on the basis of the type of governance enjoyed by the country in question.	International Country Risk Guide (PRS Group)
Bureaucracy Quality	The institutional strength and quality of the bureaucracy is another shock absorber that tends to minimize revisions of policy when governments change. Therefore, high points are given to countries where the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. In these low-risk countries, the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training. Countries that lack the cushioning effect of a strong bureaucracy receive low points because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions.	International Country Risk Guide (PRS Group)

Source: Research findings

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