

Ellahi, Nazima; Kiani, Adiq; Malik, Qaisar Ali; Raza, Asif; Gul, Raazia

Article

Institutional governance and financial sector development: Panel evidence from Asian economies

Cogent Economics & Finance

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Suggested Citation: Ellahi, Nazima; Kiani, Adiq; Malik, Qaisar Ali; Raza, Asif; Gul, Raazia (2021) : Institutional governance and financial sector development: Panel evidence from Asian economies, Cogent Economics & Finance, ISSN 2332-2039, Taylor & Francis, Abingdon, Vol. 9, Iss. 1, pp. 1-10, <https://doi.org/10.1080/23322039.2021.1890367>

This Version is available at:

<https://hdl.handle.net/10419/270046>

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To cite this article: Nazima Ellahi, Adiq Kiani, Qaisar Malik, Asif Raza & Raazia Gul | (2021) Institutional governance and financial sector development: Panel evidence from Asian economies, Cogent Economics & Finance, 9:1, 1890367, DOI: [10.1080/23322039.2021.1890367](https://doi.org/10.1080/23322039.2021.1890367)

To link to this article: <https://doi.org/10.1080/23322039.2021.1890367>



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Published online: 07 Mar 2021.



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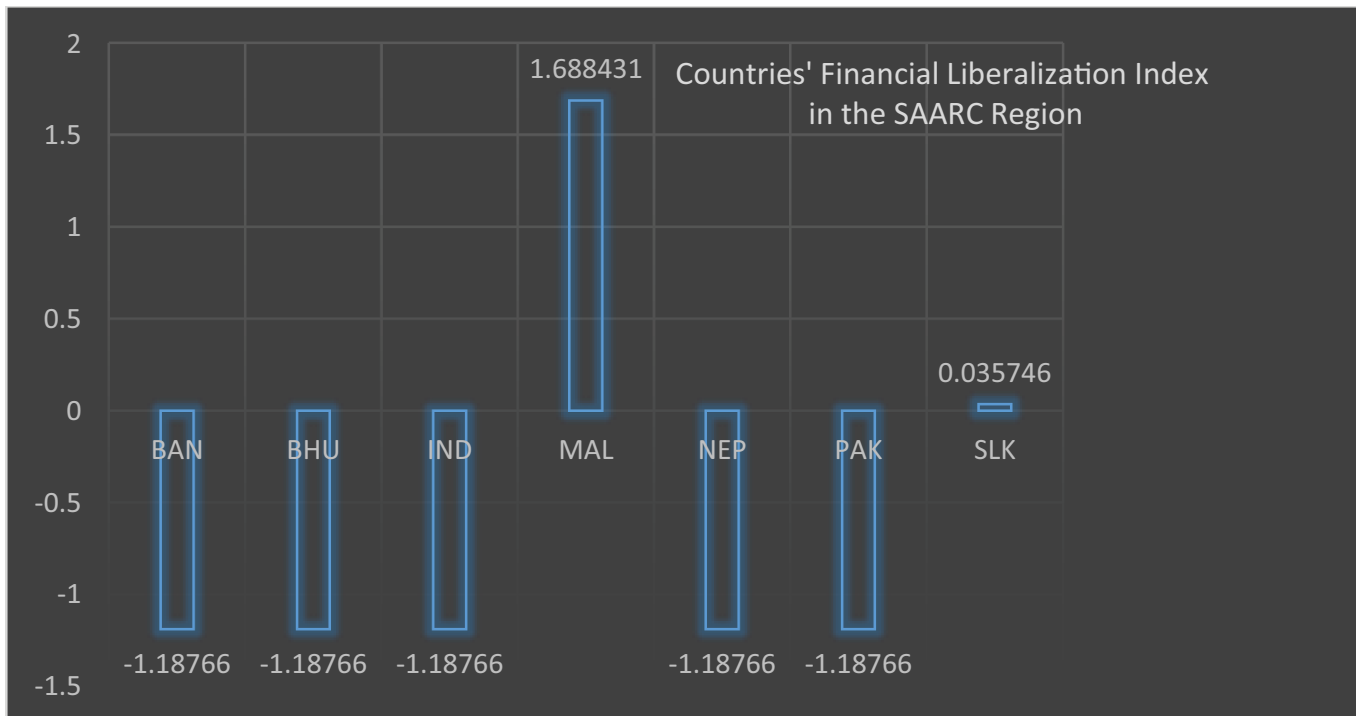
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Cogent Economics & Finance (2021), 9: 1890367



Received: 16 July 2019
Accepted: 10 February 2021

*Corresponding author: Nazima Ellahi, Foundation University Islamabad, Department of Management Sciences, Foundation University Rawalpindi Campus, 1. New Lalazar, Punjab, Rawalpindi 46000, Pakistan
E-mail: nazimaellahi@yahoo.com

Reviewing editor:
Stephanos Papadamou, University of Thessaly, Volos, GREECE

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FINANCIAL ECONOMICS | RESEARCH ARTICLE

Institutional governance and financial sector development: Panel evidence from Asian economies

Nazima Ellahi^{1*}, Adiq Kiani², Qaisar Malik³, Asif Raza⁴ and Raazia Gul⁵

Abstract: Current study aims to investigate the impact of institutional governance (GOV), trade openness (TOPEN), real output (RGDP), economic freedom (EFR), inflation rate (INFR) and real output growth on financial sector development (FSD) of selected Asian economies. A consolidated financial sector development index, representing banking sector and stock market is generated using Principal Component Analysis (PCA). The study conducted data analysis by applying panel estimation method of Generalized Method of Moments (GMM), and showed that trade openness, and real output moderate the financial development (FSD) through its positive interaction with institutional governance (GOV). The findings highlight that governance is an important and crucial driver of financial sector development and stock market development in four selected Asian economies.

Subjects: Economics; Macroeconomics; Banking

Keywords: Institutional governance; economic freedom; generalized method of moments & financial development



Nazima Ellahi

ABOUT THE AUTHOR

Dr. Nazima Ellahi is an Associate Professor & Head of the Department of Economics and Finance at Foundation University Islamabad, Pakistan. She is Certified Productivity Specialist from APO, Japan and works as an Editor of Foundation University Journal of Business & Economics. Dr. Ellahi received the Higher Education Commission of Pakistan's Best University Teacher Award. She has considerable academic experience writing in prestigious journals around the world. More than 35 peer-reviewed articles have been written by Dr. Ellahi and presented at reputable conferences around the globe. At different conventions, she also won best paper awards. Her interests in the field of Economics include financial economics, economic modeling and development economics.

PUBLIC INTEREST STATEMENT

This research seeks to establish the linkage between the four Asian economies' institutional governance and financial sector growth. This study is motivated by the fact that the growth of the financial sector leads to long-term economic developments, which cannot be accomplished without systemic governance. Although Asian market has become a growth engine for the world economy, more than 60 per cent of the world's poor still live in this market. This analysis should also have been seen as a reference for policy makers and regulatory authorities to understand how financial development is moderated by trade openness and real production. Policymakers and central banks are also encouraged to adopt institutional governance with diligence to ensure the recovery of loans and sustained development of the banking sector. Furthermore, poor internal governance in stock markets can give rise to inequitable, wasteful and weak practices such as insider trading. On a broader note, our findings suggest that the appropriate governance is essential component of economic growth.

1. Introduction

The studies across previous two decades developed a consensus that productive mobilization of physical and human capital is critical for economic development, which heavily depends upon the quality of institutions. A well-functioning institutional framework plays important role in the development of economy in the long run Kutan *et al.* (2017) and Wang *et al.* (2014). A similar argument by Law and Habibullah (2006) highlighted that quality of institutions is an important factor which helps to attain the benefits of financial sector development and leading to economic growth through rule of Law and control for corruption.

From a theoretical perspective, Law and finance hypothesis by La-Porta, Lopez-de-Silanes, Sheleifer, & Vishney (La Porta *et al.*, 1997), Levine (1999) discussed the importance of legal environment and quality of institutions for finance-growth link.¹ The hypothesis serves as an avenue to discuss the role of institutional governance in banking sector development and stock market development. Since, there is an established fact that finance plays an important role for economic growth; therefore, it is a worthy endeavor to discuss, comprehend and further work to improve the factors, which affect it (Emenalo & Gagliardi, 2020). The institutional governance here is defined as “the traditions and institutions by which authority is practiced, *i.e.* governments are selected, monitored, and capacity of a government to formulate and implement sound policies for state and its citizens”²

While discussing the outcomes of financial reforms³ vary across the countries rests upon various factors. Among various factors, sound macroeconomic framework and better functioning institutions are a prerequisite to get positive benefits of financial openness (Chinn & Ito, 2006). Asian region occupies a central place on world map, both geographically and economically and hence endowed with developmental potential. In addition, countries in this region showed a varying level of outcomes in terms of financial liberalization (Wagle, 2007). In addition to this, there is political instability, lack of democratic practices, violation of human rights and incidence of corruption in this region Wagle (2007) and transparency international (2010). Hence, it could be an interesting case to study for determining the institutional governance and its role in financial sector development.

There are various studies, which highlight factors contributing towards the better functioning of financial system. Most of these studies considered institutional and regulatory framework and checked their importance. A most recent study by Aluko and Ibrahim (2020) tested the finance-growth nexus with a mediating the role of institutions in sub-Saharan African countries. Outcomes suggested that in the countries, which meet threshold level of institutions, finance is associated with higher level of economic growth. The results have found to be indicator specific, where countries showed no mediating role in institutional quality, World Bank indicators are used for analysis. A country level case study by Sohag *et al.* (2019) examined the role of institutional quality in finance-growth nexus for Indonesia and Malaysia over the post-liberalization era and found an inverted U-shaped relation. Similarly, a recent study by Khan *et al.* (2019) discussed the relationship between quality of institutions and financial development for a group of countries under emerging and growth leading. Findings suggested that quality of institutions works for improvement of financial sector development. A similar study highlighting the impact of institutional governance on financial development by Sayilir *et al.* (Sayilir *et al.*, 2018) discussed the nature of relationship between various aspects of governance and financial development. A structural equation modelling approach revealed a significant and positive relationship between these two factors. On the same lines, Talmaciu (2014) explored the relationship between regional development policy, institutional quality and good governance. The results of study, being in line with the literature, suggested a strong but inverse relationship between regional development policy and quality of institutions.

While discussing the determinants of financial sector development, a considerable level of attention has been dedicated to institutional factors, which determine it as Abubakar and Kassim (2018) worked on exploring the macroeconomic and institutional determinants of financial development for 50 OIC countries and found that income level and exchange rates enhances financial development. The study also highlights the importance of financial openness and quality

of institutions to promote financial depth and lending activities. For Asia and Pacific region, Le et al. (2015) tried to highlight the significant determinants of financial depth for Asian and Pacific region economies and came out with trade openness, institutional factors and real GDP as significant determinants that affect financial sector development. Samadipour et al. (2017) explored the relationship between financial liberalization, institutional governance and financial development. It utilized the data from World Development Indicators. The comprehensive findings showed that for countries with high-income level a positive and significant impact of governance and financial liberalization on economic growth.

Agyemang et al. (Agyemang-Mintah & Schadewitz, 2018) also supported that institutional quality matters for financial sector efficiency and development and its quality must be ensured through law enforcement. Effiong (2016) in an empirical study checked whether financial development matters for economic growth and he conditioned his study upon the quality of institutions. A review of literature on political economy of finance by Lambert (Lambert & Volpin, 2018) and results signposted that political factors are critically important for finance, and that institutions drive and affect capital allocation and access to finance for developing economies. Khan et al. (2019) discussed the role of institutional governance for United States of America and found that a robust relation exists between institutional governance and finance. Kaidi et al. (2019) argued that institutions do not matter for poverty reduction while their role for financial development and poverty reduction heavily depends upon the choice of indicators. Kutan et al. (Kutan et al., 2017) discussed the link between institutional governance and finance-growth nexus for 21 MENA economies. Findings over (1980–2012) exhibited that not all measures of financial development work for economic growth in the absence of institutional governance and improves finance growth nexus in the presence of institutional quality.

While accentuating the significance of finance-growth relation, an agreement is evolving in the scientific research work to confer and discover the factors, which determine the financial sector development, particularly the institutional governance. Against this backdrop, current study aims to find the link between financial sector development and institutional governance for selected Asian economies including Bangladesh, India, Pakistan and Sri Lanka. The study is organized as; following introduction and brief review of literature in section 1, section 2 contains methods and materials. While, data analysis results are contained in section 3. Final section concludes this study.

2. Methods and materials

This study utilized annual time series data covering from 1995 to 2018 for selected Asian economies including Bangladesh, India, Pakistan and Sri Lanka. Major data sources include official websites of central banks in each country, International Financial Statistics (IFS), World Development Indicators and Penn World Table 2009. Major variables of study includes:

2.1. Indicator of financial sector development (FSD)

Keeping in consideration the previous studies [see e.g., Voghouei et al. (2011), Naceur and Ghazouani (2007), and Law and Habibullah (2009), current study utilized both banking sector development and stock market development indicators to capture the impact of overall financial development. In order to use for empirical analysis, we constructed a single index of FSD by applying Principal Component Analysis (PCA). We utilized stock market development (SMC) (measured by market capitalization-to-GDP ratio), liquid liabilities (LL), domestic credit to private sector (PSC) and broad money (M2). Since, using all these measures individually in a model may create problems of multicollinearity, due to incidence of high correlation among these measures. PCA is a statistical method, which utilizes to generate a trivial number of uncorrelated variables using the number of correlated variables, known as Principal Components. However, it grips the variability in data (Jalil et al., 2010). The results of Principal Components are given in Table 1.

Table 1. Principal Component Analysis (PCA)

Principal Component	Eigenvalue	Cumulative (%age)	Variance (%age)
1	2.034	0.835	0.835
2	0.395	0.965	0.135
3	0.029	1.000	0.011
4	1.842	0.956	0.012
Variable	Factor Scores (%age)	Factor Loading	Communalities
LL	35%	0.562	0.876
M2	36%	0.596	0.927
CPS	30%	0.501	0.694
SMC	31%	0.521	0.715

Note: LL, M2, CPS and SMC is Liquid Liabilities, Broad Money, Private Sector Credit and Stock Market Capitalization

2.2. Institutional governance

To measure governance, this study utilized World Governance Indicator (WGI), which comprise six major dimensions *i.e.* There are six main dimensions, *i.e.*, Voice and accountability; Political stability; Government effectiveness; Regulatory quality; Rule of law and Control of corruption. We aggregated all the six dimensions to get a single predictor of Institutional factor by taking average.

2.3. Other control variables

The study included Openness of trade (TOPEN), Legal Origin (LO), Economic Freedom (EFR), inflation rate, government spending, and real GDP per capita as macroeconomic indicators.

2.4. Econometric specification

The estimable model is given as:

$$FSD_{it} = \alpha_i + \gamma_t + \sum_{j=1}^k \beta_j GOV_{jt} + \sum_{k=1}^l \gamma_k X_{ikt} + \mu_{it} \quad (ii)$$

The econometric form of this model is given as:

$$\ln(FSD_{it}) = \alpha + \beta_1 \ln(FSD)_{i,t-1} + \beta_2 GOV_{i,t} + \beta_3 LO_{i,t} + \beta' [X]_{i,t} + \mu_{it} \quad (iii)$$

Where FSD = Financial Development, GOV = institutional factors, LGO = Legal Origin and X_t is a vector of control variables.

3. Methodology

The study applied Generalized Method of Moments (GMM) for empirical analysis. Holtz-Eakin *et al.*, (1988); (Arellano & Bond, 1991); and (Arellano & Bover, 1995) argued that GMM covers a diverse range of application in the field of macro-econometrics. It is accorded as a best suitable technique to deal with many panels and short range datasets. This study conducted analysis using *Stata version 12.0*.

4. Discussion and conclusion

Current study explored the factors, which affect financial sector development in Bangladesh, India, Pakistan and Sri Lanka. The empirical findings produced following results. **Table 1** reported principal components, **Table 2** is a presentation of summary statistics.

Estimation output is presented below in **Table 3**. Here, the dependent variable is financial sector development (FSD) which is a principal component comprising stock market indicators and banking

Table 2. Summary statistics

Period 1996–2016				
Variabes	Mean	St. Deviation	Minimum	Maximum
FSD	22.24	6.76	6.67	31.75
GOV	-0.39	0.46	-1.12	0.56
RGDP	752.13	659.47	213.78	2929.31
INF	6.92	3.29	2.01	15.94
TOPEN	0.05	0.054	0.003	0.24
GEF	-0.13	0.52	-0.73	0.91
CCR	-0.32	0.51	-1.17	0.72
VAC	-0.40	0.44	-1.32	0.40
REGQ	-0.27	0.54	-1.06	1.00
PLST	-0.59	0.96	-1.93	1.11
EFR	-0.18	0.49	-0.96	0.53
LO	0.85	0.35	0	1
No of Obs	92			

Note: Where DFS, INST, RGDP, INF, EFR and TOPEN are development of financial sector, institutional quality index, Real GDP per capita, inflation rate, economic freedom and Trade openness respectively. The six dimensions of governance are GEF, VAC, REGQ, PLST and RLW government effectiveness, voice and accountability, regulatory quality, political stability and rule of law respectively. LO is legal origin variable, constructed by generating a dummy, which assumes value one for Muslim law origin countries and 0 for mixed law (that can be civil, common or combination of both) origin.

Table 3. Effects of institutional governance on financial sector development

Variables	Coefficients	St.Dev	Z-statistics	Probability
FSD(-1)	0.3485	0.10835	3.22	0.001
GOV	0.5597	0.08517	6.57	0.000
LO	0.86117	0.13833	6.23	0.000
RGDP	0.07315	0.10214	0.72	0.474
EFR	0.4619	0.13271	3.48	0.001
INF	-0.0081	0.00674	-1.20	0.230
TOPEN	0.53692	0.12108	4.43	0.000
Constant	-1.6816	1.37770	-1.22	0.222

Here, FSD, GOV, RGDP, INF, and TOPEN are development of financial sector, institutional quality index, Real GDP per capita, inflation rate, and Trade openness respectively. The six dimensions of governance are GEF, VAC, REGQ, PLST and RLW government effectiveness, voice and accountability, regulatory quality, political stability and rule of law respectively. LO is legal origin variable, constructed by generating a dummy, which assumes value one for Muslim law origin countries and 0 for mixed law (that can be civil, common or combination of both) origin.

Sargan Test: = 11.65564, Prob > chisq = 0.9641

Autocorrelation Test: First Order S.C = -2.3202 (0.0203), Second Order S.C = -1.7134 (0.0866)

sector development indicators. A significant and positive impact of institutional factors has been reported, while openness of trade (TOPEN), Legal Origin (LO), and real GDP per capita (RGDP) have positive and robust association with financial development (FSD). However, Inflation rate has created a negative significant impact on DFS. The coefficient value of lagged dependent variables is 0.348, and it is positive and significant (Table 4).

There has been a direct link between openness of trade (TOPEN) and FSD is justified by the argument that more openness of trade is a source of comparative advantage in international financial market with more demand for financial products, as supported by Rajan and Zingales

Table 4. Dependent variable (FSD) & individual dimensions of governance

Variables	(CCR)	(GEF)	(RGQ)	(RLW)	(VAC)	(PST)
<i>FSD(-1)</i>	-.2308242 (0.1792)	-0.28640** (0.1372)	0.10476 (0.0771)	0.03739 (0.1198)	0.14560 (0.1821)	0.05858 (0.1355)
<i>GOV</i>	-0.4226* (0.0672)	-.596078* 108972	-0.52978* (0.1343)	-0.36530* (0.1310)	0.11502 (0.1201)	-0.16128** (0.0691)
<i>LO</i>	0.72405*** (0.4625)	1.8570* (0.5347)	1.05095*** (0.5861)	1.82517* (0.6742)	0.87067** (0.3893)	0.29017 (0.3260)
<i>RGDP</i>	0.04683 (0.1588)	(0.2827)** (0.1181)	0.04395 (0.1532)	0.15218* (0.1921)	0.13503 (0.1856)	0.06391 (0.2721)
<i>INF</i>	-0.00501 (0.0092)	-.019021** (0.0077)	-0.00949 (0.0095)	-0.00929 (0.0099)	-0.01640 (0.0110)	-0.00434 (0.0083)
<i>TOPEN</i>	0.28176** (0.1318)	0.37331* (0.1073)	0.28216* (0.1031)	0.19133* (0.1588)	-0.05730 (0.1589)	-0.04334 (0.0982)
<i>Constant</i>	-0.51628 (2.3621)	-3.84013* (1.2747)	-2.64751 (2.1328)	-3.5887 (3.1883)	-0.13861 (2.6040)	-1.2008 (2.5737)
Sargan stat Prob > chi2	0.9914	0.9993	0.9716	0.9702	0.9870	0.9674
1 st order S.C Prob > z	0.0343	0.0622	0.0059	0.0067	0.0057	0.0542
2 nd order S.C Prob > z	0.8163	0.7433	0.0240	0.0620	0.4476	0.2727

Note: Here, FSD, GOV, RGDP, INF, and TOEN are development of financial sector, institutional quality index, Real GDP per capita, inflation rate, and Trade openness respectively. The six dimensions of governance are GEF, VAC, REGQ, PLST and RLW government effectiveness, voice and accountability, regulatory quality, political stability and rule of law respectively. LO is legal origin variable, constructed by generating a dummy, which assumes value one for Muslim law origin countries and 0 for mixed law (that can be civil, common or combination of both) origin. (GEF), (CCR), (VAC), (REGQ), (PLST) and (RLW) are six dimensions of WGI, named as government effectiveness, voice and accountability, regulatory quality, political stability and rule of law respectively. Values in parenthesis are robust standard errors, * shows significance at 1%, ** is significance at 5% and *** is significance at 10% level of significance.

hypothesis. The evidence of direct and significance relationship between RGDP and FSD is in line with the theoretical considerations and arguments presented by Robinson (Robinson, J, 1952) and Patrick (1966). The possibility arises, as with the growth of real sector, there are more and more financial sector resources. A negative coefficient sign of inflation rate (INFR) is exactly as the theory supports, and could be explained in a way that it causes rigorousness of credit market frictions. This finding is a theoretically supported by Moore (1986), and Azariadis and Smith (1996) as borrowers are discouraged to save in financial institutions due to low returns on savings. This results into informational frictions and hence scarcity of credit. In addition to this, we applied diagnostic tests of Sargan tests, which proved to be satisfactory, where absence of first-order serial correlation is rejected and of second order, serial correlation is not rejected at 5% level of significance. Moreover, Sargan test does not reject the null hypothesis of over-identification.

Sargan test: H_0 : Over-identifying restrictions are valid

Serial Correlation Test: Errors in first-difference regression do not exhibit second order Serial correlation, value in parenthesis shows probability value.

We utilized World Governance Indicator (WGI), which comprise six major dimensions including government effectiveness (GEF), Voice and Accountability (VAC), Regulatory Quality (REGQ), Political Stability (PST), and Rule of Law (RLW).

5. Conclusion and recommendations

Present study explores the institutional factors, which affect development of financial sector for four Asian economies in Bangladesh, India, Pakistan and Sri Lanka over the period 1996 to 2018. We constructed a financial sector development index (FSD) using three banking sector development measures and stock market development indicator, applying Principal Component Analysis (PCA). For institutional governance, we World Governance Indicators (WGI) along with a set of control variables. The general findings of the study suggested that institutional governance matters most for the success of financial sector development. In addition to this, it has been suggested in the study that trade openness, real GDP are key determinants of financial depth in developing economies, particularly the sample countries the policy recommendations include a need to improve political, legal, macroeconomic reforms, and foster anti-corruption policies.

Funding

The authors receive funding through FUI research grant for publication.

Author details

Nazima Ellahi¹

E-mail: nazimaellahi@yahoo.com

Adiqa Kiani²

Qaisar Malik³

Asif Raza⁴

Raazia Gul⁵

¹ Foundation University Islamabad, Department of Management Sciences, Foundation University Rawalpindi Campus, Rawalpindi, Punjab, 46000, Pakistan.

² Economics, Federal Urdu University of Arts Sciences and Technology, Department of Economics, Federal Urdu University, Islamabad, Islamabad, 46000, Pakistan.

³ Head of Operations Department, Foundation University Islamabad Pakistan, Rawalpindi, 46000, Pakistan.

⁴ Operations, Digital Product Limited, Pakistan, DPL Islamabad, Islamabad, 46000, Pakistan.

⁵ Department of Business Administration, Foundation University Islamabad.

Citation information

Cite this article as: Institutional governance and financial sector development: Panel evidence from Asian economies, Nazima Ellahi, Adiqa Kiani, Qaisar Malik, Asif Raza & Raazia Gul, *Cogent Economics & Finance* (2021), 9: 1890367.

Notes

1. For finance-growth nexus, the studies including Arestis and Demetriades (1997), Levine (2003), Levine and Zervos (1998), and Murinde (2012).
2. See <http://info.worldbank.org/governance/wgi/#home>
3. Since last three decades, all the developing and developing countries of the world have initiated efforts to develop their financial sector by implementing financial openness program introduced by IMF and World Bank. The efforts aimed to achieve global financial integration.

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