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FINANCE-GROWTH NEXUS: DOES GOVERNANCE MATTERS?

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Abstract

This study addresses finance-growth link and examines how such link is dependent on the country's governance system. Study hypothesized that developed financial system results in higher output growth in presence of strong legal and property rights, political stability, sound voice and accountability and absence of corruption. The empirical part of the study uses moderation test developed by Hayes (2012) to test the moderating role of governance on the finance- growth relationship. Study has gathered governance and financial development data from World Development Indicators and Financial Development Indicators of World Bank for 20 years. Evidence obtained from a sample depicts significant moderating role of governance indicators on the finance-growth relationship. However, relationship turns to be weaker in high-income level countries in contrast to low-income level countries, which depicts that high legal and regulatory requirement increases the transaction costs that limits the finance-growth relationship.

Keywords
Financial Development, Economic Growth, Governance

1. Introduction

An important element for analyzing economic growth of any country is its real GDP. Therefore, extensive literature has done regarding the main factors identifying economic growth and the possible motives behind the difference in these determinants across the countries and time in both theoretical and empirical perspective. Literature has derived financial development as one of a major tool behind economic growth. Though, the empirical evidence is not yet clear and debate on whether financial growth is a cause or result of an economic progression by means of various econometric specifications, like time-series, cross sectional and panel data studies is still nascent (Beck & Levine, 2004; Beck *et al*. 2005). Generally, literature has found positive long run connotation among financial advancement and economic growth, suggesting that a developed financial system enhances growth which supports the postulation of “more finance - more growth”.

Opposite to this, the US financial crises of 2007-08 have underlined the academicians and policy makers to rethink about the prior findings. The crises have depicted the probabilities that well-functioning financial system can primarily and secondarily discard resources, reduce savings and motivate speculative activities, which leads to underinvestment and misallocation of limited resources. This will in turn slow down the economy, rises unemployment and alleviates poverty. These adverse effects of financial destruction have decreased the real sector activity largely emphasizing the need for economists and decision makers to identify the causes or influential factors effecting financial progression for growth purpose instead of testing finance-growth relationship alone. The current literature has identified different routes through which financial development can enhance economic growth by manipulating funds and investment behaviors. Levine (2004) stated that developed financial systems lead to higher efficient market, production and monitoring of investment opportunities, employment of strong corporate governance, trading and divergence of risk, increased goods and services and risk management. Although, the existence of market frictions, rules, laws and policies significantly varies across the globe and time, therefore enhancement in any single dimension can influence financial resources differently depending on the level of market frictions. Aghion & Howitt (2009) argued that people are motivated to save more, and likely to invest their resources in a country where banks are trustworthy and efficient. Reinhart & Rogoff (2009) debated that developing a government policy that just add money in an economy is not a proper way to promote economic growth unless attached with an operational and well-organized governance system. Aikins (2009) argued that without well-established economic policy and regulatory structure, a country’s financial systems are exposed more to a risk, which limits the stability and growth of an economy. Major international regulatory bodies like IMF and World Bank also provides guidelines to enhance economic growth in their financial and economic development programs. Hence, the link between finance and growth depends significantly on governance structure of any country that consists of level of political stability, rule of law, regulatory quality, accountability and government effectiveness. The present study therefore aims to fill this gap by identifying how governance system moderates the finance - growth link by examining the sample data of 87 countries.

Remaining paper is portioned in four sections. Section 1 describes the theoretical and empirical studies on the governance, financial advancement and economic progression. Section 2 explains data and empirical methods used in this study. Section three reports empirical results and discusses the findings while last section closes the study.

2. Literature Review

Economic literature encompasses different views on the academic link between financial expansion and economic progression. Schumpeter (1911) argued that well defined financial system routes financial assets to the useful areas which in turn leads to innovation and growth. Opposing it, Robinson (1952) stated there exist no causal connection between finance and growth as financial development drives economic growth only because of increasing demand of financial products and services. The existing literature is in generally favors more for the argument set forth by Schumpeter (1911). In align with Schumpeter (1911), Patrick (1966) developed supply-leading proposition, which stated that developed financial sector encourages economic growth as such development of financial assets and services in reaction of the call will lead to the growth of non-financial sector. Hence, financial sector helps them by channelizing funds from excess units to deficit ones in lieu of higher rate of return.

In comparison to this finance –growth arguments, literature has also put forth growth-finance postulates. Robinson (1952) and Patrick (1966) stated that growing financial sector would enhance demand for monetarist and fiscal services and products. Therefore, demand of the expending real sector economy will eventually end up in developed financial sector. Afterwards, Mickinnon (1973) developed an external money model that described that firms are generally restricted to their capital and hence more likely to accumulate savings in form of monetary assets for profitable investments. Hence in this case, money and capital are identified as balancing assets as money works as a tool for wealth formulation. Shaw (1973), however, builds an inside money model, also called as debt-intermediation which described that savings are more attracted by high interest rates. Therefore, with higher money supply, borrowing and lending activities, financial intermediaries encourage funds, which ultimately raise growth. The economic literature supports this argument and depicted significant positive effect of financial progression on economic growth.

A large number of studies in experimental literature have tested the link between financial advancement and growth of the economy but findings are inconclusive in nature. However, most of the studies have found significant progressive effect of financial growth on economic progression after controlling all possible biases and time-country effects. For example, Levine (2000) found positive relationship between financial expansion and economic evolution in the investigated 71 countries. Kargbo & Adamu (2009) supports the finance- growth assumption in Sierra Leone as financial development depicted significant increasing effect on growth of the economy. Additionally, the study depicted that investments play a major role in deriving finance-growth link.

Deidda & Fattouh (2002) showed a non-linear association between finance and growth. As, financial development demonstrated significant positive effect on high income country's growth which turned to be insignificant for countries having low income level. Findings were similar with Rioja & Valev (2004) which showed positive finance-growth effect in high income countries. Opposing this, Huang & Lin (2009) found positive finance-growth effect in countries having low-income level in comparison to high income ones.

Valickova *et al*., 2015 found that financial sector is essential for a significant increase in economic development, though the role of stock market in driving progression is higher in contrast to other financial markets. Magweva & Maslamba (2016) found insignificant effect of Zimbawe stock market on economic evolution as only a limited number of firms are listed on stock exchange which did not represent the total firms working in a country. Krinichansky and Sergi (2019) examined 75 Russian regions and depicted that finance lead to growth by enhancing investment and productivity rather than capital formulation. Petkovaski and Kjoseski (2014) showed that 2008 Global crises limit the part of finance sector in output growth. However, improvement in regulatory systems might increase the growth benefits of banking sectors.

Literature has identified governance as a significant factor that explains the possible differences in financial development across the globe. Karikari (2010) suggested that developed financial system needs an absence of bureaucracy, strong law and order and low level of corruption. Chinn & Ito (2007) found that general legal structure and development shows an important part in driving financial sector growth. Huang (2010) identified role of governance on financial expansion in short run, especially for low-income countries. Mishkin (2009) suggested institutional reforms ultimately promote financial development and economic growth. Sound institutions develop robust property rights, operational legal systems and well-organized financial guidelines which eventually support finance- growth link.

Current paper provides new evidence that highlight how finance-growth link is dependent on governance as literature finds evidence in favor of link between finance and growth, governance and finance and how such finance –growth relationship changes in the absence of governance systems. The results may have strong policy implications as If there exist a significant proof that existence of strong governance promotes finance-growth link, then policy makers should define actions that reinforce the structure of governance instead of simply intensifying the financial segment to promote growth. In addition, awareness about the changing perspective of the finance-growth link is important for policy makers who could then emphasize on governance related strategies that improves economic growth.

The study adds in current literature in following ways: at primary, the moderating role of governance has tested on the link between financial progression and economic advancement which has not tested before. At second, the study divides the sample data in countries as per their income level and explores how finance-growth link varies with the income class. At last, financial development index and world governance index have developed by using the World Bank Financial and governance indicators by assigning them equal weights.

3. Methodology and Data

Present Study collects sample data of 87 countries for the period of 1996-2017. Following King & Levine (1993); Cecchetti & Kharroubi (2012), present study developed a linear growth model to empirically analyze the connection between finance and growth.

$$GROWTH_{it} = \beta\, FDI_{it} + \gamma\, GI_{it} + \varepsilon_{it} \dots\dots\dots (1)$$

Where $GROWTH_{it}$ represented economic growth rate, FDI_{it} depicted country's level of Financial Development Index, GI_{it} showed the country's level of governance index and ε_{it} was an error term. N depicted the country while t = 1 ……… N showed time.

Study utilized data based on 4*2 framework of Global Financial Development database by World Bank. Study calculated a measure of four different pillars of financial systems: (a) depth; (b) access; (c) efficiency and (d) stability. All of these features depicted both (1) financial institutions (banks, investment banks, insurance companies, leasing) and (2) financial markets (stock market and bond market). Database also provided measures regarding absorption and struggle in banking sector. These characteristics worked as a proxy for the products and services provided by the financial structures. 'Financial Depth' depicted the extent or intensity of products and services (size) provided by financial systems. 'Financial Access' represented the degree to which public had an access of financial products and services. Well-developed financial systems that deal with market frictions were capable of providing financial services to a large number of firms and public. 'Financial efficiency' deal more with cost of intermediary credit. Lastly, the databases measured 'Financial Stability', which represented the level of risk and soundness.

For governance, the study used world governance indicators by World Bank. These indicators are composed of six different dimensions that were (a) Voice and Accountability; (b) political stability and absence of violence; (c) Government Effectiveness; (d) regulatory quality; (e) Rule of Law and (f) Control of Corruption. 'Voice and Accountability' measured the extent to which public were capable of participating in government elections along with freedom of expression. 'Political solidity and Nonexistence of Violence' depicted the observation of the probability of political unpredictability and violence. 'Government Effectiveness' indicated the excellence of the plan preparation and employment. 'Regulatory Quality' indicated the administration's capacity to define and employ guidelines and principles to encourage economic growth. 'Rule of Law' measured the magnitude to which public has confidence on legal rights and accepted all the directions of society. 'Control of Corruption' showed the level to which community authority was used to earn personal benefits. A governance index has calculated by giving each sub index an equal weight.

To test the hypothesis that whether governance played a moderating role on finance growth nexus, study developed equation 2 that measured the moderating role of governance index through an interaction term of financial development and governance.

$$GROWTH_{it} = \beta\, FDI_{it} + \gamma\, GI_{it} + FDI * GI_{it} + \varepsilon_{it} \dots\dots\dots (2)$$

4. Results and Discussion

Table 1: Summary Statistics

	Mean	**St. Dev**
For All Countries		
FDI	51.32	53.49
GI	0.24	0.5427
EG	25.23	1.85
GDPPC	18,188.33	21,271.46
GDPG	3.87	5.11
For High Income Countries		
FDI	57.39	62.79
GI	0.976	0.542
EG	25.94	1.768
GDPPC	34,667	21,330
GDPG	3.15	3.98
For Upper Middle Countries		
FDI	53.54	49.51
GI	-0.272	0.446
EG	24.93	1.78
GDPPC	5,895.56	2,640
GDPG	4.4	7.35

For Lower Middle Countries		
FDI	42.08	36.07
GI	-0.55	0.38
EG	24.6	1.47
GDPPC	1,903.04	914.06
GDPG	4.36	3.54
For Low Income Countries		
FDI	23.37	11.32
GI	-0.52	0.29
EG	23.04	0.8
GDPPC	1,133.83	5,663.11
GDPG	5.48	3.05

Table 1 depicts summary statistics of financial development index, governance index and economic advancement. Detailed figures have provided by dividing the sample data based on income classification of countries. Results show that, on average, countries all over the world are 51.32 financially developed while having week governance structure as depicted by mean value of governance index. This shows that decision makers should pay serious attention in improving governance system of the sample countries. High-income countries are more financially developed and have better governance system, despite of their lower average growth rate over the period of 1996-2017. Upper-middle countries have developed financial system but their week level of governance restricts them to increase their per capita income despite of greater growth rate than high-income countries. Upper-middle and low-income countries show moderate financial development despite of their poor governance system. This shows that these countries are rated negative in corruption, political solidity, government efficiency, voice, and accountability that ultimately restrict their economic growth. Panel A of Table 2 reports empirical findings regarding the controlling role of governance on the association between financial expansion and economic development. Results show that governance and financial development, both, positively stimulate economic growth independently that implies that the more the financially developed and strong governed country is, the higher the economic development. However, the incremental part of financially development on economic progression turns to be opposite while regressing governance as a moderator. This indicates that perhaps strong governance increases the transaction costs of financial markets and intermediaries which minimize the economic growth of that country. Conditional effects in panel B shows the effect of financial expansion on economic evolution upon different levels of governance. Study illustrates that financial advancement positively contributes in economic growth during low and moderate levels of governance but this contribution turns to be negative in high governance level because of increasing legal and contractual costs. Findings remain same for high income countries, that governance plays a negative moderating role on the connection between financial expansion and economic progression. Conditional effects, furthermore, show that financial advancement significantly increases economic progression of high-income countries in presence of week governance. The reason might be that investors from other income level countries are reluctant to invest in high income countries having strong governance, as they are unable to bear high legal and regulatory requirements. Investors have also lower cost of capital while investing in low income countries due to the developed financial market that maximize their return. This attracts foreign investors to move funds from high-income countries to low income one, results in lower GDP growth of high-income countries. In addition, developed financial and governance system increase currency value that makes exports expensive to foreign investor, which result in negative effect on GDP. Moreover,

Table 2: Economic Growth, Financial Development and Governance

(Panel A)

	All Countries	**High Income Countries**	**Upper Middle Countries**	**Lower Middle Income Countries**	**Low Income Countries**
Constant	25.36***	24.33***	24.72***	24.80***	20.41***
FDI	0.0044***	0.0099***	0.0059***	0.0198***	0.0815***
GI	0.749***	1.7138***	0.2047	-0.1060	-3.289***
FDI*GI	-0.008***	-0.0108***	-0.0057	-0.0285***	0.0883***
R Square	0.165	0.1498	0.046	0.1124	0.274
F Stats	153.31***	48.53***	8.023***	14.44***	12.96***

Conditional Effects of Financial Development on Economic Growth
(Panel B)

All Countries		**High Income Countries**		**Upper Middle Income Countries**		**Lower Middle Income Countries**		**Low Income Countries**	
Level of GI	Effect on EG	Level of GI	Effect on EG	Level of GI	Effect on EG	Level of GI	Effect on EG	Level of GI	Effect
-0.86	0.01***	0.43	0.01***	------	------	-0.96	0.02***	-0.88	0.004
-0.18	0.01***	1.02	-0.001	------	------	-0.51	0.01***	-0.52	0.04***
1.05	-0.003***	1.56	-0.01***	------	------	-0.19	0.025***	-0.24	0.06***

Results for upper-middle countries illustrate that financial expansion increases economic advancement but the intensity of such increase is less than high-income countries. Governance plays no significant role in deriving their economic growth. Moreover, governance fails to play any significant moderating role on the association between financial growth and economic progression. This indicates that there might be few other factors that play a substantial part in deriving economic growth. Findings regarding lower-middle income countries show that financial expansion negatively affects economic growth, which negates more finance, more growth hypothesis. This suggests that lower-middle income countries might have limited resources to meet unlimited demand hence development in financial system might discourage saving and boost up speculative activities which hinders economic growth. Governance, however, plays a significant role in arising economic growth. This implies that strong governance enhances country's legal and political environment that helps these countries to promote other sectors of the countries which ultimately enhances economic growth. Negative moderating role of governance on finance-growth link depicts that strong governed firms have higher legal and regulatory requirements. This limits the positive value contribution of financial markets and institutions in economic progress as lower-middle income countries are unable to bear such a high cost. Surprisingly, governance plays a positive moderating role on the association between financial advancement and economic progression and this implies that high level of governance minimizes presence of informational asymmetry in financial markets and intermediaries that boost up funds and investments in such countries and put upward pressure on an economic growth. Study, furthermore, identifies effect of economic progression on various levels of financial expansion and governance and tries to find an estimated level of financial expansion and governance on which economic growth is at its maximum. Figure 1 depicts economic growth is at its maximum at lower level of financial growth and higher level of governance and after that with the increase in level of financial development, economic growth starts to decrease. This depicts that increase in financial development level might initiates speculative activities in a country, which negatively affects economic growth.

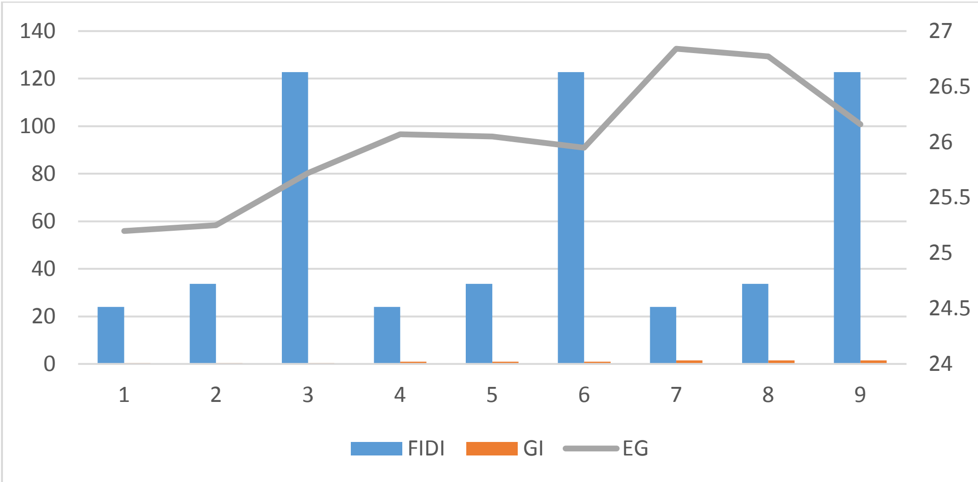

Figure 1: Conditional Effects of Financial Development and Governance on Economic Growth for High Income Countries

Opposite to this, Figure 2 shows that, for upper middle countries, in presence of higher financially developed system and lower governance system, economic growth will be at its peak. This indicates that high regulatory and legal requirement decrease economic growth as it enhances the economy's transaction costs.

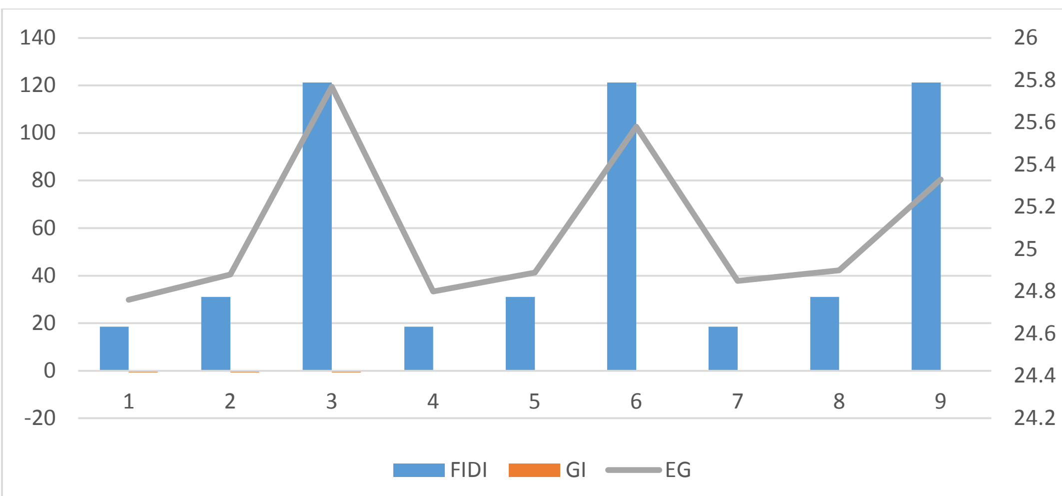

Figure 2: Conditional Effects of Financial Development and Governance on Economic Growth for Upper Middle Income Countries

Similar findings witness for lower-middle income countries in Figure 3 that maximum economic growth achieves at times of higher financially developed market and institutions with low level of governance system.

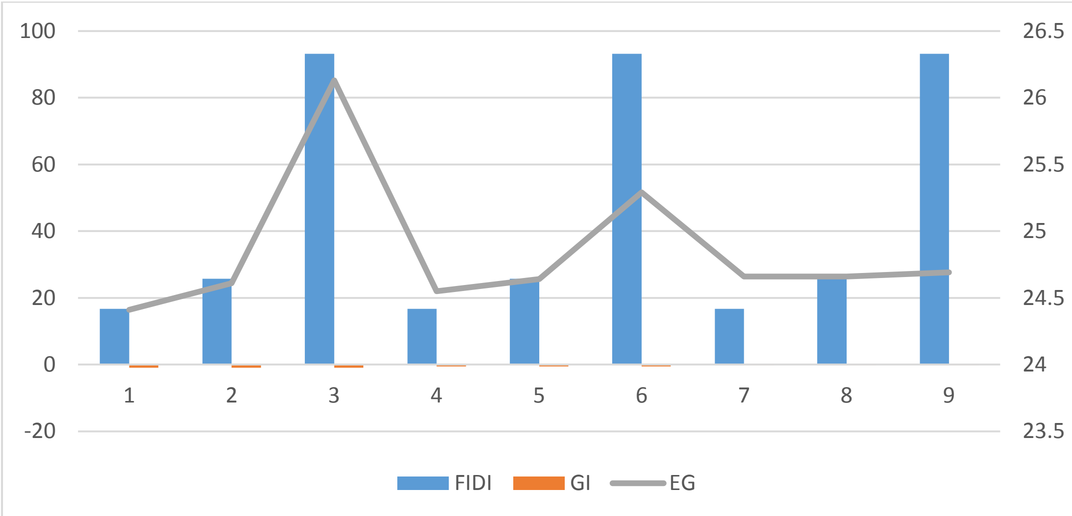

Figure 3: Conditional Effects of Financial Development and Governance on Economic Growth for lower Middle Income Countries

Graphical illustration, in Figure 4, for low-income countries demonstrates that economic development of these states is irrelevant of their level of governance as economic progression is at its maximum level at times of developed financial markets and institutions. This indicates that low-income countries have to set serious efforts in improving their financial markets and institutions as financial development boosts up economic growth of such countries.

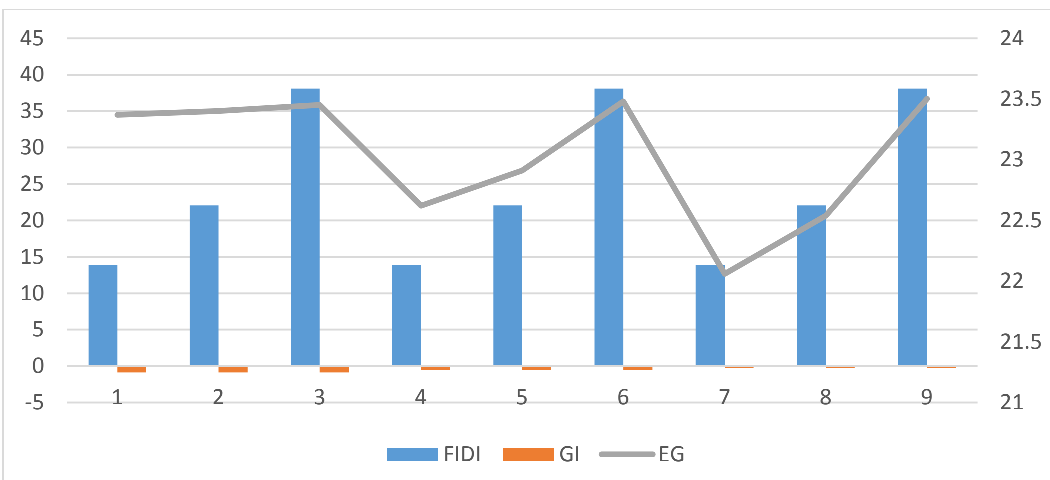

Figure 4: Conditional Effects of Financial Development and Governance on Economic Growth for Low Income Countries

5. Conclusion

Present study contributes in existing literature by examining the moderating role of governance on finance-growth link. Study hypothesizes that, without strong governance, financial markets and institutions expose to risk, which limit the positive economic value contribution of countries. By employing sample data of 87 countries for the time of 1996-2017, results depict that governance negatively influences the finance-growth link in all countries except low-income countries. This might be because of high legal and regulatory requirements attached with the strong governance which increases the transaction costs of financial markets and institutions and ultimately end up in lower economic growth. Moreover, high legal and regulatory requirements discourage foreign investors to spend in financial markets and institutions which results in decrease in economic progression of these economies. Low-income countries, however, support the proposition “more finance more growth” and therefore can attain higher economic advancement by developing their financial markets and institutions, irrespective of their level of governance.

Empirical findings help policy makers in identifying the degree of financial progression and governance level at which they can achieve maximum level of economic improvement. Policy makers of high-income economies should concentrate more on development of governance system rather than financial sector as well functioned financial markets and institutions are more tend to waste resources by involving in speculative activities, which negatively influence economic growth. While, decision makers of upper-middle and lower-middle income countries should focus more on development of financial markets in contrast to governance. Future research could be possible by examining the effects of different indicators of governance to identify which factor shows a strong role in influencing the finance – growth link.

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