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# Shadow Banking is Systematic Risk to Financial Fragility: A Myth or Reality?

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The worst economic crises since the great financial distress have still depression aftershocks. Few economists have argued that irrational exuberance of short-term investors, complex regulatory framework and involvement of banks' treasuries in financial wagering are responsible for this incessant financial instability. Another thought of economists has argued that in the consequences of the internal market process that allowed fragility to build over time is liable for persistent systemic risk. In this paper, we focus on the shift and expansion of shadow banking system and what consequences are creating to financial fragility. Engaging with emergent theories of shadow banking, we investigate into its structural role of capital allocation and credit creation in emerging market. We used annual data during the 2009–2018 period to test the short-term fluctuation and long-term equilibrium between expansion velocity of shadow banking and financial fragility. Co-integration analysis and ECM are used to identify the degree of data sensitivity, its deviation from equilibrium in the long-term and the error, influences in its short-run dynamics. Our results traced long-term equilibrium among four variables of shadow banking as for signs of coefficient. Leasing companies, investment finance companies and Modaraba are reported positive financial segments that faster the growth of shadow banking and its consequent higher financial fragility. In line with findings, we argue that shadow banking is seen as the organic institutional infrastructure of financial system to support debt creation and resilient market-based financing that would favor balanced economic growth. We proposed novel intervention of financial regulators to improve prudential regulations with better understanding how financialization could have changed real-financial interactions.

***Keywords:*** Shadow banking, financial fragility, Pakistan

## INTRODUCTION

The world's greatest economic situation happened in the shadow banking system during the last decade. The theoretical literature on shadow banking is new but vigorously growing. In addition, the term "shadow Bank" is being used in various studies to refer the different contexts of Financial Systems. The interpretation of the Shadow banking is different across the globe.

Paul Mackalley, executive director at PEDCP Investment Management Company, presented the concept of shadow banking for the first time in 2007 at the Federal Reserve's annual meeting. According to Paul, the services of Shadow banking system are partially like services provided by traditional banks. It provides services parallel to traditional banks but separate from normal financial regulations. (Board & Gandhi, 2014).

Gorton and his colleague highlighted that how the differentiated nature of a bank's savings permits it to offer data-insensitive securities when fascinating investment into itself and how these securities convey liquidity in a well-operative secondary market (Gorton & Pennacchi, 1990). According to World Finance Prospects from the last few years is raising hostility in banks has made dramatic changes with the progression of shadow banking. It can generally be defined as the system of credit intermediation and liquidity transformation. It includes entities and activities wholly or partially out of the systematic banking system (Barth, Li, Shi, & Xu, 2015).

In a nutshell, shadow banks do not have capital ratios requirements, provisions for loan loss and loan to deposit. Unlike commercial banks, shadow banks have no right to use central bank's lender of last resort facility. Shadow banks offer similar services like commercial banks and deliver more options, choices and competitive environment for consumers. It may provide more financial services to expand economic growth and development. Though, as shadow banks have complex structures. They are inter-linked with regular banks and loosely regulated than commercial banks. Shadow banks have the prospective reason of systemic risks (Barth *et al.*, 2015).

Board (2012) defined the shadow banking as the system of credit intermediation. It contains financial institutes and activities separate from general banking system. Before McCulley (2007) coined the term, the system of shadow banking was roughly stated as the "parallel banking system". Bernanke (2012) highlighted the topic of shadow banking as "the intervening of credit over a collection of markets, institutions and instruments. It operates outside the scope of the general banking system". Ashcraft, Malz, & Pozsar (2012) stated shadow banks as "financial liaison that conduct credit, maturity, and liquidity transformation without obvious ingress to central bank liquidity".

However, the phenomenon has been undertaking by the members associated with academia. Different international financial institutions, highlights the significance of the topic, but mostly reports and studies concentrate on the cases of the euro., the U.S and the U.K. Previous studies revealed that researchers of developed economies mostly focus because data of shadow banking are easily available in these countries. Financial literature in recent times dedicated an increasing reflection to the issue of shadow banking, investigating organizational characteristics (Pozsar *et al.*,, Adrian, 2010;

Adrian & Ashcraft, 2016) in the United Kingdom (Thygesen *et al.*, 2013), and in the Euro area (Bakk-Simon *et al.*, 2012).

In developing economies and emerging markets, the process of shadow banking is not so much diverse and complex (Ghosh *et al.*, 2012). The developing countries making efforts to develop a well performing financial system Du, Li, & Wang (2017), due to this divest Shadow banking of a context that could allow its institutions and activities to flourish. The rapid growth but lack of data is the key reason why the researcher in developing countries are deprived of making analysis of the undertaking phenomenon. The previous research in developing countries generally conduct the research on few aspects of shadow banking (Apostoaie & Bilan, 2019).

In addition, according to the Security Exchange Commission report (2019) the growth rate of shadow banking expands from June 2010-2019 was very high that reflects the great potential of shadow banking in Pakistan. Due to such immense expansion in the last decade, State Bank of Pakistan declared it as a risk for the financial sector[2]. Pakistan has a more fragile financial system. To fill this gap, it is needed to conduct empirical analysis to assess the risk of shadow banking. Based on previous evidences, we develop and analyze our hypothesis; (1) The prompt growth of shadow banking is strongly associated with high financial fragility.

There is limited research on shadow banking in Pakistan. This study enriching knowledge on shadow banks in two main ways. Primarily, it provides a clear picture of shadow banking system in Pakistani context. Secondly, this study links expansion in shadow banking with financial fragility to check its impact for the financial sector which is also a contribution of the study. The study will be beneficial for policy makers and financial institutions as well as for the financial sector investors and mangers because it provides clear guideline for the stake holder on policy matters and investment and managerial decision. This will also give the insights to the managers and investors to deal with the risk due to increase practices of shadow banking.

**LITERATURE REVIEW**

Paul McCulley has introduced term of shadow banking in 2007 for the first time. He defined the term shadow banking as a credit intermediation concerning activities and entities that are beyond of traditional banking system, if it is done appropriately, it promotes growth of economy and supports in dispersing network of credit. According to his, it may build a competition with traditional banks, that ceteris paribus decreases the credit costing, though, the reverse may happen. There is generally a trade-off owing to decreased financial stability (Elliott, Kroeber, & Qiao, 2015). Whereas, the practice of shadow banking mostly at the cost of security margin. Shadow banking was one of key factors in the subprime crisis in 2007- 08, and one of main reason for the global recession as well (Krugman, 2016).

According to the slender bank interpretation, the credit intermediation is the great concern of financial constancy. It interprets that banks take money for short term period and lend it for long term period. Whereas, liquidity depends on the security scheme of bank, in return money came back from the sale of security in a financial market. It was Krishnamurthy, Bai, & Weymuller (2016) who developed the techniques for experiential quantifying the disparity between the liquidity of market assets and funding liabilities. In banking system, the settlements occur in solitary institution, banks deal with depositor and debtors. Banks take funded loan through depositors and engross in credit, liquidity transformation and maturity. Credit transformation states, the improvement of credit loan worth is delivered by the intermediary institutions over the use of privileges importance (Adrian & Ashcraft, 2016). Credit transformation comprising bank holding enterprises and term debt, along with the life insurance enterprises and reserves of pensions. Furthermore, the depository credits not somewhere else classified whereas shadow banking credit transformation, comprising GSEs, mutual fund stocks, REIT hypothecation debt and term debt dispensed by nonbanks (Adrian & Ashcraft, 2016).

Maturity transformation addresses the consumption of short-term savings to finance long term advances, that generates liquidity for investor and disclosures the intermediary to rollover and spell risks. Traditional Maturity transformation comprised on interbank deposits and bank liabilities, while, shadow banks maturity transformation, comprising on security broker- trader payables, credit, open market paper, repo and MMMFs (Adrian & Ashcraft, 2016).

Liquidity transformation denotes the usage of liquid gadgets to finance illiquid assets (Adrian & Ashcraft, 2016). The investor handover their money through credits to banks, and they use to fund advances to borrowers. Although, the investor owns the equity and long-term obligation issuance by the banks. Federal Reserve's discount window delivers liquidity backstop to depositors (Adrian & Ashcraft, 2016).

In China, market participants typically refer to nonbank financial institutions, such as brokerage, trust companies, financial guarantors and small lenders as shadow banks (Commission, 2011). The informal bank lending and certain off-balance sheet items are also often observed as shadow banking. The logic behind the cataloging, are activities that usually contain regulatory arbitrage. Shadow banks have potential to upsurge the systemic risks (Board, 2012). Earlier USA "Federal "Reserve Chair Ben Bernanke" in November 2013, delivered the following description, that shadow banking is typically defined as a varied set of institutes and markets that cooperatively carry out banking functions but do so separate, or in ways only lightly related to the banking system of delimited depository organizations. The significant components of the shadow banking comprise of "asset-backed commercial paper" [ABCP] conduits, securitization vehicles, money market funds, repurchase agreements, mortgage companies and investment banks."

The shadow banking is a financial institution that deals with financial investor by investing in a financial institution with a different financial structure and a proven financial technology. However, shadow banks are organizations that establish the shadow banking structure lead to loan and maturity transaction like the traditional commercial banks and no obvious public sources of liquidity. Hence, the Shadow banks are integrally delicate, contrasting the commercial banking system. This explanation thoroughly tracks of (Pozsar *et al.*, 2010)

Construction of theoretical background as concern to shadow banking is an intricate network of theories and approaches. In their research work (Arora & Zhang, 2019) dedicate a fragment to identifying preponderant theories and

their theoretical analysis. The researchers build their ideas over following theories: scale economy, market power, risk diversification, moral hazard and regulation avoidance theory. While the theories define the reason and logic behind the development and emergence of shadow banking. Very little pragmatic effort done till now to link the growth of shadow banks with financial fragility to investigate its impact for financial sector. Hence, in recent study, moral hazard theory is used to links the expansion of shadow banking system with financial fragility.

**Shadow banking in Pakistan**

In Pakistan, foremost financial intermediaries are banks. According to statistics on scheduled banks in Pakistan issued by (State bank of Pakistan [SBP] 2018), the formal financial sector consists of 33 schedule banks, containing 9 public sector banks consisting of 5 commercial banks, 4 specialised banks, 20 domestic banks, 4 foreign banks and NBFCs. Informal financial sector also exists which consist of local Moneylenders, Pawnbrokers and close relations (Adnan, 2005)

In Pakistan Shadow banks are mostly registered Non-Bank Financial Institutions (NBFIs). NBFIs include NBFCs, Modarabas, Mutual Funds and DFIs. In Global Shadow Banking Monitoring Report 2015, a narrow down focus took by Financial stability board on the shadow banking by take on a risk-based definition. Latest definition majorly focuses on an activity-based EF (economic function) that is measure in order to determine the risk associated with shadow banking in non-banking financial sector entity classes.

A non-banking financial institution is considered as a part of a typical shadow banking system if it is:

- Part of a credit intermediation chain,
- Not comes under direct bank supervision via prudential consolidation in a banking group,
- Involved in bank-like risks e.g. maturity, liquidity, credit transformation risks, and leverage (State bank of Pakistan, 2019).

**Components of shadow banking system in Pakistan**

The activities of shadow banking are heterogeneous and wide across countries (Zhou & Tewari, 2019). Additionally, Adrian & Ashcraft (2016) undertake an inclusive analysis of firms and activities categorized under shadow banking in the US.

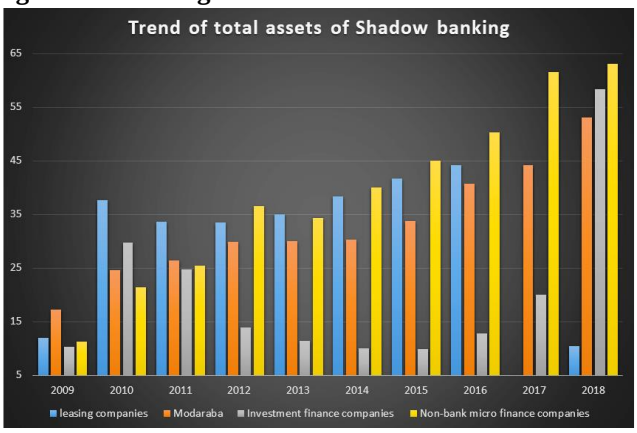
**Table 1. Composition of shadow banking in Pakistan**

| Non-bank financial institutions/business | Belongs to shadow banking? | Reasons |
|---|---|---|
| Assets management companies | NO | AMC offering predominately market based product. |
| Discretionary and non-discretionary portfolio | No | An asset management company (AMC) duly licensed by the Securities and Exchange Commission of Pakistan (SECP). Low leverage, or liquidity transformation, are subject to strict supervision. |
| Pension funds | No | Pension fund assets are available as liquidity buffers |
| Modaraba | Yes | Modaraba companies indicating their active involvement in the process of credit intermediation. |
| Private equity companies and Private equity funds | NO | These funds do not invest in debt security. |
| Investment finance companies | yes | Reliance of IFCs on short-term funding from the banking system was apparent in the aftermath of liquidity crunch of the2007. But since the crisis the asset base of IFCs has been shrinking with activities focused on commission-based income which is to be treated part of the shadow banking. |
| Non- bank microfinance companies | Yes | Non-bank microfinance companies, connected with banks. Regulatory arbitrage exists |
| Leasing companies | Yes | Leasing companies indicating their active involvement in the process of credit intermediation and Business includes liquidity and term transformation, regulation arbitrage exists. |
| Mutual funds | No | An asset management company (AMC) duly licensed by the Securities and Exchange Commission of Pakistan (SECP). and do not Engaged in bank-like risks such as liquidity, maturity and credit transformation risks, and leverage. |

Source: State bank of Pakistan (2018)

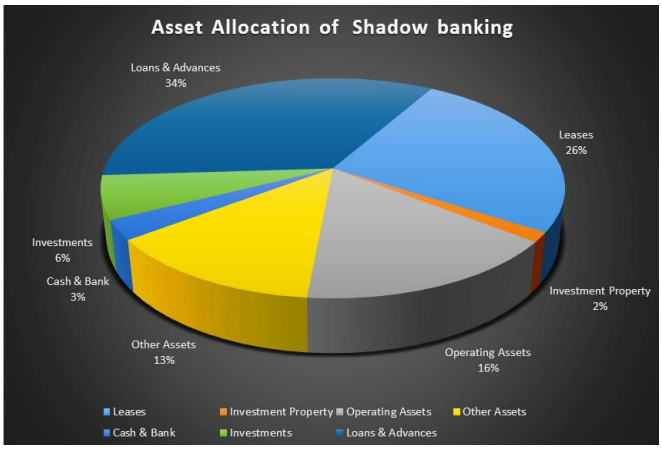
In Pakistan available statistics, shows that from 2009 to 2019 there has been a gradual increase in the assets of shadow banking. Figure 1 indicates the continuing increase in the assets of shadow banking from the year 2009-18 and figure 1 indicating the asset allocation of the shadow banking.

**Figure 2.Trend of growth in total assets of shadow banking**




Adapted from Security and Exchange Commission of Pakistan

**Figure 3. Asset allocation of shadow banking**




Adapted from Security and Exchange Commission of Pakistan

**Shadow banking and financial fragility**

Generally, Financial fragility reflects the financial state of high-risk propensity, that is increased risk in all fields of finance such as financial market and credit (Zou, Pang, & Zhu, 2013). The lack of regulation or feeble regulatory arbitrageurs may increase the systematic risk in the shadow banking (Apostoaie & Bilan, 2019). Shadow banking can be an influential source of fragility (Stein, 2010). The features of shadow banking are long agent chain and low transparency. It is susceptible to problem e.g. moral hazard and spread risk as well as apt to hide (Zou *et al.*, 2013). From the viewpoint of I.M.F (2014a) shadow banking should cover the relevant risky dimensions. The financial institutors classify five specific risks such as (1) agency problems (Ashcraft, Adrian, & Cetorelli, 2014); (2) run risk (Adrian, 2014); (3) spillover effects (Adrian, Ashcraft, & Cetorelli, 2013); (4) opacity and complexity (Caballero, 2009) and (5) leverage and procyclicality (Brunnermeier & Pedersen, 2008).

The operations of shadow banking based on securitization and derivative tools alike hedge funds, future and forward options which enhance the financial fragility, so incentivize speculative financing based on expected asset price and

unattainable future returns (Carter, 1989). Meanwhile, due to cross-boundary financial derivatives systematic risks spread around the globe (Zou et al., 2013). At meantime, it is difficult for enterprises to get finance, due to high threshold of Interest rate and bank loan. Above mention factors force the small enterprises to get finance through irregular financial enterprises. As an out-turn, financial risk and financing cost largely raised (Zou *et al.,* 2013).

Pakistan, being a developing country, has fragility in financial system. Due to lack of credit and imperfect financial system, the risk of shadow banking magnified if government intervention removed. shadow banks emerge because regulation is stifling. Mostly, the impact investing fix action with broad finance which is itself an addition of the financial sector and the subject of several criticisms draws consideration to the position of shadow banking in growth (Jafri, 2019). Some important concerns raised after the early financial crisis because shadow banks are one of the main sources of instability and systematic risk to the financial system. Moreover, due to main source of financial instability and risk, failure to safeguard customers due to improper management and insufficient regulatory framework such institutions pose threat to whole financial system of economy (McKecnie & Akinbami, 2011). The ability of creating systematic depends on the size of shadow banking system if regulatory framework is not working appropriately to eliminate the risk (Ilesanmi & Tewari, 2019). Based on previous evidences, we develop and analyze our hypothesis; (1) The prompt growth of shadow banking is strongly associated with high financial fragility.

**Data, Sample and Research Methods**

To investigate the relationship of shadow banking and financial fragility index in Pakistan during 2009 to 2018, we employ 18 indexes (see Appendix 5). The corresponding fraction values obtain from State bank of Pakistan, Pakistan bureau of statistics, world development indicators and Pakistan stock exchange (see Appendix 6). The growth of shadowing banking may be assessed through assets growth rate of shadow banking institutions (see Table 1).

**Table 2. Growth measurement of shadow banking**

| Institution name | Sign | Data source |
|---|---|---|
| Leasing companies | LC | security exchange commission of Pakistan |
| Investment finance companies | IFC | security exchange commission of Pakistan |
| Non-bank microfinance companies | N-BMFC | security exchange commission of Pakistan |
| Modaraba | MOD | security exchange commission of Pakistan |

**Table 3: Co-integration between shadow banking and financial fragility**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 9.305296 | 3.162185 | 2.942679 | 0.0322 |
| MOD | 2.570459 | 0.244378 | 2.334330 | 0.0069 |
| N_BMFC | -6.287158 | 0.162940 | -9.762355 | 0.0133 |
| LC | 12.18445 | 3.052786 | 3.494469 | 0.0174 |
| IFC | 3.081281 | 2.073577 | 5.104715 | 0.0076 |

| | | | |
|---|---|---|---|
| R-squared | 0.769787 | Mean dependent var | 18.64000 |
| Adjusted R-squared | 0.585617 | S.D. dependent var | 3.188939 |
| S.E. of regression | 2.052804 | Akaike info criterion | 4.583143 |
| Sum squared resid | 21.07002 | Schwarz criterion | 4.734436 |
| Log likelihood | -17.91572 | Hannan-Quinn criter. | 4.417175 |
| F-statistic | 34.19754 | Durbin-Watson stat | 2.735034 |
| Prob(F-statistic) | 0.004366 | | |

To check the stationary of data we employ Augment Dickey Fuller (ADF) test. All the variables are stationery at first difference. So, we can apply co-integration test among financial fragility and remaining three variables. The data is less for applying johansen co integration test, so we apply the EM augmented test. Foremost, stepwise regression was estimated for selecting most suitable regression model (see Table 3). After applying Breusch-Pagan-Godfrey test we assert the absence of Heteroscedasticity. Further, LM test applied to check the serial correlation and results show that all three variables are free of multicollinearity.

The $R^2$ value of estimated equation is 0.77, which shows that regression line fulfills all the requirements of a good regression model. Now we can go for the hypothesis testing. All the studied variables show the significant level at 76%. Then, investigate the residuals which are stationery at 95% level.

Hence, we can conclude that long-term equilibrium exists among four variables of shadow banking as for signs of coefficient. Leasing companies, Investment finance companies and Modaraba are positive, signifying that faster growth of shadow banking happen, the more financial fragility is, which confirms hypothesis proposed at start of this session. However, the negative sign of Non-bank microfinance companies which might be elucidated that it is highly sensitive to transform financial fragility at high risk. Eventually, an error correction model is built to investigate short term fluctuation effect among four variables (see Table 4).

ADF test applied which make sure that residuals of above equation are stationery. The negative sign of error correction coefficient shows adjusting process of the financial fragility to equilibrium level. Error correction coefficient is not adequately significant. It may happen due to a smaller number of observations of time series data. It is insufficient towards manifest adjustments. More amount of data is required to validate the results

**Table 4. vector error correction model**

| Variable | Coefficient | SE | t-Statistic | Prob. |
|---|---|---|---|---|
| D(MOD) | 2.013940 | 0.749407 | 2.282157 | 0.0791 |
| D(LC) | 10.01609 | 1.664828 | 3.336308 | 0.0752 |
| D(IFC) | 12.01789 | 0.509153 | 10.55240 | 0.0019 |
| D(N_BMFC) | -3.062237 | 0.540834 | -8.854790 | 0.0084 |
| ECM(-1)* | -2.015104 | 2.047449 | -2.318329 | 0.1431 |
| R-squared | 0.767090 | Mean dependent var | | -1.008863 |
| Adjusted R-squared | 0.767080 | SD dependent var | | 10.02581 |
| SE of regression | 0.657881 | Akaike info criterion | | 5.855814 |
| Sum squared resid | 1.004617 | Schwarz criterion | | 5.704521 |
| Log likelihood | -4.247907 | Hannan-Quinn criter. | | 6.021781 |
| | | Durbin-Watson stat | | 2.723475 |

*ECM (-1) is first lagged value of residual of equation (see Table 3)

Therefore, we build the long-term equilibrium model and short-term fluctuation model as follows:

F-index = 9.305 +2.570*mod -6.287*n_bmfc + 12.184*lc + 3.081*ifc;

d(F-index) =2.013*d(mod) +10.016*d(lc) + 12.017*(ifc) -3.062*(n_bmfc) -2.015*ecm (-1);

where ecm$(-1)$ = F-index − (9.305 + 2.570*mod -6.287*n_bmfc + 12.184*lc +3.081*ifc).

## Conclusions

Recently, in October 2018, an open latter 13 was circulated online, the researchers of finance and development belongs to Global south showed deep concern regarding the struggles made by international organizations, such as World Bank, for the development of shadow banking (Jafri, 2019). Shadow banking in Pakistan support the financial system of country. The results of study show that the upward trend in shadow banking will increase financial fragility.

Shadow banking can be favorable as it produces absolute networks that contributes to the financial sector and economic growth of any real economy. It provides cheaper and widely available financial services, however, some issues like systematic risk and customer protection required attention. Mainly because shadow banking system perform similar functions like traditional banking such as liquidity transformation, leverage and maturity. So shadow banking revealing the similar financial risk as commercial banks without the equal degree of regulations and oversight. This frequently leads to trade-off by providing a substitute safe basis of finances to private sectors and compact financial stability. Shadow banks often enhance the level of proficiency of financial sectors by enabling maturity transformation and sharing of risk but as exposed by global financial crises, due to insufficient regulation, shadow banking can put stability of financial system at risk. Although when considering the benefits and cost of shadow banking to financial system, the policy makers are confronted how to get maximum benefits and minimize the systematic risk that it can pose to stability of system along with the whole economy. Risks related to shadow banking are recognized which shows level of interacting stuck between shadow and commercial banking system. This will support regulatory authorities to make policies to alleviate such forthcoming financial stability risks stemming through shadow banking and assist to convert it into resilient market-based financing. Then It would favor balanced economic growth.

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**Appendix**

See Tables 5 and 6.

**Table 5: Financial Fragility Indexes and thresholds**

| Financial sub system | Sign | Index |
|---|---|---|
| **Macroeconomic Environment** | GDP | GDP (Growth Rate) |
| | GRFI | Fixed investment (Growth rate) |
| | INF | level of Inflation (CPI) |
| | GRDS | Deposits savings (Growth Rate) |
| | PC/GDP | Private credit / GDP ratio. |
| **Financial Market Environment** | P/E | Price to earning |
| | SMV/GDP | Stock market value to GDP |
| | PSX | Fluctuation of PSX index |
| | BD/GDP | Budget deficit to GDP |
| **Bank** | NPL | Ratio of non-perform loans in large commercial banks |
| | CAR | Capital adequacy rate (CAR) of four nationalized banks |
| | ROA | Return on assets (ROA) of four nationalized Banks |
| **Financial Regulation** | GM2 | Growth rate of M2 |
| | M2/FXR | M2/foreign exchange reserve |
| | GM | Growth of imports |
| | GRLFI | Growth rate of loans in financial institutes |
| | 1-y-RIR | 1-Year real deposit interest rate |
| | M2/M1 | M2 to M1 |

**Table 5: Corresponding fraction values of Indexes**

| Sign | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| GDP | 2.58 | 3.62 | 3.8 | 3.68 | 4.05 | 4.06 | 4.56 | 5.22 | 5.53 | 3.29 |
| GRFI | 10.06 | 12.04 | 11 | 12.09 | 10.01 | 12.04 | 12.06 | 17.09 | 12.07 | 14 |
| INF | 17 | 10.1 | 13.7 | 11 | 7.4 | 8.6 | 4.5 | 2.86 | 4.15 | .93 |
| GRDS | 18 | 22.32 | 21.12 | 23.22 | 24.12 | 22.17 | 24 | 13.06 | 22.12 | 23.32 |
| PC/GDP | 35.62 | 42.19 | 32.29 | 41.21 | 41.39 | 42.29 | 43.19 | 45.41 | 43.29 | 42.39 |
| P/E | 8.20 | 12.83 | 12.8 | 12.67 | 12.65 | 12.03 | 12.83 | 15.03 | 12.83 | 13.78 |
| SMV/GDP | 16.90 | 30.23 | 29.43 | 29.34 | 29.22 | 30.27 | 32.89 | 38.05 | 29.27 | 30.27 |
| PSX | 8.84 | 15.15 | 13.14 | 13.90 | 13.40 | 15.51 | 17.23 | 45.52 | 13.14 | 13.63 |
| BD/GDP | -0.15 | -0.13 | -0.11 | 0.10 | -0.08 | -0.08 | -0.07 | -0.06 | -0.06 | -0.05 |
| NPL | 35.9 | 41.1 | 31.1 | 41.1 | 42.55 | 41.55 | 43.11 | 44.44 | 41.1 | 42 |
| CAR | 18.1 | 26.7 | 20.7 | 21.3 | 22.07 | 22.89 | 32.7 | 15.1 | 22.7 | 22.78 |
| ROA | 10.8 | 15.13 | 12.22 | 12.63 | 12.43 | 15.22 | 15.31 | 16.23 | 12.30 | 12.33 |
| GM2 | 15.6 | 22.5 | 20 | 22.65 | 22.06 | 21.15 | 23.13 | 33.67 | 22.5 | 21.51 |
| M2/FXR | 11.52 | 22.64 | 15.64 | 15.44 | 15.43 | 19.76 | 20.70 | 25.37 | 15.64 | 15.76 |
| GM | 16.83 | 27.06 | 15.89 | 17.67 | 17.60 | 20.76 | 21.40 | 25.55 | 17.50 | 1.0 |
| GRLFI | 13.1 | 16.2 | 16 | 1.86 | 16.86 | 16.9 | 17.2 | 24 | 16.2 | 17.12 |
| 1-y-RIR | -5 | 8.89 | 2.88 | 2.22 | 2.89 | 3.88 | 4.9 | 8.16 | 2.08 | 3.33 |
| M2/M1 | 15.78 | 20.16 | 20.26 | 20.76 | 20.63 | 20.89 | 20.70 | 37.70 | 20.12 | 20.10 |
| Financial Fragility Index: F-index | 13.87 | 19.40 | 16.21 | 17.58 | 17.46 | 18.31 | 19.43 | 22.90 | 17.40 | 17.58 |