Links between Financial Inclusion and Financial Stability: A Study of BRICS

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1. Introduction

In recent years financial inclusion has become an important policy goal in the developing countries. The definition of financial inclusion is however, not clear and varies from 'banking the unbanked' to 'branchless banking'. It is also increasingly viewed as a tool of poverty alleviation. Further, it enables the poor to be risk averse and allows investment in their health and education (Arora 2012). Financial inclusion has become all the more important as studies have shown that poor, despite their low incomes and small amount of funds available, actively manage and diversify their portfolios into different financial products even though outside the formal financial system (Collins et al. 2009).

The number of people with accounts at financial institutions grew by 700 million between 2011 and 2014 with 62% of the world's population having account with financial institution up from 51% in 2011(World Bank 2014).[1] At the same time the number of unbanked adults declined from 2.5 billion in 2011 to 2 billion in 2014. While the increase in the number of accounts has taken place in almost all the regions, it was particularly significant in East Asia and Pacific, South Asia, Latin America and Caribbean each increasing by more than 10 percent. In the Sub-Saharan Africa region around 12% of all adults had mobile money account. The growth in overall penetration in the Sub-Saharan Africa was 24% in 2011 and rose to 34% in 2014.

Although several measures have been taken to promote financial inclusion nonetheless, ill-conceived measures to increase financial inclusion can lead to financial instability (Griffith-

[1] Global Findex database compiled by the World Bank covers approximately 150,000 people in 140 countries representing 97% of the world's population. The survey was carried out by Gallup Inc using randomly selected 15 years and above population.

Jones and Karwoski 2013).[2] The financial crisis of 2008 has also underscored the importance of financial stability in several respects. For instance, it showed that financial instability can take place despite macroeconomic and price stability and can occur at any stage of a country's economic development. Financial stability also cannot be considered as a passive outcome, rather it should be targeted explicitly. Further, it also underscored that financial instability could pose threat to the global economy. It also showed that poor are most affected as a result of instability in the financial sector (Khan 2011). The role of promoting financial stability along with financial inclusion has, therefore assumed increased importance.

While the development impact of financial inclusion has been well acknowledged in the recent literature, macroeconomic impact including the relationship between financial stability and financial inclusion has not been much examined. (Hannig and Jansen 2010; CGAP 2012; Han and Melecky 2013; Morgan and Pontines 2014). Such a study is especially missing in the context of BRICS. Our study therefore raises two broad questions and fills in the gap in the existing literature: What is the extent of financial inclusion and financial stability in the BRICS economies? What is the nature of relationship between financial inclusion and financial stability in these countries? BRICS are an interesting group of countries to explore these research questions as financial inclusion strategy has been adopted as an overarching goal of inclusive economic growth and development in all the BRICS countries. Financial sector reforms along with other macroeconomic reforms were also introduced in several BRICS economies. The countries were quite resilient during the global financial crisis and were growth

[2] As in the case of financial inclusion, the definition of financial stability is also not clear. Morgan and Pontines (2014) comment that it is easier to define instability rather than financial stability as it is influenced by multiple dimensions such as different institutions, different products, and markets. Schinasi (2004) noted, "a financial system is in a range of stability whenever it is capable of facilitating (rather than impeding) the performance of an economy, and of dissipating financial imbalances that arise endogenously or as a result of significant adverse and unanticipated events."

drivers of the global economy, however in the recent period their growth rates have somewhat fallen due to fall in commodity prices and political instability impacting Brazil, rebalancing in China and infrastructural and structural bottlenecks in India.

Rest of the study is organised as follows. Section 2 presents analytical framework for the linkage between financial inclusion and financial stability and produces evidence from the literature. The next section reviews the state of financial inclusion and financial development in BRICS. Section 4 examines the related issues on financial inclusion and financial stability. Finally the study concludes.

2. Evidence from the Literature

2.1 Analytical Framework

Although the financial systems of the developing countries are evolving and less complex in terms of financial structure and products, their development agenda is considerably complex in terms of the need for targeting multiple development goals. Inclusive financial systems have become a major priority goal for the developing countries, yet a challenge remains to develop the financial sector without undermining financial stability (Park 2013).

World Bank (2014) reiterates that the twin objectives of the financial system in the developing countries are improving access to finance and assuring financial stability. These should be achieved by using appropriate public sector interventions such as building financial infrastructure in partnership with the private sector, promoting or developing financial literacy including in the school curriculum, and enhancing regulatory reforms including enforcement and dispute resolution mechanisms, improving the quality of micro-prudential supervision, strengthening data collection systems and developing appropriate financial products.

The two objectives of financial inclusion and financial stability are interconnected and together build-up the resilience to instabilities or crisis facing the real economy. In the Sustainable Development Goals (SDGs) adopted in 2015, universal access to finance is considered as a critical factor in job creation and promoting economic growth. Goal 17 of SDGs aims at "a revitalized and enhanced global partnership that brings together Governments, civil society, the private sector, the United Nations system and other actors and mobilizes all available resources" (UN 2013). Improving access to finance through strengthening domestic resource mobilisation, foreign aid, foreign direct investment, remittances and assisting developing countries in attaining long-term debt sustainability are some of the key targets of Goal 17. The regulatory reforms related to financial sector therefore, need to consider the sustainable development agenda and the challenges faced by the low and middle income countries (Park 2013).

Figure 1 illustrates in a nutshell the inter-linkages and the channels from financial inclusion to financial stability. A two way relationship exists between financial inclusion and financial stability which could be both positive and negative. The positive relationship is shown in Figure 1 wherein increased financial inclusion through the channels of increased savings contributes to financial stability.

Figure 1 here

The theoretical argument is that increased financial inclusion improves efficiency and size of the financial system and enhances formalisation of the economy improving transmission of monetary policy. It also smoothens consumption and leads to a shift of savings from informal to formal sector. Informal financial sector can potentially lead to instability due to unregulated players (Cull et al. 2012). However, it can reach those outside formal financial system, make financial products more readily accessible, enable increased household savings, provide finance to start-ups and new firms, enable innovation and leads to reduced inequality thereby fostering social and political stability.

On the other hand, enhanced financial inclusion can lead to increased transactional costs, enhanced risks as the financial institutions move into new areas and can potentially cause financial instability. The negative effect could be through undue access and its impact on the financial stability as for instance, an example of the negative impact of increasing financial access on financial stability is that of sub-prime mortgages and its impact on the financial system in US (see Crotty 2009; Lin and Treichel 2012). Describing the run-up to the 2008 financial crisis, Brunnermeier (2009) in case of US reports:

> Mortgage brokers offered teaser rates, no-documentation mortgages, piggyback mortgages (a combination of two mortgages that eliminates the need for a down payment), and NINJA ("no income, no job or assets") loans. All these mortgages were granted under the premise that background checks are unnecessary because house prices could only rise, and a borrower could thus always refinance a loan using the increased value of the house. This combination of cheap credit and low lending standards resulted in the housing frenzy that laid the foundations for the crisis.

Increased unplanned and irresponsible financial inclusion can lead to increase in defaults leading to increase in non-performing loans and affecting banks' profitability which in turn will act as a disincentive to improve financial access. High non-performing loans could severely jeopardize the financial system as they require higher provisioning and result in less interest income and higher funding costs for the banks. Net non-performing assets also have to be backed by adequate capital leading to the use of scare resources. Also banks with high non-performing loans are reluctant to lend reducing growth of overall credit and affecting further investments and economic growth. Thus there is a negative relationship between high non-performing loans and bank lending (IMF Global Financial Stability Report 2014).

At the macro level, increased level of financial inclusion achieved solely by opening bank accounts is not going to make a significant difference (and influence financial stability) unless accompanied by other interventions such as education, health, improved infrastructural facilities (Aduda and Kalunda 2012). Increase in financial inclusion without addressing gender imbalances would also have less macroeconomic effect as a large proportion of population may still remain excluded with potential impact on economic growth.

The relationship between financial inclusion and financial stability could be bidirectional - increased population included in the financial system with the linkages shown in Figure 1 leads to greater financial stability; increased stability of the financial sector, which in turn, builds consumer trust, stabilises inflation and interest rates making financial services more affordable to the poor thus increasing financial inclusion (Figure 2).

Figure 2 here

2.2 Empirical Literature

The literature on the relationship between financial inclusion and financial stability is growing, though still quite limited. Among the few studies, Calice (2013) raises the question whether financial inclusion and financial stability are complementary or do they have a substitute relationship that is, both cannot co-exist alongside each other and one of them has to be given up to gain another. In the Sub-Saharan Africa region the increased focus of central banks on promoting financial inclusion is through a five pillar approach - promoting access in rural areas, promoting access to finance, promoting savings, regulation of microfinance, financial capability and consumer protection. Calice (2013) suggests that in order to reconcile the twin objectives of financial inclusion and financial stability it is essential that the financial products offered are in alignment with the needs of the poor.

Mehrotra and Yetman (2015) note that financial inclusion enables consumption smoothing, as it facilitates increased consumption by the households. It may also lead to increase in savings as households may move their savings from informal sector or other assets such as gold to financial sector. This will also strengthen transmission of monetary policy as the number of households' increases from informal to formal sector. The downside impact of financial inclusion on financial stability could be in terms of increased risks for the banking system; fall in lending standards as too much lending can take place; limited screening due to the absence of financial history for financially excluded households leading to fall in credit quality; and increased financial inclusion could lead to unsustainable financial development.

CGAP (2012) in a review of literature noted that most cross-country studies on financial sector have focused on the depth of the financial sector rather than breadth (access) of financial services. This it reasoned, could be due to easy availability of data on financial depth for the most countries. In contrast, few studies on financial inclusion could be due to absence of long term data and absence of any single indicator which could holistically capture financial inclusion. The survey noted that improving financial inclusion adds to the savings pool and boosts financial stability, however more evidence is required to establish this link. Stability at the microeconomic level (at household or firm level) could add to the macroeconomic stability; although this link remains unexplored. In order to achieve responsible financial inclusion and financial stability, quality and type of the financial product is very important. Effective consumer protection is thus crucial to ensuring financial stability. Another micro link could be provision of credit to small firms, thus assisting their growth and promoting financial stability. At the macro level, the links from financial inclusion to financial stability could be through domestic savings and diversified base of customers leading to social and political stability. The survey further noted that financial exclusion (reverse of financial inclusion) has strong implications in terms of lost growth opportunities for a large section of the population leading to dysfunctional societies and high poverty and inequality. Recourse to unregulated informal financial services can also lead to financial instability. CGAP (2012) also pointed out to the linkages between financial inclusion, financial integrity, consumer protection and financial stability.

Noting the importance of financial inclusion, Hannig and Jansen (2010) explored whether increasing financial inclusion is compatible with financial stability. While the authors argue that the technology driven financial inclusion in many developing countries has caused concerns on financial stability yet, in their opinion, financial inclusion has potentially low level effect on financial stability due to the constrained financial behaviour of low income savers and borrowers. They maintained that financial inclusion leads to a diversified and deeper financial system which contributes to financial stability.

In a cross-country analysis Morgan and Pontines (2014) examined the impact of financial inclusion measures on financial stability and noted positive evidence of increasing financial inclusion on financial stability mainly through the reduction in the non-performing loans. The authors empirically test the link between financial inclusion and financial stability using data for the period 2005-2011 using the technique of system GMM dynamic panel estimator. The measure of financial inclusion in their study are SME outstanding loans as a proportion of total outstanding loans of commercial banks and the number of SME borrowers as a proportion of total borrowers from commercial banks. The measures of financial stability are banks' Z score (that is, sum of capital to assets and return on assets divided by the standard deviation of return on assets) and banks NPLs as a proportion of gross loans by banks.[3] The results of the study showed that financial inclusion has a positive effect on financial stability and is negatively related to non-performing loans. The greater number of SMEs also leads to a lower probability of default and also causes lower NPLs. Among the control variables, income significantly influences GDP that is, high income countries are less prone to financial instability.

Morgan and Pontines (2014) also find that higher private sector credit relative to GDP leads to a higher possibility of financial instability. They further establish that greater liquidity by banks leads to greater financial stability through lower probability of default by financial institutions. Financial openness in their results was positively related to financial stability. Overall, the study examined the relationship between financial stability and financial inclusion. In alignment with a number of studies which have shown complimentary rather than a substitute relationship, Morgan and Pontines also find that increased share of lending to SMEs in total bank lending promotes financial stability, mainly through reduction of non-performing loans and lower probability of default. This suggests that increased level of financial inclusion would influence financial stability positively.

While the objectives of financial stability, financial consumer protection, and financial integrity are generally pursued by the financial regulators, financial inclusion in the recent years has been recognised as a pillar of global development agenda by the G-20 countries. In order to reconcile these seemingly contradictory objectives, the global standard setting bodies have been urged to include all of them in their mandates. Together, these objectives have been termed as I-SIP and are considered to be complementary theoretically, although at the policy level there could be a trade-off. Some country level studies have been conducted using rapid

[3] According to World Bank's Global Findex database, "Z-score compares the buffer of a country's banking system (capitalization and returns) with the volatility of those returns. It is estimated as (ROA+ (equity/assets))/sd(ROA) where sd(ROA) is the standard deviation of ROA. ROA, equity, and assets are country-level aggregate figures." The higher the Z score, the more financially sound the banking system is.

research exercise incorporating the ISIP objectives for two of the BRICS, South Africa and Russia. CGAP (2012) in its study on South Africa noted that the country has been able to integrate ISIP objectives through inter-agency collaboration to identify linkages, potential risk and benefits of defined policy objectives, clear framework of financial inclusion, consultation and coordination with the providers. Within South Africa's financial sector mandate, the core priority objectives are financial stability, consumer protection and market conduct. Using interviews, the study examined the effectiveness of linkages in South Africa. The authors concluded that a balance needs to be maintained between risks and benefits against the costs of regulation and supervision in deciding about the linkages among ISIP.

Ackah and Asiamah (2014) examined the triangular relationship between financial development, financial inclusion and financial stability. The authors study the case of Ghana that has carried out significant financial sector reforms since the early 1980s. The Ghanaian policy framework has underscored the crucial role of the financial sector in inclusiveness. The focus is on increasing the availability of credit, lower the cost of credit to productive enterprises and extend the reach of savings, payments and credit. Although these measures have improved competitiveness and depth of the financial system, they have also rendered financial sector risky and vulnerable particularly as a number of foreign banks operate in the country. The authors argue that effective financial regulation is necessary to deal with such risks and macroeconomic challenges.

Khan (2011) argues that financial stability and financial inclusion coexist and mutually complement each other. Financial stability is not sustainable if a large proportion of the population is financially excluded, similarly financial inclusion is not feasible in a situation of unstable and unsound banks.

Mbutor and Uba (2013) show the impact of financial inclusion on monetary policy in Nigeria between 1980 and 2012. The results show that growing financial inclusion improves the effectiveness of monetary policy.

In an interesting study, Aduda and Kalunda (2012) argue that financial exclusion is more often accompanied with social exclusion and only a holistic approach which involves dealing with the absence of all forms of capital would lead to financial inclusion in true sense. The study further examines whether financial inclusion and financial stability are substitutes or complementary. An important point which the study argues is that reducing financial exclusion should not be looked at in isolation as this is often the outcome of the absence of several other factors leading to poverty.

World Bank (2014) also found no correlation between the proportion of population with bank account and indicator of financial stability (Z score). Even considering the crisis and non-crisis hit countries, the usage of bank account was not found to be different. Both panel data and cross-section analysis produced similar results.

The existing studies have examined financial access and financial stability relationship in the overall context. In looking at financial access-financial stability relationship the role of the public banks is crucial. A more recent literature, suggests that public banks may lead to financial stability, avoid extreme moral hazard problems associated with the private sector banks; encourage constrained behaviour often accompanied with the development objectives and promote economic growth (Adrianova et al. 2012; Panizza 2011; Yeayati, Micco and Panizza 2007; Micco and Panizza 2006). Rezende (2015) examines the stability and resilience of Brazil's banking system in the presence of 2007-08 global financial crisis. The study noted that public sector banks enable greater financial access and also promote financial stability.

Rezende argued that Brazil needs public banks to promote development. The private banks in the country have failed to provide long-term finance for infrastructure needs.

3. Financial Development in BRICS

BRICS are a heterogeneous group of countries at different stages of development, different political forms of governments, cultures and beliefs, yet a common feature among them has been high growth rate in the recent years (Makin and Arora 2014). The relative share of BRICS in the world output is expected to rise from 5.8% in 1991-94 period to 21.6% in 2018. The financial sector of the BRICS has undergone significant reform over the recent years. In the paragraphs below we briefly describe the major characteristics of their financial sector.

3.1 Brazil

The Brazilian financial system is fairly well developed. It is headed by Central Bank of Brazil and includes deposit taking institutions such as commercial banks, universal banks, savings and credit unions. Different supervision entities and regulators exist for banking, insurance and pensions. The regulating entity for deposit taking institutions is National Monetary Council. The supervision entity for stock market is Securities and Exchange Commission and the operating entities are commodities and futures exchanges and stock exchanges.

Banks are the major financial intermediaries in the country. The banking sector spreads are high in the country with the result that small and medium enterprises are crowded out of the credit market (Jorgensen and Apostolou 2013). Some of the reasons for high spreads are: high Central Bank's official interest rate; compulsory reserve requirements; high taxes on the banking sector; targets for directed lending to priority sector (OECD 2011). A major role in the Brazilian financial system is played by the Brazilian National Development Bank (BNDES) which provides long term credit at low interest rates. During the 2008-09 financial crisis, BNDES played a major role in reducing the impact of the crisis.

Significant economic reforms have been carried out in the country since the nineties. Filho et al. (2014) note that the major characteristics of the Brazilian financial system until mid-2000s was volatility and scarcity of credit; high cost of credit (as has been noted by other studies as well) and the major role played by the large banks especially the state owned banks. In the recent years, credit to the households has increased significantly. This was accompanied with a fall in interest rates and lift in the regulatory standards; financial stability was thus sustained, despite a sharp increase in the home loans. Among the regulatory steps was stipulation of high capital adequacy ratio; rise in minimum capital threshold for banks; restructuring of the banking system including non-banking financial institutions; creation of deposit insurance fund and transfer of payment settlement systems to the banks from the central bank (Filho et al. 2014).

3.2 Russia

As in Brazil, banks are the major financial intermediaries in Russia and the major participants in the Russian financial system are Central Bank of Russia; (ii) state-owned banks; (iii) large private banks, (iv) local private banks, and (v) foreign controlled banks. Non-banking institutions account for only 10 % of the total banking sector assets. State controlled banks are predominant in retail and corporate banking and altogether hold more than 48% of the banking sector assets (BRICS 2014).

The Russian financial system, as in other emerging economies, is gradually evolving in terms of form, instruments, and focus. Until 2007 the focus of the Russian financial system was on assisting and providing finance to small & medium enterprises. The core objectives were to diversify the economy, develop individual sectors and infrastructure (Simachev et al. 2013).

However, a vigourous and aggressive approach was applied from 2007 onwards and the focus of the government was to support innovation, technological modernization and attract investment. Prior to 2007 focus was on small projects, this changed to large scale projects from 2007. This rapid development of the Russian financial system however, has not been accompanied with financial regulation raising potential risks to the economy.

The growth of the Russian banking system can be thus described in terms of three stages- prior to 1987; 1987-1991 and 1992 to 2007. Prior to 1987 the banking sector was very much state led and lending was largely to state led enterprises. During the period 1987 to 1991, the banking sector underwent significant changes; the emergence of commercial banks; reform in the existing banks (Gosbanks). From 1992 to 1998 the banks continued to provide credit to state owned enterprises, state related programmes and government debt and did not provide credit to private sector. Large profits generated by these banks is attributed to political connections and connections with state run enterprises (Berkowitz et al. 2012). This coupled with fall in oil prices and Asian financial crisis led to the near collapse of the Russian financial system along with fall in growth rates, outflow of capital and closure of large number of banks. It is in the post Asian financial crisis that the banking sector recovered and credit to private sector enterprises increased. Also economic growth improved during this period leading to rise in per capita incomes.

3.3 India

The Indian financial sector is comprised of banks and non-banks. Banks are the major financial intermediaries in India. These are divided into commercial banks; cooperative banks; newly established payments banks and small finance banks. Among non-banks are development banks (mostly winded up now); insurance companies; non-banking financial institutions; mutual funds; pension funds and primary dealers (Mohan and Ray 2017). The commercial banks are further divided into four categories: public sector banks (includes nationalised banks and State Bank of India banks); private sector banks; foreign banks in India[4]; and regional rural banks.

The government ownership of public sector banks ranged from 57 to 85 per cent in 2010-11, much above the statutory requirement of 51 per cent. The public sector banks (including regional rural banks) hold major proportion of banking sector assets at 72.7%. The share of assets of private banks in total banking sector assets increased from 3.5% in 1991 to 20.2 % in 2012 and the remainder is held by the foreign banks at 7%.

The public sector banks group is dominated by a single large bank, State Bank of India followed by its associate banks and nationalized banks.[5] At the time of the country's independence in 1947 all banks were in the private sector, however with the nationalization of larger banks in 1969 and later 1980, most of the banking assets moved in the hands of public sector banks. While some private sector banks existed even prior to the reforms, the entry of new ones was largely initiated in 1993 when the norms for private banks were announced and subsequently 10 new private banks were set up. Further in the early 2000s, two large development finance institutions also were converted into banking institutions.

[4] The branch authorisation policy introduced in 2005 lays down that foreign banks can open branches/offices in India based on the following criteria: i) financial soundness of the parent bank; ii) rating of parent bank internationally; iii) India's commitments at WTO; iv) economic and political relations between the two countries; and also a consideration that the home country of the bank should not discriminate against Indian banks. The minimum capital requirement is US$25 million required at the time of opening first branch in India. Request for subsequent branches is considered only when the capital requirements conditions are met. Also foreign banks, as in the case of Indian banks, are required to submit their branch expansion plan on an annual basis.

[5] State Bank was earlier known as Imperial Bank of India (created after the amalgamation of three Presidency banks in 1921). Historically even in 1934 these banks held highest paid-up capital and deposits. The Imperial Bank of India was converted into State Bank with the enactment of the State Bank of India Act, 1955. This led to opening of large number of bank branches in unbanked areas (RBI Currency and Finance Report).

3.4 China

Allen et al. (2012) observed that "although there is no consensus regarding the prospects for China's future economic growth, a prevailing view on China's financial system speculates that it is one of the weakest links in the economy and it will hamper future economic growth." China's financial sector is largely dominated by the banking sector as in case of other BRICS as well, and can be grouped into banking, financial markets and non-standard financial sector which can be further divided into informal financial institutions and hybrid institutions. The banking sector can be further grouped into policy banks; commercial banks (further into state owned; partially state owned and private and foreign banks). China's banking sector is dominated by large state owned banks namely the Big Four banks implying a high concentration ratio and low degree of competition within the banking sector (Allen et al. 2012; Elliot and Yan 2013).

The regulatory structure of the financial system is organised based on the functions undertaken by the organisations. Thus banks are regulated by China Banking Regulatory Commission; securities and financial markets by China Securities Regulatory Commission and insurance by China Insurance Regulatory Commission. The Chinese central bank, People's Bank of China monitors financial stability; serves as the lender of last resort; and formulates monetary policy. Further the Ministry of Finance is also involved as shareholders in the major commercial banks (Elliott and Yan 2013).

The three major characteristics of the Chinese financial system are: high level of savings; large number of formal bank accounts and lastly low level of credit to the small and medium enterprises resulting in the exclusion of large number of SMEs from the formal financial system and the gap being filled in by the shadow bankers (Fungáčová and Weill 2014). Allen et al. (2012) also noted existence of third financing channel besides banks and capital market which consists of “informal financial intermediaries, internal financing and trade credits, and coalitions of various forms among firms, investors, and local governments” (Allen et al. 2012). This channel has provided significant amount of credit to various non-state, non-listed firms and even the township village enterprises. Another paradox is the high level of private sector credit to GDP, yet the World Bank’s Global findex database found very low level of provision of credit to the households (Hale and Long 2010; Geng and N’Diaye 2012).

Overall, the financial system in China is opaque and evolving rapidly with the ongoing reforms (Elliott and Yan 2013). Elaborating further on the opacity of the Chinese financial sector, Elliott and Yan (2013) note:

“The use of the banking system for government purposes increases opacity in at least two ways. Government leaders often wish to obscure their interventions into the financial system, making that system harder to understand. The interventions also lead non-government participants to seek ways around governmental policy. For example, direct controls on the total amount of lending by banks can be circumvented to some extent by shifting loans onto the books of trust companies and their asset management customers, with an implicit guarantee by the bank. This creates incentives for Chinese banks to obscure the continuing financial risks associated with those loans, comparable to the reliance in the West on Structured Investment Vehicles (SIVs), whose blow-up contributed to the financial crisis.”

Overall, the financial system is characterised by high political interventions; regulatory arbitrage by the banks; implicit guarantees assumed from the central bank; high levels of lending to state owned corporations resulting in exclusion of small businesses and rise of informal sector as they fill in the void left by the formal financial intermediaries.

3.5 South Africa

The financial sector of South Africa is large with the financial sector assets around 298% of GDP. The South African financial system is well developed having 30 banks with around 4000 bank branches, two mutual banks, and a number of foreign bank branches and offices and non-banking financial institutions. The share of non-banking financial companies is considerably high in the total financial sector assets, of which pension funds account for 110% of GDP, insurance funds 64% of GDP, and unit trusts 42% of GDP. The banking sector is highly concentrated with four banks (ABSA, FirstRand, Nedbank and Standard) accounting for around 80 per cent of total banking assets and around 95 per cent of the total banking assets are domestic (IMF 2014).

Although the banks are well capitalised, non-performing loans have increased significantly in the recent years. Domestic deposits are the largest source of funding with 60 per cent of the deposits from the non-banking financial companies. Unlike other BRICS, the South African financial sector is highly interconnected as banks are affiliated with the insurance companies through holding companies or direct ownership (IMF 2014). The capital market is also large and comparable to that of the developed countries. Some of the issues plaguing the economy are high unemployment, high household debt, slow growth rate affected by strikes, infrastructural problems and high inequality. The profitability of the South African banks declined as a result of the global financial crisis.

Among the risks, credit risk remains high due to high level of indebtedness among the households and corporate sector coupled with low growth and rising interest rate environment. Other risks are risks of systemic liquidity as high level of capital inflows can lead to increase in funding costs for the banks particularly as the banks are dependent on short term wholesale funding. Other problems are that of high concentration and interconnectedness of the financial system.

Table 1 provides an overview of the financial development indicators in the BRICS. The indicators cover depth, efficiency and stability of the financial system of the five BRICS economies. The table presents an interesting picture of the state of financial system in the BRICS economies.

Table 1 here

As financial instability can exacerbate macroeconomic instability, it is imperative to have a look at the macroeconomic indicators in the BRICS economies. Table 2 provides an overview of the key macroeconomic indicators. Non-performing loans as proportion of total loans vary considerably across the countries with China recording lowest in most recent years. Loan absorbing buffers are particularly low in India and Russia. IMF (2015) noted that Tier 1 capital for China, India and Russia remains low. Loan to deposit ratios are particularly high in Russia and South Africa. Also noteworthy to mention is high non-financial corporate debt/GDP ratio in China which is potentially risky and could create vulnerabilities.

Table 2 here

4. Financial Inclusion in BRICS

Financial inclusion has evolved as a key policy goal of the BRICS, although it varies considerably across the countries. The index of outreach (that is, spread of bank branches and ATMs) of the financial sector developed by Arora (2014) for 70 developed and developing countries showed that India and Brazil ranked fairly high among the BRICS. Rest of the BRICS (China (63), Russia (61) and South Africa (39)) rank much below in terms of outreach. In the overall financial access index, India ranked 25, Brazil (31) followed by South Africa (45) and China (49).

Table 3 reveals varying levels of financial inclusion among the BRICS. China certainly performs much better in terms of number of bank accounts in financial institutions than other countries within the group. China has a high level of formal bank accounts which is in fact higher than its level of development as in terms of per capita income the country lags behind Brazil, Russia and South Africa although ahead of India. In case of Brazil, branchless banking has made huge strides in the country enhancing financial inclusion. The banks operate 149,507 banking correspondent agents in every municipality of the country (McKay & Pickens 2010; CGAP 2010). Bill payments (mostly in the urban areas) comprise most of the volumes of transactions (Kumar et al. 2005). This banking model has not only led to increased financial inclusion but has also led to increased profits for the agents as 73 per cent of the agents report increase in the non-agent business due to increased foot traffic (CGAP 2010).

Table 3 here

Figure 3 shows that among the BRICS in 2014 the proportion of adults with account at a financial institution ranges from lowest in India (52.8 %) to 79% in China. In India the proportion of adults with accounts at a financial institution, despite years of expanding access to finance through government stated policies such as nationalisation of banks and directed lending, is quite low compared to other BRICS.

Figure 3 here

The proportion of adults saving at a financial institution was again highest at 41.2% in China but considerably low in other BRICS economies - Brazil, India and Russia (Figure 4).

Figure 4 here

Among the reasons for financial exclusion, a common one among all the BRICS is lack of sufficient income. In China, unlike other BRICS, cost of documentation, number of documents and lack of trust were not considered as major barriers for financial exclusion. Rather, the two major reasons in China were lack of income and a family member already having an account. Fungáčová and Weill (2014) concluded that unlike other BRICS, financial exclusion in China is often voluntary, rather than involuntary as in other BRICS. The authors concluded that the formal credit is very low in the country and the gap is filled by informal credit which is beyond the regulatory perimeters with implications for financial stability. In Russia, in contrast, the trust factor played a major role in financial exclusion.

The strategies to enhance financial inclusion varies from country to country with some focusing on increasing access through financial institutions, agent banking, business correspondent while others particularly in Africa mobile accounts are more popular. The proportion of population with mobile money accounts was 14.4% in South Africa contrasting with a very low penetration in Brazil. Financial inclusion has gained significant place in India's financial sector development strategy since 2010. The financial inclusion strategy is led by a technical group on financial inclusion and financial literacy, under the FSDC sub-committee, involving all financial sector regulators and other government and non-government agencies. As at the end of September 2014 the total number of banking outlets were 446,752. Basic savings bank deposit accounts (BSBDAs) reached 305 million until Sept 2014. Under *Pradhan Mantri Jan Dhan Yojana* 51 million accounts were opened as at the end of Sept 2014.

5. Discussion: Challenges and Issues for Financial Inclusion

5.1 Data Issues on financial inclusion

Not many studies have rigourously tested the relationship between financial inclusion and financial stability. A major problem in testing the relationship between the two variables is limited availability of data on financial inclusion in contrast to the long-term data available for most countries on the indicators associated with financial stability. A major source of data on the indicators related to financial development including financial inclusion and financial stability is World Bank’s Global Financial Development database (GFDD). GFDD is an annual dataset from 1960 onwards covering 203 countries. It captures data on depth, efficiency, stability and access to financial system. Although comprehensive in coverage, there are several missing values for a number of countries.

In the case of BRICS, while data on most indicators related to financial stability, depth and efficiency is available, data on financial access is missing altogether for many indicators or is sparsely available with several missing values. Another useful database is World Bank’s Global Findex or Global Financial Inclusion database. This is a comprehensive database based on the interviews with over 150,000 individuals (over 15 years of age) covering over 140 countries. It consists of data on around 100 indicators differentiated by gender, age and income covering use of the financial services that is, savings, borrowings, making payments and managing risks. A limitation of the database however, is that it is currently available only for two years 2011 and 2014. The limited availability coupled with a select group of countries (in our case BRICS) severely limits the number of observations for carrying out a rigourous econometric exercise.

In addition to the World Bank’s databases, IMF’s Financial Access Survey (FAS) provides data on financial inclusion, indicators of financial access and usage by households and nonfinancial corporations. The database contains statistics on 47 indicators covering geographic outreach and use of financial services. Among the indicators covered are, those related to credit and deposit, availability of ATMs, loans to small and medium enterprises and also access to and use of mobile money services. This database covering the years 2004-2013 on most indicators again is a useful resource, yet once again as in our case, does not prove to be useful as it contains missing values for several years or is completely missing for instance, absence of any data on SMEs for two of the BRICS economies, Brazil and South Africa. Besides the above databases, Enterprise Surveys is another database based on surveys conducted by the World Bank and provides data on 130,000 firms in 135 countries. The survey covers a range of topics including access to finance. However, again as in the case of above databases, there are a considerable number of missing values for each of the economy under our consideration.

5.2 Rise of Shadow banking and financial inclusion

Since the financial crisis of 2007-08, increasing attention has been drawn towards the sharp rise of shadow banking in developed and emerging and developing economies.[6] Shadow banking has been defined as "credit intermediation involving entities and activities (fully or partially) outside the regular banking system" (FSB 2011). Some other studies have defined it in terms of instruments or markets. Shadow bank entities are either less regulated or not regulated at all; have no explicit access to central bank liquidity support; lack disclosure and information; and are characterised by a sequence of discrete operations (Pozsar, Adrian et al. 2010). IMF (2014) noted that shadow banking activities increased significantly in countries which experienced growth in size of the banking sector. Other key drivers were tighter regulation, search for higher yields, and deepening of the financial sector in the emerging economies (IMF 2014).

[6] The term 'shadow banking' was first coined by McCulley in 2007 with reference to the US financial sector, where shadow banks (non-banks) were recognized as major players in the run-up to the global economic crisis (Ghosh et al. 2012). Subsequently, in order to regulate the financial sector (including shadow banks), the Financial Stability Board was set up as a follow-up to the G-20 summit held in 2009. The Board was assigned the task of assessing vulnerability in the financial sector and suggesting measures to improve regulation, particularly for shadow banking (FSB 2011).

The rise of shadow banks has benefitted in expanding access to financial services and are often considered complementary to the traditional banks as they perform functions of 'supporting market liquidity, maturity transformation, and risk sharing' and provide finance to the unbanked, less privileged population or to small companies for instance, the role of microfinance companies and microfinance institutions. Compared to the traditional banks, the advantages of shadow banking lie in low transaction costs; quick decision making; customer orientation and prompt provision of financial services (Sinha 2013). Besides inclusion of the large segments of population in the financial system, shadow banking also bolsters competition and supports innovation (Donnelly 2015). FSB in its 2014 regional report on shadow banking in Asia observed that:

> OFIs in emerging and developing economies generally play a role in socio-economic and financial sector development. To a large extent, they have a key financial inclusion role, e.g. to broaden access to financing via provision of basic financial services to individuals and SMEs. … In some jurisdictions, they also contribute towards development of niche markets and services through the provision of specialised products to promote the development of domestic capital markets, hedging platforms and alternative investment channels (collective investment schemes, mortgage corporations, venture capital).

According to FSB, in emerging economies shadow banking is growing rapidly and shadow banking assets as a proportion of GDP expanded from 6% in 2002 to 35% in 2012. This growth is driven partially as a natural corollary of economic growth and deepening of the financial sector. Figure 5 shows rise in shadow banking in the BRICS economies from 2002 onwards.

Figure 5 here

Shadow banking in China has grown significantly in recent years along with the country's high growth rates witnessed in recent years and was fifth largest among the countries monitored by FSB (Ghosh et al.2012; Li 2013). The reasons for strong growth typically in China's case are related to regulatory arbitrage and restrictions on banks. In South Africa, including the assets from money market funds, investment funds, trust companies, finance companies, hedge funds and bond scheme it is estimated at R 2.4 trillion (Donnelly 2015). In Brazil as well, the growth in shadow banking has been driven by growth in mutual funds. In India, non-bank financial sector companies (considered as shadow banks) are often perceived as an important participant in the objective of achieving financial inclusion.

Figure 6 here

A trend which is clearly visible from Figure 6 is the rising share of China from 5.3 US$ billion in 2002 to 2999US$ billion in registering largest increase among the emerging economies including BRICS. In terms of the components of OFIs, finance companies, money market funds and Special Finance Vehicle or SPV, finance companies recorded highest increase over the period 2007-2011 in China (33%); Hong Kong (12%), India (25%) and Indonesia (24%). A major potential systemic risk in the emerging economies is the interconnectedness between OFIs and banking system which could lead to spillover of risks. Interconnectedness between the parent institution and other institutions can also lead to systemic risk to the financial sector particularly banks linked to shadow banking system, and cross-border banking (World Bank 2014).

Shadow banking entails systemic risks and could potentially destabilise the financial system. As IMF (2014) noted the challenge remains to contain the risks emanating from shadow banking through macro prudential regulatory framework, yet to maximise the benefits of expanding financial system. Henn (2014) noted that although Financial Stability Board is monitoring shadow banks and has been able to highlight the problems associated with shadow banking, yet it has not been adequate. Henn (2014) suggests that FSB should focus on availability of data on shadow banking, identify risks and monitor effectively. Also the exposure of small businesses and households to shadow banking must be ascertained and vulnerabilities need to be addressed in the interim.

6. Conclusion

Financial inclusion has become an important policy objective in recent years in a number of developing and developed countries. Although several measures have been taken to promote financial inclusion nonetheless, poorly conceived measures to increase financial inclusion can however, lead to financial instability. A dilemma among the policy makers and researchers is how to achieve a balance between the two and how to promote financial inclusion without destabilising the financial system. Can increasing financial inclusion necessarily lead to financial instability? In this study we examined the extent of financial inclusion and financial stability in the case of a group of emerging economies termed BRICS. BRICS are a heterogeneous group of countries, yet a common unifying factor among them is high level of growth experienced in recent years. Our study raised two questions what is the extent of financial inclusion in BRICS and what is the nature of relationship between financial inclusion and financial stability. The study observed that considerable emphasis is on increasing financial inclusion, yet financial sector reforms have taken place in the countries including regulatory reforms. Despite recent global financial crisis the BRICS were resilient and did not face direct losses. Shadow banking also in these countries still is much lower compared to global average particularly, US, UK and Europe. There is however no room for complacency and need is to remain vigilant of the potential risks likely to surface in case of macroeconomic vulnerabilities. Some of the key policy priorities would be strengthening data base both for financial inclusion indicators and financial stability. Availability of good database would help not only the researchers and academics but policy makers as well in tracking the progress of financial inclusion and monitoring financial stability of the system. Adequate financial regulation is another key priority area required with increasing financial inclusion. As considerable financial access is technology driven in recent years, another policy priority would be to strengthen cyber security systems. Secured and strong security systems would not only make the financial transactions safe and secure and promote financial stability, but also build trust of general public in digitisation of financial services and further enhance financial inclusion.

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