

Strengthening Financial Market Infrastructure in Emerging Economies: Lessons From Central Banking Operations

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ABSTRACT

The paper is an evaluation of how the financial market infrastructure has its links to central bank operations in the emerging economies, focusing on the structural limitations on financial system performance. It claims that the financial intermediation is still constrained by the inexistent gaps in payment systems, settlement facilities and domestic debt markets, albeit the current regulatory reforms. The study tests the interaction between infrastructural vulnerabilities and growing central bank remit options in the post-crisis policy space based on a qualitative synthesis of existing research on the impact of financial development, central banking, and institutional economics. The results are that effectiveness of central banking is organized by quality of underlying financial infrastructure, and that expansion of regulation has not solved systemic inefficiencies alone. Institutional readiness and infrastructural depth prove to be the two determinants of financial inclusion efforts and technological advances, though potentially useful. The paper comes up with a concluding observation indicating that the issue of financial market infrastructure is a predetermined factor of financial stability and progress in emerging economies and not a marginal aspect in the reform strategies.

Keywords: Infrastructure of financial market, Central bank, New economies, Financial stability, Payment systems, Transmission of money, Institutional development, Financial regulation.

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INTRODUCTION

Infrastructure in financial markets in emerging economies continues to be a lasting impediment to macro-financial stability and effective capital allocation, in spite of repeated waves of liberalization and changes to regulations. The problem is not just with the lack of financial institutions, but the structural incompleteness of the regimes that facilitate price discovery, finality in settlements and transfer of risk. In this respect, the ineffective infrastructure is binding as opposed to transitional inefficiencies, especially in situations where the institutional capacity and enforcement institutions are not even (Morgan & Lamberte, 2012; Ghani, 2016).

Structurally, the emergent economies evolve their financial systems in the context of distortion of the factor market and rigidity of their institutions, which means that there is an endogenous mismatch in infrastructure gaps, as opposed to an exogenous one (Lin, 2011). This reading calls into direct question the interpretations of reform that see gradual improvement of regulations that can be used in place of market architecture. The existence of shallow domestic debt market, and low-quality payment systems, and inadequate means of intermediation, according to empirical evidence in low-income and emerging markets, continue to hold development prospects down, in settings that seemingly have obtained policy stabilization (Abbas

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and Christensen, 2010). It implies that development of financial infrastructure depends not just on policy orientation but on how well and how honest is the infrastructure that underpins it.

The key point of this tension is the central operations of central banks. Although central banks are being given broader and broader mandates, such as financial stability and macroprudential; effectively, the quality of the underlying financial infrastructure structures mediates their effectiveness. Loose settlement frameworks and disintegrated market structures undermine the transmission of the monetary policy and limits their ability to respond to crisis, revealing the discrepancy between the accountability and the ability of the policies (Nier, 2009; Buiter, 2008). Succession of post

crises reforms has strengthened this asymmetry instead of ending them as in most cases, there has been higher growth of regulators compared to modernization of infrastructure (Claessens, 2010; Prasad, 2010).

Another complex issue is also present in the changing scope of central banking itself. The policy environment that has emerged after the crisis has further diversified the central bank with tasks that have traditionally been thought of as marginal such as systemic risk management, financial accessibility, and even climate-related financial resilience issues (Campiglio et al., 2018). Simultaneously, new technological changes, including the pursuit of central bank digital currencies, bring with them efficiency benefits and new operation vulnerabilities, especially in areas with insufficient infrastructure (Bech & Garratt, 2017). The two-fold increase of scope and difficulty compounds the pressure on strong infrastructure and underlines the current institutional constraints, at the same time.

Nevertheless, the literature is still disjointed on how to treat the financial infrastructure as a system. Regulatory analyses are bias towards supervision and crisis prevention whereas developmental models prefer expansion and inclusion in the market without paying much attention to the in-between infrastructure that is operational in defining functional efficiency. In places where financial inclusion has been advocated as a stabilizing driver, there is still contentious evidence about the net impact of such an inclusion on resilience of the system especially in an environment where regulatory capacity constraints exist (Hannig and Jansen, 2010). On the same note, firm-level research mentions the importance of institutional environments in determining corporate access to finance, but tends to downplay infrastructural prerequisites involved in having these mechanisms start working on-the-job (Hoskisson et al., 2013).

It is on this background that the core issue being dealt with in this paper is the prevailing mismatching between the central banking dictates and structural preparedness of financial market infrastructures of a given emerging economy. The analysis is based on the assumption that infrastructure is not a passive channel of financial activity, but an active determinant of the policy effectiveness, stability of systems and market development. In the same vein, the paper will discuss the relationships between the central banking activities and the financial infrastructure bottlenecks and why traditional reform measures have not been effective in corrective structural inefficiencies in various emerging financial systems.

Literature Review

Literature on financial market infrastructure in emerging economies finds operational convergence in its location to financial development, but shows a great deal of variation in its diagnostic of what caused its chronic fragility and whether policy interventions worked. One of its approaches

points to institutional weaknesses, especially those affecting payment systems and in particular law enforcement and coordination of markets, as the main barrier to financial deepening (Morgan and Lamberte, 2012; Ghani, 2016). Under this perception, infrastructural deficits are taken as structural constraints that constrain efficiency of transactions, heighten counter-party risks, and eventually allocate capital misplaced. Institutional view of this has however been questioned based on arguments that these shortcomings are symptomatic, and not causal and that they are indicative of macro-financial vulnerability such as those found in emerging market economies (Claessens, 2010).

This strain is clearly manifested in evaluation of post crisis financial reforms. Claessens (2010) argues that the episodes of crisis emphasized the systemic weakness that was beyond the inadequacy in infrastructure and points to the procyclical capital flows and weak enforcement of regulatory rules as the main sources of instability. Contrary to this postulation Morgan and Lamberte (2012)) argue that in the absence of strong financial infrastructure (especially clearing and settlement) regulatory reforms will not produce the desired results. The implication is a drift between the macroprudential approach and institutional approach whereby the former focuses on systemic risks containment and the latter is focused on underlying market functionality.

Another related argument is the role that the domestic financial markets, particularly the debt markets may play to facilitate economic growth. Abbas and Christensen (2010) offer empirical data which connects the emergence of domestic debt markets with better macroeconomic stability and growth outcomes in the emerging economies. According to their findings, infrastructure underpinning these markets, including trading platform, settlement, and regulation systems is a part and parcel of financial development. However, such a stand is not absolutely universally unchallenged. Structuralist views, suppose that such markets are effective conditions of additional institutional conditions such as the quality of governance and the capacity of states that cannot be resolved by only market-based reforms (Lin, 2011). This provides a serious difference between infrastructure growth and institutional change.

The literature on central banking makes this discussion even more complex by noting the changing role of financial management in structurally incomplete economy served by monetary authorities. The author has focused on the significance of integrated financial stability frameworks and Nier (2009) suggests that the central banks need to coordinate regulatory and supervisory development as a way of alleviating systemic risk. Buiter (2008) however questions the boundaries of central bank intervention especially in those settings where financial infrastructure is lacking to convey policy. This dispersion indicates an extended confusion about how much the central banks can mitigate the structural deficits with policy tools.



The ambiguity is strengthened by post-crisis analyses. Prasad (2010) records the growth of regulatory structures in the emerging markets, citing that there is increased resilience but that there is still lack of capacity in implementation. Then, on the same note, Benlialper and Cömert (2016) state that in developed nations, central banks have followed a more proactive agenda after the global financial crisis, but all these changes have failed to transform the structural constraints dictated by the underdeveloped financial systems. In this regard, central banking reforms seem to be needed yet too little within the framework of the infrastructure that they are meant to stabilize.

Vested materials of literature look beyond financial inclusion into an avenue of discussion concerning the interaction with systemic stability. Hannig and Jansen (2010) postulate that financial stability can be improved through expansion of access to financial services, through the widening of the depositors base and lessening of volatility. Nonetheless, this opinion is disputed. Higher levels of financial inclusion, in an environment of lax regulatory supervision, can mean more exposure to risks, as it is only with strong regulation that unregulated parts of the population can be incorporated into the formal financial sector without proper protection. This raises the question as to whether infrastructure expansion through inclusion can be achieved without strengthening of the regulations.

There is other complexity brought by technological developments. The consideration of central bank digital currencies (CBDCs) has been presented as a possible solution to the integration of unproductive approaches to payment systems that may bring an advantage in the transaction speed and financial accessibility (Bech & Garratt, 2017). However, this kind of innovation would assume the existence of a minimum level of infrastructural and institutional preparation, which cannot be predicted with most of the developing economies. The lack of this base will likely duplicate or even deepen the current weak points, due to digitalization. Similar issues can be seen regarding climate-related financial risks, where the central banks have more and more a role to play in financial stability by incorporating environmental concerns into financial stability (Campiglio et al., 2018). Such increased mandates create an additional burden on available infrastructure, emphasizing the continued disactivity of policy expectations and operational capacity.

On the firm-level, the nexus between financial infrastructure and corporate behavior gives further information about the constraints on systems. As Hoskisson et al. (2013) illustrate, institutional environments have a significant impact on firms in the emerging economies, especially in terms of access to finance and internationalization strategies. This implies that the problem of inadequate infrastructure is not just a macro economic consequence of doing business inefficiently in the macro economic way but this factor dictates the performance of microeconomic activity and restricts the capacity of the firms to be able to compete well in the international capital

market. Supportive evidence, by Su et al. (2016), suggests that incorporating corporate social responsibility into the signaling mechanisms serves as a bonus in a setting with a weak formal financial infrastructure, further supporting the substitutive nature of non-market mechanisms.

Nevertheless, literature on financial market infrastructure has been patchy as a systemic entity. The institutional perspective, the macroprudential perspective and the technological perspective tend to work independently and constrain the process of coming up with holistic policy frameworks. Additionally, very few people are in agreement as to whether development of infrastructure should be done before regulatory expansion or develop alongside it. This deficiency in theoretical and empirical congruence limits the development of consistent strategies in empowering financial systems in emerging economies.

As such, the available literature on the topic presents a gap: although the need of financial infrastructure is consistently acknowledged, there is no single set of variables that underlines how the functioning of central banks can deal with its structural shortcomings. The latter gap is the basis of the necessity of a more integrated assessment which puts central banking in the framework of wider financial market infrastructure, and does not assume its role as an external stabilizer.

METHODOLOGY

The qualitative analysis involving the use of theories is conducted to analyze the relationship between the central bank activities and the financial market infrastructure in the emerging economies. Since the issue of interest is structural and institutional in nature, the research is based not on a single empirical finding but rather draws upon the existing literature to develop an analytic framework with the help of financial intermediation theory and structural development economics. This is an indication of the belief that the emerging markets limits in infrastructural facilities cannot be entirely realized when only using the standard indicators of measurement but in context and institutional meaning (Lin, 2011).

The design process is in three steps. Initially a literature selection in the systematic review is undertaken to determine recurrent themes relating to failure of a financial infrastructure, central bank area of operation and systemic stability. Key indicators obtained are the payment and settlement systems, the development of the domestic debt market, coordination and financial inclusion of the regulators. These dimensions are not addressed as independent but as variables that are mutually dependent as it has to be seen in the perspective of a systemic approach advocated by Morgan and Lamberte (2012) and Ghani (2016).

Secondly, the paper employs comparative analytical model as one of the instruments employed in criticism of central banks in alleviating infrastructure constraints in the various strands of literature. This involves a contrast between

the views of the macroprudential which are systemic reduction of risk (Nier, 2009) and institutional approaches which concentrate on market enabling structures. Special care is taken over convergences in the literature like how much the central banks can fix any infrastructural weaknesses by solely employing the policy (Buiter, 2008). This comparative methodology helps in actualizing the latent assumptions to inform the policy propositions that project through research.

Third, the analysis, relying on such policy-oriented writings as Sanusi (2010) and Claessens (2010), is part of a collection of exemplary evidence, in terms of documented crisis incidences and crisis episodes of reform in the emerging economies. These are not considered to be independent empirical validations but are considered to be a context in which to consider the practical implications of theoretical arguments. The presentation of such kind of evidence enables evaluation of the response of central banking action to infrastructural deficiencies of the situations in financial strain and bridging the theoretical insight with the perceived policy implications.

To ensure the analysis of consistency, all the variables and concepts are described under a single structure and the emphasis is in the coordination of the institutional capacity and the market arrangement and policy output. The financial infrastructure has been work-realised as an intricate network of sites of transactions, processes of regulation and institutions of providers. The role of the central banks has also been defined within a wider platform and they include monetary policy, ensuring financial stability, and macroprudential regulation (Prasad, 2010; Benlialper and Cömert, 2016). This more liberal definition implies the future role change of central banks in the emerging economies mostly following the worldwide financial meltdown.

The study acknowledges certain inherent constraints of the employment of a qualitative synthesis methodology. The absence of the primary econometric estimation restricts the ability to give causal association amid the growth of structures and economic outcomes. It is further founded on secondary literature which can be biased due to the methodological diversities and geographical concentration of studies. This disadvantage, however, somehow is made

up by the conscious use of conflicting opinions, as it is now possible to subject them to analysis but not to determine them in any specific direction.

Overall, the methodology focuses on the in-depth analysis of the issues instead of a statistical generalization, and the objective of the study is to create the descriptive coherent framework that can be used to explain what factors contribute to the underdevelopment of the financial market infrastructure in the emergent economies in spite of the ongoing central bank reforms.

RESULTS

Weakness of infrastructure as binding Constraints.

The results indicate that financial market structure within the emerging economies is present in the form of a binding but not a subsidiary constraining factor regarding the market efficacy and policy efficacy. In the literature, lacks in payment systems, clearing system and domestic debt market are recurring in spite of regulatory reforms which might indicate infrastructure voids are structural, as opposed to being transitional (Morgan & Lamberte, 2012; Ghani, 2016).

Abbas and Christensen (2010) empirically support this stance by attributing the existence of underdeveloped domestic debt markets to the fact that economic growth is low and fiscal flexibility is limited. However, this is not necessarily so. Claessens (2010) argues that the biggest contributors of systemic instability and thus the role of infrastructure is depreciating is the volatility in capital flows and in macroeconomic imbalances. It is clear based on the results of this example that this distinction is not natural. The infrastructure failures do not operate independently of macro-financial instability; as they make the transmission worse by compromising the absorption capacity in the markets.

Effectiveness of Central Banking within Structural Constraints

The information confirms that the work of central bank is a conditional factor with the infrastructural quality, and HRM

Table 1: Structural Misalignment Between Central Banking Functions and Infrastructure Capacity

<i>Function</i>	<i>Infrastructure requirement</i>	<i>Observed constraint</i>	<i>Resulting limitation</i>
Monetary Policy Transmission	Deep interbank & payment systems	Illiquid markets, settlement delays	Weak transmission mechanism
Financial Stability Oversight	Integrated supervisory frameworks	Institutional fragmentation	Partial risk visibility
Lender of Last Resort	Reliable collateral & settlement	Limited asset eligibility	Constrained liquidity intervention
Debt Market Development	Active secondary markets	Low liquidity, high transaction costs	Restricted fiscal-monetary coordination

The table reinforces that policy tools remain operationally constrained by the systems through which they are deployed.



problems come to the forefront in a financial tight moment. Despite the expanded nature of the central banks in terms of their role and responsibilities to include financial stability checks, they are restricted to perform such duties because market systems are imperfect.

Nier (2009) brings out the fact that the integration of financial stability frameworks is necessitated though this implies that there are well-known market infrastructures. On the other hand, in circumstances where collateral frameworks and settlement systems are frail, Buiter (2008) feels that there are inherent, central bank constraints to crisis management. The results follow more the latter opinion. The increased mandates increased by the government have not been matched with equal growth of infrastructures leading to a scenario of structural imbalance between liabilities and capacity.

Reforms that followed concretely during the post-crisis period have created quantifiable changes on regulatory frameworks; however, the outcomes of these changes show they have failed to bring the structure of financial systems. Prasad (2010) documents beefing up of the regulation, but Benliaper and Cömert (2016) disclose the ineffectiveness of such adjustments in correcting the flaws of infrastructures.

Such a discrepancy has been an indication of a sequencing problem. Growth in regulations has not been accompanied by commensurate infrastructural growth which is a constraining factor to the implementation. The result is an operative superficiality in regulatory form- there are rules and there are the systems of rules that are required to make them effective.

This paper will discuss fintech and its role in financial inclusion as a controversial mechanism of stability.

The correlation of financial inclusion and financial stability is still not determined both empirically and theoretically. Hannig and Jansen (2010) maintain stability is increased as a result of a wider financial access, which diversifies risk. This presumption is however conditional on regulatory power and strength of infrastructure.

These results point out the possibility that financial inclusion may play a role towards systemic exposure rather than minimization in situations of constrained environments within infrastructures. Larger accessibility and weaker payment systems, credit monitoring and regulatory frameworks bring new ways of transmitting risks. This is in opposition to the existing policy ideology that inclusion and stability are mutually reinforcing.

Institutional Readiness and Technological Innovation

Innovations in technology, especially central bank digital currencies are often framed as a remedy to deficits in infrastructure. According to Bech and Garratt (2017), efficiency benefits of digital currencies will have to be institutionalized.

The results indicate that adoption of the technology could aid in the duplication of the current inefficiencies in the

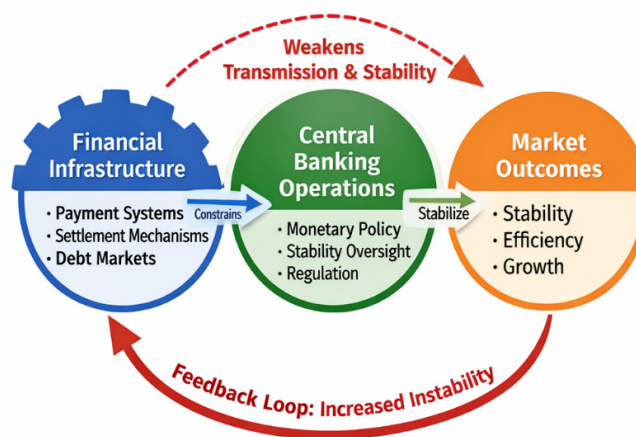


Figure 1: Structural Interaction Between Financial Infrastructure, Central Banking, and Market Outcomes

digital version in the setting of poor infrastructure. Likewise, the inclusion of climate-related financial risks in central bank mandates (Campiglio et al., 2018) broadens scope of policy without improvements to the underlying system vulnerabilities. Innovation, though, does not take the place of infrastructure, it demands the infrastructure.

Micro-Effects: Firm Conduct in the case of a constrained infrastructure.

Lack of infrastructure is both a structural failure as well as an influence on the behavior of companies. As Hoskisson et al. (2013) show, in the new economies companies have no access to finance due to institutional restrictions. In response to this, other mechanisms of communicating credibility are used by companies.

Su et al. (2016) show that the role of corporate social responsibility is a substitution signaling mechanism in the environment with ineffective financial infrastructure. This substitution effect shows that the allocation mechanisms that are market based are displaced to some extent by non-market strategy, which decreases the effectiveness.

Integrated Structural Relationship

The results support a system level perception in which monetary structures and central bank functions and the result of the market are both facilitating and structurally constrained.

CONCLUSION

This paper has addressed why the financial market infrastructure has an impact on the efficiency of the operations of the central bank in the emerging economies. The talk unveils that the long-term side of the fundamental infrastructure, primarily payment systems, settlement devices, and domestic debt markets limits the efficiency of the market and which policy is being implanted. These

are structural restrictions that persist in sabotaging the performance of financial systems amid the continuous regulatory reforms.

The findings indicate that clear transition of the disparity between augmented central bank requirements and financial framework performance is vibrantly observed. This wider role of the central banks towards financial stability and regulation of the macroprudence balance though; the overall output of the respective central banks would lie in the infrastructure infrastructure that is used. In this case the policy innovation and regulatory expansion will not resolve systemic flaws by itself but rather have an effect that will be mediated by the institutional and market context, in this case realised.

The research adds to the body of knowledge by revitalizing financial market infrastructure as the focus that determines the functionality of the financial system as opposed to a supportive element. It proposes that sustainable development and key to financial development in emerging economies is the need to reinvent a policy focus of the basis systems underpinning market activity and policy success. Without this accommodation the framing mismatch between policy aspirations and outcomes of the financial system is sure to persist.

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