Financial Inclusion and Innovation in Africa: An Overview

Thorsten Beck[a], Lemma Senbet[b] and Witness Simbanegavi[c,*]

[a] Cass Business School, City University London and CEPR [b] African Economic Research Consortium (AERC), Kenya and University of Maryland, USA [c] African Economic Research Consortium, Kenya

[*] Corresponding author: Witness Simbanegavi. E-mail: Witness.Simbanegavi@aercafrica.org

Abstract:
Financial inclusion is gaining attention in African policy circles in view of the recent African growth renaissance, but which has been characterised as non-inclusive. While not conclusively documented in the literature, financial inclusion is viewed among the drivers of inclusive growth. This special issue takes a stock of the extent of, and the factors affecting financial inclusion; the role of cross-border banking in financial deepening and access across Africa; and the impacts of financial innovation on access as well as monetary policy. While Africa's banking systems are still shallow relative to peers, substantial progress has been made over the past two decades both in terms of financial inclusion and financial innovation, as well as cross-border banking. While access to finance has improved, the evidence based on the Global Findex database points to substantial heterogeneity within sub-regions of Africa and demographic characteristics. The evidence also suggests that foreign banks from emerging markets, including Africa, have contributed to financial access, but the opposite is the case for foreign banks from Europe and U.S. However, challenges remain, including the gap between financial deepening and financial inclusion.

JEL Classification: G2; G3; O16; O55
Keywords: Africa; Cross-Border Banking; Financial Innovation, Access to Finance: Gender

1. Introduction

Africa's financial systems have undergone quite some transformation over the past decade. Behind increases in headline indicators of financial deepening are more structural changes that affect not only financial systems themselves but have critical repercussions for the real economy. This special issue comprises three papers that look at three specific dimensions of financial deepening in Africa: access to financial services, cross-border banking and financial innovation. This introductory paper puts the three papers into a broader context, discussing recent changes in African finance and tries to formulate a forward-looking research agenda that relates to a rapidly changing financial landscape across the continent.

As discussed in more depth by Beck and Cull (2014), banking in Africa has undergone dramatic changes over the past 20 years. While dominated by government-owned banks in the 1980s and subject to restrictive regulation – including interest rate ceilings and credit quotas – financial liberalization, institutional and regulatory upgrades and globalization have changed the face of financial systems across the region. Aggregate indicators of banking sector development have shown a clear upward trend across Africa and there even has been an improvement in the development of stock exchanges in Africa, including credible efforts to develop regional markets in view of thinness and limited liquidity provision. In addition, the last two decades witnessed the emergence of private African banking groups (Derreumaux, 2013) and the entry of emerging market banks in the African market – which have invigorated competition, and thus helped to foster innovation within the African banking sector, enabling improved access to financial services by consumers.[1] Today, most countries have deeper and more stable financial systems, though challenges of concentration and limited competition, high costs, short maturities, and limited inclusion persist.

Many African financial systems face the quadruple problems of (i) small scale, (ii) high political and economic volatility, (iii) high incidence of informality, and (iv) governance challenges in both private and public sectors. As pointed out by previous analyses, this makes African economies unlikely hosts for efficient and stable financial systems. However, it also underlines the importance of innovative tools and instruments to exploit scale economies and properly manage risks. There have been home grown innovations both in products/services and delivery mechanisms in Africa as recently witnessed in the mobile revolution and the advent of Equity Bank – both in Kenya. Financial innovation is thus critical to expand financial inclusion. Cross-border banks can play a decisive role in this process.

This paper and this special issue are related to a small but rapidly growing academic literature on financial system development in Africa (see Allen, Otchere, and Senbet, 2011, for a comprehensive survey). While previous efforts were hampered by the dearth on data, recent cross-country and country-specific data collection efforts have allowed quantitative and more rigorous analyses of constraints to financial sector development in Africa and the efficiency of specific policies and institutions to overcome them. Beck and Cull (2014) provide a summary on banking in Africa, documenting the recent deepening and innovation, while Beck *et al.,* (2011) provide a longer but more in-depth discussion on the policy challenges in financial inclusion, long-term finance and financial stability. Allen, Carletti,

[1] A complementary development has been the strong growth in telecommunications in Africa, particularly mobile telephone usage, which has ushered in a new era of mobile money and mobile banking.

Cull, Qian, Senbet, and Valenzuela (2014) document the African financial development gap measured on the basis of benchmarking with peer low income countries outside Africa. Population density is one of the key determinants, and it is found that the sensitivity of financial development is higher in Africa than in other developing countries. Among the mechanisms for closing the development gaps is mobile banking and innovative institutions which create opportunities for access to finance by underserved regions and populations segments.

The remainder of this introductory paper is structured as follows. Section 2 presents recent findings on financial inclusion across the continent. Section 3 discusses benefits and challenges of cross-border banking and section 4 gauges recent advances in financial inclusion. Each of these three sections includes the discussion on the relevant paper in this special issue. Section 5 concludes and looks forward.

2. Financial inclusion – progress but challenges remain

Financial inclusion - access by enterprises and households to reasonably priced and appropriate formal financial services that meet the needs of enterprises and households – is a critical dimension of financial development. There is growing evidence that financial inclusion has significant beneficial effects for individuals and firms. However, there is also evidence that it is not simply expanding credit that matters, but that a focus on other financial services including savings and payments can be important.[2] Yet hundreds of millions of Africans still lack access to affordable financial services.

Thus, it is should be recognized that financial system development does not necessarily ensure financial inclusion. In other words, financial system development is necessary but not sufficient for financial inclusion. This is akin to the current debate in Africa, which has witnessed robust growth over the last fifteen years, although the growth has not been inclusive. Similarly, while African financial systems have grown both in quantity and depth over the years, finance has not been inclusive. This calls for an entirely different attention to policies beyond those prescribed for formal finance.

Until recently, little reliable cross-country evidence was available on the access to and use of financial services. The Global Findex database provides such indicators, measuring how people in 148 economies save, borrow, make payments, and manage risk. These new indicators are constructed with survey data from interviews with more than 150,000 nationally representative and randomly selected adults age 15 and above. The survey was for the first time carried out over the 2011 calendar year by Gallup, Inc. as part of its Gallup World Poll.[3]

Klapper and Singer (this issue), using standard indicators of financial inclusion based on the Global Findex database and Gollup World Poll, attempt to document how Africans save, borrow, and make payments. Klapper and Singer use data on more than 38,000 interviews across 38 economies in Africa in 2011 to document the state of financial inclusion across Africa. While there is in general low level of financial inclusion in Africa, there is

[2] See World Bank (2014) for recent evidence and Karlan and Morduch (2010) for an overview of the academic literature.
[3] For more detailed description of the database see Demirguc-Kunt and Klapper (2012).

remarkable heterogeneity within sub-regions of Africa, urbanization, distance, and demographic characteristics.

The data show that less than a quarter of adults in Africa have an account at a formal financial institution and many adults in Africa use informal methods to save and borrow. Specifically, they document that less than a quarter (23 percent) of adults in Africa have an account at a formal financial institution. On the other hand, 14 percent use a mobile phone to pay bills or send or receive money, a share much higher than in other regions of the world. The data also show the dominance of informal finance across Africa. While 36 percent of adults report having saved or set aside money in the past 12 months, only 13 percent of adults report having done so at a formal financial institution in the past year. Similarly, informal borrowing is prevalent among the 44 percent of adults in Africa who report having borrowed money in the past 12 months: 38 percent of adults report having borrowed money from friends or family, including 28 percent who report this as their only source of borrowing.

When exploring with regression analysis the household and individual characteristics that co-vary with formal savings and borrowing, the authors find that income, employment and geography are important predictors, while gender is not. This relates to an important dimension in the financial inclusion debate. While Demirguc-Kunt, Klapper and Singer (2013) document an unconditional gender gap across the developing world, including Africa, using Global Findex data, Aterido, Beck and Iacovone (2013) show that when key observable characteristics of individuals are taken into account the gender gap disappears. The lower use of formal financial services by women can be explained by gender gaps in other dimensions related to the use of financial services, such as their lower level of income and education, and by their household and employment status.

Informal financial arrangements still dominate the financial landscape in Africa, in numbers though not in volume. As also documented by Collins *et al.,* (2010), households in developing countries, including in Africa, use a variety of different informal financial service providers, from shops over deposit collectors to moneylenders. Friends and families and Rotating Savings and Credit Associations (ROSCAs) play an important role in the financial lives of the poor. Even as formal financial system continue to expand across Africa and larger shares of the population gain access to formal financial services, informal financial service providers will continue to play an important role. In some areas, however, they might be pushed rapidly, as the example of taxi and bus drivers in Kenya show who lost their dominating market position in the informal domestic remittance market as M-Pesa started being used by an increasing share of the population.

Perhaps one of the key insights of the Klapper and Singer study is the finding that indicators of financial use by individuals show a positive but imperfect correlation with indicators of financial depth. This suggests that deepening of African financial markets will not necessarily deliver “access” to all. The implication of this finding is that there is a need for policies specifically targeted at enhancing financial inclusion, and there may potentially be trade-offs between deepening and inclusion. In particular, the set of policies/ interventions to bring about financial deepening may be different from, and even possibly conflict with, the set of policies/ interventions needed to bring about financial inclusion.

3. Cross-border banking – challenges and risks

Africa has been traditionally the region with the highest share of cross-border banks, to be surpassed only in the 2000s by the former transition economies of Central and Eastern Europe. The face of cross-border banking, however, has changed over the past decade. African banks have not only substantially increased their geographic footprints on the continent but have also become economically significant beyond their home countries and of systemic importance in a number of jurisdictions across Africa. Today, eight African headquartered banks are represented through subsidiaries or branches in more than 10 African countries each and in at least 9 instances do these banks individually hold more than 30 percent of banking system assets in a host country (Beck, Fuchs, Singer and Witte*,* 2014).

Foreign bank entry seems to have several advantages that are specific to Africa: international banks can help foster governance; they can bring in much-needed technology and experience that should translate into increased efficiency in financial intermediation; and they can help exploit scale economies in small host countries by levering on their presence across many markets. Nonetheless, especially in Africa, with its many small, risky, and opaque enterprises, the dark side of foreign bank entry can become obvious, even more so in countries in which foreign banks have captured almost 100 percent of the banking market. Specifically, the greater reliance of foreign banks on hard information about borrowers as opposed to soft information can have negative repercussions for riskier and more opaque borrowers if foreign banks crowd out domestic banks. The absence of a sound contractual and informational framework reduces the feasibility of small business lending further and thus the positive effect of foreign bank entry (Claessens and van Horen, 2014). Finally, the small size of many financial markets in Sub-Saharan Africa may make foreign banks reluctant to incur the fixed costs of introducing new products and technologies. In fact, in the context of Kenya, Allen, Carletti, Cull, Qian, Senbet, and Valenzuela (2013) document that foreign banks are at the low end of hierarchy in terms of venturing out to the under served regions and population segments. However, this study does not differentiate among the types of banks by origin.

The changing face of cross-border banking in Africa raises the question on repercussions for the real economy. Beck (this issue) offers suggestive evidence that it is critical to differentiate between different types of cross-border banks when assessing their impact on firms' access to bank finance. Specifically, he shows a positive relationship between the share of foreign banks from the region or other emerging markets and firms' access to finance and of a negative relationship between the share of foreign banks from Europe or the U.S. and entrepreneurial finance. He also stresses, however, the tentative nature of the evidence and that these results cannot be interpreted in a causal manner, given their cross-sectional nature and potential omitted variable bias. Rather, more research is needed.

Beck *et al.,* (2014) discuss the broader policy agenda for African policy makers. While on the one hand, African banking systems stand to gain significantly from further cross-border banking integration in the form of financial innovation, more efficient intermediation and deepening of financial markets, most cross-border banks are still reluctant to engage in servicing the lower end of the market. A move towards allowing more integrated banking models, such as more integrated subsidiaries, that look beyond the 'fortress banking' of stand-alone subsidiaries preferred by many regulators for stability reasons, may also help by lowering the cost of doing business and thus making service provision to the lower end of the market more cost-effective and attractive. In addition, it may also be beneficial to encourage the entry of banks that are experienced in servicing underserved market segments.

In addition to deepening and inclusion benefits of cross-border banking, it is also important to consider possible fragility risks stemming from cross-border banking which have become obvious from the recent Eurozone crisis. African regulators have started to realize the stability risks that can arise when African financial systems start reaping the benefits of cross-border banking and have started closer cooperation, both on the sub-regional level (e.g. within East Africa), but also across the continent. But the agenda is still a long and dynamic one. Establishing or improving frameworks for consolidated supervision tops the agenda in this respect, which in turn relies on improving the availability and regular exchange of relevant information. It is also important to look beyond these tools of cooperation in normal times towards crisis preparation. While this implies putting in place effective mechanisms for bank exit at the national level, measures to strengthen bank resolution frameworks and crisis preparation should be extended across borders and can include joint crisis simulation exercises and crisis management groups.

4. Financial innovation

Financial innovation comprises a variety of new products, new processes and new organizational forms that can help reduce transaction costs, provide better risk management tools and overcome information frictions. Financial innovation has a critical role in the process of financial deepening, as documented by Laeven, Levine and Michapoulos, 2014 and Beck *et al.,* 2013). Financial innovation, however, can also bring certain risks and exacerbate fragility in financial systems, as shown by the recent experience in the US and Europe.

It is important to define what we mean by financial innovation in the African context. Recent examples include (i) mobile banking, i.e. access to basic payment services through mobile phones, even without having to have a bank account, (ii) the use of psychometric assessments as a viable low-cost, automated screening tool to identify high-potential entrepreneur, (iii) agricultural insurance based on objective rainfall data, and (iv) new players in the financial systems, such as micro-deposit taking institutions, and cooperation between formal and informal financial institutions. Examples from other regions include agency agreements between banks and non-financial corporations (supermarkets, post offices etc.) to deliver financial services to remote and low-income areas, joint platforms for banks to provide factoring services to small enterprises, and private-public partnerships for infrastructure, often supported by international risk mitigation mechanisms.[4]

Financial innovation can be critical in overcoming the two main challenges that financial intermediation faces in Africa: the high costs and the high risks. Take the example of mobile banking. First, it relies to a greater extent on variable rather than fixed costs, which implies that even customers who undertake small and few transactions are viable or bankable

[4] See Beck and Cull (2014) for a more in-depth discussion on different forms of financial innovation in Africa and their evaluation.

relative to banking through conventional channels. Second, trust can be built much more easily by reducing the risk from the customer's and the provider's viewpoint. Financial innovation can thus be critical in helping reduce the large share of population that is currently unbanked in Africa.

One of the most successful examples of financial innovation is M-Pesa, launched by Safaricom in 2007. As described by Ndirangu and Nyamongo (this issue), the amount transacted through the mobile networks in 2013 totaled about KShs. 1.9 trillion, equivalent to 50% of Kenya's Gross Domestic Product (GDP). While mobile banking has also taken off in other African countries, observers still point to the Kenyan story as an outlier, which raises the question on how to replicate the Kenyan success story in other countries. Among the questions raised in this context is the regulatory decision on choosing between a bank-based approach, where banks take the lead on developing new delivery channels or a non-bank approach as in Kenya, where additional competition is brought in from outside, in this case from mobile network operators. The discussion on this is still on-going and policy conclusions are certainly context-specific.

Financial innovation such as mobile banking, however, also poses challenges for macroeconomic policy, including monetary policy. Ndirangu and Nyamongo (this issue) investigate the effect of innovation-driven financial deepening on monetary policy in Kenya during the period 1998-2013. Specifically, they test whether the wave of financial innovation that has occurred during this period has impacted the long-run stability of the money demand relations. The results show that the innovations have improved the monetary policy environment in Kenya as the proportion of the unbanked population has declined coupled with gradual decline of the currency outside banks. However, during the period under study, the money multiplier, income velocity of money and the money demand have all become unstable. Nevertheless, an examination of the long-run money demand equations show that apart from a periodical instability of M1 between the second quarter of 2007 and the first quarter of 2009, the long-run relationships are stable for both narrow and broad money.

The effect of financial innovation on monetary policy is only one of several challenges for policymakers. When evaluating new products and new delivery channels, regulators often cite concerns related to Know-Your-Customer (KYC) requirements, put in place for Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) purposes. More recently, regulators around the world, however, have moved towards a risk-based approach. Thus, for example, South Africa lowered the documentation barriers on basic financial products subject to monetary limits and certain other conditions, including that clients be natural persons, South African nationals, or residents and that the transactions be domestic.

The success of mobile banking should not narrow the discussion to only one type of innovation. The conversation should rather be more general about the regulatory approach towards innovation. The traditional regulatory approach is that of "proper sequencing" - legislation-regulation-innovation. This process can take years, however. An alternative approach is one of try-and-see or test-and-see, as applied by regulators in Kenya with respect to M-Pesa. Such an approach is not to be confused with a laissez-faire approach. It requires an open and flexible regulatory and supervisory approach that balances the need for financial innovation with the need to watch for fragility emerging in new forms. Such an approach can take into account the unexpectedness of innovation, in terms of needs, technical possibilities and origin.

Such a more open regulatory mindset towards innovation also implies looking beyond the banking system and incumbent financial institutions towards new potential providers.[5] Ultimately, we care about the users of financial services – enterprises, households and governments. If current providers cannot provide the necessary services, we should look beyond them to new institutions, even if outside the financial system. This imposes higher strains on regulators as they have to supervise more according to services rather than institutional categories, but can come at a great benefit. A case in point is the current debate on regulatory jurisdiction regarding mobile banking services which also involve telecommunications. With nontraditional innovations, regulators need to think outside the box and design mechanisms that serve the new African finance.

5. Conclusions and looking forward

While Africa's banking systems are shallow, they have made substantial progress. This introductory paper to the special issue has pointed to three critical dimensions of the progress Africa's financial systems have made over the past decade: (i) financial inclusion, (ii) cross-border banking and (iii) financial innovation. In this concluding section, we would like to point to a few areas of additional research, related to these three themes.

While financial innovation is often discussed in the context of financial inclusion, the short-term nature of finance across the region poses another serious challenge, as illustrated not only in the balance sheet structures of banks, but also in the limited development of contractual savings institutions and financial markets. While financial inclusion has dominated the recent policy debate and research agenda, the need for long-term finance by households, enterprises and government is enormous. The cost of addressing Africa's physical infrastructure needs is estimated at US$93 billion per year, some 15 percent of Africa's gross domestic product (GDP) (Foster and Briceño-Garmendia, 2010). Demand for housing, especially in urban areas, continues to rise across the continent as Africa rapidly urbanizes. And firms continue to lack the necessary resources for long-term investment. The long-term finance agenda is thus an extensive one, both for researchers and policy makers. Financial innovation in terms of new risk management tools, new institutional arrangements and new markets is thus critical. What prevents the formulation of clear policy advice, however, is both a dearth of data on long-term financing arrangements, including on corporate bond market structures and costs, insurance markets and private equity funds, but also of rigorous studies gauging interventions and policies to expand long-term finance.

While the financial inclusion debate has traditionally focused on households and micro-enterprises, small and medium-sized firms also suffer from an Africa financing gap (Beck and Cull, *forthcoming*). Looking forward, research thus has to move beyond micro- to small enterprises, both in terms of supply- and demand-side constraints. The emphasis stems from the realization that job-intensive and transformational growth is more likely to come through formal than informal enterprises. While access to formal finance might be less of a

[5] This is not to say that financial innovation cannot come from within the banking system, as the example of Equity Bank shows. See Allen *et al.,* (2013) for a more in-depth discussion.

(testable) challenge for small enterprises, the quality of access is important, including maturity, choice of currency and collateral requirements. Assessing different lending techniques, delivery channels and organizational structures conducive to small business lending is important, as is assessing the interaction of firms' financing constraints with other constraints, including lack of managerial ability and financial literacy.

A third topic worth highlighting, related to cross-border banking, is to identify cross-border linkages between countries. The data set collected by Claessens and van Horen (2014) represents an important first step in this context. Understanding the channels through which cross-border banking can help deepen financial systems and foster real integration, and the channels through which cross-border banks can threaten financial stability, is critical. In this context, the optimal design of cross-border cooperation between regulators and supervisors to minimize risks from cross-border banking while maximizing its benefits is important (Beck and Wagner, 2013).

The financial deepening process across Africa has brought benefits to economies and societies, while at the same time creating new risks. There is a rich research agenda going forward.

References

Allen, F., I. Otchere, L. Senbet, (2011) 'African Financial Systems: A Review', *Review of Development Finance,* 1(2), 79-113.

Allen, F., E. Carletti, R. Cull, J. Qian L. Senbet, P. Valenzuela, (2014) 'Resolving the African Financial Development Gap', NBER volume on *African Development Successes (*University of Chicago Press, 2014; edited by S. Edwards, S. Johnson and D. Weil).

________________________________ (2013) 'Improving Access to Banking: The Case of Kenya', working paper.

Aterido, Reyes, Thorsten Beck and Leonardo Iacovone, (2013) 'Access to Finance in Sub-Saharan Africa: Is There a Gender Gap?' *World Development,* 47, 102-120.

Beck, Thorsten, Samuel Munzele Maimbo, Issa Faye, and Thouraya Triki, (2011) *Financing Africa: Through the Crisis and Beyond*. Washington, DC: The World Bank.

Beck, Thorsten, Michael Fuchs, Dorothe Singer and Makaio Witte*,* (2014) *Cross-Border Banking Work for Africa*, GIZ and World Bank.

Beck, T and Robert Cull, (2014) 'Banking in Africa', in: Berger, Allen, Phil Molyneux and John Wilson (Eds.): *Oxford Handbook of Banking, 2nd edition.*

Beck, Thorsten and Robert Cull, (2015) 'SME Finance in Africa', *Journal of African Economies,* forthcoming.

Beck, Thorsten and Wolf Wagner, (2013) 'Supranational Supervision: How Much and for Whom?' CEPR Discussion Paper 9546.

Claessens, Stijn and Neeltje van Horen. (2014) 'Foreign Banks: Trends and Impact'. *Journal of Money, Credit and Banking* 46, s295-s326.

Collins, D., J. Morduch, S. Rutherford, and O. Ruthven, (2010) *Portfolios of the Poor: How the World's Poor Live on $2 a Day*, Princeton University Press.

Demirguc-Kunt, Asli and Leora Klapper, (2012) 'Measuring Financial Inclusion: the Global Findex Database', World Bank Policy Research Working Paper 6025.

Demirguc-Kunt, Asli, Leora Klapper and Dorothe Singer, (2013) 'Financial Inclusion and Legal Discrimination Against Women: Evidence From Developing Countries', World Bank Policy Research Working Paper 6416.

Derreumaux, P. (2013) 'The Renewal of African Banking Sector', Private Sector & Development, Proparco's Magazine, No. 16, 2-5.

Foster, Vivien, and Cecilia Briceño-Garmendia, eds. (2010) *Africa's Infrastructure: A Time for Transformation*. Washington, DC: World Bank.

Karlan, Dean, and Jonathan Morduch (2010) 'Access to Finance'. In *Handbook of Development Economics*, Vol. 5, ed. Dani Rodrik and Mark Rosenzweig, 4703–4784. Amsterdam: Elsevier.

Laeven, Luc, Ross Levine and Stelios Michapoulos, (2014) 'Financial Innovation and Endogenous Growth', *Journal of Financial Intermediation*, forthcoming.

World Bank (2014) Global Financial Development Report.