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Finance for development:
A research agenda

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DEGRP Research Reports synthesise the research and policy implications of key issues and set them in the wider context of economic growth in low-income countries. They focus on the three themes that are central to the DEGRP programme: finance, innovation, agriculture and growth.

Summary: This paper summarises the existing literature on the relationship between the financial and the real sector, and proposes an empirical research agenda going forward. This research agenda addresses both long-term challenges in institution building as well as short- to medium-term solutions for financial deepening and policies that prevent an overshooting of the financial system beyond the sustainable level. It will also require data on different aggregation levels and a variety of methodologies. Research should be guided by theory; historic and present-day experiences in developed economies can inform policy dialogue in developing countries.

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1. Introduction

For better or worse, the financial sector plays a critical role in modern market economies. While it can be a force for development by providing basic payment and transaction services, intermediating society's savings to its best uses, offering households, enterprises and governments risk management tools, it can also be a source of fragility, as we were reminded during the recent Global Financial Crisis, the ongoing Eurozone crisis, and by numerous banking crises in emerging and developing markets.

Theoretical and empirical research on the role of the financial sector in the real economy has made significant progress over the past two decades. Progress in empirical research has been driven by the increasing availability of new data sources at the cross-country level, but also within-country, by the exploitation of policy experiments and by the use of randomised control trials (RCT) gauging specific interventions at the local level. The initial focus on financial depth and stability has been broadened towards efficiency and, most importantly, outreach of the financial system, while the original supply-side focus has been complemented by more and more studies on demand-side constraints.

Notwithstanding this progress, there are many open questions; the dynamic nature of financial systems, with new players and products and therefore new opportunities and risks, reinforces a continuously full and open research agenda in this area. While there is wide-ranging agreement that financial sector deepening is an important part of the overall development agenda, less is known about the exact channels and mechanisms. Similarly, our knowledge on which policies, institutions and interventions can help financial sector deepening at which stage of economic and financial development, and how to avoid overshooting and financial fragility, is still limited.

This paper summarizes the existing literature on the relationship between the financial and real sector and proposes a research agenda going forward. I will refer to the literature on finance for development as encompassing a very large and diverse field of research, from cross-country studies to randomised control trials, using different aggregation levels of data, different time horizons, and different degrees of specificity in terms of financial development. This literature considers both the effect of finance on real sector outcomes, as well as policies, institutions and interventions to foster sustainable financial deepening.

Before proceeding, let me offer a few definitions that will be helpful for the discussion. I refer to financial development as a broad concept denoting the availability of a wide array of financial services to households, enterprises and government, provided efficiently and sustainably by a large number of different providers in a variety of competitive and contestable markets. I define financial deepening as the process that leads to financial development. I would also like to introduce several terms that denote specific dimensions of financial development, including:

(i) financial depth, which refers to the volume of financial transactions in an economy,

(ii) financial breadth, which refers to the diversity of providers and segments of the financial system, including banks, capital markets and contractual savings institutions, and

(iii) financial inclusion, which refers to access to and use of financial services by a large share of the household and enterprise population in a society.

While the concept of financial deepening and development seemingly implies a 'more is better' approach, such deepening has to be sustainable, which raises the issue of financial stability. In the context of the current discussion, I would like to stress however, that financial stability is not a goal in itself, but supports the sustainability of financial deepening and minimizes the risks and costs of financial fragility inherent to financial sector development.

The literature gauging the relationship of finance and real sector outcomes and exploring the determinants of financial sector development has used an array of different methodologies. In section 2, I offer a brief review of the literature, focusing on studies that gauge the long-term relationship between financial and economic development and structural transformation.

To better understand the trade-off in financial deepening and stability, and to categorise different policies, institutions and interventions, I proposed the concept of the financial possibility frontier in earlier work. This frontier concept of a constrained maximum sustainable financial development recognises that there can be too much of a good thing – finance in this case – and that structural characteristics can prevent further financial deepening. In section 3, I will use this concept for a different purpose, that is, to define different research challenges for understanding the role of finance in development.

In section 4, I build on the discussion of section 3 to develop a research agenda going forward. This research agenda addresses both long-term challenges in institution building and short- to medium-term solutions for financial deepening, as well as policies that prevent an overshooting of the financial system beyond the sustainable level. It addresses demand- and supply-side constraints and assesses innovations and interventions on the user, product, institution and country level. This research agenda relies on a large variety of data sources and methodologies and should be guided by theory. I will also point to some specific areas that I consider important going forward, including small and medium enterprise (SME) finance, long-term finance and entrepreneurship.

While large parts of the literature have either focused on developing and emerging countries or have pointed to substantial differences between developing and developed economies, in section 5 I will make the case that there is a lot to be learned from the experience of developed economies, both today and historically, for developing countries. At the same time, recent experience has shown that there are alternative financial development paths, including the possibility to leapfrog traditional models of financial service delivery.

Financial sector reforms are not undertaken by social planners, but by governments that are subject to political economy constraints. In section 6, I point to the importance of understanding the political economy context of financial sector reform. Section 7 concludes with some lessons learned from the finance for development literature so far.

While this paper covers an already wide literature, I would like to add a caveat that I will not cover international finance, i.e. capital flows not related to cross-border banking and exchange rate systems and policies, and that I will focus on empirical research. This is also not a complete literature survey of the field, but a rather selective review of empirical work that – in the author's opinion – is relevant for the research agenda going forward.[1]

[1] See Levine (2005) for a survey of the theoretical and empirical finance and growth literature and Beck (2009) for an overview of the methodologies of the empirical finance and growth literature.

2. The role of finance in development – what do we know?

This section provides a short overview of what we know about the importance of financial development in economic development, drawing on cross-country and within-country evidence on: (i) finance and growth, (ii) finance and poverty reduction, and (iii) financial fragility. In this context, I will focus on studies looking at long-term and transformational effects of finance.

The theoretical literature has shown that financial deepening can have a positive effect on economic development (though the effect is not unambiguous) and has identified several channels through which this effect can happen. Specifically, efficient financial systems might enhance economic development by: (i) providing payment services, reducing transaction costs and thus enabling the efficient exchange of goods and services as well as specialisation of labour, (ii) pooling savings from many individual savers, thus helping overcome investment indivisibilities and allowing the exploitation of scale economies,[2] (iii) economising on screening and monitoring costs, thus increasing overall investment and improving resource allocation, (iv) helping monitor enterprises and reduce agency problems within firms, between management and majority and minority shareholders, again improving resource allocation, and (v) helping reduce liquidity risk, thus enabling long-term investment, as shown by Diamond and Dybvig (1983).

Extensive empirical literature has shown a pro-growth effect of financial deepening. What started with simple cross-country regressions, as used by King and Levine (1993), has developed into a large literature using an array of different techniques to look beyond correlation and control, for biases arising from endogeneity and omitted variables. Specifically, using instrumental variable approaches (difference-in-difference approaches that consider the differential impact of finance on specific sectors and thus point to a 'smoking gun'), explorations of specific regulatory changes that led to financial deepening in individual countries, and micro-level approaches using firm-level data have provided the same result: financial deepening is a critical part of the overall development process of a country (see Levine, 2005, for an overview and Beck, 2009, for a detailed discussion of the different techniques).

[2] See, for example, McKinnon (1973), Sirri and Tufano (1995) and Acemoglu and Zilibotti (1997).

While many of these studies are for a broad cross-section of countries, others are for a specific region or income group.[3]

The cross-country regression analysis has been confirmed with historic case studies and long-term statistical studies of individual countries. The Netherlands was the first European economy to develop a thriving financial system, with government bonds and a money market, a stable currency, and a first shareholding company (Dutch East India Company), preceding the 'Golden Age' of the Netherlands. Hicks (1969) argued that the Industrial Revolution in the United Kingdom was due to the development of the British financial system, including the foundation of the Bank of England, which later served as lender of last resort, the adoption of sound government finances as a basis for a liquid government bond market, the development of the stock market in London, and a system of London and regionally based banks linked through a money market in London. Although many inventions were made before the Industrial Revolution, liquid capital markets enabled investment into long-term projects that could use these inventions. Similarly, the United States experienced financial deepening before its economic and political rise in the twentieth century. In Germany, universal banks played a critical role in financing infrastructure and industrialisation in the 19th century, while cooperative and savings banks played a significant role in expanding access to financial services to large parts of the population in both rural and urban areas.[4] Japan was the only non-Western economy to develop its financial system early on, during the Meiji era, allowing rapid industrialisation towards the end of the 19th century. There is thus extensive evidence for the transformational role of the financial sector in the early industrialisation process of today's high-income countries. It is important to note that most of this historical evidence is for today's developed countries.

The historical evidence has been complemented by statistical evidence using long time-series data for specific countries, exploring the relationship between financial development and GDP per capita. Rousseau and Wachtel (1998) conducted time-series tests of financial development and growth for five industrialised countries over a 100-year period, with measures of financial development capturing both banks and non-bank financial institutions, documenting causality running from financial development to economic growth. Similarly, Rousseau and Sylla (2005, 2003) used a set of multivariate time-series models to relate measures of both banking and equity market activity to investment, imports and business corporations over the 1790-1850 period for the US, and for 17 countries for the period 1850 to 1997. Rousseau (1999) used similar techniques in a study of financial sector reforms during the Meiji period in Japan (1868-1884) and concluded that this sector was instrumental in promoting Japan's rapid growth in the period leading up to the First World War.

However, recent research questions the relevance of this historic experience for today's developing countries. Specifically, Allen et al. (2005, 2012, 2013) argue that in the cases of both China and India, informal financial arrangements, rather than the formal financial sector, have been critical in their recent economic success, especially in terms of financing small and medium-sized enterprises. Rather than relying on formal legal institutions, these alternative systems are based on long-term personal relationships, reputation and trust. Similarly, Kim and Lee (2010) argue that Korea's recent development was not accompanied by a market-based financial system, and financial liberalisation came at the end of this process, in the 1980s.

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[3] See for example, a recent study on the finance and growth relationship within Sub-Saharan Africa, Rousseau and D'Onofrio (2013).

[4] See Allen et al. (2012) and Rousseau and Sylla (2003) for a series of case studies on the role of finance in industrialisation.

Recent empirical evidence has shown that the relationship between finance and growth varies across countries at different levels of economic development. Rioja and Valev (2004a, b) show that the effect of finance on growth is strongest for middle-income countries. These findings are consistent with Rousseau and D'Onofrio (2013) who show that it is monetisation rather than financial intermediation that seems to matter for growth across Sub-Saharan Africa. Aghion, Howitt and Mayer-Foulkes (2005) argue that the impact of finance on growth is strongest among low- and middle-income countries that are catching up to high-income countries in their productivity levels, and fades away as countries approach the global productivity frontier. More recent evidence has shown a possible negative impact of finance on growth at very high levels of financial development (Arcand, Berkes and Panizza, 2012). Several reasons have been put forward to explain this non-linear or even negative impact of finance on growth, including extension of the financial sector beyond traditional intermediation activities, the extension of credit to households rather than enterprises, and an over-extension of the financial system at the expense of the real sector, due to informational rents of the financial safety net subsidy (see Beck, 2012, for a more extensive discussion). Most of these phenomena apply more to high-income countries, than developing or emerging economies, but have important lessons for today's developing countries.

The finance and growth literature has also provided insights into the channels through which finance fosters economic growth. Overall, the evidence has shown that finance has a more important impact on growth through fostering productivity growth and resource allocation than through pure capital accumulation (see, for example, Beck, Levine and Loayza, 2000; Wurgler, 2000, for aggregate evidence). Specifically, the availability of external finance is positively associated with entrepreneurship and higher firm entry, as well as with firm dynamism and innovation.[5] Finance also allows existing firms to exploit growth and investment opportunities and to achieve larger equilibrium size.[6] In addition, firms can safely acquire a more efficient productive asset portfolio where the infrastructures of finance are in place, and they are able to choose more efficient organisational forms such as incorporation.[7] Finally, this line of research has shown that the impact of financial sector deepening on firm performance and growth is stronger for small and medium-sized enterprises than for large enterprises.[8] Financial system development has thus a critical and transformational impact on economies by influencing industrial structure, firm size distribution and corporate organisation. As posited by Schumpeter, by enhancing innovation and entrepreneurship and ultimately the churn of enterprises (see Kerr and Nanda, 2009, for evidence on the U.S.), finance contributes to creative destruction.

Financial sector development is important not only for fostering the economic growth process, but also for dampening the volatility of the growth process. Financial systems can alleviate the liquidity constraints on firms and facilitate long-term investment, which ultimately reduces the volatility of investment and growth (Aghion et al., 2010). Similarly, well-developed financial markets and institutions can help dampen the negative impact that exchange rate volatility has on firm liquidity and thus, investment capacity (Aghion et al., 2009). This is especially important in economies that depend heavily on natural resources and are subject to high terms of trade and real exchange rate volatility. It is important to note, however, the difference between real and financial/monetary shocks, whereby the latter can be exacerbated by deeper financial systems (Beck et al., 2006b). Finally, financial development

[5] Klapper, Laeven and Rajan (2006); Aghion, Fally and Scarpetta (2007); Ayyagari, Demirgüç-Kunt and Maksimovic (2011).

[6] Rajan and Zingales (1998); Beck et al. (2005, 2006a).

[7] Claessens and Laeven (2003); Demirguc-Kunt, Love and Maksimovic (2006).

[8] Beck et al. (2005, 2008).

increases the effectiveness of monetary policy, widens the fiscal policy space and allows a greater choice of exchange rate regimes (IMF, 2012).

Recent evidence has shown that financial deepening is not only pro-growth, but also pro-poor. While theory makes ambiguous predictions about the relationship between financial deepening and income inequality, most of the recent empirical literature has shown a long-term, negative relationship. Beck, Demirgüç-Kunt and Levine (2007) explain that countries with higher levels of financial development experience faster reductions in income inequality and poverty levels. Clarke, Xu and Zou (2006) show a negative relationship between financial sector development and the level of poverty. At the country-level, Beck, Levine and Levkov (2010) show that branch deregulation, implemented at different points of time across the states of the U.S. in the 1970s and 80s, helped reduce income inequality; Gine and Townsend (2004) show that financial liberalisation can explain the reduction in poverty in Thailand over the period 1975 to 2000, and Ayyagari, Beck and Hoseini (2013) show that financial deepening following the 1991 liberalisation episode can explain reductions in rural poverty across India.

Theory also gives insights into the possible channels through which financial development can help reduce income inequality and poverty. On one hand, providing access to credit to the poor might help them overcome financing constraints and allow them to invest in microenterprises and human capital accumulation.[9] On the other hand, there might be indirect effects through enterprise credit. By expanding credit to existing and new enterprises and allocating society's savings more efficiently, financial systems can expand the formal economy and pull larger segments of the population into the formal labour market. First explorations of the channels through which finance affects income inequality and poverty levels point to an important role of such indirect effects. Specifically, evidence from the United States, India and Thailand suggests that by changing the structure of the economy and allowing more entry into the labour market of previously un- or under-employed segments of the population, finance helps reduce income inequality and poverty, but not by giving everyone access to credit.[10] This is also consistent with cross-country evidence that financial deepening is positively associated with employment growth in developing countries (Pagano and Pica, 2012). In summary, financial deepening has important pro-growth and pro-poor effects through structural transformation of economies.

The finance and growth literature has also explored the optimality of different structures of the financial system for economic development. Most prominently, this literature has addressed the relative advantages and disadvantages of having a bank-based or a market-based financial system. Financial institutions, most prominently banks and financial markets, overcome the agency problem in different ways. Financial institutions create private information, which helps them reduce information asymmetries, while financial markets create public information, aggregated into prices. Banks can help improve corporate governance directly through loan covenants and direct influence on firm policy, and indirectly through reducing the amount of free cash flows senior management has available. Financial markets, on the other hand, can help improve corporate governance by linking payment of senior management to performance, through voting structures and the threat of takeover if the stock price falls below a value that is seen to be below fair value. Finally, there are different ways financial institutions and markets help diversify risks. Banks offer better inter-temporal risk diversification tools, whereas markets are better in diversifying risk in a cross-sectional way. Markets are better at offering standardised products, and banks are better at offering customised solutions. However, banks and

[9] See Galor and Zeira (1993) and Galor and Moav (2004).

[10] See Beck, Levine and Levkov (2010), Giné and Townsend (2004) and Ayyagari, Beck and Hoseini (2013).

markets can also be complementary through instruments such as securitisation, allowing exit strategies for venture capitalists, and by providing competition to each other.[11]

The literature has discussed different reasons why markets or banks might be superior, and in which circumstances. In liquid markets, investors can inexpensively and quickly sell their shares and consequently have fewer incentives to expend resources monitoring managers.[12] Bank-based systems mitigate this problem because banks reveal less information in public markets.[13] Efficient markets can reduce the effectiveness of takeovers as a disciplining tool, as atomistic shareholders have incentives to capture the benefits from a takeover by holding their shares instead of selling them, thus making takeover attempts less profitable (Grossman and Hart, 1980). On the other hand, proponents of the market-based view emphasise that powerful banks frequently stymie innovation by extracting informational rents and protecting established firms (Hellwig, 1991). The banks' market power then reduces firms' incentives to undertake profitable projects because banks extract a large share of the profits (Rajan, 1992). Also, banks—as debt issuers—have an inherent bias toward conservative investments, so that bank-based systems might stymie innovation and growth.[14]

Cross-country comparisons have so far not provided evidence for either view. Evidence on the aggregate cross-country level, on the cross-country, cross-industry level, and on the cross-country firm level has not shown that countries, industries or firms grow faster in countries with either more bank-based or more market-based financial systems.[15] Rather, the overall level of financial development, not structure, explains cross-country variation in economic growth. This is consistent with the financial services view, which focuses on the delivery of financial services and less on who delivers them. However, it is consistent with the view that the optimal financial structure changes as financial systems develop, consistent with theoretical models to this effect (Boyd and Smith, 1998). It is consistent with findings on different income elasticities of different segments of the financial system. The development of contractual savings institutions and capital markets is much more income-elastic than the development of the banking system (Beck et al., 2008). This finding is consistent with the observation that most low-income countries have more bank-based financial systems. As more detailed data become available on different segments of the financial system and on the users of financial services, including firms and households, more research can be undertaken in this area.

While finance can be an important factor in economic development, it can also bring havoc to economies. The same mechanism that makes finance growth-enhancing contains the seed of destruction, as illustrated by the Diamond and Dybvig (1983) model. By transforming short-term liabilities into long-term assets, banks can foster economic growth but can also become susceptible to bank runs, be they informed or uninformed. Agency problems between banks and their depositors and creditors can lead to excessive risk taking and fragility. Herding trends and self-reinforcing price cycles fuel boom-and-bust cycles.

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[11] See Stulz (2001) for an overview.

[12] See Bhide (1993) and Stiglitz (1985).

[13] See Boot, Greenbaum, and Thakor (1993).

[14] See Weinstein and Yafeh (1998) and Morck and Nakamura (1999).

[15] See Levine (2002), Beck and Levine (2002), and Demirgüç-Kunt and Maksimovic (2002), respectively.

Financial history is full of bank failures and financial boom-and-bust cycles, linked to a variety of factors, often with similar features (Reinhart and Rogoff, 2009). To the same extent that well-developed financial systems can foster economic growth, banking crises are often associated with deep economic recessions and long-term negative growth repercussions.[16] Crises often hit the poor more than the average citizen, through job and income losses and cuts in social government programmes.[17] Comparisons of economic crises have shown that economic recessions related to banking distress tend to be deeper and longer than other recessions.[18] Specifically, output losses of recessions with credit crunches are two or three times as high as in other recessions. To return to one of our historical examples above, while the Netherlands was one of the first countries with a developed financial system, it also suffered one of the first financial crises of modern history, related to the tulip boom and bust.[19]

What is the net effect of financial deepening on economic development? Given positive growth consequences, but also increased likelihood of suffering crises, researchers have tried to answer the question of whether the benefits are worth the pain. Rancière, Tornell and Westermann (2006) show that, for a cross-section of developing countries, the benefits significantly outweigh the costs; that is, the positive growth effect of financial liberalisation is larger than the negative growth effect from a crisis that follows liberalisation.

[16] The costs of systemic banking distress can be substantial, as reported by Laeven and Valencia (2008), reaching over 50% of GDP in some cases in fiscal costs and over 100% in output loss.

[17] See Brown (2013) and literature cited therein.

[18] See Claessens, Kose and Terrones (2008).

[19] For earlier work on the anatomy of banking crises, see Kindleberger (1978).

3. How to unlock the positive powers of finance, while mitigating the risks

As discussed earlier, the financial system can be too cold and too hot. Which policies and interventions lead to a financial system that is 'just right'? In previous work, I have used the concept of the **financial possibility frontier** to define the necessary and sufficient conditions for sustainable financial sector deepening (Beck and de la Torre, 2007; Barajas et al., 2012; Beck, 2013; Beck and Feijen, 2013). This concept serves as a framework to identify bottlenecks in a country's process of financial deepening and different policy areas to overcome them. It can also serve as a basis to discuss the role of different segments of the financial system (banks, capital markets, contractual savings institutions, low-end financial institutions), their development and importance as countries' financial systems develop, and their impact on growth. Next, I will explain the concept briefly and use it as a basis to discuss the different questions that are relevant for the research agenda in *finance for development*.

Fixed transaction costs in financial service provision result in decreasing unit costs as the number or size of transactions increase. The resulting economies of scale at all levels explain why financial intermediation costs are typically higher in smaller financial systems, and why smaller economies can typically only sustain small financial systems (even in relation to economic activity). In addition to costs, the depth and outreach of financial systems, especially in credit and insurance services, is constrained by risks, particularly default risk. These risks can be either contract specific or systemic in nature.

The efficiency with which financial institutions and markets can overcome market frictions is critically influenced by a number of state variables—factors that are invariant in the short term (often lying outside the purview of policy makers)—that affect provision of financial services on the supply side and can constrain participation on the demand side. Thus, state variables impose an upper limit of financial deepening in an economy at a given point in time. These variables are either directly related to the financial sector (for example, macroeconomic fundamentals, the available technology, contractual and information frameworks underpinning the financial system, prudential oversight) or related to the broader socio-political and structural environment in which the financial system operates. Among the state variables is also the size of the market, and problems in many developing countries are related to the oft-found triple problem of smallness—small transactions, small financial institutions and small market size—which reduces the possibilities to diversify and hedge risks, while at the same time increasing concentration risks.

Using the concept of state variables allows us to define the financial possibility frontier as a rationed equilibrium of realised supply and demand, variously affected by market frictions. In other words, this

is the maximum sustainable depth (e.g. credit or deposit volumes), outreach (e.g. share of population reached) or breadth of a financial system (e.g. diversity of domestic sources of long-term finance) that can be realistically achieved at a given point in time and maintained without risk of fragility.[20] Such a frontier can be constructed for different dimensions (e.g. depth, breadth or inclusion), different segments of the financial system (e.g. banking, capital markets), and specific market segments (e.g. SMEs, households, infrastructure). The financial possibility frontier can move over time, as income levels change, the international environment adjusts, new technologies arise and – most importantly – the overall socio-political environment in which financial institutions work changes. Critically, policy levers including the macroeconomic environment and contractual and information frameworks can be used to push out the frontier, although such benefits are rarely to be reaped in the short term.

The financial possibility frontier allows us to distinguish between several challenges to deepen and broaden financial systems in developing countries and the corresponding policies. Specifically, there are situations where: (i) a financial system is below the frontier, (ii) a financial system is above the frontier, and (iii) the frontier is too low. Each situation calls for different policies, as we will discuss below.

The concept of the financial possibility frontier allows us to identify relevant research questions. **First, what are the long-term socioeconomic factors that explain both supply and demand of financial services?** What are the institutions most relevant for financial deepening, in which countries? Which characteristics does a country's financial system need to help the economy move from a low-income country to a middle-income country? Do some countries face specific constraints for financial deepening, for example, the low population density in Africa, as identified by Allen et al. (2012), and how can they be overcome?

Second, what are the short- to medium-term constraints for a financial system to reach the frontier? This research agenda takes both long-term demand- and supply-side constraints as given and looks for policies and interventions that get the financial system to the frontier. On the demand side, financial literacy constraints have gained prominence. On the supply side, the impact of specific regulatory changes and the relationship between market structure and competition, on the one hand, and depth and outreach of the financial system on the other hand, have been prominent issues.

Third, what policies and institutions are needed to avoid an overshooting of the financial system beyond the optimal level and subsequent fragility? There is considerable evidence that financial liberalisation without an adequate regulatory framework results in aggressive risk-taking and fragility. Some of the same policies that help move a financial system to the frontier might also push it beyond the sustainable equilibrium. What is the structure of the regulatory framework preventing such an overshooting? What is the interaction between financial and monetary stability? However, these issues are also important on the demand side, related again to financial literacy, consumer protection and specific programmes to prevent over-indebtedness.

[20] While not necessarily capturing the growth-maximising level or structure of financial development, one can extend the concept towards including this dimension as well.

4. A research agenda for the finance for development literature

This section proposes an empirical research agenda that builds on existing work, but provides us a deeper understanding of the long- and short-term constraints on financial deepening, and both demand- and supply-side policies that can help overcome them. This agenda implies a multitude of different methodologies, ranging from RCTs to broader country-wide assessments of policy interventions and general equilibrium models that are based on economic theory.

The research agenda can be organised along the lines of the frontier concept used above. Specifically, what are the policies and interventions that can help move a financial system towards the frontier, what are the policies that prevent a financial system moving beyond the frontier, and what are the long-term policies, institutions and technological innovations that help the frontier move outwards. I will discuss each in turn, starting with the last.

LONG-TERM INSTITUTIONS AND POLICIES

Take first the long-term supply- and demand-side determinants of financial sector deepening. What are the demand- and supply-side factors determining the optimal level and structure of financial service provision in developing countries? While the literature has pointed to macroeconomic stability and strong and effective institutions, many more questions have remained unanswered.

I would like to highlight five questions that are connected:

First, in the area of institution building, what are the institutions and policies that are most relevant for financial sector deepening in developing countries and is there an optimal sequencing? Djankov, McLiesh and Shleifer (2007) document in cross-country comparison the relative importance of information frameworks vis-a-vis contractual frameworks for developing countries, with the reverse holding for developed countries. A deeper understanding of what kind of institutions matter for an effective and stable financial system, at which level and under what circumstances, is needed. Is there a specific ideal sequencing of institution building?

Related to these issues is the over-arching question of the role of government in financial service provision, caricatured by Honohan and Beck (2007) in the contrast of the modernist and activist approaches, that is, an exclusive focus on institution building and maintaining macro-stability versus a more interventionist approach which focuses on market frictions and government institutions, and

policies to overcome them. While extensive literature has documented the limited success (if not failure in most cases) of direct government provision of financial services, especially on the lending side, an array of market-activist policies that address market frictions, while providing proper governance structures and sunset clauses have been suggested. The success of several East Asian countries in providing the necessary external finance for rapid development has often been associated not with market-based financial systems, but rather strong government intervention, if not outright financial repression (World Bank, 1993). Most East Asian economies relied on development finance institutions as a catalyst for funding investment projects. To what extent can the East Asian experience be transferred to other developing regions of the world, including Sub-Saharan Africa?

While the focus in the *finance for development* literature has been on the formal institutions underpinning financial systems, private and informal institutions can be as important, in addition to the role of social capital. Historic settings can be used to explore the relationship between social capital and financial development (e.g. Guiso, Sapienza and Zingales, 2004, for Italy). Another important opportunity is to explore data on migrants, such as by Osili and Paulson (2008), to document the persistence of experience with institutions, including financial service providers and possible policy tools to overcome adverse experiences.

Second, what is the relative importance of different segments of the financial system, including banks, capital markets and contractual savings institutions? With rising incomes and structural changes in the real economy, the need for specific financial services changes over time, to the same extent that the possibilities to sustain specific institutions and markets change. What is the optimal structure of financial systems for different economic structures and income levels? What financial structures are optimal for agriculturally dominated economies and natural-resource-based countries? What kind of financial system allows economies to move from low- to middle-income and middle- to high-income status? How does a financial system move from a relationship-based system to an arms-length system and is there an optimal stage of economic development and structure to do so? How strong is path dependence; is 'leapfrogging' possible in financial structures; and what policies and interventions can help?

Recent empirical evidence has pointed to growth or middle-income traps (Eichengreen, Park and Shin, 2013), which raises the question whether some specific financial structures are more conducive to helping countries overcome these growth traps than others. While previous work has mostly focused on banks vs. markets, a more granular view might be necessary, including distinguishing between different types and sizes of financial institutions (e.g. non-bank financing companies, specialised vs. universal banks, focused local grass-roots financial institutions vs. large institutions, contractual savings institutions, such as insurance companies, pension funds and mutual funds) and financial markets (e.g. bonds vs. equity, short-term money vs. long-term capital markets). While research has often focused on banks vs. public capital markets, there might be an important role for private equity, more suitable for countries whose enterprise population cannot sustain a public stock exchange, as posited by Beck et al. (2011) for Africa. One recent hypothesis suggests that economies relying on industries with many small enterprises require financial systems relying on smaller financial institutions with local roots (Lin, Sun and Jiang, 2009), although this has not been empirically confirmed (Beck, Demirguc-Kunt and Singer, 2013).

Related to this issue is the question of whether there is a specific sequence with which different segments of the financial system (banks, capital markets, contractual savings institutions) arise and are there

specific policies that can support their emergence? The experience in Europe and the US has shown that different development paths are possible; can we learn from these for today's developing countries? What is the relative importance of informal and formal finance for long-term growth? As discussed above, recent papers have pointed to the importance of informal financial sources for firm growth as part of the Indian and Chinese success stories (Allen et al., 2005, 2012, 2013). Can we learn from these experiences for other developing countries, including in Africa, which are characterised not only by deficiencies in the formal institutional framework, but also by a lack of private institutions (Fafchamps, 2004)?

Third, long-term finance has been an area subject to limited research and can be seen as the second (next to lack of financial inclusion) critical dimension of shallow financial markets in many developing countries. There is a bias on banks' balance sheets toward short-term liability and, more critically, short-term assets (e.g. Beck et al., 2011 on Africa). In addition, many developing countries have small and often illiquid equity and bond markets and ineffective contractual savings institutions. This dearth of long-term financial intermediation is in contrast to the enormous need for long-term financing in many developing countries, for purposes of infrastructure, long-term firm financing for investment and housing finance.

Fourth, what is the optimal degree of competition and rents in the financial system? Extensive literature shows that limited competition can help provide incentives to establish long-term, lender-borrower relationships (see, for example, Petersen and Rajan, 1995), and that the success of M-Pesa in Kenya has often been associated with the dominant market position of Safaricom, which allowed the provider to reach scale economies rapidly. So, rents are an integral part of the financial system, providing incentives for long-term relationships and innovation. On the other hand, contestability is important, as new entrants can bring new technologies and products, thus increasing efficiency with positive repercussions for depth and inclusion. The case of M-Pesa can be interpreted as a story of competition, as Safaricom was allowed as a new entrant to compete against banks in the area of payment services. In the area of stability, there is an on-going discussion about the benefits and risks of competition (see, for example, Beck, de Jonghe and Schepens, 2013). More research is required in this area, including exploring whether the optimal degree of rents and competition varies across countries with different levels of economic, financial and institutional development and structure.

Finally, the question of the channels and mechanisms through which financial deepening, in its different forms, can influence and transform the real economy is important, especially when considering that these channels might vary across different levels of economic, financial and institutional development and structure. While there are several indications that finance can contribute to structural transformation, more research in this area is needed. Such structural transformation can have important distributional consequences, with winners and losers. While research has explored the relationship between finance and income distribution, the relationship between finance and distribution of opportunities is still to be researched.

Answering such questions requires a combination of aggregate financial sector policy and micro-data on the user level. On the cross-country level, aggregate data on financial sector development (Beck, Demirguc-Kunt and Levine, 2000, 2010) and the institutional infrastructure underpinning financial services (Doing Business database) have been complemented with bank-level data from Bankscope, firm-level survey data from the Enterprise Surveys and household data from the Global Findex dataset. On the user side, there is little time variation yet, although panel versions of the Enterprise Surveys are

increasingly being conducted across the globe. The Global Findex Survey has been conducted only once, but is scheduled to be repeated every three years, eventually creating time-series variation.

Research in the area of long-term finance is hampered by lack of data. Take the example of housing finance, often seen as a rather 'exotic' research field, including in the U.S. before the recent crisis. It is only recently that consistent cross-country data on the depth of housing finance has been constructed, with data on the structure of housing finance markets still missing (e.g. Badev et al., 2013). Similarly, data on the depth, structure and efficiency of contractual savings institutions are missing to a great extent for larger cross-sections of countries over time. Finally, while data on public capital markets, both equities and bonds, are increasingly becoming available, there is still a dearth of data on private equity.

In addition to cross-country comparisons, a second important research approach is to use micro-data and assess policy reforms in specific countries. Most such papers exploit sub-national variation in implementation of specific reforms or differential effects on different sectors or firms. Such research can refer both to historic experiences and to recent reforms. The critical challenge in the evaluation of such reforms is the identification strategy, that is, the possibility to control reverse causation and omitted variable biases.

Some issues can be assessed using different aggregation levels and settings. Take the example of credit registries. Pagano and Japelli (1993) explored the relationship between the existence of credit registries and aggregate financial development at the cross-country level. Brown, Jappelli and Pagano (2009) and Beck, Lin and Ma (2014) use panel firm-level survey data for large cross-sections of countries to explore the effect of credit registries on firms' financing constraints and decisions to stay informal. Finally, there is the possibility to gauge directly the effect of the introduction of a credit registry in an experimental set-up, such as in the case of Guatemala, where a microfinance institution informed its clients only gradually about the use of such information (de Janvry, McIntosh and Sadoulet, 2010).

SHORT-TERM POLICIES AND INTERVENTIONS

I would like to consider interventions and policies that move the financial system closer to the frontier, taking into account the state variables. Such policies and interventions can be on the user, provider and government level, which by itself requires a variety of methodologies to assess. They include the introduction of new financial products for enterprises or households, new lending techniques or other changes on the provider level, or legal or regulatory changes. Assessing innovative approaches on the institution level requires micro-level data. Such assessments can be undertaken in the form of RCTs, with the implementation of the change under the (partial) control of the researcher, or ex-post in the form of quasi-randomised experiments. One can also distinguish between comparative studies and those exploiting specific changes. There has been a large array of RCTs assessing the impact of access to financial services on the poor as well as the effectiveness of specific products, many of which have taken place in low-income countries (see Karlan and Morduch, 2010, and Bauchet et al., 2011, for recent overviews). There have also been studies of specific policy changes, most prominently Burgess and Pande (2005) who assess the effect of the social branching policy in India on rural poverty. More such studies exploiting quasi-natural experiments or discontinuities (across geographic lines or population segments) are needed to learn which policies work best in pushing a financial system toward the frontier.

Over the past years, there has been a strong focus on microfinance and access to financial services in general. Recently, several new topics have been put forward**. First, there is increasing interest by donors in impact evaluations looking beyond the micro-credit level towards small businesses.**[21] This is in realisation that job-intensive and transformational growth is more likely to come through formal than informal enterprises (Schoar, 2009). While there is a large literature gauging financing constraints of firms of different sizes, there is less evidence on specific policies and interventions having differential effects across firms of different sizes. While access to formal finance might be less of a (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 organisational structures conducive to small business lending is important.

A broader issue in the area of financial innovations is their dissemination and implementation across a financial system. While the success story of M-Pesa in Kenya has been highlighted, with a rapid increase in take-up by the population, few other countries have seen similar swift success. What are the necessary market structures and regulatory frameworks? While case studies have a rather negative connotation in the academic literature, they can play an important role in this context. Two examples are Allen et al. (2012) on Equity Bank in Kenya, and Bruhn and Love (2014) on Banco Azteca in Mexico, which both expanded into previously unbanked segments of the population in their respective countries.

A second important area is that of entrepreneurship. Behind the growth of firms are individuals with different levels of motivation, education and management skills. Understanding the characteristics of successful entrepreneurs, the effects of social networks and education is important. The gender issue has become an increasing focus, with research moving beyond simple gender comparisons to exploring different socioeconomic and psychological characteristics of female and male entrepreneurs, for example, risk aversion and its effect on access to and use of financial services and entrepreneurial performance. Another important area connected to entrepreneurship relates directly to behavioural economics. Experimental economics can give important insights into issues such as cooperation, network building etc. While personal characteristics are very important, so are the incentive structures and regulatory frameworks faced by entrepreneurs, which leads us back to the policy level, both for the financial sector but also the broader business environment.

In this context, demand-side studies on financial literacy are important. The last couple of years have seen several financial literacy RCTs for entrepreneurs, including in many low-income countries. There is a large variation in findings, with a general conclusion being that tailor-made interventions can have an impact on entrepreneurship and business expansion under certain circumstances. But as stressed by McKenzie and Woodruff (2012) in their summary, these assessments have provided some answers, but "many of the key questions needed to justify large-scale policy interventions in this area remain unanswered".

A third important area of research is that of government interventions, such as guarantee schemes. I have discussed the role of government already, and referred to market-activist policies that try to address market failure without creating government failures due to rent seeking and inefficiencies.

[21] Among others, the UK Department for International Development, the European Fund for Southeast Europe and the Dutch FMO have increasingly focused in this area.

These interventions try to close the wedge between social and private benefits from financial deepening. Credit guarantees have been a popular tool for governments and donors around the world, including in several European countries after the crisis. However, the number of rigorous evaluations of such schemes is limited.[22] Beyond credit guarantee programmes, other government interventions, such as creating joint platforms, for example for factoring, jump-starting capital markets, creation of refinancing companies, business support structures, can be important both in benefits, but also in potential costs, so that a rigorous evaluation of economic costs and benefits is necessary.

In this context, the evaluation of development banks is important. While the cornerstone of policy lending took place across the developed and developing world in the 1950s and 1960s, their problems became increasingly clear and many suffered large losses while providing limited services to their host economies. Problems related to lack of adequate competence and resources, governance structures and risk management. While even today most countries still have development finance institutions (DFI), their importance is much reduced. There has been a tendency towards redefining their role away from retail towards wholesale lending and policy functions. De la Torre, Gozzi and Schmukler (2006) discuss several examples from Latin America where DFIs have taken such a function in: (i) creation of an internet-based market for the discounting of post-delivery receivables by SMEs, (ii) a programme to promote lending to SMEs via the auctioning of partial government guarantees, and (iii) a variety of structured finance packages to finance agricultural production. More case studies evaluating the structure and governance of DFIs, their interaction with commercial banks and the success of specific programmes are needed. Success in this context should not only be measured in financial terms, however, but must, in case of publicly funded programmes, take into account the benefits that such public resources could have created in other areas.[23]

Research in this area has been and will be undertaken with an array of different data sources, aggregate levels and methodologies. One can broadly distinguish between cross-country databases on policies (e.g. the above mentioned Doing Business database), firm level (e.g. Enterprise Surveys, Kompass, Amadeus etc.), bank level and household level, on the one hand, and proprietary or confidential databases from individual institutions or countries, on the other hand. A third source is datasets created in the context of specific experiments.

While cross-country bank-level data, based on published financial statements, are often very generic with limited details, country-specific bank-level data frequently offer more detail, such as, for example, on actual interest rates and loan maturities. These data are often from regulatory authorities, such as Central Banks.[24] Other useful sources can be bank-level surveys exploring risk management, lending techniques and delivery channels (e.g. Beck, Demirguc-Kunt and Martinez Peria, 2008, 2011). More promising than the questionnaire-based approach is the interview-based approach, which allows for broader coverage of banks and more extensive questionnaires as, for example, the Bank Environment and Performance Survey (BEPS) undertaken by the European Bank for Reconstruction and Development (EBRD).

Another important data source is loan-level data. One such important source is credit registries that can provide loan-level data to researchers. Such data have already been extensively used. Take the example

[22] See, for example, Cowan, Drexler and Yanez (2008) on Chile, and Lelarge, Sraer and Thesmar (2010) for France.

[23] See Francicso et al. (2008) for a discussion on performance evaluation of DFIs.

[24] For an example of work with bank data from a low-income country, see Beck and Hesse (2009) on Uganda.

of Bolivia, which has been used to study a wide array of important policy questions, including: (i) the use of collateral as a screening or monitoring tool (Berger, Frame, Ioannidou, 2011), (ii) hold-up problems in bank-borrower relationships (Ioannidou and Ongena, 2010), (iii) the effect of explicit deposit insurance on banks' risk-taking decisions (Ioannidou and Penas, 2010), (iv) the effect of monetary policy on banks' risk-taking (Ioannidou, Ongena and Peydro, 2009), and (v) different lending technologies across foreign and domestic banks (Beck, Ioannidou and Schäfer, 2012). The Pakistani credit registry has been used to explore differences in clientele between banks of different ownership structure (Mian, 2006), the effect of credit subsidies on exporting firms (Zia, 2008) and the importance of religious beliefs in repayment discipline (Baele, Farooq and Ongena, 2012). Exploiting credit registry data can also lead to a broader cooperation between central banks, credit registries and researchers that result in important policy research, but also the translation of research into policy actions and improvements in data collection.

Another important data source is loan- or deposit-level data from a specific financial institution, which typically allows for even more detail than credit registry data. Degryse and Ongena (2005) use data from a Belgian bank to assess the importance of distance for borrower-bank relationships. Beck, Behr and Guettler (2013) and Beck, Behr and Madestam (2011) use data from an Albanian microfinance institution to explore own-gender biases of loan officers and performance of loan officers of different genders. While data from a specific institution can be used to study general relationships, external validity is often a challenge.

While the above-mentioned data sources require a careful identification strategy, RCTs allow researchers to directly form treatment and control groups and have a reasonably clean identification of causal effects. RCTs can be used both for specific demand- and supply-side interventions – financial literacy, new lending techniques – but also to assess broader policy interventions, such as the introduction of credit registries as discussed earlier.

The main challenge for RCTs, in my opinion, is that of external validity. While repetition of specific experiments across different settings can make us feel more comfortable with the findings, it is more difficult to establish whether the introduction of a specific product, delivery channel etc. on the economy-wide level will have second-round effects that counter immediate effects. It is thus not external validity on the local level, rather the general equilibrium implications of implementing the same intervention or policy on a broader scale, that are harder to test and that might face political economy constraints, as I will discuss below. There seems to be a trade-off between identification on the one hand, and relevance and external validity on the other.

MARKET-HARNESSING POLICIES

A third area is that of market-harnessing policies, i.e. institutions and policies that prevent the financial system from overshooting its sustainable maximum, which more often than not results in systemic fragility with high socioeconomic costs. As in the other two areas, the research agenda in this area can be differentiated into the demand and supply side.

On the supply side, the proper design of financial safety nets to reduce moral hazard, while at the same time minimising external costs from bank failures, is an important topic. How to best structure and organise cooperation between regulatory authorities on the supervision and resolution of cross-border banks gained prominence after the experience of the Global Financial Crisis and in light of increasing

globalisation of financial institutions (e.g. Beck and Wagner, 2013). The recent crisis also put into question several conventional truths, most critically on the interaction of monetary and financial stability. While these two policy areas have been treated as separable, the crisis has shown the close interaction and has prompted a call for macro-prudential policies.

As in the previous two areas, micro-data will provide researchers with the best identification strategy. Take the example of the effect of monetary policy on risk taking. Credit registry and supervisory data have been used to address this question, as in the case of Bolivian and Spanish data (Gabriel et al., 2012, 2013; Ioannidou, Ongena and Peydro, 2009). Similarly, the effectiveness of monetary policy in countries with a high degree of dollarisation can be studied with bank- or loan-level data (Mora, 2013). More evidence from developing countries, especially low-income countries, is needed on the effectiveness of the banking system as a conduit for monetary policy, the interaction of monetary and financial stability, and the drivers and impacts of dollarisation. Ultimately, this research programme is about causes of (systemic) bank fragility in developing countries and how to counter them. While most financial crises in low-income countries are related to governance issues in public or private institutions (see, for example, a recent case in Afghanistan), financial deepening can ultimately result in more 'classical' banking crises, as described earlier.

Market-harnessing policies can also be important on the demand side. Understanding financial literacy constraints and the tendency to over-indebt is critical. Georgarakos, Haliassos and Pasini (2012) offer an example using Dutch household data to gauge the impact of social networks on households' tendency to over-indebt. McIntosh, de Janvry and Sadoulet (2005) use data from a Ugandan microfinance institution and show that increased competition in this market segment can lead to a reduction in formal savings and increased borrowing. In addition, to explore attitudes and behaviour of individuals and their reaction to changes in market structures, it is important to evaluate specific programmes that can prevent over-indebtedness proactively. One such example is the assessment by Agarwal et al. (2013) of an anti-predatory pilot programme in 2006 in Chicago.[25] While this study constitutes an ex-post assessment, relying on the quasi-random assignment of the pilot to certain areas of Chicago, such programmes can also be structured as RCTs. Expanding this literature towards developing countries is important. While there is increasingly evidence of and research into over-indebtedness of microfinance clients in developing countries, a broader approach is needed looking beyond microfinance.[26]

[25] Under this programme, risky borrowers and/or risky mortgage contracts triggered review sessions by housing counsellors. The pilot cut market activity in half, largely through the exit of lenders specialising in risky loans and through decline in the share of subprime borrowers.

[26] See Schicks and Rosenberg (2011) and the references therein for evidence on over-indebtedness of microfinance institutions.

5. Using history to understand what is best for developing countries

Financial policy advice for developing countries is often based on today's conditions in developed countries, though their experience in the 19th century might be more relevant, when they had much less sophisticated and developed financial systems. Similarly, assessments of regulatory frameworks across the globe are done based on best-practices from the most developed financial systems, and the current regulatory reform process is dominated by the experience of the Global Financial Crisis in Europe and the U.S. This does not take into account that banking systems in many developing countries are much less sophisticated and face different sources of shocks and volatility, while at the same time offering fewer policy and regulatory tools.

Using the historical experience of Europe and North America for today's developing countries can be useful. Cull et al. (2006) gauge the provision of SME finance by the financial systems of several European and North American countries during the 19th and early 20th centuries. They document an impressive variety of local financial institutions that catered to the needs of SMEs wherever there was sufficient demand for their services. These intermediaries were able to tap into local information networks and so extend credit to firms that were too young or small to secure funds from large regional or national institutions. Interestingly, all these intermediaries arose with little government involvement. Based on the success of grass-roots institutions, such as savings or cooperative banks across several Continental European countries, there has been a tendency to introduce such institutions in developing countries, though with mixed success. However, transplanting successful models from one region to another might not always work. While local government-owned savings banks in Germany have been widely considered a success story, their success is partly a function of a strong governance structure, limited competition and a stable economy. The example of the local Spanish savings banks ('cajas') has shown that this model might not necessarily work without these ingredients, especially without strong governance. Cooperative bank models work best in countries where communities have deep roots and there is little migration, and may be a less appropriate model for countries or regions with large migration flows and less tightly knit community links.

Another important example concerns deposit insurance. While most developing and even many developed economies introduced deposit insurance only recently, the U.S. offers a wealth of experience over the 19th and 20th centuries with different funding and management models of such a scheme, which can inform decision processes on the adoption and the proper structuring of deposit insurance today (English, 1993). Studying the economic and financial history of developing countries, such as the work by Stephen Haber (1991) on Brazil and Mexico, also offers important insights for today's policy debates.

6. The political economy of finance

The policy view of financial deepening, on which the previous sections have relied, argues that governments act in the best interest of society, ultimately maximising the social planner's problem, though possibly with less information available. The private interest view, on the other hand, argues that policy makers, including regulators, act in their own interest, maximising private rather than public welfare (Becker and Stigler, 1974). The private interest view is at the core of the political economy view of financial deepening and stipulates that financial sector policies and regulations are the outcome of political processes. There is strong historic and quantitative evidence for this view; political structures and processes can work both to maintain shallow financial markets and towards an overexpansion. Bruhn, Farazi and Kanz (2013) show that countries with lower entry barriers into the banking market, and thus a greater degree of contestability in the banking system, are less likely to adopt a privately-run credit bureau, which is seen as a critical component of financial infrastructure. This also includes countries characterised by a high degree of bank concentration. In these countries, incumbent banks stand to lose more monopoly rents from sharing their extensive information with smaller and new players. The sub-prime mortgage crisis in the U.S. has been partly explained with a political focus on reducing consumption inequality. This included boosting access to credit, resulting in legislation and regulation favourable to a massive expansion of credit to low-income households, which turned out to be unsustainable (Rajan, 2010). To caricature this view, there is no financial sector policy without politics.[27]

When assessing the determinants of shallow financial markets and the success probability of financial sector reform, as much as when gauging the reasons for credit boom and bust cycles and financial fragility, the objective functions of different interest groups and their relative powers must be taken into account. For the financial reform agenda this implies looking beyond best-practice solutions and transplanting policy solutions from one country to the next, but rather looking for best-fit solutions under political economy constraints. There is quite some evidence on failed reforms due to political constraints (e.g. financial liberalisation in Nigeria in the 1980s and bank privatisation in Mexico in the 1990s).[28] More research and evidence are needed on the policy formulation process and on assessment of the political process surrounding financial sector reform, a task as much for economists as for political scientists.

There is a large literature on the political economy of legislative decisions, part of which is relevant for our purposes.[29] This literature is, however, still limited in developing countries to mostly anecdotal or

[27] For additional examples, see Beck (2013).

[28] For Mexico, see Haber (2005), for Nigeria see Beck, Cull and Jerome (2005).

[29] See for example, Mian, Sufi and Trebbi (2010) for the U.S. and Imai (2009) for Japan.

qualitative evidence. One important area in this respect is connected lending and the links between the financial sector and governing elites (for early examples see Braun and Raddatz, 2010; Cull, Haber and Imai, 2011). Understanding the links between ruling elites, bureaucrats and the financial sector is critical to gauging the feasibility and optimality of specific financial sector reforms.

Political economy constraints, however, also pose challenges in terms of translating research results into policy advice and implementation. For example, there can be challenges in terms of mainstreaming findings from RCTs in limited geographic areas to whole economies, if such an implementation would challenge the rents of certain groups. This is a challenge, for example, for RCTs that draw conclusions from very small geographic areas but are tasked to inform policies on the national level. Political economy constraints, however, can even start earlier and derail research projects (Campos et al., 2012).

On the positive side, there can be an important reverse causation from financial deepening to developing open societies.[30] Expanding the use of formal financial services to a broader share of the population can create a constituency for further financial sector reform. Access to external finance by new entrants can foster competition in the real sector. Understanding the role of the financial sector in opening and democratising economies and societies is thus an important issue.

[30] See, for example, Levine, Levkov and Rubinstein (2013) on bank deregulation and racial discrimination in the U.S.

7. Conclusions

This paper has provided a short overview of the finance for development literature and a framework for a future research agenda. Rather than summarising all the arguments, this concluding section will point to some of the main lessons from past research for future research.

1. **The empirical literature on *finance for development* has to rely on a large array of different methodologies and data sources**. Different research questions ask for different methodologies and data. Historical and longer-period analyses might be more appropriate to gauge structural and institutional questions, while RCTs and other experimental approaches might be more adequate to assess short-horizon interventions. However, the same question can be gauged with different methodologies and using data on different aggregation levels, as illustrated earlier. One size does not fit all and only the full body of the literature will give us comprehensive insights into the relationships between the financial and real sectors and policies and institutions for financial deepening.
2. **The empirical literature – the focus of this paper – has to be closely guided by theoretical literature and has to learn from other disciplines, including psychology, history and political science.** Theory will provide us not only with different hypotheses on relationships between different variables, but also specific mechanisms and channels through which such relationships work. Theory can be linked directly to data, as in the case of general equilibrium models calibrated with data from household surveys (e.g. Gine and Townsend, 2004) or can provide competing hypotheses estimated with reduced form regressions. In addition, theory can provide us guidance on specific identification strategies to overcome endogeneity problems inherent to empirical research.
3. **For research to succeed in obtaining the necessary data, asking relevant questions but also maximising its impact, a close interaction between researchers and donors, practitioners and policy makers is necessary**. This relationship can often be critical for obtaining micro-level data, such as from credit registries or specific financial institutions, or for undertaking experiments or RCTs. However, these links are also critical for communicating research findings and having an impact on practice and policy in the financial sector.
4. **The distinction between developing and developed countries is an artificial one, at least for research purposes.** Exploring the history of financial sector development in Europe or North America in the 19th and 20th centuries provides important insights for today's developing countries. But even research, for example on the demand side, in the developed world can be very relevant for developing countries, as we have shown in the case of the sub-prime mortgage crisis in the U.S.

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