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## ADB Economics Working Paper Series



### Financial Sector Development, Economic Growth, and Poverty Reduction: A Literature Review

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Juzhong Zhuang, Herath Gunatilake, Yoko Niimi,  
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October 2009

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## Contents

Abstract	v
I. Introduction	1
II. Financial Sector Development, Growth, and Poverty Reduction: Theory	2
A. Financial Sector Development and Economic Growth	2
B. Financial Sector Development and Poverty Reduction	10
III. Financial Sector Development, Growth and Poverty Reduction: Empirical Evidence	14
A. Evidence from Cross-Country Studies	14
B. Evidence from Country-Specific Studies and Impact Evaluations	22
C. Effectiveness of Development Assistance to the Financial Sector	27
IV. Summary and Conclusions	29
References	32



## **Abstract**

This paper reviews the theoretical and empirical literature on the role of financial sector development, with a view to deepening understanding of the rationale of development assistance to the financial sector of developing countries. The review leads to the following broad conclusions: (i) there are convincing arguments that financial sector development plays a vital role in facilitating economic growth and poverty reduction, and these arguments are supported by overwhelming empirical evidence from both cross-country and country-specific studies; (ii) there are however disagreements over how financial sector development should be sequenced in developing countries, particularly the relative importance of domestic banks and capital markets and, in developing the banking sector, the relative importance of large and small banks; (iii) while broadening the access to finance by microenterprises, small and medium-sized enterprises (SMEs), and vulnerable groups is recognized as critically important for poverty reduction, it is also widely believed that microfinance and SME credit programs need to be well designed and targeted to be effective. In particular, these programs need to be accompanied by other support services such as provision of training and capacity building, assistance in accessing markets and technologies, and addressing other market failures; and (iv) financial sector development and innovation will bring risks, and it is therefore essential to maintain sound macroeconomic management, put in place effective regulatory and supervisory mechanisms, and carry out structural reforms in developing the financial sector. The paper argues that these conclusions provide a strong justification for development assistance to target financial sector development as a priority area, and that, like any public sector intervention, such assistance should be designed to address market and nonmarket failures. The paper also highlights several areas where more research is urgently needed, in particular, how to sequence financial sector development, how to balance the need for financial innovation and that for economic and financial stability, and how to make microfinance and SME credit programs work better to reduce poverty.





## I. Introduction

Developing countries attach great importance to financial sector development and deepening in the pursuit of their poverty reduction goal. By mobilizing savings, facilitating payments and trade of goods and services, and promoting efficient allocation of resources, the financial sector is seen as playing a critical role in facilitating economic growth and, directly through broadening access to finance and indirectly through growth, contributing to poverty reduction. Supporting financial sector development has also been a key priority of development assistance in the past several decades. For example, the Asian Development Bank (ADB) provided assistance (technical assistance, lending, equity investment, or credit guarantees) to the financial sectors of its developing member countries amounting to over US\$19 billion since the 1970s. In its recently adopted Strategy 2020, ADB reaffirms financial sector development as one of its core areas of operations in the coming years in support of inclusive and environmentally sustainable growth, regional integration, and poverty eradication in Asia and the Pacific.

However, economists' views on the role of finance in economic development have not always been unanimous. In the earlier literature, there were significant disagreements on the finance-growth nexus. For instance, questions were often raised over the nature of causality: whether financial sector development causes economic growth or economic growth generates a need for financial sector development. Economists have also debated on the nature of the growth-poverty nexus: whether and to what extent economic growth leads to poverty reduction. Further, there were questions over whether financial sector development can bring direct benefits to the poor. The last 2 decades, however, have seen the emergence of a consensus on the vital importance of financial sector development in facilitating growth and supporting poverty reduction, and this has been backed up by a large body of empirical studies providing evidence of the causal linkages from financial sector development to economic growth and poverty reduction.

The main purpose of this paper is to review the literature on the linkages between finance, growth, and poverty reduction, with a view to improving understanding of the rationale for development assistance to support financial sector development in developing countries. One of the important lessons learned from the recent global financial crisis and indeed from many crisis episodes (in both developed and emerging markets) in the past is that the financial sector needs to be adequately regulated and cannot be left entirely to the hands of market forces. While the lessons learned from the recent crisis are likely to have significant implications for economists' thinking on how banks and financial institutions should be regulated and financial innovations should

be managed (Krugman 2009), examining such implications is beyond the scope of this paper. The paper also does not cover issues related to regional financial cooperation and integration, which is gaining importance in recent years.

The rest of the paper is organized as follows. Section II reviews the theoretical literature, focusing on channels through which financial sector and capital market development lead to poverty reduction either indirectly through economic growth or directly by broadening the access to financial services by the poor. Section III reports empirical evidences on the basis of a survey of cross-country studies that use country, industry, or firm level data; country-specific studies based on time-series data and project-level cases including randomized field experiments; and selected case studies carried out by multilateral development banks. Section IV summarizes the key findings from the review and concludes.

## **II. Financial Sector Development, Growth, and Poverty Reduction: Theory**

### **A. Financial Sector Development and Economic Growth**

*The connection between the operation of the financial system and economic growth has been one of the most heavily researched topics in development economics.* Hundreds of scholarly papers have been written to conceptualize how the development and structure of an economy's financial sector affect domestic savings, capital accumulation, technological innovation, and income growth, or vice versa; and to empirically test these linkages including identifying directions of the causality and their relative importance using cross-country; country-specific; and industry-, firm-, and project-level data. Several authors have surveyed this large literature (see, for example, Honohan 2004a, 2004b; DFID 2004; Levine 2004; and Andrianova and Demetriades 2008).

*Earlier literature suggests significant disagreements on the finance-growth nexus.* For instance, Joan Robinson (1952) argues that “where enterprise leads, finance follows”, meaning that finance does not cause growth, but rather, it responds to demands from the real sector. Nobel Laureate Robert Lucas (1988) also dismisses finance as an “over-stressed” determinant of economic growth. On the other hand, Nobel Laureate Merton Miller (1988) argues “that the financial markets contribute to economic growth is a proposition too obvious for serious discussions.” Schumpeter (1911), Gurley and Shaw (1955), Goldsmith (1969), and McKinnon (1973) all saw the importance of the finance-growth nexus in understanding economic growth. Finance has a prominent role in the endogenous growth theory, through its positive impact on the levels of capital accumulation and savings (Romer 1986) or of technological innovation (Romer 1990, Grossman and Helpman 1991, and Aghion and Howitt 1992).

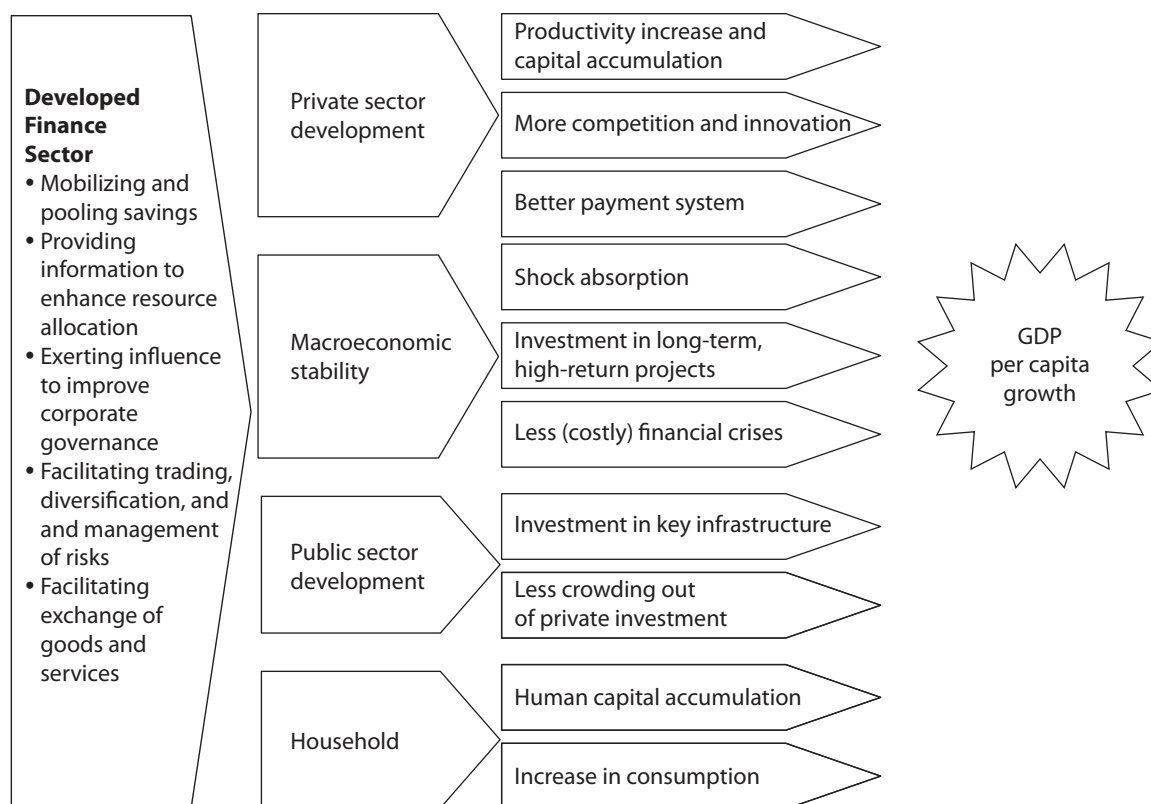
*Recent literature suggests the emergence of a consensus on the vital importance of financial sector development in facilitating and sustaining growth.* The last 2 decades have witnessed an explosion of empirical studies testing the finance-growth nexus using cross-country and other data and new econometric tools. Despite the absence of complete unanimity of results, a number of observations, backed by empirical evidence, have emerged. Levine (2004) summarizes these as follows: (i) countries with better-functioning banks and financial markets grow faster; (ii) simultaneity bias (i.e., the reverse causality) does not seem to drive this conclusion; and (iii) better-functioning financial systems ease the external financing constraints that impede firm and industrial expansion, suggesting that this is one mechanism through which financial development matters for growth.

*Economists believe that the most important role of the financial sector in facilitating growth is to reduce information, enforcement, and transaction costs.* This is achieved through a number of specific functions that the financial sector performs. On the basis of an extensive survey of the literature, Levine (2004) identified and summarized five key functions that a financial system provides in facilitating growth:

- *Mobilizing and pooling savings.* Savings mobilization as a process of agglomerating capital from diverse savers for investment is very costly. Mobilizing savings involves overcoming transaction costs and informational asymmetry problems. Financial systems that are more effective at pooling the savings of individuals promote economic development by increasing savings, exploiting economies of scale, and overcoming investment indivisibilities. With large, indivisible projects, financial arrangements that mobilize savings from many diverse individuals and invest in a diversified portfolio of risky projects facilitate a reallocation of investment toward higher return activities with positive implications for economic growth. Better savings mobilization also boosts technological innovation and improves resource allocation.
- *Producing information ex ante about possible investments and allocating capital.* Individual savers face high costs of acquiring and processing information on firms, managers, and market conditions, which could prevent capital from flowing to its best uses. Financial intermediaries reduce information costs through specialization and economies of scale and thereby improve resource allocation and accelerate growth. Improved information also helps identify the best production technologies and those entrepreneurs with the best chances of successfully initiating new goods and production processes. Stock markets may also stimulate the generation of information about firms. As markets become larger and more liquid, agents may have greater incentives to expend resources in researching firms because it is easier to profit from this information by trading in big and liquid markets.

- *Monitoring investments and exerting corporate governance.* The degree to which the providers of capital (shareholders and creditors) can effectively monitor and influence how firms use their capital and induce managers to maximize firm value—that is, to resolve the “agency problem” arising from the separation of ownership from control through effective corporate governance mechanisms—has important implications for savings, decisions for allocating the savings, and their utilization. Good corporate governance helps improve the efficiency with which firms allocate and utilize resources and makes savers more willing to finance production and innovation. Although there are countervailing arguments, many believe that monitoring and disciplining by creditors (banks or bondholders), shareholder activism exercised by institutional investors (such as banks, pension funds, etc), threat of takeovers and market for corporate control, threat of insolvency, and capital market competition, among others, are effective mechanisms for strengthening corporate governance (see Zhuang et al. 2000).
- *Facilitating the trading, diversification, and management of risks.* Financial systems help mitigate the risks associated with individual projects, firms, industries, regions, and countries, etc. A financial system’s ability to provide risk diversification services affects long-run economic growth by improving resource allocation and encouraging savings. Cross-sectional risk diversification stimulates technological innovation since engaging in innovation is risky, and the ability to hold a diversified portfolio of innovative projects reduces risk and promotes investment in growth-enhancing innovative activities. Besides cross-sectional risk diversification, financial systems also improve inter-temporal risk sharing and smoothing across generations. Further, financial systems enhance liquidity, reduce liquidity risks, increase investment in longer-term, higher-return, but illiquid assets, and promote economic growth.
- *Facilitating the exchange of goods and services.* A financial system facilitates transactions in the economy, both by physically providing the mechanisms to make and receive payments and by reducing transaction and information costs as described earlier. Therefore, the financial sector facilitates trading of goods and services, and promotes specialization, technological innovation, and growth. Transaction and information costs may continue to fall through financial innovation. More specialization requires more transactions, and more transactions lead to greater specialization. In this way, markets that promote exchange encourage productivity gains. There may also be feedback from these productivity gains to financial market development, and thus economic development can spur the development of the financial sector.

*Through these functions, financial sector development facilitates economic growth—not only by promoting private sector development, but also by supporting the public sector to invest in infrastructure and by enabling households to invest in human capital and benefit from consumption smoothing (Figure 1).*

**Figure 1. Financial Development and GDP Per Capita Growth**

GDP = gross domestic product.

Source: Adapted from Claessens and Feijen (2006).

- **Public sector.** Large and liquid bond markets—an integral component of a developed financial sector—enable the government to raise relatively cheap capital to invest in key infrastructure such as roads, power plants, harbors, airports, water supply and sanitation, and telecommunications. These key infrastructure facilities form part of the enabling environment for the private sector to grow. Moreover, active bond markets can discipline the government—thereby reducing the risks of financial crises—and prevent crowding out of private investments. These avenues provide an additional link to growth (Claessens and Feijen 2006).
- **Households.** Households are important players in the financial sector, both as savers and borrowers. Financial sector development brings benefits to households by increasing returns on and reducing risks of their invested savings. Savings enable households to smoothen their consumption. Households also borrow for a variety of reasons. By increasing consumption, the demand for goods and services increases, thus stimulating more agricultural and industrial production, leading to more jobs and higher economic growth. Households may also borrow for human capital development such as education, thus increasing employability potential and productivity that in turn impacts growth.

*While an effectively functioning financial system facilitates economic growth, financial sector development also brings risks.* There is a general agreement that sustained economic growth requires a stable macroeconomic environment. Many argue that the financial sector's greater ability to reduce risks through risk sharing and diversification may enable an economy to better absorb economic shocks, leading to a more stable macroeconomic environment, which supports growth. However, there is also a view that a more developed financial sector offers opportunity for speculation and bubbles that can increase volatility and the risk of financial crises (Easterly, Islam, and Stiglitz 2000). Arner (2007) argues that financial crises in emerging economies around the world over the past 20 years highlight the dangers inherent in financial liberalization without adequate domestic restructuring in the context of participation in an increasingly globalized financial system. The recent global financial crisis indicates that even the most sophisticated financial system cannot stem a financial crisis when the regulatory and supervisory framework is not upgraded to keep up with the pace of financial innovation.

*Therefore, the issue is how to develop a financial system that facilitates and supports economic growth in the context of financial stability.* The literature on banking crises suggests that many crisis episodes that occurred in recent decades were caused by institutional weaknesses in the financial sector such as poor regulation and supervision, weak corporate governance, and excessive deposit insurance as these are closely related to the incentives of bank managers to take on risks in lending operations. Special characteristics of banks—maturity and currency transformation and asymmetric information—make them vulnerable to runs and collapses following adverse shocks of either a domestic or external origin. A single bank run can, by contagion, lead to a systemic banking crisis. The literature highlights the importance of maintaining sound macroeconomic management, installing effective financial regulation and supervision, and carrying out reforms to eliminate structural weaknesses in developing a country's financial sector.

*There are, however, disagreements over how to sequence financial sector development in developing countries, in particular, the relative importance of developing domestic banks and capital markets and, in developing domestic banks, the relative importance of large and small banks.* How a country's financial structure (the degree to which a country's financial system is bank-based or market-based)<sup>1</sup> is related to its ability to grow has long been a subject of great interest. Justin Lin (2009), the chief economist of the World Bank, has recently argued that low-income countries should make small, local banks the mainstay of their financial systems. He argues that what matters most is setting up a financial sector that can serve the competitive sectors of an economy, which, in many poor countries, means focusing on activities dominated by small-scale manufacturing, farming, and services firms. In his view, these can be best served by small local banks—

<sup>1</sup> A bank-based financial system relies largely on banks in mobilizing savings and financing corporate investment, while a market-based financial system relies on securities markets and equity financing. Typical examples of the countries with bank-based financial systems are Japan and Germany, and of the countries with market-based financial systems are the United States and United Kingdom.

the size and sophistication of financial institutions and markets in the developed world may not be appropriate in low-income countries. He urges governments in low-income countries (and international financial institutions that help them) to recognize the strategic importance of small, private domestic banks, and to resist the temptation to strive for “modern” stock markets in the early stages of a country’s development. However, not every one agrees with these views:<sup>2</sup>

- Banerjee (2009), while agreeing that there is little evidence that large foreign banks contribute much to the growth process of developing countries and highlighting the danger of systemic risks of very large domestic banks (partly because of the “too-big-to-fail” perception), points to the possibility of too little risk-taking when banks are not nearly that big. He argues that a challenge that most developing countries face is to ensure an adequate supply of risk capital—ways to fund new ideas and new firms, as well as ways to enable rapid scaling up when the opportunity arises. Small banks may not be in a position to play such an important role but the stock market in principle can, by directly funding large firms to reach a global scale and by enabling a venture capital model of funding high-risk new ideas. The issue, he argues, is that it is not easy to make a stock market work well because the regulatory challenges can be overwhelming. In this sense, he echoes Justin Lin’s view that it is not clear why every country needs a stock market right now.
- Moss (2009) agrees that stock markets cannot be expected to provide capital for the poor or even small companies, and that local community banks are better placed for serving such clients. However, he argues that low-income countries are not faced with choosing between a stock market and small community banks, and that governments wanting to create an enabling environment for the private sector should focus on creating a legal and financial framework to promote access to credit across the spectrum of demand. He argues that stock markets have been useful in two different ways that promote wider participation in the formal economy—public listings as an avenue for allowing small local investors to participate in privatizations and as a way for large multinationals to list their local subsidiaries. He therefore calls for patience for the nascent stock markets in low-income countries.
- Schoar (2009), while agreeing that a competitive banking sector plays an important role in facilitating firm growth and competition, and that (public) equity markets can at best constitute a small fraction of overall financing in developing countries, questions promoting small banks as a solution. She argues that scale matters for banks, and tiny banks will not be able to provide sufficient capital to allow small businesses to grow into large ones. This is because banks that are too small are highly exposed to local shocks and are thus very fragile, which

<sup>2</sup> See Lin’s roundtable discussions at [www.economist.com/blogs/freexchange/lin\\_roundtable](http://www.economist.com/blogs/freexchange/lin_roundtable).



in turn reduces their ability to finance riskier firms or new projects. She argues that this is especially detrimental in economies that heavily rely on banks to finance new ventures. Agreeing that the banking sector should be established to improve the real economy, and that finance is not a goal in itself but a tool to create jobs and opportunities, she proposes a two-tiered banking system to achieve this goal. One tier consists of small banks that serve largely subsistence entrepreneurs that are typically microfinance clients with their businesses providing them with a livelihood, and the other tier consists of larger banks that serve what she calls transformational entrepreneurs who do not simply provide livelihoods for themselves but create jobs for many others and will grow to large scales. She argues that transformational entrepreneurs have different aspirations and propensity to take risks from those of subsistence entrepreneurs and their business activities need to be supported by banks of a certain minimum efficient scale and with innovative new tools, which small banks and microfinance institutions (MFIs) are currently not in a position to provide.

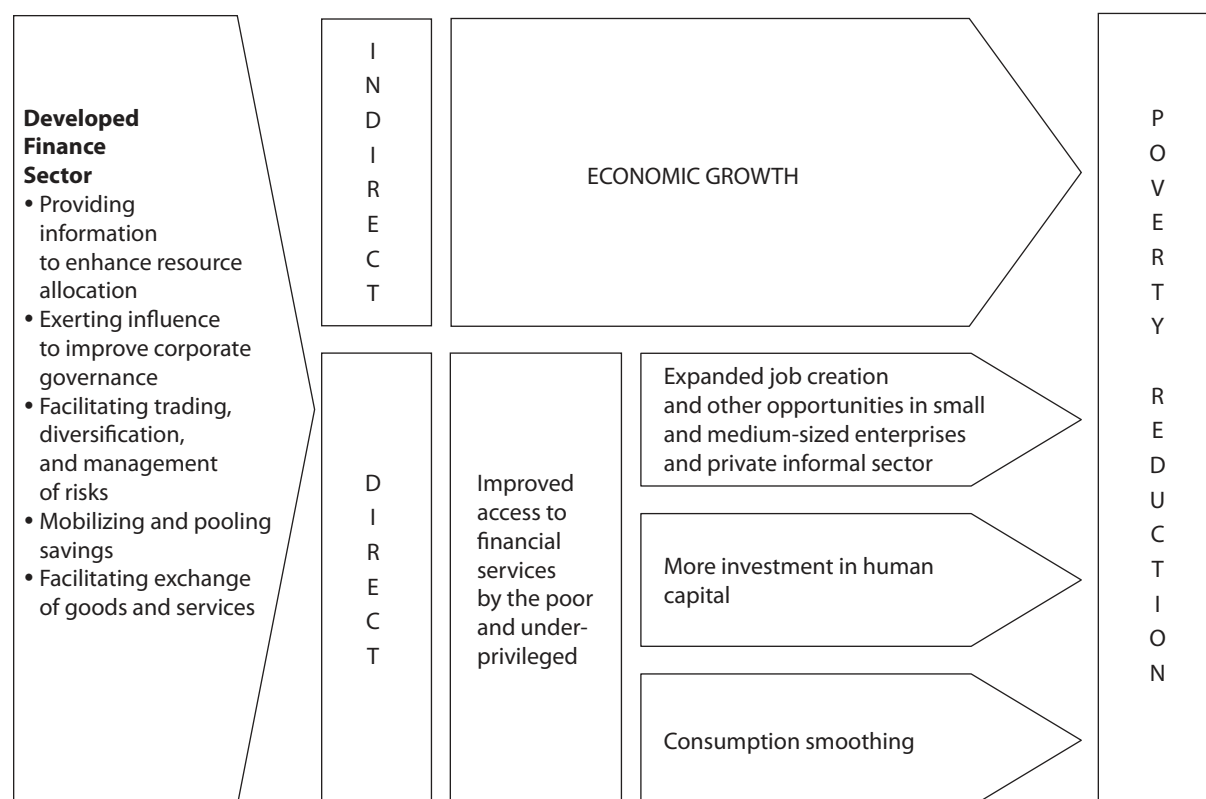
- Levine (2009) agrees that the structure of financial institutions and markets in many developed economies is inappropriate for many developing economies—which in his view is supported by considerable evidence but often ignored by policy advisors—and that the appropriate form and function of financial institutions differ depending on a country's legal and political system as well as on the types of economic activities occurring in the country. He, however, argues that the recommendation of making small, local banks the mainstay of developing countries' financial systems focuses too much on form over substance. He argues that the critical issue is what the financial system does and what services it provides to the rest of the economy, not whether it has big or small banks, MFIs, or securities markets. In his view, the appropriate policy goal should be to construct laws, regulations, and institutions that create a healthy environment in which financial institutions compete to provide the most useful credit, risk, and liquidity services to the "real" economy. He also cites research that identifies the harmful ramifications of making small banks the mainstay of the financial system in the first three quarters of the 20<sup>th</sup> century in the United States—the policy of restricting banks from branching to create lots of small banks and to limit the emergence of large banks succeeded, but it also created many small and localized banking monopolies, hindering the entry of new firms that would compete with the locally entrenched elites, hurting the poor by keeping credit flowing to local cronies, slowing economic growth through these inefficient allocations of credit, and even increasing instability since the small banks were undiversified. He points out that while small, local banks have more information about small, local firms, large banks are typically better diversified with better credit scoring processes, which facilitate lending to risky, new entrepreneurs. Further, while large banks are sometimes too big or complex to supervise, small banks can be too numerous to supervise. He also argues that it is true that stock markets do not provide much capital to firms, but they provide complementary risk diversification services that facilitate the efficient allocation of credit.

- Zingales (2009) agrees that what works for a developed country does not necessarily work for a developing one and that in most developing countries today, the goal of financial sector development should not be to push for an immediate development of stock markets. But he argues that the future development of stock markets should not be ignored either—since institutions are not built overnight, one should not only look at present needs, but future ones as well. Regarding present needs, he disagrees with over-reliance on microfinance, as while it is a great instrument to alleviate the most severe needs, he considers it an unproven one to promote development. He supports the championing of small banks though, as local banks have better local knowledge that he considers crucial in developing countries. He argues that large state-owned banks are often a major barrier to the development of small banks, as they control territory and maintain political consensus. Overall, he is in favor of a more fragmented and competitive banking sector, which he thinks will also facilitate the transition from a pure banking system to a system that relies both on markets and banks, as a country's needs develop.
- Thoma (2009) agrees that developing countries need small banks and microfinance to meet many of basic financial needs, but also need more sophisticated financial products and services, such as hedging price risks through futures markets, insuring against crop failures, purchasing farm equipment through pooling arrangements, and managing the problem brought about by seasonality. He argues that not all of the financial needs in agricultural, small-scale manufacturing, and services are simple, even in developing countries. He further argues that one big barrier in meeting all these financial needs in developing countries is the lack of information on the financial history and worthiness of potential borrowers. This information takes time to develop, but he thinks that small banks can play an important role in this regard because of their local knowledge. He is therefore in favor of small banks to be part of a more comprehensive system.
- Khwaja (2009) argues that theoretically, arguments have been made that smaller lenders may be more responsive to localized information since they have fewer (vertical) hierarchies, but it is not clear why large banks cannot have more decentralized decision making. Empirically, there is some evidence that small domestic banks may have more small clients, but this may be simply because they have no choice but to do so as larger banks "cream-skim" the readily identified good borrowers, i.e., the large, established firms. He thinks that the counterfactual of having fewer large banks may not be more lending to smaller borrowers, but that some of the (better) smaller banks will now also cream-skim. He argues that higher growth countries may create room for more (smaller) banks and thus it is growth that produces an increase in the small bank share and not necessarily vice versa.

## B. Financial Sector Development and Poverty Reduction

There are two channels through which financial sector development can impact poverty reduction. One works indirectly through growth. The other works directly through the poor benefiting from accessing financial services (Figure 2).

**Figure 2: Financial Sector Development and Poverty Reduction**



Source: Adapted from Claessens and Feijen (2006).

### 1. The Indirect Channel through Economic Growth

*A major channel by which financial sector development supports poverty reduction is through economic growth.* Many believe that economic growth reduces absolute poverty. The impact of growth on poverty reduction runs through a number of possible channels. First, economic growth could generate jobs for the poor. Second, it has been suggested that a higher rate of growth could reduce the wage differentials between skilled and unskilled labor at a later stage of development (Galor and Tsiddon 1996), which benefits the poor. Third, high growth could lead to higher tax revenues, enabling the government to allocate more fiscal resources on social spending such as health, education, and social protection, and hence benefiting the poor; and the poor would also be able to invest more in human capital (Perroti 1993). Fourth, as capital accumulation increases with

high economic growth, more funds would become available to the poor for investment purposes (Aghion and Bolton 1997), thus increasing their income.

*There were however different views on the growth–poverty reduction nexus in the earlier literature.* The popular Kuznets’s inverted-U hypothesis (Kuznets 1955, 1963) suggests that economic growth may increase income inequality at the early stage of development, but reduce it at the mature stage of industrialization. The asset-rich classes who can self-finance or have easy access to finance would reap the early harvest of industrialization and thus garner a higher share of the economic pie, leaving the poor disadvantaged. On the other hand, the “trickle down” theory<sup>3</sup> postulated that economic growth would either trickle down to the poor through job creation and other economic opportunities or create the necessary conditions for the wider distribution of the economic and social benefits of growth (Todaro 1997).

*But a consensus that has emerged more recently is that economic growth overall leads to poverty reduction.* During the 1990s, the proliferation of quality data on income distribution from many countries has allowed rigorous empirical testing of standing debates. Many researchers (Datt and Ravallion 1992, Kakwani 2000) attempted to explain changes in poverty in terms of a “growth effect”, stemming from a change in average income, and a “distribution effect”, caused by shifts in the Lorenz curve holding average income constant. They find the growth effect to explain the largest part of observed changes in poverty. Similar results have been found in a number of other studies. Fields (2001) notes that 20 years of research has shown that in a cross-section of countries, those with a higher per capita income or consumption have less poverty.

*Economists also agree that the imperative of growth for combating poverty should not be misinterpreted to mean that “growth is all that matters”.* Fields (2001) qualifies that the extent of the impact of growth on poverty alleviation depends on the growth rate itself and the level of inequality.<sup>4</sup> Growth is necessary but is, in itself, not sufficient for poverty alleviation. Other than growth, poverty alleviation requires additional elements. First, poor households need to build up their asset base in order to participate in the growth process. Second, growth needs to be more broad-based and inclusive to reach all segments of society, including the poor. Inequality also matters for poverty reduction and should be “on the agenda” (Kanbur and Lustig 1999). Growth and distribution are interconnected in numerous ways, and the effectiveness with which growth translates into poverty reduction depends crucially on the initial level of inequality (Lustig, Arias, and Rigolini 2002). Third, short-term public assistance measures are needed to protect the vulnerable groups of society, because it takes time for the needy to benefit from the impact of a policy or strategy.

<sup>3</sup> Referred to by Fields (2001) as “shared growth”, where the poor and others share in the fruits of economic growth, to a greater or lesser degree.

<sup>4</sup> Fields (2001) cites a few studies that find that faster economic growth leads to greater poverty reduction.

## 2. The Direct Channel through Access to Financial Services

*Many believe that financial sector development can directly contribute to poverty reduction by providing or broadening the poor's access to financial services.* Many economists are of the view that financial intermediary development will have a disproportionately beneficial impact on the poor. This is because informational asymmetries produce credit constraints that are particularly binding on the poor as they do not have the resources to fund their own projects, nor the collateral to access bank credit (Banerjee and Newman 1993, Galor and Zeira 1993, and Aghion and Bolton 1997). These credit constraints restrict the poor from exploiting investment opportunities, thus slowing aggregate growth by keeping capital from flowing to its highest-value use. A poorly functioning financial system will produce higher income inequality by disproportionately keeping capital from flowing to “wealth-deficient” entrepreneurs. Financial sector development reduces information and transaction costs and, therefore, (i) allows more entrepreneurs—especially those less well-off—to obtain external finance, (ii) improves the allocation of capital, and (iii) exerts a particularly large impact on the poor.

Fields (2001) argues that much would be gained by developing credit and finance markets since an underdeveloped credit market contributes to continued poverty, higher income inequality, and slower economic growth. Through better access to credit, the poor are given the opportunity to participate in more productive endeavors, in turn increasing their incomes. It has been argued that the most obvious hunting ground for poverty reduction in less developed countries is the small and medium-sized enterprises (SMEs), and the sizeable informal sector (household-based small businesses in rural or urban areas, or the so-called microenterprises). SMEs are employment-intensive, and job creation is the most important pathway to poverty reduction. Allowing greater credit access by poor households has an especially important impact on poverty reduction. Access to financial services also enables the poor to better respond to economic or health-related shocks, reducing the likelihood of falling into poverty when such shocks occur.

*There are, however, also skeptical views on whether financial sector development can lead to a broadening of access to finance by the poor, especially at early stages.* Some argue that it is primarily the rich and politically connected who would benefit from improvements in the financial system (Haber 2004). As such, greater financial development may only succeed in channeling more capital to a select few. Thus, it is an open question whether financial development will narrow or widen income disparities even if it boosts aggregate growth. Some views support a nonlinear relationship between finance and income distribution. Greenwood and Jovanovic (1990) show how the interaction of financial and economic development can give rise to an inverted U-shaped curve of income inequality and financial intermediary development. At early stages of financial development, only a few relatively wealthy individuals have access to financial markets and hence higher-return projects. With aggregate economic growth, however, more people can afford to join the formal financial system, with positive ramifications on economic growth. With sufficient economic success, everyone can participate in the financial system and enjoy the full range of benefits.

*That improvements in the financial system may not automatically lead to the poor having greater access to finance provides justifications for public sector interventions in the forms of various microfinance schemes and SME credit programs.* Theoretically, there are good reasons why the availability (and cost) of credit may be more adverse for smaller enterprises and the informal sector. Fixed costs associated with loan appraisal, supervision, and collection are nontrivial. From the perspective of a lender, it is preferable to provide (larger amounts of) credit to a larger enterprise than (small amounts of) credit to many smaller enterprises. SMEs and microenterprises are also less able to provide collateral against their loans, further diminishing lenders' incentives to lend to them when considering adverse cost implications associated with possible loan defaults. Because of these, in practice, governments of both developed and developing countries often put in place policies that support various forms of MFIs and SME credit programs to ensure that a widest possible segment of population have access to finance (ADB 2009). The most well-known example of MFIs is the Grameen Bank in Bangladesh founded by Muhammad Yunus who was awarded the 2006 Nobel Peace Prize for his contribution to microfinance. Supporting microfinance schemes and SME credit programs has also been a key focus of development assistance.

*Some of the conventional wisdom about the poverty reduction potential through allowing greater access to finance by microenterprises and SMEs has come under scrutiny recently.* Some have questioned whether access to finance is the only constraint that microenterprises and SMEs face and hence a panacea for poverty reduction. Other constraints and challenges faced by these enterprises often highlighted in the literature include access to markets, access to know-how and technologies, and other market failures. A United Nations (UN) report (1998) on the role of microcredit in the eradication of poverty cites findings of some studies that point to limits to the use of credit as an instrument for poverty eradication, including difficulties in identifying the poor and targeting credit to reach the poorest of the poor; the lack of business skills and even the motivation for the poor to undertake economic activity; fragile or rudimentary administrative structures leading to high transaction costs of many MFIs; and the fact that in many cases, microcredit programs have been stand-alone operations rather than accompanied by other support services, especially training, information, and access to land and technology. A recent ADB study (2009) on SMEs argues that (i) access to finance is often only one of the major constraints to growth of these enterprises, and other constraints include weak access to new technologies and to dynamic markets; (ii) if SMEs were to increase productivity and employment, they must innovate, including adopting new technology and diversifying into new markets; and (iii) governments should assist SMEs, and such assistance should include providing information services on technology and markets, vocational training, and technical support services, and fostering linkages between SMEs and large enterprises, in addition to facilitating access to finance, that is, following an integrated approach.<sup>5</sup>

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<sup>5</sup> Also referred to as the "credit plus approach" in the literature.

### **III. Financial Sector Development, Growth and Poverty Reduction: Empirical Evidence**

A substantial body of empirical work assesses whether financial sector development facilitates economic growth and the magnitude of the impact; whether certain components of the financial sector (such as banks or stock markets) play a particularly important role in fostering growth at certain stages of economic development; and whether and to what extent financial sector development directly benefits the poor. A large body of literature also investigates the extent to which economic growth leads to poverty reduction. This section provides surveys of these empirical studies in three parts. The first part focuses on cross-country studies based on growth regression using country-, industry- or firm-level data. The second part looks at country-specific studies, including those based on time-series data and project-level cases. The third part presents findings from selected case studies of programs and projects by multilateral development banks designed to develop well-functioning financial markets and improve the poor's access to finance in developing countries.

#### **A. Evidence from Cross-Country Studies**

Cross-country studies refer to those using data from several countries, either cross-sectional or a panel (cross-section and time-series analysis combined). Such studies mostly apply multivariate regressions to investigate how a particular independent (or explanatory) variable, such as the ratio of private credit to gross domestic product (GDP) (commonly used as a measure of financial depth), affects the dependent variable, such as real per capita GDP growth rate, while controlling for other variables (such as regulatory standards, governance quality, or country-fixed effects) that may also affect the dependent variable.<sup>6</sup> This subsection surveys existing empirical evidence on linkages between (i) financial sector development and economic growth, (ii) economic growth and poverty reduction, and (iii) financial sector development and poverty reduction.

As noted by Levine (2004), one of the critical issues for many empirical studies on finance-growth relationships pertains to the proxies for financial sector development. While theory suggests that a financial system influences growth by easing information and transaction costs through a number of mechanisms—improving or enhancing the acquisition of information about firms, corporate governance, risk management, resource mobilization, and exchanges of goods and services—empirical measures of financial development tend to focus on the depth of the financial sector, rather than directly on these mechanisms. Honohan (2004a), for instance, points out the importance of legal structures as well as regulatory and information infrastructures in determining the scale and efficiency of finance, which should be reflected in the proxies used for financial development in empirical analyses. Although a growing number of country-specific studies

<sup>6</sup> Levine (2004) provides an extensive survey of empirical literature on finance-growth linkages.

have been developing financial development indicators more closely tied to theory, more work is needed on improving cross-country indicators of financial development (Levine 2004).

## 1. Financial Sector Development and Economic Growth

*Overwhelming evidence suggests that the depth of the financial sector has a positive and statistically significant effect on economic growth.* The majority of empirical studies support a positive contribution of financial sector development (measured by financial depth) to economic growth, even though some studies do not find a strong relationship (e.g., Favara 2003). Building on a seminal work undertaken by Goldsmith (1969), and using data for 80 countries over 1960–1989, King and Levine (1993a, 1993b) empirically show that the level of financial development measured by various indicators<sup>7</sup> is positively and strongly associated with economic growth. It is found that increasing the financial depth (measured by the ratio of liquid liabilities to GDP) from the mean of the slowest growing quartile of countries to the mean of the fastest growing quartile of countries would increase a country's per capita income growth rate by almost one percentage point per year. Given that the difference in average annual growth rate between these two sets of countries is about 5 percentage points over this 30-year period, differences in the depth of the financial sector alone explain about 20% of the growth difference. In addition, the results suggest that the level of financial depth in 1960 is a good predictor of subsequent rates of economic growth, capital accumulation, and productivity growth over the next 30 years, even after controlling for income level, education, and measures of monetary, trade, and fiscal policies (King and Levine 1993a, 1993b).

While the work by King and Levine (1993a, 1993b) is among the earlier studies to highlight the role of financial sector development in economic growth, one of the weaknesses of their analysis is that they do not take into account possible reverse causality. The financial sector-growth relationship found in their study might not necessarily imply that financial sector development promotes economic growth, but rather economic growth leads to financial sector development by increasing demand for financial services which, in turn, induces an expansion of the financial sector. To control for possible simultaneity bias in the estimation, researchers often use instrumental variable estimation methods. One of the key challenges associated with this methodology is to find valid instrumental variables that explain cross-country differences in financial development, but that are uncorrelated with economic growth beyond their link with financial development.

<sup>7</sup> King and Levine (2003) constructed four indicators of financial development to measure the services provided by financial intermediaries: (i) the ratio of liquid liabilities to GDP, which measures financial depth (the overall size of the formal financial intermediary system); (ii) the ratio of commercial bank domestic credit to the sum of commercial bank domestic credit and the central bank domestic credit, which measures the relative importance of specific financial institutions; (iii) the ratio of credit issued to nonfinancial private firms to total credit; and (iv) the ratio of credit issued to nonfinancial private firms to GDP (the last two measure domestic asset distribution).



Many studies have attempted to address the issue of causality. Levine, Loayza, and Beck (2000), for example, use measures of legal origin as instrumental variables for financial sector development<sup>8</sup> to control for simultaneity bias. The study also attempts to improve the measurement of financial sector development. It employs measures including: (i) credit to the private sector as a share of GDP, (ii) liquid liabilities as a ratio to GDP, (iii) commercial bank domestic assets as a ratio to commercial bank and central bank domestic assets combined, and (iv) credit by the deposit money banks to the private sector as a share of GDP. Based on data for 71 countries over 1960 to 1995, the study finds that financial intermediary development exerts a statistically significant and economically large impact on growth even after controlling for simultaneity bias or country-specific effects. The result is robust to the use of different estimation procedures and indicators of financial development. The estimated coefficients suggest that if India, for example, had reached the level of financial intermediary development of the average developing country during 1960 to 1995, the country's real per capita GDP would have been about 0.6 percentage point higher per annum over this period. Subsequent studies (e.g., Calderon and Liu 2003, Jalilian and Kirkpatrick 2005) confirm this finding. Using a similar dataset and the same econometric procedures, Beck, Levine, and Loayza (2000) examine the relationship between financial intermediary development and the sources of growth, i.e., productivity growth, physical capital accumulation, and private savings. While the linkage between financial sector development and capital accumulation or private savings rates is found to be not robust to alternative specifications, they find a robust and positive relationship between financial development indicators and both economic growth and productivity growth.

*The positive effect of financial sector deepening on economic growth appears to be greater for developing countries than for developed countries* (e.g., Calderon and Liu 2003,<sup>9</sup> Jalilian and Kirkpatrick 2005, Kumbhakar and Mavrotas 2008, Mavrotas and Son 2006).<sup>10</sup> For example, based on various instrument variable estimators using data for 65 countries over 1960 to 1999, Mavrotas and Son (2006) find that the magnitude of the positive impact of financial sector development on economic growth varies, depending, inter alia, on the level of development (industrial vis-à-vis developing countries). The estimation results show that the effect of financial sector development in developing countries is more persistent and larger than those in developed countries.

*Some studies find that the financial structure does not matter much for growth, and that the liquidity of the stock market is positively related to economic growth.* While there have been some improvements in measuring financial development, researchers tend to focus only on one segment of the financial system, namely banks, and their indicators

<sup>8</sup> Following the work of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998).

<sup>9</sup> Based on data for 87 developing and 22 developed countries covering 1960 to 1994, Calderon and Liu (2003) also show that the finance sector's impact on growth is greater in the long run and reverse causality between the finance sector and growth also coexist. The results also suggest that financial deepening propels economic growth through both a more rapid capital accumulation and productivity growth, with productivity growth being the strongest.

<sup>10</sup> See also an excellent review by Claessens and Feijen (2006).

do not directly measure the degree to which financial systems ameliorate information and transaction costs (Levine 2004). However, there are some exceptions. Levine and Zervos (1998) use measures of both stock market and banking development in cross-country regressions to simultaneously examine the effects of two components of the financial system on economic growth. Based on data for 42 countries over 1976 to 1993, they find that the initial levels of stock market liquidity<sup>11</sup> and of banking development<sup>12</sup> are positively and significantly correlated with future rates of economic growth, capital accumulation, and productivity growth over the next 18 years. Given the significant coefficients on both variables, the regression results appear to suggest that stock markets provide different financial functions from those provided by banks. According to the results, if a country had increased both stock market liquidity and bank development by one standard deviation, the country's real per capita GDP would have been almost 30% higher and productivity would have been almost 25% higher by the end of the 18-year sample period. In contrast, stock market size is not found to be significantly correlated with economic growth, capital accumulation, or productivity growth, implying that simply listing on the national stock exchange does not necessarily improve resource allocation. The findings of Levine and Zervos (1998) are supported by Beck and Levine (2004) based on a dynamic panel estimator (using data for 40 countries over 1975 to 1998), which allows controlling for the simultaneity bias and country-specific effects that are not addressed in Levine and Zervos (1998).

*Others have noted evidence that the relative importance of banks and capital markets depends on a country's level of development. The divergent views suggest that more research on this important issue is needed.* Lin (2009) notes the experience of countries such as Japan, Republic of Korea, and the People's Republic of China in avoiding financial crises for long stretches of their development, as they evolved from low-income to middle- or high-income countries. He attributed this partly to these countries' adherence to simple banking systems (rather than rushing to develop their stock markets and integrate into international financial networks). He also notes that there is evidence to suggest that growth is faster in countries where small banks have large market shares. Khwaja (2009) argues, though, that such evidence is not entirely convincing, and it is possible that higher growth countries may create room for more (smaller) banks—thus it is growth that produces an increase in the small banks and not necessarily vice versa. Merton and Bodie (2004) argue that the available empirical evidence that the financial structure is not a particularly useful indicator of the extent to which a financial system promotes growth may just be because no optimal institutional structure provides growth-enhancing financial functions to the economy. Levine (2004) argues that the growth-maximizing mixture of financial markets and intermediaries may also depend on legal, regulatory, political, and/or other factors that have not been adequately incorporated

<sup>11</sup> Measured by the turnover ratio, that is, the total value of shares traded in a country's stock exchanges divided by stock market capitalization. They examine three other measures of liquidity: (i) the total value of domestic stocks traded in domestic exchanges as a share of GDP, (ii) the value-traded ratio divided by stock return volatility, and (iii) the turnover ratio divided by stock return volatility.

<sup>12</sup> Measured as bank credit to the private sector as a share of GDP.

into current theoretical or empirical research. Financial sector development indicators need to be improved so that they better capture the comparative roles of banks, stock markets, and other components of the financial sector such as bond markets and the financial services provided by nonfinancial firms. More research should be done in this important area.

*Many empirical studies based on industry- or firm-level data also find a positive impact of financial sector development on economic growth through channels such as easing external financing constraints facing firms and reducing macroeconomic volatility.* A number of empirical studies have used industry-level data across a broad section of countries to look at how financial sector development affects growth through different channels.

- One of the first influential studies is undertaken by Rajan and Zingales (1998) who argue that better-developed financial intermediaries and markets lower the costs of external finance (as opposed to internal finance such as retained earnings) that, in turn, facilitates firm growth and new firm formation. Hence, industries that are naturally heavy users of external finance should benefit disproportionately more from greater financial development than others. Using data on 36 industries across 42 countries, financial development<sup>13</sup> is found to have a substantial impact on industrial growth by influencing the availability of external finance. Similarly, Claessens and Laeven (2005) demonstrate that industries that are naturally heavy users of external finance grow faster in countries with more competitive banking systems.
- By extending Rajan and Zingales (1998), Beck, Demirgüç-Kunt, Laeven, and Levine (2004) show that industries composed of smaller firms grow faster in countries with a better-developed financial sector. This reflects the fact that small firms generally face greater barriers to raising funds than large firms, and thus, financial development is particularly important for the growth of industries that are naturally composed of small firms.
- Recognizing differences across industries with regard to the use of external finance, De Serres et al. (2006) examine the effect of financial system regulation on real value-added growth and productivity growth, as well as on industry entry rates. They find that both measures of financial depth—venture capital and overhead costs—have a significant influence on output and productivity growth. Similarly, barriers to banking competition and securities market regulation impact value-added and productivity growth significantly. The strong association is attributed to the heavy reliance of industrial sectors on external sources of funding. Financial regulation also has an impact on firms' entry rates, although the degree of significance is generally weaker.

<sup>13</sup> Financial development is measured by: (i) total capitalization (the sum of stock market capitalization and domestic credit as a share of GDP), and (ii) accounting standards (a rating of the quality of the annual financial reports issued by companies within a country) (Rajan and Zingales 1998).

As for firm-level analyses, Demirgüç-Kunt and Maksimovic (1998) show that the proportion of firms relying on external financing to grow is positively associated with stock market liquidity and banking system size. Subsequent studies also confirm the findings of the studies based on industry-level data (e.g., Beck, Demirgüç-Kunt, and Maksimovic 2005, Love 2003). These empirical results are consistent with Ayyagari, Demirgüç-Kunt, and Maksimovic (2006) who find that financing obstacles<sup>14</sup> are the most important binding constraint on firm growth based on the World Business Environment Survey.<sup>15</sup> Their analysis also illustrates the importance of high interest rates in constraining firm growth. This underlies the importance of macroeconomic policies in influencing growth at the firm level as indicated by the correlation between high interest rates and banks' lack of money to lend. High interest rates are also found to be correlated with high collateral and paperwork requirements, the need for special connections with banks, and unavailability of long-term loans (Ayyagari, Demirgüç-Kunt, and Maksimovic 2006).

*Some studies find that financial sector development enhances growth by reducing macroeconomic volatility.* Federici and Caprioli (2009) show that more financially developed countries are able to avoid currency crises based on quarterly data for 39 countries over 1981 to 2000.<sup>16</sup> Beck, Lundberg, and Majnoni (2006) examine whether well-developed financial intermediaries dampen the effect of real sector shocks and magnify the effect of monetary shocks based on data for 63 countries over 1960 to 1997. Using the volatility of terms of trade to proxy for real volatility, and inflation to proxy for monetary volatility, they find weak evidence that financial intermediaries (measured as the ratio of private credit to GDP) dampen the effect of terms of trade volatility, although they also find evidence that financial intermediaries magnify the impact of inflation volatility in countries where firms have little or no access to external finance.

## 2. Economic Growth and Poverty Reduction

*Available empirical evidence from cross-country analyses shows that economic growth and poverty reduction are indeed strongly and positively correlated, and that economic growth reduces poverty incidence.* The empirical evidence presented so far suggests a general consensus that financial sector development promotes economic growth. To examine whether financial development contributes to poverty reduction indirectly through the growth channel, the next key question is whether economic growth results in poverty reduction. Various

<sup>14</sup> Financing obstacles include: (i) collateral requirements imposed by banks and financial institutions, (ii) bank paperwork and bureaucracy, (iii) high interest rates, (iv) need for special connections with banks and financial institutions, (v) banks lacking money to lend, (vi) access to foreign banks, (vii) access to nonbank equity, (viii) access to export finance, (ix) access to financing for leasing equipment, (x) inadequate credit and financial information on customers, and (xi) access to long-term loans.

<sup>15</sup> The World Bank-led firm-level survey was conducted in 1999 and 2000 in 80 developed and developing countries.

<sup>16</sup> Federici and Caprioli (2009) constructed a detailed set of measures for financial sector development to capture the size, efficiency, financial openness, technological advances, and soundness of financial institutions: (i) the ratio of the assets of deposit-money banks to the total assets of the central bank and deposit-money banks; (ii) the ratio of credit to private sector by deposit-money banks to GDP; (iii) liquid liabilities to GDP; (iv) market capitalization of shares of domestic companies to GDP; (v) total market value of shares traded to GDP; (vi) turnovers; (vii) market value of bonds listed (domestic and foreign) to GDP; and (viii) total number of companies with shares traded, both in absolute terms and for million of citizens.

cross-country analyses (e.g., Dollar and Kraay 2002, Ravallion 2004, Ravallion and Chen 1997) show that economic growth and poverty reduction are indeed strongly and positively correlated. Ravallion and Chen (1997) show that a 10% increase in the mean standard of living leads to an average reduction of 31% in the proportion of the population below the poverty line—indicating that growth leads to a reduction in poverty incidence.

Dollar and Kraay (2002) also show that the average income of the poor in a country—defined as those who belong to the poorest quintile of society—rises proportionately with the country's average incomes based on a dataset of 92 countries over 1950 to 1999. They also find that several determinants of growth, including good rule of law, openness to international trade, and developed financial markets, have little systematic effect on the share of income that accrues to the bottom quintile. In other words, these factors benefit the poor as much as everyone else, and thus these growth-enhancing policies should be at the center of successful poverty reduction strategies. One of the weaknesses of such cross-country analysis is that its results are only indicative of average trends, while individual country experiences can vary significantly. Kakwani, Prakash, and Son (2000) provide a useful critique of the methodology. Nevertheless, the general consensus is that economic growth contributes to poverty reduction. Furthermore, although the validity of the Kuznets curve remains a contested issue, a common empirical finding in the recent literature is that inequality at the country level has weak correlation with rates of economic growth (e.g., Deininger and Squire 1998, Dollar and Kraay 2002, Ravallion 2001, and Ravallion and Chen 1997).

One of the factors that are found to determine the elasticity of poverty to growth is, however, initial inequality (Kakwani, Prakash, and Son 2000; Ravallion 1997, 2001, 2004). Based on data spells constructed from two household surveys over time for 23 developing countries, Ravallion (1997) estimates the elasticity of poverty with respect to growth and finds that the elasticity declines sharply as the initial inequality rises. He finds that, for a country with an initial Gini index of 0.25, one percentage point of growth is likely to lead to a 3.3 percentage point reduction in poverty incidence; while for a country with an initial Gini index of 0.6, one percentage point of growth is likely to only lead to a 1.8 percentage point reduction in poverty incidence. While many country-specific idiosyncratic factors influence the rate of poverty reduction at a given rate of growth, a factor that matters greatly in many developing countries is the geographic and sectoral patterns of growth. The concentration of the poor in certain specific regions and/or sectors found in many countries illustrates the importance of the pattern of growth to overall poverty reduction (Ravallion 2004).

Table 1 provides estimates of poverty elasticity of growth for subregions of developing Asia. The elasticity varies considerably across the subregions, with Central and West Asia having the highest absolute values. At the opposite end are the elasticities for the Pacific and South Asia. Also, consistent with previous research, the elasticity is smaller in absolute value for the higher poverty line. These results suggest that the impact of financial sector development on poverty through the growth channel would not be uniform

across countries. Different levels of development, income inequality, institutional quality, and many other factors will affect the process by which growth is translated into poverty reduction. Such observations have led to the popularization of the concept of pro-poor growth whereby pro-poor policies are needed to reduce poverty more rapidly than simply relying on growth-enhancing policies. Making growth more pro-poor requires a combination of more growth, a more pro-poor pattern of growth, and success in reducing the antecedent inequalities that limit the prospect for poor people to fully participate in the opportunities unleashed and to contribute to that growth (Ravallion 2004). More broadly, making growth more inclusive is now very high on the development agenda of many developing countries in Asia (Ali and Zhuang 2007).

**Table 1. Estimates of Growth Elasticity of Poverty, 1990–2005**

Subregion	Estimated Elasticity		Number of Economies
	HCI based on \$1.25 a day (in 2005 PPP)	HCI based on \$2.00 a day (in 2005 PPP)	
East Asia	-0.825	-0.541	2
Central and West Asia	-1.838	-1.148	8
The Pacific	-0.372	-0.294	2
South Asia	-0.659	-0.428	5
Southeast Asia	-1.623	-0.672	7

HCI = headcount index, PPP = purchasing power parity.  
Source: Hasan, Magsombol, and Cain (2009).

### 3. Financial Sector Development and Poverty Reduction—Direct Impacts

*Financial sector development has direct poverty reduction impacts.* A number of empirical studies examine a more direct relationship between financial sector development and poverty and inequality reduction (e.g., Beck, Demirgüç-Kunt and Levine 2004; Clarke, Xu and Zou 2003; Honohan 2004a; Li, Squire, and Zou 1998). Cross-country evidence pointing to the poverty reduction effect of financial sector development is well established and by now widely accepted despite methodological issues associated with cross-country analyses.<sup>17</sup> Honohan (2004a), for example, shows a robust effect of financial depth (measured as the ratio of private credit to GDP) on headcount poverty incidence (based on both the \$1- and \$2-a-day poverty lines). The regression results suggest that a 10 percentage-point increase in the ratio of private credit to GDP would lead to a 2.5–3.0 percentage-point reduction in poverty incidence (Honohan 2004a). Given that per capita GDP is controlled in the analysis, the results suggest that a direct relationship between financial development and poverty reduction exists independent of the indirect effect through growth. Similarly, using data for 58 developing countries over 1980 to 2000, Beck, Demirgüç-Kunt, and Levine (2004) show that countries with better-developed financial intermediaries (measured as the ratio of private credit to GDP) experience faster declines in both poverty and income inequality by disproportionately boosting the incomes

<sup>17</sup> Econometric problems encountered by the cross-country studies include heterogeneity of effects across countries, measurement errors, omission of relevant explanatory variables, and endogeneity issues.

of the poor. Their results are robust to controlling for potential reverse causality. They also hold even when controlling for the average rate of economic growth, which suggests that financial development alleviates poverty beyond its effect on aggregate growth.

These studies confirm the earlier findings of Li, Squire, and Zou (1998) that financial depth (measured as the ratio of broad money supply [M2] to GDP) is associated with lower inequality and also higher income of the lower 80% of the population (i.e., the poor majority) based on data for 49 developed and developing countries over 1947 to 1994. The regression results suggest that a one standard deviation increase in financial depth would result in an increase of US\$3,000 in the incomes of the poor but only an increase of US\$1,600 in the incomes of the rich. Claessens and Feijen (2006), on the other hand, examine whether financial sector development plays any role in achieving Millennium Development Goal (MDG) targets. By reviewing existing literature and conducting their own analyses, they provide robust evidence that financial development and greater access to financial services indeed lead to income growth, a reduction in poverty and undernourishment, and better health, education, and gender equality.

The most important channel through which financial sector development directly affects poverty is increased access to financial services. Empirical evidence suggests that firms' and households' access to financial services rises with financial development (Beck, Demirgüç-Kunt, and Martinez-Peria 2007). Finance can facilitate transactions; facilitate and reduce the costs of remitting funds; and provide the opportunity to accumulate assets and for income smoothing. Financial services such as insurance and savings can also help firms and households cope with economic shocks and reduce their vulnerability to adverse situations, thus mitigating the risk of falling into poverty (Claessens and Feijen 2006). Using a panel dataset for 172 countries for 1950 to 1960, 1970, 1980, 1990 and 1995, Dehejia and Gatti (2002) find that an increase in access to credit reduces the extent of child labor. It is argued that this is because, in the absence of developed financial markets, poor households with high levels of income variability are found to resort substantially to child labor to diversify their sources of income and reduce vulnerability to shocks.

## **B. Evidence from Country-Specific Studies and Impact Evaluations**

Numerous country-specific studies also assess how financial sector development affects economic growth and poverty reduction. Although this review cannot claim to have conducted an exhaustive search of such studies, many of those found are consistent with findings from the empirical literature on cross-country studies presented above. Another branch of literature that is relevant in the current context is impact evaluation studies on microfinance programs that are designed to support the poor. The results of these evaluations, however, are mixed in terms of detecting their poverty reduction impact, suggesting that more studies are needed to better understand the effectiveness of microfinance programs.

*Country-specific studies reinforce cross-country evidence that financial sector development contributes to economic growth and poverty reduction, although not in all cases, and a reverse causality has also been noted.*

- Husain (2004) notes that the financial sector reforms initiated in the late 1990s in Pakistan created a favorable environment in which the poor and middle class have a better chance of receiving credit from formal institutions.
- In his study of the relationship between financial development, savings mobilization, and poverty reduction in Ghana, Quartey (2008) finds that financial sector development has a positive impact on poverty reduction, although the impact is insignificant in view of the fact that financial intermediaries have not adequately channeled savings to the pro-poor sectors of the economy—mainly due to government deficit financing, high default rate, lack of collateral, and lack of proper business proposals.
- Burgess and Pande (2005) find that increased savings mobilization and credit provision in rural areas contributed to reductions in rural poverty in India. They find that branch expansion in rural India led to faster growth of non-agricultural output, growth of agricultural wages, and decline in poverty in states that started the period with a lower level of financial sector development. Ang (2008) shows that income inequality in India decreases as the financial system deepens and broadens.
- In examining the impact of financial sector development on earnings inequality in Brazil in the 1980s and 1990s, Bittencourt (2006) finds that broader access to financial and credit markets had a significant and robust effect in reducing inequality. He attributes this impact not only to the earnings potential from credit, but also to the greater capacity of those with access to financial markets to insulate themselves against recurrent poor macroeconomic performance.
- Gine and Townsend (2003) studied the growth and distributional effects of financial liberalization, specifically on savings mobilization and access to credit at market interest rates of SMEs in Thailand from 1976 to 1996. While they find that the income growth effect was considerable, they find an initial rise in inequality as some segments benefited faster than others.
- A few studies noted a reverse causality from economic growth and financial sector development. Ang and McKibbin (2005) show that output growth caused financial depth in the long run in Malaysia, using 1960 to 2001 data. Brasoveanu et al. (2008) show that the stock market and economic growth in Romania were closely associated, but with economic growth more likely pulling the stock market.



*Many impact evaluation studies, mostly using the non-experimental approach, find that microfinance programs have positive impacts on households' economic and social welfare and contribute to poverty reduction.* Microfinance programs of various forms have been implemented in many countries in the past few decades to help reduce poverty by improving access to finance by the poor. Many studies have empirically examined the impact of such programs on incomes of households, especially those that are relatively poor.

- Hulme and Mosley (1996) examined the role of thrift and credit cooperatives in improving people's living standards and in assisting microentrepreneurs in Sri Lanka. Their survey shows an impressive average increase in average monthly household income of about 15.8% in real terms due to such cooperatives. They also find that income benefits have accrued to members across the different economic strata, including the poorer households.
- A special survey carried out in 87 rural Bangladeshi villages during 1991 to 1992 reveals that credit is a significant determinant of household expenditure, assets, children's schooling, and labor supply (Pitt and Khandker 1998). Credit accessed through a group-based credit program (such as those run by Grameen Bank, Bangladesh Rural Advancement Committee, or Bangladesh Rural Development Board) significantly influences household spending, asset acquisition, and children's schooling. The study results show that improved access to credit increases household consumption level, especially when women borrowed. The study estimated that more than 5% of borrowers would be able to lift their families out of poverty every year.
- Also in Bangladesh, Khandker (2003) finds a positive impact of microfinance on household consumption and asset acquisition, mainly non-food as well as non-land asset. Microfinance's impact is positive for all households, including non-participants, thereby increasing local village welfare. Microfinance helps reduce extreme poverty more than moderate poverty at the village level. Cotler and Woodruff (2007) find a similar effect of microlending in Mexico. The effect of the microlending program on sales and profits is positive and significant for the smallest retailers, while it is negative on larger retailers.
- Zaman (2004) agrees with the findings on the impact of the various microfinance programs in Bangladesh that microfinance programs are reasonably successful at reaching the poor, and that access to microcredit contributes to poverty reduction by reducing the poor's vulnerability. He adds that microfinance helps reduce vulnerability through consumption smoothing, emergency assistance during periods of acute natural disasters, and female empowerment—the latter enhancing a woman's decision-making role, her marital stability, and her control over resources and mobility.

- Montgomery (2005) finds that Pakistan's microfinance sector development program (specifically the Khushhali Bank) positively affected both economic and social indicators of welfare as well as income-generating activities, especially for the poorest borrowers. Although there is no impact on either food or non-food non-durable consumption, the program enabled the poorest borrowers to increase expenditures on their children's education. The study also finds that agriculture is more important in terms of aggregate program impacts on income-generating activities, which were higher for the poorest borrowers. The study stresses that these positive poverty reduction effects have been achieved by an institution that is clearly profit-focused.
- Indonesia's experience with the unit system of Bank Rakyat Indonesia (BRI) provides another example of how microfinance can have a strong impact on the poor's living standards (Hulme and Mosley 1996, Maurer 2004). The BRI's story shows how microfinance can be provided profitably and sustainably on a large scale, using locally mobilized savings without subsidies from government or donors. Maurer (2004) notes that after the collapse of Indonesia's banking system in 1998, the BRI's unit system remained profitable, loan repayment rate stayed high, and savings deposits more than doubled.
- The experience of the Agricultural Bank of Mongolia also challenges the view that the poor cannot pay for financial services. Dyer, Morrow and Young (2004) argue that where per capita incomes are low, a large market for the right kind of deposit and credit products exists, even if the interest rates and fees are relatively high. This suggests that it is important to find the right kind of products and services that will meet the needs of the poor.

*Some have argued that, to ensure microfinance helps the poorest of the poor, programs should be well targeted and designed taking into account the country context and the poor's other social and economic constraints from participating fully in microfinance programs.* Some studies find that the impact of microfinance on poverty alleviation is regressive, that is, negative or insignificant for poorer households but turns positive and increasing with relatively richer households (Hulme and Mosley 1996 for Bangladesh, and Coleman 2006 for Thailand). Most likely because the extreme poor's propensity to consume is higher than their propensity to invest, the extreme poor are not able to use microcredit for productive purposes that would enable them to repay loans and make profits. Hulme and Mosley (1996) suggest that different poverty groups may require different forms of financial intermediation and different poverty alleviation strategies to ensure their effectiveness.

Matin and Yasmin (2004) argue that for microfinance to benefit the ultra-poor, access to microfinance should be supplemented with safety net measures such as food and health subsidies, training, and social empowerment programs. Other interventions alongside microfinance may include housing and productive asset grants, assistance in finding

wage employment, and pension schemes. In taking account of the ultra-poor's needs and aspirations in program design, they suggest that it is useful to ask questions such as, "what are the social and economic constraints that keep the ultra-poor from participating in microfinance programs", "can these barriers be overcome through specific safety net linkages", and "how can these linkages be made to contribute to the sustainable livelihoods of the poorest of the poor".

*More recently, findings of many of the earlier studies on microfinance have been challenged on the ground of methodological weaknesses.* Westover (2008) argues that much of the evidence cited for the successes of microfinance programs are merely anecdotal, and generally fail to achieve a more rigorous standard that would allow for research findings to be widely generalized. Morduch (2008) notes that a key challenge for quality research is the difficulty in getting out of the very powerful popular narratives about microfinance, such as "it works", "women start small businesses", and "borrowers work their way out of poverty". He argues that if there is one thing we do know, it is that reality is far more complicated than the narratives.

Several recent impact evaluation studies on microfinance programs using randomized field experiments, which are considered more rigorous and are earning popularity among development researchers and practitioners, have produced mixed results on the impact of microfinance programs on the welfare of their clients:

- Banerjee et al. (2009) studied the impact of microcredit on the welfare of the poor in urban slums in India. The study found no impacts on household spending, household business owned, women's decision weight in household spending, children's illness, school enrollment, and school expenditures within 15–18 months after credit disbursement. To address the selection bias issue, the study created a control group by phased expansion of credit operations, and compared all those surveyed in the treatment areas with all those surveyed in control areas (with no access to microcredit).<sup>18</sup> The study, however, only looked at impacts in the short term, and the credit impacts over the longer term on the poor were not studied.
- Roodman and Morduch (2009) revisited the three key impact evaluations of microcredit in Bangladesh in the 1990s—Pitt and Khandker (1998), Morduch (1998)<sup>19</sup> and Khandker (2003)—and find that the credibility of the three studies' evidence to support that microcredit reduces poverty is weak due to endogeneity in their models.<sup>20</sup> When re-running the model of Pitt and Khandker (1998), the study found the opposite sign for an estimated coefficient.

<sup>18</sup> More than 6,000 households in both treatment and control areas were surveyed.

<sup>19</sup> J. Morduch (1998) found no evidence of microcredit's impact on poverty, except for consumption smoothing effect, and questioned the reliability of regression discontinuity design adopted by Pitt and Khandker (1998) due to frequent violations of control rule in their data.

<sup>20</sup> The research replicated models using the same set of data, applied new statistical tests, and concluded that they failed to show that microcredit either increased household spending or reduced its volatility. The study highlights that without experimental design (introducing an artificial random element in the study), it is very hard for evaluation studies to attribute an investment to certain outcomes.

- Karlan and Zinman (2009) studied impacts of individual liability loans on microenterprises in the Philippines.<sup>21</sup> The study randomly selected clients who were marginally above the creditworthy criteria from about 1,600 applicants in Manila, and provided them with the loans. The hypothesis tested is that small business development is constrained by limited access to credit, and thus credit expansion can improve the lives of microenterpreneurs. The experiment results, however, show no evidence of the access to credit improving the welfare of the clients as anticipated. In fact, the study found that marginally creditworthy microentrepreneurs that received credit *reduced* the size and scope of their business compared to the control group. However, this result cannot be generalized since the test was done for marginally creditworthy clients, who are much wealthier than the poorest in the country.
- The latest addition to the experimental studies on microfinance and the first to evaluate the impacts of microsaving, by Dupas and Robinson (2009), on the other hand, find positive impacts of interest-free savings facility on the lives of rural poor. The formal savings products are found to increase the productive investment levels and daily expenditures of relatively poor female entrepreneurs in rural Kenya. Their experimental findings support the knowledge in the broader literature on the impacts of financial services on the poor, which is mostly non-experimental, such as Burgess and Pande (2005).

*The mixed results coming out of field experiments on microfinance programs so far point to the need for more rigorous impact evaluation studies.* The results of the experimental studies highlighted above need to be interpreted with care: the studies measured credit impacts on specific segments of microcredit clients over a short period of time, and, therefore their results cannot directly be interpreted as the general impacts of microcredit as a whole. More studies need to be done to reconcile the findings of randomized experiments with the earlier evidences on credit impact on poverty. Application of the experimental approach in evaluating microfinance impact has just started, and there are many missing pieces in the existing body of experimental research to fully understand the causality between microfinance and poverty reduction. Thus, further replications of the experimental studies in different county contexts, on different segments of microcredit clientele, and over different time frames are essential to generalize the experimental results.

### **C. Effectiveness of Development Assistance to the Financial Sector**

Many case studies have been carried out to evaluate the effectiveness of development assistance to the financial sector. Unlike cross-country and country-specific studies that rely mostly on econometric analysis, such case studies largely involve surveys and interviews, and are often based on success stories. They usually focus on outcomes of

<sup>21</sup> Many microfinance institutions provide individual liability loans for microentrepreneurs as well as group lending.

development assistance, but not necessarily economy-wide impacts owing to the difficulty of attributing changes in poverty or growth to specific development interventions. Where impacts are highlighted, discussions are often limited to potential ones such as job creation or incomes. Despite these limitations, such case studies provide useful insights into how development assistance contributes to the development of well-functioning financial markets and improve the poor's access to finance.

*Development assistance in capital markets contributes to the development of regulatory frameworks and market infrastructures, facilitates fund mobilization and diversification of financial assets, and enhances efficiency.* ADB's special evaluation study on its support for capital market development, covering Indonesia, Mongolia, Pakistan, Philippines, Sri Lanka, and Viet Nam over 1986 to 2006, notes that ADB's assistance contributed to building regulatory frameworks and market infrastructures, enhancing efficiency, and reducing settlement-related risks and costs in the countries studied (ADB 2008). It also notes that the growth of capital markets was faster than that of the banking sector in some of the countries studied, in particular Indonesia, Pakistan, and Philippines, with billions of dollars being raised through the stock markets and equity financing.

*Development assistance in developing missing or incomplete markets contributes to financial deepening and funding source diversification, helps improve regulatory frameworks, and has catalytic and demonstration effects.* The International Finance Corporation (IFC 2007, 2008) notes that through its Private Enterprise Partnership, the leasing market has grown in several countries and has broadened the access of microenterprises and SMEs to finance, and diversified the financial sector and made it more competitive. Its funding, advisory services, and institution-building support have led to the growth of the leasing markets in Ghana, Madagascar, Tanzania, and Uzbekistan. Likewise, its investment and advisory support in housing finance catered to underserved market segments in Kyrgyz Republic, Oman, and Pakistan, and the support to Yes Bank in India broadened access of microenterprises and low-income individuals to insurance facilities.

*Development assistance involving SME credit and microfinance programs can have real development impact and contribute to poverty reduction by broadening the access to and reducing the cost of finance for SMEs and poor households.*

- An ADB impact evaluation study on rural credit programs assessed 39 rural credit projects and 21 technical assistance grants provided to seven countries including Bangladesh, People's Republic of China, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand (ADB 2004). The study finds that ADB's assistance for rural credit programs generated positive impacts in general, such as increased production, improved productivity, and upgraded technology, which raised income at the farm level. ADB support also helped enhance the quality of the participating financial institutions' loan portfolio, and improved deposit mobilization.

- Terberger and Lepp (2004) find that the small business program of the European Bank for Reconstruction and Development in Kazakhstan expanded commercial banks' outreach to micro and small enterprises. By February 2004, the program's outreach had expanded to cover all urban centers and access has broadened—at least 90% of the program's clients never had access to bank loans and 85% of outstanding loans were microloans.
- ADB's impact evaluation study of the Rural Microenterprise Finance Project in the Philippines (Kondo 2007) reports that the program enabled participants to reduce dependence on higher priced non-Grameen Bank Approach loans. The project also helped form a larger number of enterprises, which resulted in more jobs. Considering microfinance to be an effective poverty alleviation tool, the study recommended reviewing certain aspects of program design (e.g., targeting procedures, regularly assessing economic status of participants, assisting the poor in selection of projects) to maximize the development impact of such programs.
- Christen (2004) reports that World Bank support for the CrediAmigo program in Brazil demonstrated that providing microcredit can be financially sustainable. In 5 years, the CrediAmigo program provided microcredit to over 300,000 of Brazil's working poor.
- Cook (2004) notes that donor support, among other factors, has contributed to the turnover and portfolio growth of the Equity Building Society in Kenya. Through its mobile banking program and computerized management information system, supported by the United Kingdom's Department for International Development and the United Nations Development Programme, the Equity Building Society was able to offer a wide range of loan products and other financial services to the underserved, low-income population of Kenya.

## IV. Summary and Conclusions

This paper reviewed theoretical and empirical literature on the role of the financial sector in facilitating economic growth and supporting poverty reduction. The review leads to the following conclusions.

First, there is now a consensus that financial sector development plays a vital role in facilitating economic growth. A sound financial system supports growth through mobilizing and pooling savings; producing information *ex ante* about possible investments and allocating capital; monitoring investments and exerting corporate governance; facilitating the trading, diversification, and management of risks; and facilitating the exchange of goods and services. This consensus is supported by a large body of empirical

evidence generated from cross-country and country-specific studies—although there are methodological problems associated with many empirical studies,<sup>22</sup> still and all, the evidence is overwhelming. The empirical studies also find that: (i) the effects of financial sector development on growth in developing countries are more persistent and larger than those in developed countries; (ii) industries composed of smaller firms grow faster in countries with a better-developed financial sector, suggesting that financial development is particularly important for the growth of industries that are naturally composed of small firms; and (iii) more financially developed countries are better able to avoid currency crises.

Second, there is also a consensus that financial sector development contributes to poverty reduction, and a major channel is through economic growth. Higher growth benefits the poor by creating more jobs, enabling the government to allocate more fiscal resources on social spending; and increasing funds available to the poor for investment. Cross-country empirical estimates show that the impact of growth on poverty depends on a country's level of inequality: one percentage point of growth is likely to lead to a reduction of 3.3 percentage points in poverty incidence for a country with a Gini index of 0.25, while only 1.8 percentage points for a country with a Gini index of 0.6. These suggest that the imperative of growth for combating poverty should not be interpreted to mean that “growth is all that matters”. Growth has to be inclusive, and this requires reducing inequalities that limit the prospect for the poor to participate in the opportunities unleashed by growth.

Third, it is widely agreed that financial sector development also directly supports poverty reduction by broadening the access to finance of the poor and vulnerable groups. Finance facilitates transactions; reduces the costs of remitting funds; provides the opportunity to accumulate assets and smoothen consumption; and enables poor households to better cope with shocks, thus mitigating the risk of falling into poverty. Cross-country empirical evidence shows a robust effect of financial depth on headcount poverty incidence: a 10 percentage-point increase in the ratio of private credit to GDP would lead to a 2.5–3.0 percentage-point reduction in poverty incidence. This is robust to controlling for the average rate of economic growth, suggesting that financial development alleviates poverty beyond its effect on aggregate growth. There is also empirical evidence showing that financial sector development supports the achievement of the MDG targets by reducing income and gender inequalities and improving education and health services.

Fourth, while the role of financial sector development in facilitating growth and supporting poverty reduction is largely accepted, there are disagreements over the relative importance of banks and capital markets in financial sector development in low-income countries and, in developing the banking sector, the relative importance of large and small

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<sup>22</sup> Such as econometric issues associated with cross-country studies (see footnote 18) and the selection of an appropriate control group in impact evaluation studies.

banks. Empirical studies on how the financial structure is related to a country's ability to grow, how to sequence financial sector development in developing countries, and relative importance and/or priorities of large domestic banks, small local banks, and capital markets are still sparse. This is an area for more research.

Fifth, microfinance and SME credit programs are considered as effective instruments to improve poor households' economic and social welfare and reduce poverty, largely based on earlier case studies. Some of the earlier studies, often using a non-experimental approach, have been criticized recently on the ground of methodological weaknesses. A number of more recent studies using the experimental approach have produced mixed results on the effectiveness of microfinance programs in poverty reduction. Some have questioned whether access to finance is the only constraint that microenterprises and SMEs face. Other constraints faced by these enterprises that are often highlighted in the literature include access to information and markets; access to skills, technologies, and land; and other market failures. It is widely believed that to make microfinance and SME credit programs work better, these nonfinancial constraints also need to be addressed by the government. It has also been argued that for microfinance to benefit the ultra-poor, programs should be well targeted and designed, and should be supplemented with training, social empowerment programs, and other safety net measures—that is, following an integrated approach. This is another area for more research.

Sixth, case studies designed to evaluate the effectiveness of development assistance to the financial sector in developing countries find that in general, such assistance has been effective in supporting the development of financial regulatory frameworks and market infrastructures, developing missing or incomplete markets, and contributing to financial deepening and funding source diversification, and that many development assistance projects have had significant catalytic and demonstration effects. Development assistance involving microcredit programs has often been found to have real development impact and contribute to poverty reduction by broadening the access to, and reducing the cost of, finance for SMEs and poor households, especially when the programs are well targeted and designed.

Finally, while an effectively functioning financial system is important for economic growth and poverty reduction, finance also brings risks. There is a view that a more developed financial sector offers opportunity for speculation and bubbles that can increase volatility and the risk of financial crises. Therefore, the issue is how to develop a financial system that supports economic growth and poverty reduction in the context of financial stability, and how to balance the need for financial sector development and innovation with the need for economic and financial stability. The literature of financial crises highlights the importance of maintaining sound macroeconomic management, installing effective financial regulation and supervision mechanisms, and carrying out structural reforms in developing a country's financial sector. This is further area for more research.



To conclude, the vital role of financial sector development in supporting poverty reduction—directly through broadening the access of the poor to financial services and indirectly through promoting economic growth—provides a strong justification for development assistance to target the financial sector as a core area of intervention. How should such assistance be designed and provided? As a general principle, like any public sector intervention, development assistance to the financial sector should be designed to address market and nonmarket failures that impede financial sector development.

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## About the Paper

Juzhong Zhuang, Herath Gunatilake, Yoko Niimi, and their co-authors review the literature on the role of financial sector development. The paper presents theoretical arguments why financial sector development plays a vital role in facilitating economic growth and poverty reduction, and finds that these arguments are supported by a large body of empirical evidence from both cross-country and country-specific studies. The paper argues that these findings provide strong justification for development assistance to target financial sector development as a priority area. It also argues that such assistance should be designed to address market and nonmarket failures.

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