

Financial Sector Development and the Millennium Development Goals

Stijn Claessens
Erik Feijen



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Preface

This study was commissioned by The Netherlands Financial Sector Development Exchange (NFX) for its November 2006 conference “Mind the Gap: Bankable approaches to increase access to finance,” held in Amsterdam.

NFX is a Dutch public-private partnership created to build local financial sector know-how in countries in various states of development around the globe. NFX does this through capacity development, training, and research. The overall goal is to create inclusive financial markets, which offer a diverse set of banking and insurance products to an increasing number of businesses and consumers.

We would like to thank Jacco Knotnerus (NFX), Jasper Menken (NFX), and Konstantinos Tzioumis (World Bank) for useful comments; Aleksandra Gazy (University of Amsterdam) for excellent research assistance; Herbert Levine for professional timely editing; and Rose Vo (World Bank) for excellent formatting assistance; and Stuart Tucker (World Bank Office of the Publisher) for coordinating typesetting and printing.

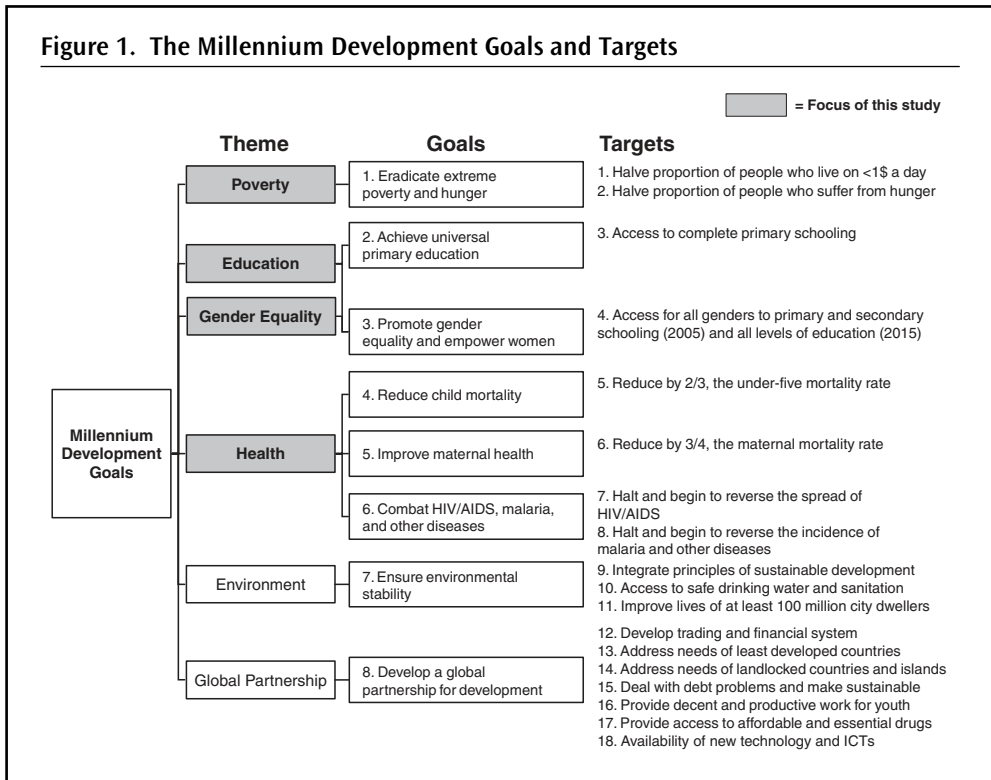
Summary

This study shows that financial sector development can contribute to reaching the eight Millennium Development Goals (MDGs). The MDGs are measurable, time-bound goals, supported by 189 nations (Figure 1). The main MDG is the eradication of extreme poverty by 2015; but the MDGs also include goals such as improving education, gender equality, and health. Most regions have experienced improvements in MDG-related indicators in recent years and are expected to meet many of the MDGs by 2015. However, some regions such as Sub-Saharan Africa and some parts of South Asia are seriously off track.

The development community is focused on getting these regions on track by using various forms of policy interventions, financial support, international trade reform, and other actions. In this study, we assess the extent to which financial sector development can contribute to the MDGs. Financial sector development does not entail many real investments; rather, it mostly relies on a good policy framework. At the same time, as this study shows, financial development is capable of delivering an attainable impact on many of the MDGs. As such, financial sector development has to be an important tool for the development community eager to attain the MDGs.

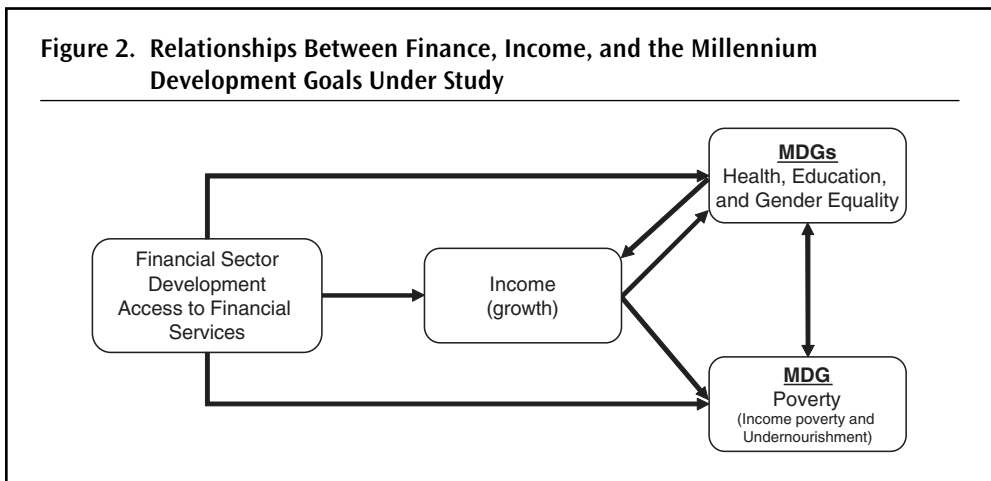
This goal of this study is threefold:

1. *Assess the strength of the links between financial development and the MDGs and the manner in which the links work.* We focus on the relationships between financial development and income (and income growth), and the following four MDG-themes: Poverty, Education, Health, and Gender Equality (Figure 2). In doing so, we review the theoretical channels, survey existing empirical evidence—both cross-country and case study evidence—and provide our own new evidence. We find that financial development is an important force for economic welfare in that it leads to income growth and reduces the prevalence of income poverty. Moreover, our own research finds that financial development reduces undernourishment. In addition, we give new evidence of a positive association between financial development and health, education, and gender equality. Little is known about the impact of financial sector development on the other two MDGs—environmental stability and the formation of a global partnership. This subject is left for future research.
2. *Document the state of access to financial services to poor households and smaller firms and identify its main barriers.* We find that access to financial services can be much improved in developing countries. An important barrier to this access is the small size and lack of outreach of many financial systems. In addition, we identify more specific barriers, which we categorize into three broad areas: instability and underdevelopment of the general economic and institutional environment, supply and demand mismatches, and the influence of special interests.
3. *Develop recommendations to increase access to financial services.* Based on the outcomes of the previous goals, we develop nine recommendations aimed at national governments and the international development community. These



Source: World Bank Website; Authors' analysis.

recommendations fall into four overarching objectives: (1) increase the size and out-reach of financial systems, (2) stabilize and improve the general economic and institutional environment, (3) address supply and demand mismatches, and (4) improve data and expand research.



Source: Authors' analysis.

Why Finance Can Contribute to the MDGs

In general, a sound financial system makes transactions quicker, cheaper, and safer, because it avoids cash or barter¹ payments. In addition, greater access to financial services enables poor people to plan for the future and invest in land and shelter, and utilize productivity-enhancing assets, such as fertilizer, better seeds, machinery and other equipment. More investment and higher productivity: (a) translate into more income and better nutrition and health, and (b) enables parents to send their children to school instead of merely to regard them as a source of labor. In accumulating financial assets and availing themselves of insurance to smooth their income, households and small firms can greatly reduce their vulnerability to unfortunate events such as economic instability, drought, disease, or death. Moreover, access to financial services helps women to determine their own economic destiny and increases their confidence and “say” in their households and communities.

In sum, financial development and financial services can play a large role in attaining the MDGs, due to the following reasons:

- *Finance facilitates transactions and reduces vulnerability to shocks.* The benefits of financial sector development often start by offering better and cheaper payments and savings services. These services allow firms and households to avoid the costs of barter, cash transactions, and theft; facilitate and reduce the costs of remitting funds; and provide the opportunity to accumulate assets and smooth income. Insurance and saving services can help firms and households cope with economic shocks and reduce their vulnerability to adverse situations, thus mitigating the risk of falling into poverty.
- *Finance leads to economic growth.* Financial development enables bigger investments and more productive allocation of capital, which lead to higher economic growth. In turn, higher growth and higher income per capita facilitate meeting many of the MDGs.
- *Finance creates equal opportunities for everybody.* More sophisticated financial markets discriminate less and provide capital to those with attractive investment opportunities, regardless of other characteristics—for firms, size, ownership and profitability do not matter; and for households, current income, wealth, education, gender, and ethnicity are irrelevant. Indeed, research shows that financial development reduces inequality as it broadens opportunities.

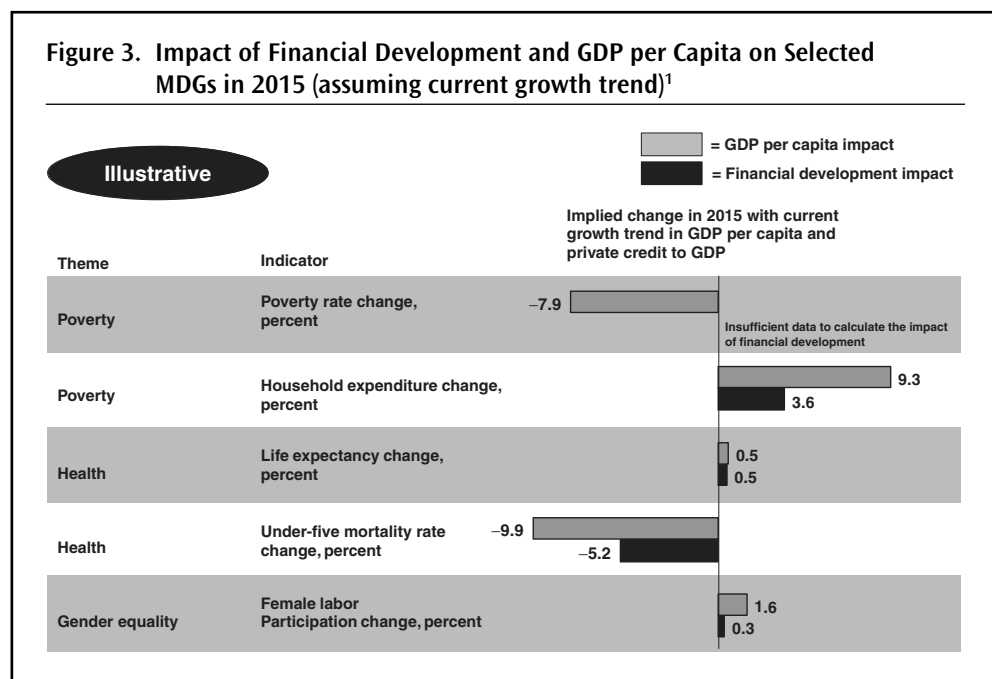
Illustrative Analysis Shows that Finance Impact is Large

Finance may matter, but to what extent? To provide a sense of the size of the impact, we compare the effects of financial development to that of general economic development, as indicated by gross domestic product (GDP) per capita,² on several MDG-related indicators.³ As

1. An exchange of goods or services without the use of money.

2. GDP per capita is the most commonly used measure for general economic development.

3. Before elaborating on the analysis, one should keep in mind that these calculations are for illustrative purposes and not meant to suggest mechanical relationships. We explore these relationships in more depth in subsequent sections of the study.



¹All analyses are based on elasticities calculated by using time series fixed effects regressions. Elasticity of poverty and GDP per capita is taken from Besley and Burgess (2003). We do not have enough time series data for educational variables.

Source: World Development Indicators (2005); Besley and Burgess (2003); Authors' analysis.

expected, GDP per capita is strongly correlated with several of the MDGs, but financial development is not far behind. The evidence suggests that, roughly the direct impact of financial development on several of the MDGs is one-half to one-quarter of the impact of GDP per capita. Hence, although not as large as general economic development, the effect of financial development is significant. However, note that financial development also affects each of the MDGs indirectly via its effect on GDP per capita and the other MDGs.

To illustrate, we show this large impact of financial development on the MDGs by comparing the impact of financial development, as measured by private credit as a percentage GDP⁴ and the impact of GDP per capita on several MDG indicators some 10 years from now: that is, in 2015, the target date for the MDGs. In this analysis, both private credit and GDP per capita are assumed to follow their current growth trends of 1.6 percentage points per year and 1.1 percentage points per year, respectively (Figure 3).

Robust Evidence on the Impact of Finance on the MDGs

There is a growing body of robust empirical evidence—both in-depth country studies and cross-country statistical studies—that financial sector development and financial services

4. Credit via banks to the private sector as a percentage of GDP is commonly used to measure financial sector development.

can significantly contribute to reaching the MDGs. By reviewing the academic literature and case studies, and by conducting our own statistical analyses, we provide robust evidence that financial development and greater access to financial services lead to income growth, reduce poverty and undernourishment, and are associated with better health, education, and gender equality.

Finance Leads to Income Growth

The most researched and arguably the most important effect of financial sector development is its impact on economic growth. The effect is, for sure, large. Research implies that if India, for example, would have increased its average private credit to GDP from 19.5 to 25 percent—the mean value of developing countries—its average real annual GDP per capita growth would have accelerated by an additional 0.6 percentage points per year (Levine, Loayza, and Beck 2000b). This effect is large, because per capita growth in India only averaged around 1.6 percentage points per year over this period. This large effect means we can expect that financial development indirectly affects many of the MDGs via GDP per capita growth, since the MDGs are closely related to growth.

Finance Reduces Poverty and Undernourishment

Besides spurring income growth—higher income is key to achieving many of the MDGs—financial development also directly affects the MDGs, most notably poverty and undernourishment. A recent study finds that a 10-percentage point increase in private credit to GDP reduces poverty ratios by 2.5 to 3 percentage points (Honohan 2004). In addition, we can also expect indirect effects of financial development on the other MDGs via poverty reduction, because poverty is highly related to the other MDGs. Moreover, our own empirical research implies that financial development reduces undernourishment. Our analysis implies that a 1-percentage point increase in private credit to GDP reduces the prevalence of undernourishment by 0.22–2.45 percentage points. This finding implies there is much to gain from financial sector development since private credit to GDP is around 16 percent in low-income countries and around 88 percent in high-income countries.

Finance is Associated with Better Health, Education, and Gender Equality

Not considering financial development, the determinants of three other MDGs—health, education, and gender equality—have been much analyzed. In addition to showing the large impact of income and poverty on these MDGs, the literature finds that these MDGs codetermine one another, that is, healthier people are also better educated and display less gender inequality than poorer people. The relationships between financial development and health, education, and gender equality have not been much researched to date. For each theme, one can identify clear possible channels through which financial development could benefit the MDG themes. New results using cross-country regression analyses show that there are positive relationships between financial sector development and these MDGs, with some evidence of causal relationships, although the quality of data does not allow for strong tests. Supporting case study evidence—using household surveys and specific interventions—suggests, however, that there are beneficial causal impacts of financial development on these MDGs, as well.

Why Access to Finance is Limited in Developing Countries

Although financial development has economy-wide effects, broad access to finance for households and firms is necessary to reap its full benefits. However, despite the apparent benefits of finance, the data show that access to, and usage of, financial services are improving, but are far from universal in many countries, especially developing countries. Although access to finance is increasing, there are still several factors that impede poorer households and smaller firms to fully utilize the financial system.

Access to Finance is Limited, but Improving

Although data collection and analysis are just beginning, there is some evidence that access is increasing. On the household side, there are some data on the use of microfinance that suggest an expansion of use of financial services by households over time (although data coverage makes comparisons difficult). There is also evidence of more mainstreaming of financial service provision by commercial banks, as competitive forces and technology allow them to reach the lower-income segments of the population. Examples in developing countries are ICICI bank and the SHG Bank Linkage program in India, and commercial banks in South Africa that have made it a priority to reach out to lower-income groups. On the firm side, the evidence on increased access to credit and other financial services is more mixed. It appears to be increasing in some countries, but mostly in consumer finance forms and less so in credit to the small and medium-size enterprises.

Drivers of Limited Financial Development and Usage of Financial Services

Many financial systems are simply too small and lack outreach to poorer households and smaller firms. Indeed, in financially less-developed countries with limited outreach, poorer households and smaller firms use fewer financial services than richer households and larger firms. As a consequence, smaller firms experience higher growth obstacles than larger firms.

Although a small overall size of financial system can severely hamper access to finance in a general sense, and as such many developing countries face a handicap, we identify three specific problem areas for poor households and smaller firms:

- *Unstable general economic and institutional environment.* Macroeconomic instability, a weak institutional environment, large government intervention, and a lack of competition can act as barriers to accessing financial services or, even when accessible, make financial services more expensive or incapable of being provided in a viable way.
- *Supply and demand mismatches.* Even without these general and institutional environment weaknesses, access to financial services can remain limited, as observed in even the most developed financial markets. The reasons for the mismatches between demand and supply are multiple. From the supply side, financial services providers often simply do not target the poor and small firms due to problems of information, high transaction costs, and poor enforcement of contracts. From the demand side, poor households and smaller firms often lack financial sophistication

and literacy, do not trust financial institutions, simply do not realize their need for financial services, or recognize that products offered can be ill-suited to their needs. As a consequence, these households and firms do not demand financial services.

- *Influence of special interests.* An emerging academic literature shows that financial development can be captured by special interests. Powerful insiders will oppose financial development since it creates a level playing field and enables newcomers to finance and implement their ideas and defy the economic status quo.

Improving Access to Finance Services: Recommendations

Recently, access to financial services has been recognized as an important aspect of development, including achieving the MDGs, and more emphasis is being given to extending financial services to low-income households. Increasing the access to financial services will require actions by financial institutions and governments alike. Based on the analysis in this study, we develop nine specific policy recommendations, which can be summarized in four overarching objectives (Figure 4):

- *Increase the size and outreach of financial systems.* Experiences show that the scope for further market-based extension and broadening of access to financial services is still considerable in many developing countries, especially when considering the new technology that has become available.
- *Stabilize and improve the general economic and institutional environment.* Governments can continue to improve their institutional infrastructures, thereby facilitating greater access. Enhancing competition has special importance as that can lead to relative quick gains in access. Direct and indirect public interventions will need

Figure 4. Overview of Recommendations to Improve Access to Financial Services

| Objective | Recommendation |
|---|--|
| <ul style="list-style-type: none"> • Increase size and outreach of financial systems | <ol style="list-style-type: none"> 1. Increase size of individual financial institutions and overall financial system to benefit from economies of scale 2. Use existing networks to expand outreach 3. Improve credit infrastructure |
| <ul style="list-style-type: none"> • Stabilize the general economic environment | <ol style="list-style-type: none"> 4. Reduce government regulations to a necessary minimum 5. Enhance competition in the financial system |
| <ul style="list-style-type: none"> • Address supply and demand mismatches | <ol style="list-style-type: none"> 6. Push for universal access to financial services 7. Introduce innovative products and best practices to address customer needs |
| <ul style="list-style-type: none"> • Improve data and expand research | <ol style="list-style-type: none"> 8. Collect data on access and broaden coverage 9. Conduct further research and analysis on access to finance |

Source: Authors' analysis.

to be carefully considered, also given political economy factors. The case for government intervention in access to basic savings, payments, and transaction services is clearer than that for access to credit.

- *Address supply and demand mismatches.* Specific private sector interventions exist that can lead to greater access, but must be designed carefully. Experiences show, that, in part by using new technology, the private sector can increase the supply of financial services specifically geared towards poor households and small firms. However, there are questions on the degree to which these can be scaled up.
- *Improve data and expand research.* While broadening access is a valid public policy goal, the means by which to do so are less clear. More generally, much is unknown about how to best enhance access. A more definite interpretation of the factors affecting access and the scope for increasing access will have to await better data and analysis on access and use at both the micro and the macro level, especially in developing countries. More analysis on access to finance can help guide new approaches to deliver financial services profitably and improve national and international policy interventions.

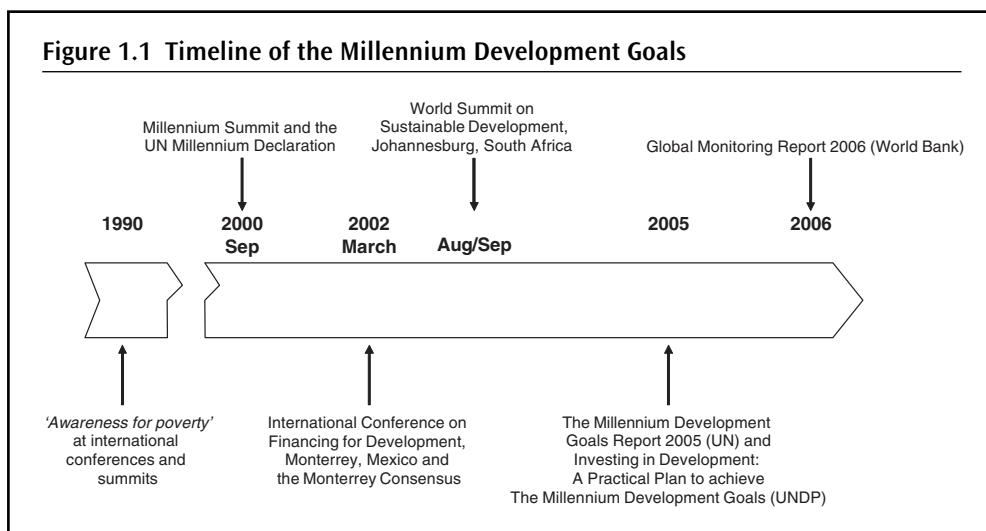
Introduction and Overview

First, we start with a brief overview of the Millennium Declaration. Second, we discuss the MDGs and the important role of reducing income poverty. Third, we assess in some detail where regions stand regarding their achievement of the MDGs. Fourth, we give a brief overview of how financial sector development can contribute to reaching some of the specific MDGs and how this may come about. Lastly, we discuss the goal, contribution, and organization of the study.

The Millennium Declaration

During the Millennium Summit in September 2000, 189 nations unanimously adopted the Millennium Declaration. The Declaration contains eight specific MDGs (Figure 1.1). The main aim of the MDGs is to eradicate extreme poverty around the world by 2015. As such, the MDGs are the most ambitious and most broadly supported development goals the world has ever established.

The importance of the MDGs cannot be overstated. First, as reflected in the Millennium Declaration, there is a moral obligation to “free our fellow men, women and children from the abject and dehumanizing conditions of extreme poverty, to which more than a billion of them are currently subjected.” Second, poverty reduction matters for security and stability. Research shows, for example, that a negative shock on income growth increases the probability of a civil war substantially (United Nations Millennium Development Project 2005). Third, economic prosperity for the poor creates new global growth opportunities, by unlocking new consumer markets and entrepreneurial activity. The 4 to 5 billion underserved people are estimated to represent economic opportunity of \$13 trillion (Prahalad 2004).



Source: UN Millennium Project (2005).

While ambitious, the MDGs are deemed to be attainable. The Millennium Project, an advisory body commissioned by the UN, has argued that for the first time in history, the world is rich enough to eradicate extreme poverty. The Millennium Project calculated that achieving the MDGs requires funds equal to 0.5 percent of the Gross National Product (GNP) of developed countries. Currently, these countries contribute on average 0.42 percent of their Gross Domestic Product (GDP) so the gap is relatively small.⁵

The Eight Millennium Development Goals

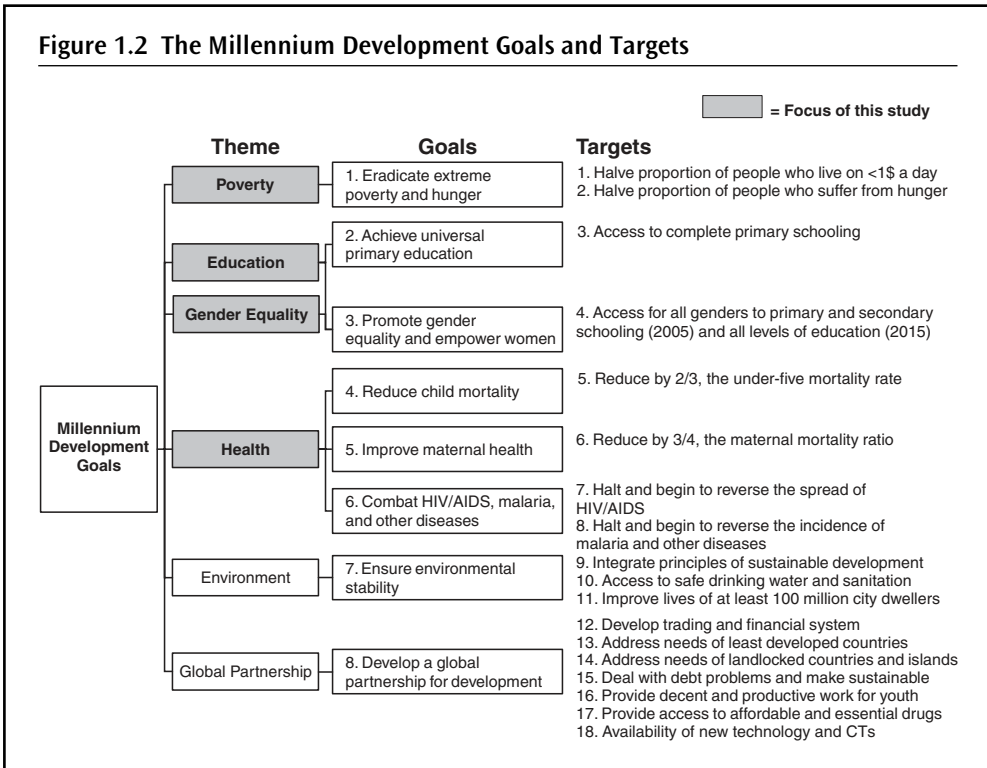
Predecessors of the MDGs were conceived in international conferences and summits in the 1990s, and became known as the International Development Goals. In their current form and as adopted in 2000, the eight MDGs are articulated along six dimensions: income poverty, education, gender equality, health, environmental stability, and the formation of a global partnership (Figure 1.2). Each of the eight MDGs in turn is composed of several targets, for a total of 18 targets. And each target is measured by several indicators, for a total of 48 indicators.

The MDGs are Highly Interdependent, with a Central Role for Income Poverty

The MDG themes of poverty, education, gender equality, and health are highly related.⁶ Consistent with the general literature and the development approach pursued by most countries, the prime focus is on income poverty since it plays a central role in attaining the

5. Note that there are important differences in the rate of development assistance among industrial countries, which are not reflected in the average.

6. We focus little on environmental stability and the formation of a global partnership.



Source: World Bank MDG website (2006); Authors' analysis.

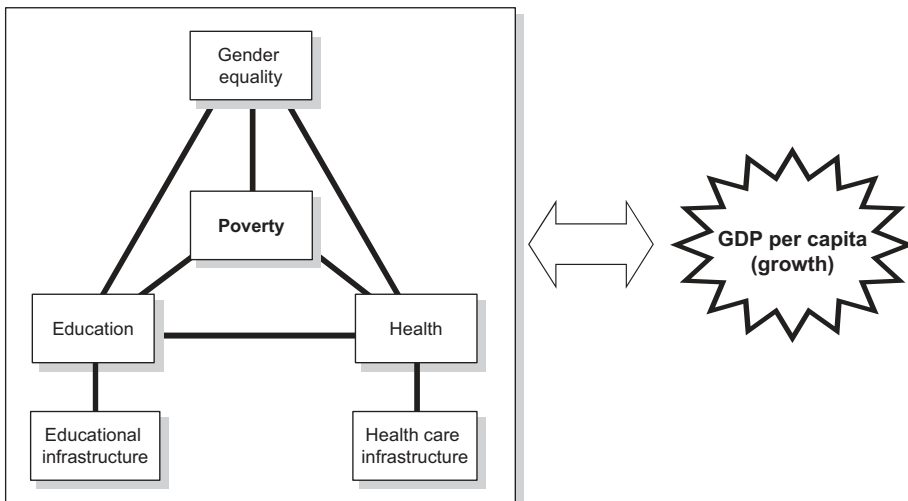
other MDGs. Higher income can reduce undernourishment directly, lower barriers to basic needs—like education and health care—and facilitate more generally the improvement of living conditions.

High Interdependency of MDGs

Although the MDGs are formulated separately, they closely relate to each other (Figure 1.3). Higher household income, for example, enables children to go to school, and improves a household's access to health care needs. In turn, better health and education make people more financially productive, raising their incomes. Better health and education and higher income of women have a higher effect on household welfare compared to the improvements in these same indicators for men, suggesting that gender inequality affects health and education impacts on overall economic outcomes.

The interrelationships between the various MDG themes are borne out by the data: the correlations among the various MDA measures are strong and statistically significant (Figure 1.4). Nevertheless, although the MDG measures are both causes and effects, there is no doubt that reducing poverty plays a central role in attaining the MDGs.

Figure 1.3 Interdependency of Poverty, Education, Health, Gender Equality, and Economic Welfare



Source: World Development Report 1993 and World Development Indicators 2005; Authors' analysis.

Poverty Plays a Central Role in Attaining the MDGs

Although poverty has several dimensions, including health and environmental aspects, people are generally defined to be poor if they fall below a certain minimum level of daily income, that is, below a certain poverty line. Internationally, the most commonly used measure of poverty is a daily income of \$1 or \$2 a day, corrected for purchasing

Figure 1.4 High Correlation Between MDG Themes¹

| | | GDP per capita | Undernourishment | Poverty | Primary enrollment | Female share |
|-----------------|--------------------------------------|----------------|------------------|---------|--------------------|--------------|
| POVERTY | Undernourishment, percent | -0.75 | | | | |
| POVERTY | Poverty, percent | -0.77 | 0.77 | | | |
| EDUCATION | Primary enrollment, percent net | 0.66 | -0.57 | -0.64 | | |
| GENDER EQUALITY | Female share of labor force, percent | -0.23 | 0.34 | 0.16 | -0.15 | |
| HEALTH | Life expectancy, years | 0.82 | -0.68 | -0.78 | 0.78 | -0.25 |

¹ All statistically significant at the 10 percent level or less.

Source: World Development Indicators 2005; Authors' analysis.

power.⁷ Because of the high correlations, income poverty is a good proxy for the shortfall on the other MDGs. When households are richer, they can afford more access to goods like nutrition, education, and health care, thereby achieving better outcomes on these MDGs.

With higher income, households are also better able to invest and enhance their productivity and thereby increase their income further. Investments can vary from using fertilizers—to increasing crops' productivity—to getting more education—to increasing wage income. In turn, by being more productive, people are more likely to increase their income and escape poverty, starting a virtuous circle. Indeed, data show that the correlations of income poverty measures with the measures used for the other MDG themes are generally very high and almost always statistically significant (Figure 1.4). The lowest correlation is with gender equality; but in that dimension, forces other than income are at play as well.

While There is Progress on the MDGs, Some Regions Lag Behind

Many countries are likely to reach many of the MDGs, but some regions are seriously off track. Most notably, Sub-Saharan Africa and parts of Asia are struggling to meet some of the MDGs, particularly on poverty, education, and health (Figure 1.5).⁸ A summary of the achievements and shortfalls for each region can be found in Box 1.1.

Why Financial Services Matter for Reaching the MDGs

The importance of financial development and financial services for helping meet the MDGs can best be shown by focusing on specific channels.

Clear Link for MDGs Poverty, Education, Health, and Gender Equality

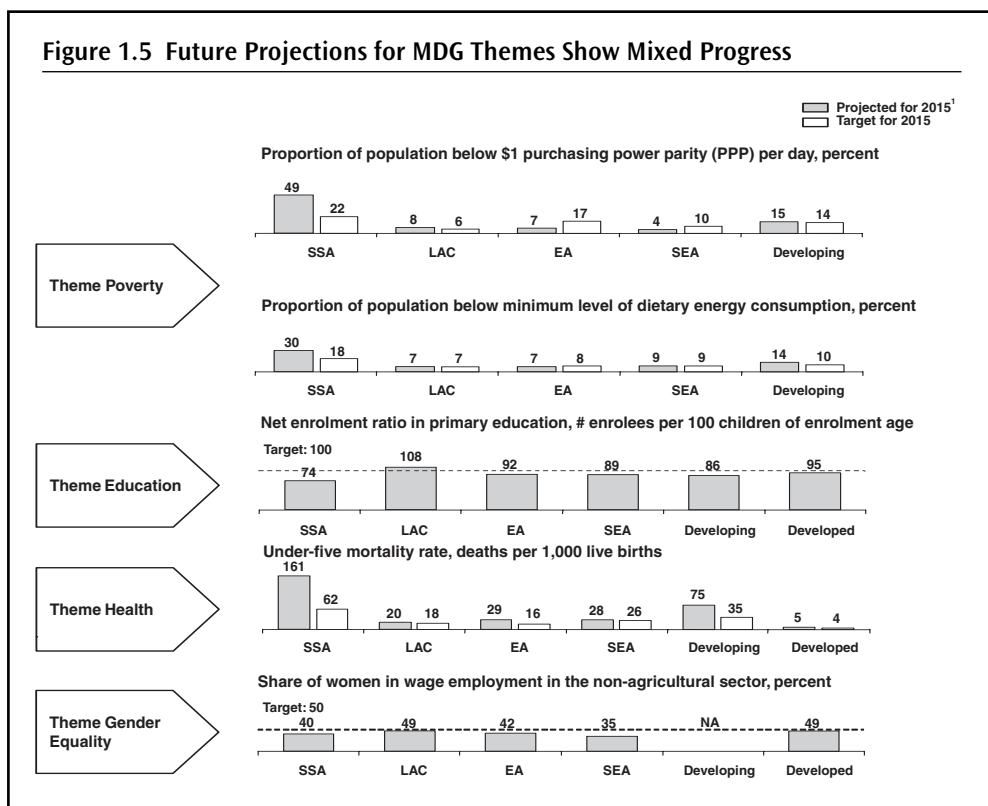
Analytically, the case for why financial development matters for the MDGs is straightforward. Financial development enables bigger investments and more productive allocation of capital, which lead to higher income growth. In turn, higher income per capita facilitates meeting many of the MDGs.

With perfect financial markets and well-functioning other markets, firm characteristics such as size, ownership, and profitability do not matter for new investments; all potential projects with attractive economic returns should be able to receive financing from banks or markets regardless of the firm that plans to undertake them. The same applies to households: with well-developed markets, for example, only the expected economic return on new investments of the household matters to receive a bank loan. Other

7. For a framework on poverty, see World Development Report 2000/2001: *Attacking Poverty* (2000), Chapter 1.

8. For more details on the current state of the MDGs, see the Global Monitoring Report 2006-Millennium Development Goals: *Strengthening Mutual Accountability, Aid, Trade, and Governance* (2006), World Bank-IMF.

Figure 1.5 Future Projections for MDG Themes Show Mixed Progress



¹ Projections are based on compound average growth rates, calculated over a period for 11–13 years, starting in 1990. SSA = Sub Saharan Africa; LAC = Latin America and the Caribbean; EA = East Asia; SEA = South East Asia.

Source: UN Statistics Division (2006); Authors' analysis.

household characteristics such as current income, wealth, education, gender, and ethnicity, are irrelevant.

In such an ideal world, both the rich and poor can reap the full benefits of financial markets. Financial services can enable households to be more productive in many ways: households can borrow for investment not only in real assets—like fertilizer, a tractor, or a computer—but also for education, health, and other services that add to their productivity and have high economic returns. As such, access to financial services can enhance individuals' nutrition and health, and can allow them to send their children to school. Self-employed women with access to financial services are better able to control their economic destiny and gain more influence in their households and communities, thus often aiding gender equality.

The benefits of financial sector development extend beyond financing investment, and actually often start by offering better and cheaper payments and savings services. These services allow firms and households to avoid the costs of barter⁹ or cash transactions, reduce

9. An exchange of goods or services without the use of money.

Box 1.1: Achievement of the MDGs and Regional Differences

1. *Poverty: Poverty rates fall worldwide, but are increasing in Sub-Saharan Africa*

Income poverty: Global income poverty rates are declining. In 1990, 28 percent lived in extreme poverty. This number fell to 21 percent in 2001. Asia made progress, Latin America improved slowly. However, poverty rates went up in Sub-Saharan Africa from 44 percent to 46 percent (313 million people). Poverty also increased from low levels in Eastern Europe and the former Soviet Union.

Nourishment: Worldwide, prevalence of undernourishment fell from 20 to 16 percent between 1992 and 2002. All regions declined except South Asia and Sub-Saharan Africa.

2. *Education: Sub-Saharan Africa and Southern Asia, and Oceania are off track*

In most developing countries, only 85 percent of young people are literate. Most countries made progress, but some 115 million children are still out of school. Especially, Sub-Saharan Africa, South Asia, and Oceania are not expected to achieve the goal.

3. *Health: Sub-Saharan Africa is off track*¹⁰

Under-five mortality: Daily, 30,000 children die, most of them in developing countries. Main causes are diseases and a lack of preventive care. There has been improvement, most notably in Northern Africa, Latin America, the Caribbean, and South-East Asia. However, Sub-Saharan Africa is seriously off track. Projections based on current trends estimate that the target of under-five mortality rates would not be reached.

Maternal health: Sub-Saharan Africa and South Asia account for 445,000 of the estimated yearly 529,000 maternal deaths worldwide. There is no evidence of improvement.

Diseases: Malaria claims 1 million lives a year. Almost two-thirds of the 40 million people who were infected with HIV live in Sub-Saharan Africa.

4. *Gender Equality: Sub-Saharan Africa, Southern and Western Asia are off track*

Education: The gap is decreasing for primary school enrollment rates, with the exception of Sub-Saharan Africa and South and West Asia. The gap also remains for secondary and tertiary education.

Jobs: Furthermore, access to secure paid employment is still low in the developing world. Women occupy fewer than 20 percent of paying jobs outside of agriculture in South and West Asia and North Africa.

Politics: Worldwide, women account for fewer than 16 percent of parliamentary seats.

the costs of remitting funds, and provide the opportunity to accumulate assets and smooth income. Insurance services can help firms and households cope with shocks and reduce their vulnerability to adverse situations, thus mitigating the risk of falling into poverty.

In the real world however, financial markets are imperfect so other factors besides economic return come into play. For example, the case of lack of access to financial services for Small- and Medium-sized Enterprises (SMEs) is well established and has received attention of many policy makers. For households, although education and health can clearly be economically sound investments, limited availability of funds for education and health are often mentioned. With imperfect financial markets, immediate firm and family resources will determine the amount of resources allocated to profitable investments and the ability to deal with shocks. With firms being small and in a start-up phase and household incomes in low-income countries often being little and volatile, only a well-developed financial sector with good access to financial services for firms and households can raise the level and

10. For a detailed report on the MDGs for Health, see Wagstaff and Claeson (2004).

quality of investments. Hence, the impact of greater financial sector development on reaching these MDGs can be substantial.

Link Less Clear for MDGs Environment and Global Partnerships

There is less clear evidence on the links between financial development and the other MDGs. We leave the precise channels and the documentation of the empirical evidence to future research, and only briefly discuss them below.

Financial sector development is likely to matter for environmental performance. Obviously, greater financial sector development can facilitate more financing at lower costs, including for investment in environmental projects. The ability to raise such financing may be especially important for governments—at the local, state, and national levels, since much of environmental protection will be a public sector activity. It, however, also applies to the investment of private firms in (required) environment-protecting activities. Furthermore, it has been found that better governed firms are more willing to consider environmental considerations. As such, through improved governance, financial sector development can spur greater environmental performance. There are likely links between financial development and the MDG of global partnerships as well. The development of the trading in global pollution rights, for example, has in part been facilitated by greater financial sector development. Yet, there has been limited empirical evidence to date of these channels.

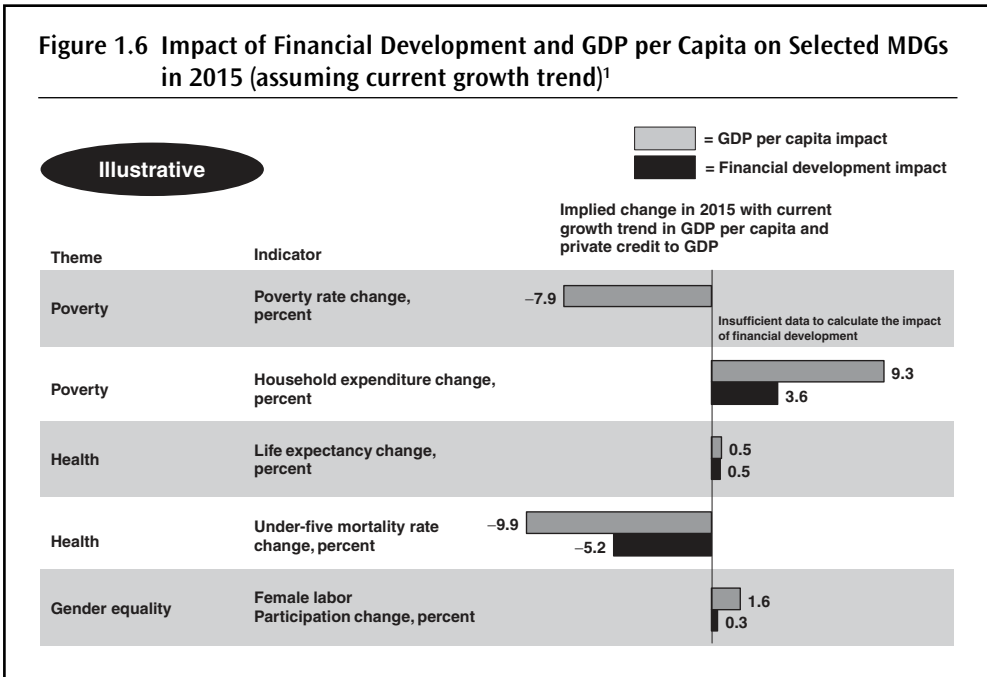
Illustrative Analysis Shows Finance Impact is Large

Finance may matter, but to what extent? To provide a sense of the size of the impact, we compare the effects of financial development to that of general economic development, as shown by GDP per capita,¹¹ on several MDG-related indicators.¹² As expected, GDP per capita is strongly correlated with the MDGs, but financial development is not far behind. The evidence suggests that, roughly the direct impact of financial development on the MDGs is one-half to one-quarter of the impact of GDP per capita. Hence, although not as large as general economic development, the effect of financial development is significant. However, note that financial development also affects each of the MDGs indirectly via its effect on GDP and the other MDGs.

To illustrate, we show this large impact of financial development on the MDGs in two ways. First is the impact of financial development, as measured by private credit to GDP and GDP per capita on several MDG indicators some 10 years from now, that is, in 2015, the target date for the MDGs. In this analysis, both private credit and GDP per capita are assumed to follow their current growth trends of 1.6 percentage points per year and

11. GDP per capita is the most commonly used measure for general economic development.

12. Before elaborating on the analysis, one should keep in mind that these calculations are for illustrative purposes and not meant to suggest mechanical relationships. We explore these relationships in more depth in subsequent sections of the study.



¹ All analyses are based on elasticities calculated by using time series fixed effects regressions. Elasticity of poverty and GDP per capita is taken from Besley and Burgess (2003). We do not have enough time series data for educational variables.

Source: World Development Indicators (2005); Besley and Burgess (2003); Authors’ analysis.

1.1 percentage points per year, respectively (Figure 1.6). The figure shows that the direct impact of financial development on the MDGs is one-half to one-quarter of the impact of GDP per capita.

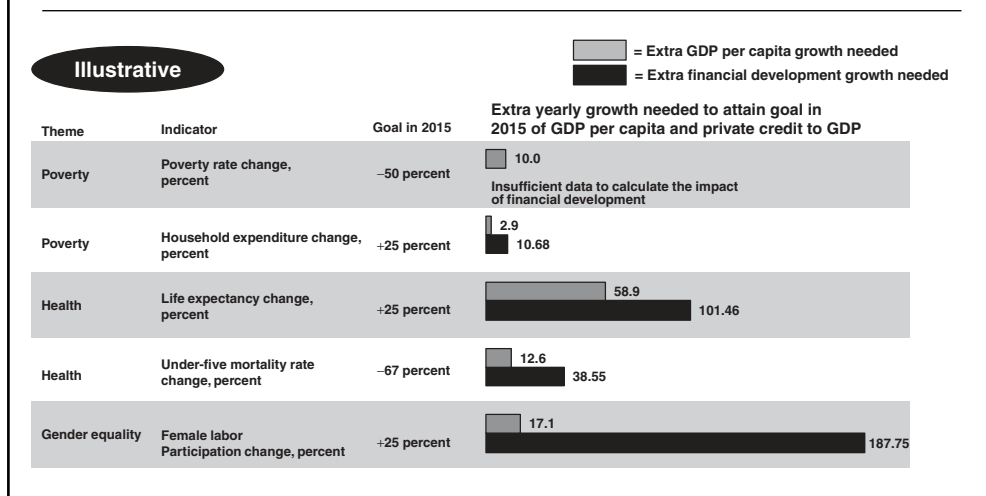
Alternatively, we ask the question: by how much more should GDP per capita and financial development respectively increase to attain the MDGs by 2015? Not surprisingly, and consistent with the first analysis, less GDP per capita growth is needed than private credit growth to attain the MDGs (Figure 1.7). Except for gender equality, the extra growth needed in GDP per capita is again about half of that needed for financial development. This fact shows again that financial development can be a powerful tool to achieve the MDGs.

Besides being more plentiful, microfinance case study evidence on the links between financial services and the MDGs can be insightful as it can shed more light on the channels through which financial development can help achieve attaining the MDGs.¹³ Box 1.2 provides a snapshot.¹⁴

13. However, one needs to bear in mind that case study evidence may not generalize to other circumstances.

14. These cases are copied from Littlefield, Morduch, and Hashemi (2003), which also contains supporting references.

Figure 1.7 Extra Annual Financial Development and Per Capita GDP Growth Needed to Attain Selected MDGs in 2015¹



¹ All analyses are based on elasticities calculated by using time series fixed effects regressions. Elasticity of poverty and GDP per capita is taken from Besley and Burgess (2003). We do not have enough time series data for educational variables.

Source: World Development Indicators (2005); Besley and Burgess (2003); Authors' analysis.

Goal, Questions Addressed, and Contribution of the Study

Goal and Focus of the Study

The goal of this study is threefold:

1. Assess the strength of the links between financial development and the MDGs and how the links work.
2. Document the state of access to financial services to poor households and smaller firms and what its main barriers are.
3. Develop recommendations to increase access to financial services.

We focus on four of the six MDGs themes: Poverty, Education, Health, and Gender Equality.¹⁵ We chose these four MDG themes because financial development has likely its largest impact on these. While there are likely links between financial development and the other two MDGs (environment and global partnerships) as well, we leave this aspect to future research.

15. For an overview of case studies on the effect of financial services on the MDGs, see Morduch and Haley (2002).

Box 1.2: Case Study Evidence Supports the Large Impact of Finance on MDGs

Poverty: Freedom from Hunger banking clients in Ghana increased their incomes by \$36 compared to \$18 for non-clients. Clients also significantly diversified their income sources, with 80 percent of clients having secondary sources of income versus 50 percent of non-clients. In Indonesia, borrowers increased their incomes by 12.9 percent compared to 3 percent in control groups. Another study on Bank Rakyat Indonesia borrowers on the island of Lombok reports that the average incomes of clients increased by 112 percent, and that 90 percent of households moved out of poverty.

Health: In Ghana, Freedom from Hunger banking clients demonstrated better breast-feeding practices and their one-year-old children were healthier in terms of weight-for-age and height-for-age compared to children of non-clients. Clients of the FOCCAS microfinance program in Uganda, who received health care instructions on breastfeeding, preventive health, and family planning, had much better health care practices than non-clients. Ninety-five percent of clients engaged in some improved health and nutrition practices for their children compared to 72 percent of non-clients. Thirty-two percent of clients had tried at least one AIDS-prevention practice compared to 18 percent for non-clients.

Education: A longitudinal study in BRAC—a microfinance institution in Bangladesh—found that basic competency in reading, writing, and arithmetic among children 11–14 years old in member households had increased from 12 percent of children at the start of the program in 1992 to 24 percent in 1995. In non-member households, only 14 percent of children could pass the education competency tests in 1995. A Save the Children study on different microfinance programs in Honduras found that participating in the credit and savings program increased clients' earnings and the availability of resources. This allowed them to send many of their children to school and reduce student drop-out rates.

Gender Equality: Microfinance programs from different regions report increasing decisionmaking roles of women clients. The Women's Empowerment Program in Nepal found that 68 percent of its members were making decisions on buying and selling property, sending their daughters to school, negotiating their children's marriages, and planning their family. These decisions traditionally were made by husbands. A survey of 1300 microfinance clients and non-clients in Bangladesh showed that credit-program participants were significantly more empowered than non-clients in terms of their physical mobility, ownership, and control of productive assets, including homestead land, involvement in decision making, and political and legal awareness. This empowerment increased with duration of membership, suggesting strong program influence.

Questions Addressed in the Study

The specific questions the study tries to address are the following:

1. *Assess the strength of the links between financial development and the MDGs and how they work.*
 - How does financial development spur economic welfare (growth) and what is the quantitative importance of financial development on income growth?
 - What is the direct and indirect impact of financial development on poverty, health, gender equality, and education?
 - How large is the impact of financial development relative to other economic policies?

- How does financial development and the use of financial services help people reduce poverty and enhance their education, health, and gender equality?
2. *Document the state of access to financial services to poor households and smaller firms and what its main barriers are.*
 - What is the current state of financial development and access to financial services, especially for poor households and smaller firms?
 - What are the causes of a lack of access to finance for poorer households and smaller firms?
 3. *Develop recommendations to increase access to financial services.*
 - What policy areas deliver the greatest returns?
 - What are best practices?
 - What do we still need to know?

Contribution of the Study

The literature on the role of financial development for economic outcomes is large and growing every day. As such, it is hard to innovate on all aspects. We think this study contributes to the literature in the following ways:

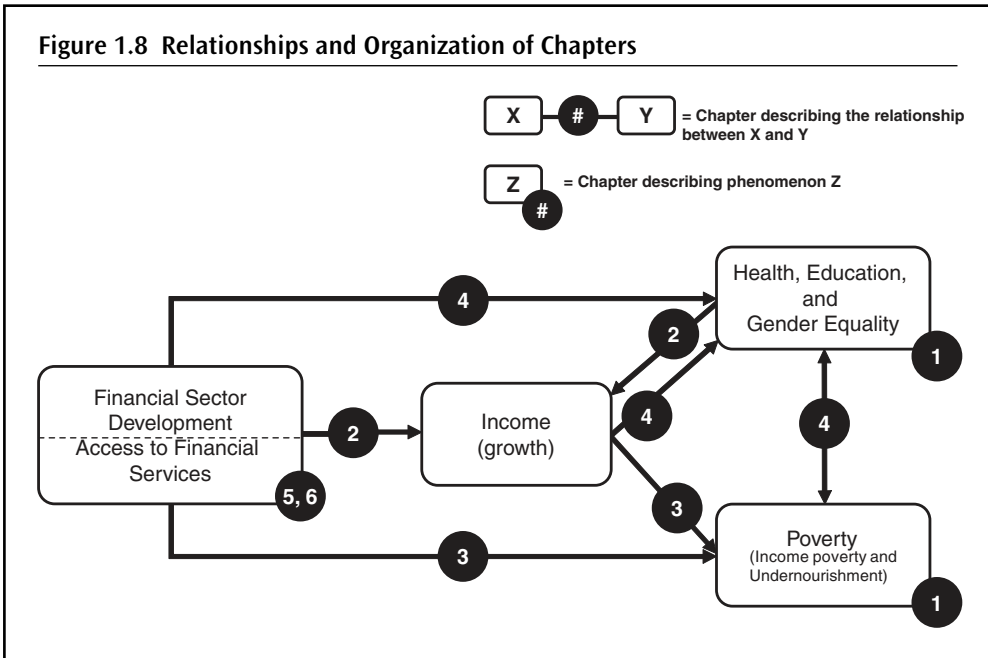
- It provides a comprehensive, non-technical overview of relevant issues, with a focus on quantifying the effects of financial development on the MDGs;
- It discusses both statistical evidence at the country-level and case studies at the micro-level;
- It provides in-depth econometric analysis on the relationship between financial development and several MDGs indicators, something that has not been documented before.
- It identifies barriers to increase access to financial services and gives a comprehensive overview of recommendations to address these issues.

Organization of the Study

Chapter 2 (Financial Sector Development and Improvement of Income) provides an overview of the academic literature on financial sector development and economic welfare and growth. The chapter shows the overwhelming evidence that financial development causes income growth.

Chapter 3 (Financial Sector Development and Poverty Reduction) discusses the academic literature on the relationship between financial sector development and poverty and provides some case studies. It reports on the strong evidence that financial development causes income poverty reduction. In addition, it provides a new empirical analysis that financial development reduces undernourishment.

Chapter 4 (Financial Sector Development and Health, Education, and Gender Equality Improvement) provides a new empirical undertaking at the country-level to assess the



direct impact of financial development on these three MDG themes. Although we cannot determine fully causality, we find some evidence for a relationship going from financial development to MDG outcomes. We discuss possible channels through which financial services can lead to improvements in these themes. As another step to document the importance of these channels, we present case study evidence, which shows that there can be specific means in which financial development helps with these MDGs.

Chapter 5 (Access to Financial Services for Poor Households and Smaller Firms) presents data on, and a discussion of, several financial access indicators. The chapter focuses on access to, and usages of, financial services by poor households and smaller firms. It identifies lack of access across countries and discusses corresponding problems.

Chapter 6 (Improving Access to Financial Services: Recommendations) reviews the state of knowledge on private sector and government actions and policy options to increase access to financial services, especially in developing countries. It identifies some examples of successful market-based increases in access and discusses possible larger-scale solutions.

Figure 1.8 depicts in a summary form the structure of the study and the various relationships we analyze.¹⁶

16. Much of what we present is culled from the extensive literature on the role of finance for development. We complemented this review with our own empirical, econometric analyses where we used one of two approaches: 1) a study of the variation in variables over time; and 2) a study of the averages of variables over the period 1980–2004. For many variables however, not enough data were available to conduct a proper time series analysis, method 1. Specifically, we were only able to conduct time series analysis for: Household consumption expenditures (Chapter 2); Poverty rates (Chapter 3; although this is not our own analysis); Life expectancy (Chapter 4); Under-five mortality (Chapter 4); and Female participation in the labor force (Chapter 4).

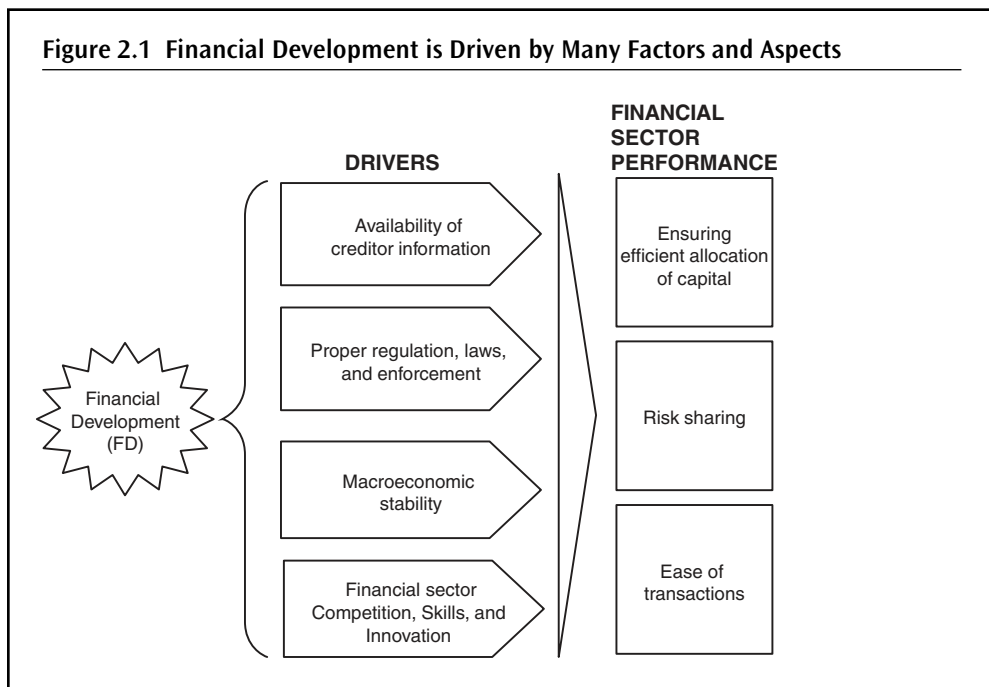
Financial Sector Development and Income Improvement

Few will doubt that income growth leads to improvement in people's lives. Increased income allows people to enhance their living standards and escape from extreme poverty. The financial sector can contribute to income growth: a large academic literature has found that financial development results in economic growth. Its impact is large: studies estimate that financial development is at least as important as education (Evans, Green, and Murinde 2002).

This section provides an overview of the relationship between financial sector development and economic growth. First, we give a brief overview of the role of finance in economic activity. Second, we illustrate how financial development, in addition to the other MDGs, can determine economic welfare. Third, we discuss evidence that financial development causes economic growth. Fourth, we take a closer look at how financial development affects the drivers of economic growth.

A Brief Overview of the Financial Sector

The financial sector brings together demand and supply of capital (savings) via banks, securities markets, and other financial intermediaries such as mutual funds and pension funds. A high performing financial sector has the following functions: it mobilizes savings and ensures that savings are allocated to users of capital who put it to its most productive task; it enables risk-sharing amongst investors; and it provides an efficient payments system to facilitate financial transactions. In addition to providing efficient allocation and low-cost financial services, a well-developed financial sector screens



Source: Levine (2005), Beck (2006); Authors' analysis.

potential investments, and monitors and produces information about the behavior of users of capital (Figure 2.1).¹⁷

These abstract concepts translate into concrete channels. Without a developed financial sector, for example, domestic savers and foreign investors would be more hesitant to part with their money to otherwise sound investments, resulting in lower economic output—as measured by GDP—and household welfare. A well-developed financial system enables firms to expand production and provides households with the ability to obtain essential assets like a house, insure against income shocks, start a company, receive cheaper remittances, and enjoy a pension when they retire. As such, the financial sector is an engine of economic growth and household welfare.

Direct measurement of how well the financial sector performs each of its functions is difficult. We can, for example, not observe directly the quality and quantity of the monitoring services performed by a bank when it extends a loan, at least not for a large set of countries. Hence, researchers have taken refuge to proxies. Typically used indicators of financial development are a higher ratio of M2 (money) to GDP, a higher ratio of private credit extended by commercial banks to GDP larger securities markets relative to GDP,

17. See Levine (2005) for the functions of the financial sector and an overview of the theoretical literature.

or higher stock market turnover (high trading volume relative to the size of the market).¹⁸ In this study we will use the latter extensively.

How to improve the performance of the financial sector has been the subject of much recent policy work and research. Financial development not only involves many aspects, but is also affected by many factors (Figure 2.1).¹⁹ Competition within the financial sector forces financial institutions to be more efficient and search harder for the best investment opportunities. A higher quality and better enforcement of the regulatory framework makes sure that financial intermediaries can operate efficiently and that investors and lenders are protected. Availability of reliable creditor information enables better screening of investments and enhances selection on the basis of the creditworthiness of borrowers. A stable macroeconomic environment with low inflation makes people less hesitant to save using financial assets. A smaller fiscal deficit lessens non-market-based competition of the government with the private sector for capital (the so-called crowding-out effect). This is often economically beneficial because the private sector has more productive investment opportunities than the public sector. The importance of many of these fundamentals for financial sector development has been well documented empirically. How to develop the financial sector so that that it delivers these services to all concerned—poor and rich households and small and large firms alike—has been of more recent policy and research interest, and less clear answers exist to date.

Standard Determinants of Economic Growth Include MDG Themes

As noted, development and economic growth are closely related to some MDG themes, with both cause and effect relationships. Better health, more gender equality, and better education are MDGs in themselves. However, improving them also has an economic rationale: they drive economic growth. A large literature shows that health, education, and gender equality have a strong impact on economic well-being and productivity. They facilitate, for example, more efficient use of the pool of labor. Health, education, and gender equality, therefore, also have an indirect beneficial effect on most MDGs via economic growth.

The huge literature that studies the determinants of economic growth has indeed found human capital, in addition to the classical drivers of capital, labor, and technology, to be an important determinant of growth.²⁰ Broadly speaking, human capital can be decomposed in two parts: education and health, both themselves MDGs. The effects of education and health on economic growth are corroborated by many micro- and country-level studies.²¹ Some research even suggests that the relationship between health and economic

18. Note, though, that more private credit is not always better. The efficiency of credit allocation has the most impact on growth. Analysis of the Asian financial crises has shown that unsustainable rates of borrowing resulted in massive default on loans (Claessens, Djankov, and Xu 2000). As such, private credit is not a perfect indicator of financial development. Ultimately, growth depends on the existence of good investment opportunities and proper allocation of resources amongst them.

19. See Beck (2006), for an overview of how efficient systems are built and what role governments could/should play.

20. See for example Romer (1990).

21. For a study on Uganda, see Deininger and Okidi (2003).

Box 2.1: Standard Determinants of Economic Welfare

Education: Education makes people more productive, especially in services. The effects of education on economic growth can be substantial. Research, including studies that use internationally comparable test results (Hanushek and Kimko 2000), finds that an additional year of schooling raises the growth rate by 0.44 percent per year. Female education does not have a significant direct impact on growth, maybe due to practices hindering the efficient use of well-educated females.²²

Health. Besides an important aspect of human development, health is also an economic investment (Mushkin 1962). Healthier people are more productive, can more easily send their children to school, have more resources otherwise spent on treating illnesses, and can use natural resources otherwise out of reach. Studies find a positive effect of health on economic growth. The near-eradication of malaria in Sri Lanka during 1947–77 is estimated to have raised national income by 9 percent. AIDS, through adverse effects on savings and productivity, is estimated to have lowered annual growth by 0.6 percent in the ten most affected SSA-countries (World Bank 1993).

There is also cross-country evidence. A study of 70 countries for the period 1960–1990 revealed that the child mortality rate, a health status indicator, is a highly significant predictor of GDP per capita growth. For the sample, the average growth rate was 1.4 percent and the child mortality rate was 116 per 1,000. The GDP per capita growth rate of an otherwise average country with a low child mortality rate of 106 would be 1.55 percent, compared to 1.26 percent if the child mortality rate was 126 (World Bank 1993).

Gender equality. Research suggests a U-shaped relationship between female participation and GDP per capita. Intuitively, GDP per capita should increase if women join the labor force. The Islamic countries form a case in point. These countries typically have an average female participation as a share of total labor force between 10 and 20 percent. A study on Turkey finds that it has relatively low-factor inputs per capita due to a lack of female participation in the labor force (McKinsey Global Institute 2002). Yet, beyond a certain income level, female participation drops off.²³

growth is stronger than that between education and economic growth (World Bank 1993; Knowles and Owen 1995). Regardless, the consensus is that both human capital components are important for growth. Gender equality can be considered a third part of human capital: equality in job opportunities can increase women's participation in the labor force. Furthermore, research shows that households with educated, healthy women are more productive than households without those qualities. More detail on these and other "standard" determinants of growth is provided in Box 2.1.

Still, financial development also has large explanatory power on GDP per capita even relative to the standard determinants, which we document in the next section.

22. Barro (2001). Schooling is defined as the school attainment at the secondary and higher level for males aged over 25.

23. Goldin (1994). The U-shape is probably caused by the transition from the agricultural to the service sector. The first, down sloping part is because women are less needed in the agricultural sector due to higher productivity. On the upward sloping part lie the developed economies where prejudice is lower, educational attainment is higher, and opportunity costs of homework are less. Also, women are more valuable in the service sector, and hence can boost GDP per capita.

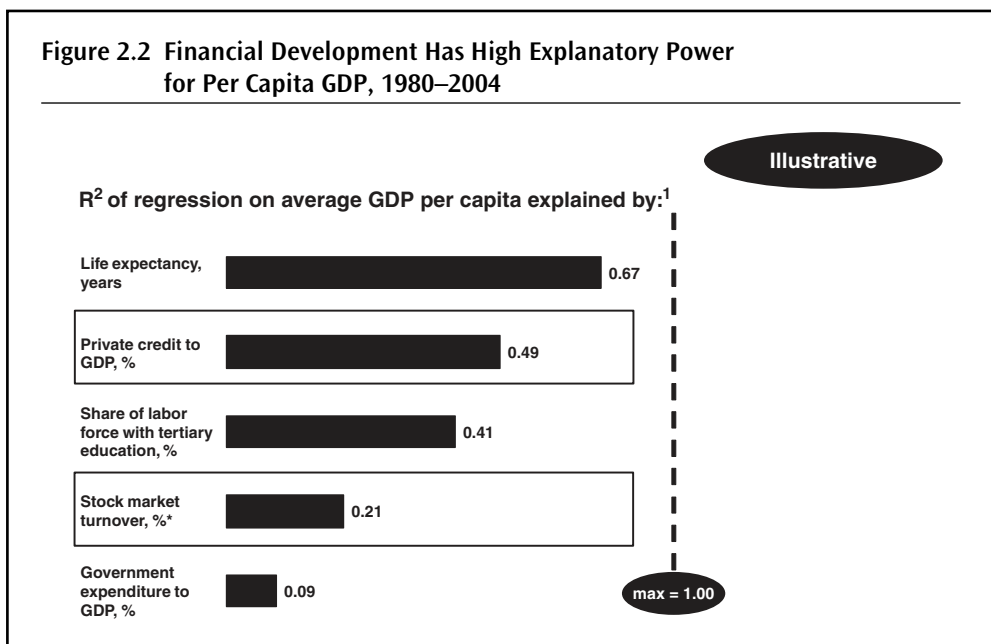
Financial Development Results in Income Growth

To start with, we document the large explanatory power of financial development on economic growth using simple regressions. As a next step, we expand this analysis by reviewing research that shows the association holds, even when one controls for a host of other factors. Then we review evidence that argues that the relationship is causal. That is, financial development causes growth, and is not merely a result of it. Finally, we present evidence from our own analysis that household consumption, another indicator of income, and financial development are indeed intimately related.

Financial Development Explains Income Differences Well, Even Relative to Standard Determinants of Economic Growth

Financial development explains income well. Simple regressions suggest that almost 50 percent of the variation in GDP per capita across countries can be explained by the variation of private credit to GDP. In a simple analysis, financial development ranks second among variables that are known for their substantial impact on GDP per capita (Figure 2.2). Note that these are simple correlations and do not control for other factors or simultaneity effects, or make statements on causal relationships.

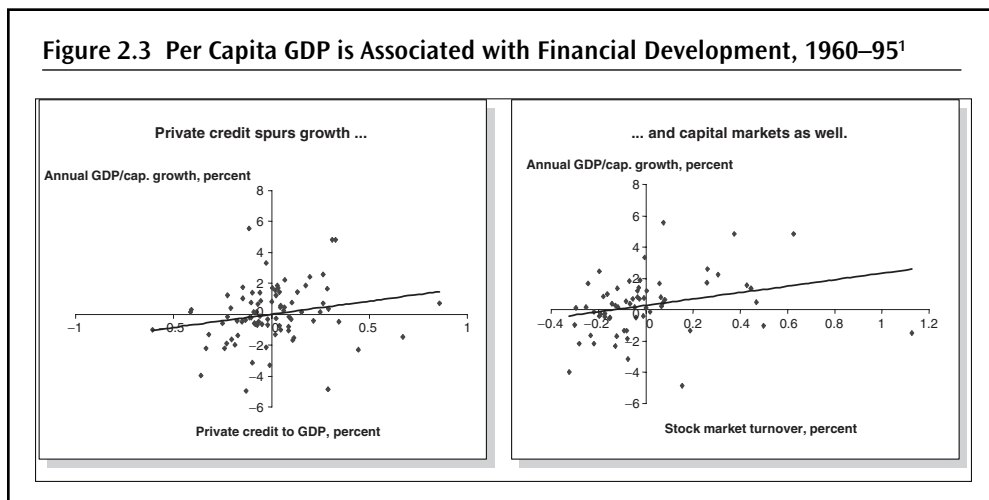
But does financial development lead to economic growth, or is it the other way around? Could economic growth result in higher demand for capital and financial services, inducing financial development? If true, financial development would be less important to



¹ Variables are logs of averages for the period 1980–2004.

* For the period 1980–1995. Not in logs.

Source: World Development Indicators (2005); Authors' analysis.

Figure 2.3 Per Capita GDP is Associated with Financial Development, 1960–95¹

¹ Stock market turnover is defined as value of volume traded to the size of the total stock market. Both plots are of residuals. First, all variables were regressed on trade as a share of GDP, government expenditures as a share of GDP, inflation, schooling in 1980, and initial GDP per capita.

Source: Data from Beck, Levine, and Loayza (2000) and Beck and Levine (2004); Authors' analysis.

promote since it merely follows where economic growth leads. Research, however, shows that while the relationship runs in both ways, there is a significant causal effect of financial development on growth. First, we present empirical evidence on this relationship from financial development to growth. Second, we review cross-country and anecdotal studies that show that financial development causes growth.²⁴

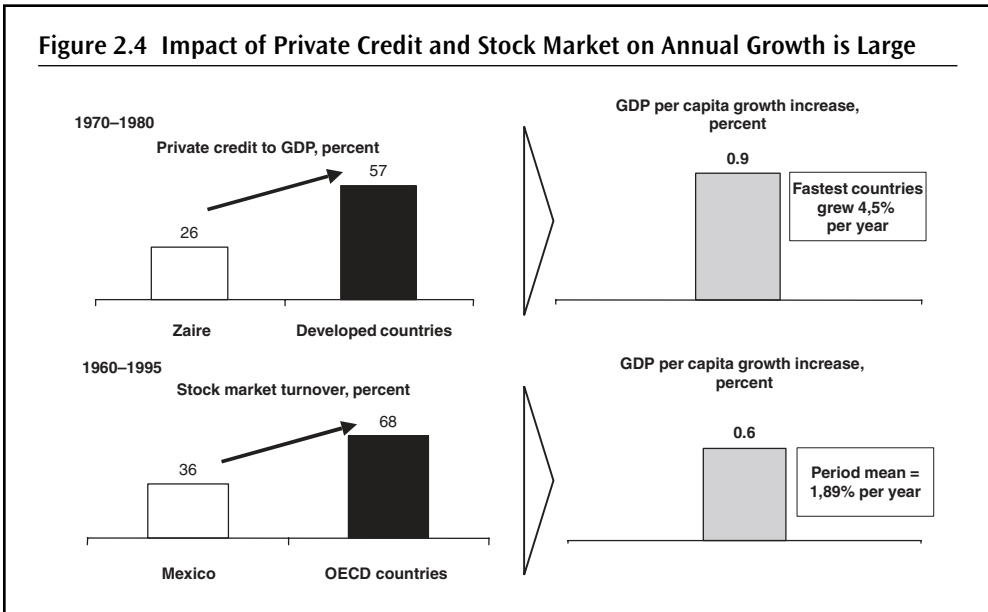
Financial Development is Associated with GDP per Capita Growth

There is no doubt that financial development and growth are positively associated (Figure 2.3). Average private credit to GDP in 1960–1995 and average stock market turnover in 1976–1998 are strongly correlated with annual real GDP per capita growth over the same periods. Research shows that these positive relationships persist even when important other factors and considerations are taken into account that could otherwise drive the correlation.²⁵ This obviates concerns that the relationship between financial development and growth is due to some third factor.

Next there is strong evidence that finance causes growth. Research finds that financial development is not only correlated with *contemporaneous* growth, but also with *future* growth. For example, if in 1970, Zaire had the mean ratio of developing countries' private

24. For an overview of the finance and growth literature, see Demirgüç-Kunt (2006) and Levine (2005).

25. Important contributions include Goldsmith (1969), McKinnon and Shaw (1973), Levine and Zervos (1998), and Rousseau and Wachtel (1998). Other considerations are omitted variable bias and simultaneity bias.



Source: Data from Levine and King (1993) and Beck and Levine (2004).

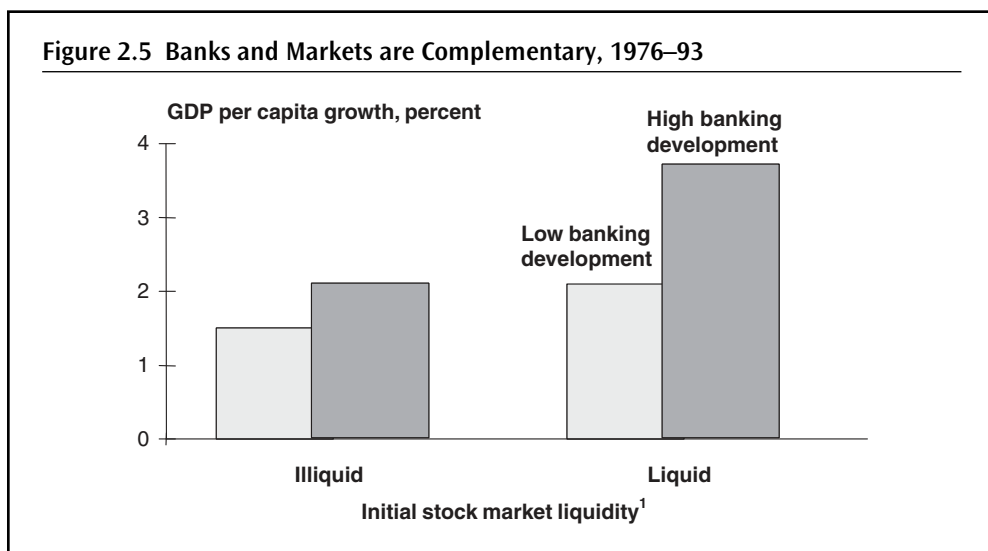
credit extended by banks to GDP (about 57 percent) instead of its 26 percent, its economic growth would have been 0.9 percent per year faster. This effect is substantial given that even the fastest countries yearly grew by only about 4.5 percent over this period. In fact, over the period 1970–80, Zaire would have boosted its GDP per capita in 1980 by 9 percent above its actual level if it would have been financially more developed.²⁶

A developed stock market has also proven to be an important driver of economic growth. One important indicator of stock market development is the stock market trading volume as a fraction of GDP. More trading indicates that capital more actively seeks the most efficient use. Indeed, studies find that countries with more liquid stock markets experience higher GDP growth per capita. For the period 1976–98, research finds that if Mexico's turnover ratio had been at the average of the Organization for Economic Cooperation and Development (OECD) countries (68 percent) instead of its actual 36 percent, it would have grown 0.6 percent faster per year (Figure 2.4).²⁷

Thus, both banks and capital markets on their own spur growth. Which one does a better job, and does one substitute for the other? In fact evidence shows that development of capital markets and banks seem to complement each other (Figure 2.5). Countries with higher banking development seem to grow almost twice as fast as countries with low banking development in an environment where stock markets are more liquid. Vice versa, having better stock markets even helps—although less so—in countries with low banking development. A possible explanation is that firms and households can make better financing

26. Calculation based on King and Levine (1993), assuming that the financial sector did not develop in anticipation of future growth.

27. Beck and Levine (2004). In fact, simultaneity bias is already addressed in these estimates.

Figure 2.5 Banks and Markets are Complementary, 1976–93

¹ Liquidity is measured as volume traded over total market capitalization.

Source: Demirguc-Kunt and Levine (2001).

and risk-sharing choices in countries with both better banks *and* markets, which may lead to a disproportionate beneficial effect on growth.

Evidence of Financial Development Leading to Economic Growth

However, robust correlations and predicting future growth alone do not provide conclusive evidence about a causal relationship from financial development to growth. Even if financial development predicts future growth, it could be in anticipation of growth and not a cause of it.

Box 2.2: Predetermined Aspects of Financial Sectors Drive Economic Growth

If financial development, indeed, drives growth, one must be able to show a causal component of financial development on growth. This can be done by investigating an aspect of the financial development that could not possibly be directly associated with recent economic growth. One good such aspect is the origin of the legal system, which for many countries was determined by colonizing forces in the 18th and 19th centuries (British, French, German, or Scandinavian origin). These legal systems all protect investors differently, and hence influence the efficacy of the financial sector. Therefore, the legal origin in part determines current financial development.

Studies for the period 1960–95 find that the component of current financial development that is purely driven by legal origin is also robustly associated with current economic growth. Hence, we can conclude that finance (in part) causes growth. The effect of financial development on growth is even larger, when legal origin is taken into account. For example, if India (with British legal origin) was able to increase its average private credit to GDP from 19.5 to 25 percent—the mean value of developing countries—its average real annual GDP per capita growth would have accelerated by an additional 0.6 percent per year. This is large, because its growth only averaged 1.8 percent per year in that period.

Source: Levine, Loayza, and Beck (2000b).

Box 2.3: Sectors Dependent on External Finance Grow Faster in Countries that Provide Better Creditor Information

Some industry sectors can meet their financial needs largely with their own cash flow, like tobacco, whereas other sectors are more dependent on finance raised outside the firm (termed external finance), like pharmaceuticals. Financial development facilitates access to external finance. Hence, the growth of pharmaceuticals is more affected by financial development than the growth of tobacco. Therefore, if financial development causes growth, real value added of pharmaceuticals should grow faster than tobacco in countries with better financial sectors.

Research finds this is indeed the case where a more developed financial sector is measured in terms of better accounting standards, thereby avoiding the possible causation running from larger financing needs to more developed financial systems. Better accounting standards provide financiers with more reliable creditor information and hence facilitate access to external finance. By this measure, Malaysia, Chile, and Korea, for example, all moderate-income countries, differ considerably in terms of financial development. In Malaysia, the most financially sophisticated country, pharmaceuticals grew 4 percent per year faster than tobacco over the 1980s. In moderately developed Korea, pharmaceuticals had a 3 percent faster growth rate than tobacco. In relatively poorly developed Chile, pharmaceuticals grew 2.5 percent *slower* than tobacco. These findings imply that financial development affects industry growth rates, and that the channel is through greater provision of external financing.

In general, research finds that in the 1980s, sectors that were more dependent on external finance grew 0.9–1.3 percent faster per year in countries that were more financially developed. This effect is considerable, since the overall average real annual industry growth rate in that period was 3.4 percent.

Numerous studies have attempted to address this issue and they all document finding robust causal relationships. The following boxes provide some representative examples of the research done at both macro and micro levels on the causal relationship between finance and growth.

Financial Development is Associated with Higher Household Consumption

As GDP per capita grows as a result of financial development, households benefit from higher income, and can consume and invest more in the process. This obviously matters for household welfare in terms of nourishment, health care, etc.

Box 2.4: U.S. State Banking Deregulation Boosted Per Capita State Income Growth Rate

Before 1970, most U.S. states had banking regulation in place that restricted bank competition. It prohibited entry from out-of-state banks and limited the number of branches of in-state banks. As a consequence, banks were less efficient, passing costs on to their customers.

However, starting in the early 1970s, 35 states relaxed restrictions on intra-state banking over the next two decades. As a result, a state's annual growth rate after deregulation increased with 0.51–1.19 percent. This increase is substantial, since the average growth rate in U.S. states was 1.5 percent. By contrast, growth rates of states that did not deregulate even declined with 0.6 percent over 1972–1992.

Source: Jayaratne and Strahan (1996).

Box 2.5: Stock Market Liberalization Leads to Economic Growth

Although stock market liberalizations are often blamed as causing financial crises, research indicates that in general the effects of liberalization on growth are positive. Countries that opened up their stock markets to foreign investors typically see demand and prices for local equities soar, making external finance cheaper for local companies. Moreover, foreigners typically demand better corporate governance. As a result, (efficient) investment increases, and these countries experience on average a subsequent increase of about 1 percent of GDP growth per year.

For example, in 1980–97, Chile experienced an average real GDP growth of 3.8 percent. In 1992, Chile liberalized its capital markets to foreign investment, most notably its equity market. After the liberalization, Chile's GDP grew with 6.4 percent per year. A substantial portion of this increase can be attributed to liberalization.

Source: Bekaert and Campbell (2001) and Henry (2003).

Data indicate large differences in household consumption between countries. The lowest consumption in 2004 was \$72 in Ethiopia, and the highest \$19,340 in the United States, more than 250 times higher. There is, consequently, significant variation among income groups, with average household consumption for the period 1980–2004 of countries in the lowest income group \$305, but \$11,187 for countries in the highest income group.²⁸

Financial development and household expenditures are highly related. Although causality is less clear than in the case of income, there is evidence that financial development is a leading indicator for increases in household consumption.²⁹ The effect is substantial and can be shown using several statistical methods. We estimate the elasticity of household consumption with respect to private credit to be between 0.07–0.22. The median growth in the private credit to GDP ratio for 178 countries was 1.6 percentage points per year over the period 1980–2004. If we assume that private credit grows by 1.6 percentage points annually for the next 10 years, this elasticity implies that world household expenditure 10 years from now would be 1.1–3.6 percentage points higher than current levels.³⁰

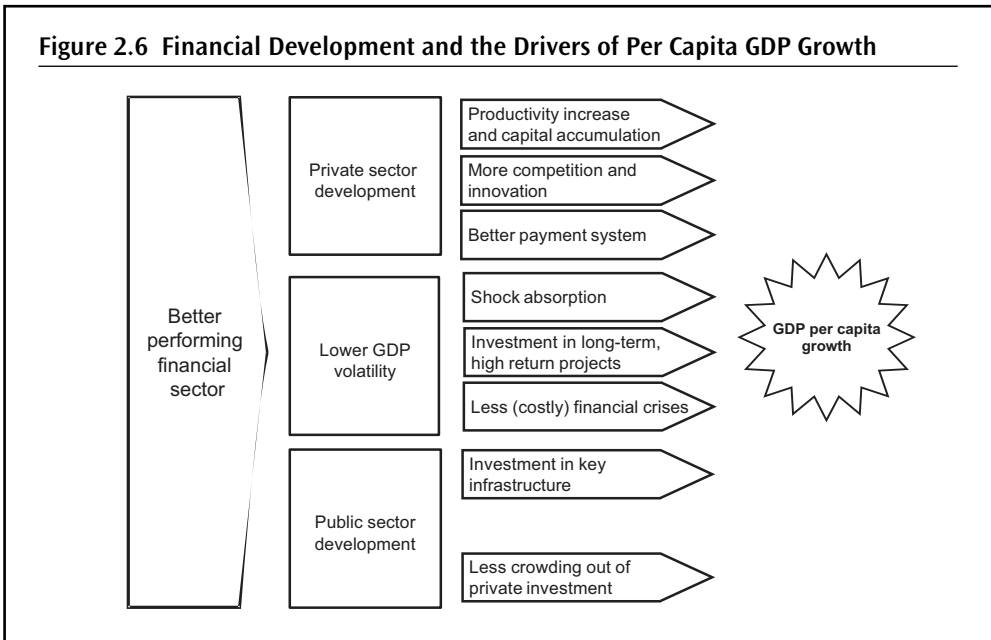
Financial Development and the Sources of Income Growth

So far, we have only discussed evidence supporting the notion that financial development leads to economic growth and increased household consumption, but how does it come

28. These are expressed in constant 2000 U.S. dollars, but are not adjusted for purchasing power parity.

29. We used panel data fixed effects regressions with over 4100 observations for 142 countries, controlling for government consumption as a share of GDP, trade as a share of GDP, and inflation. We find that 1, 5, and 10 year lagged values of private credit to GDP have a significant impact on contemporaneous household expenditure. In addition, we find that average private credit (logs) has a highly significant impact on the growth of household consumption and average household consumption (logs) in the period 1980–2004. In all these regressions, we control for the average added value of an agricultural worker, initial level of government expenditures as a share of GDP, initial level of poverty, initial level of GDP per capita, inflation, average trade as a share of GDP, share of population in rural areas, and share of labor force in agriculture (all in logs, except inflation). However, these results are not robust when controlling for endogeneity issues with legal origin (P-values of 12 percent or higher).

30. Ignoring causality problems and holding other factors constant. These figures are calculated as $\exp(0.07 * 10 * \ln(1.015))$ and $\exp(0.22 * 10 * \ln(1.015))$, respectively.



Source: Authors' analysis.

about exactly? Studies find that important channels from financial development to growth are its beneficial effects on private sector development, economic stability, and public sector management (Figure 2.6). We discuss these in turn.

Financial Development Stimulates Private Sector Development

Access to finance is important for firms. The World Business Environment Survey, conducted by the World Bank in 2000 amongst firms in 80 developing and developed countries, finds that financing was perceived to be the second leading constraint on doing business, after taxes and regulations. In Africa and China, it ranked as the primary constraint (Batra, Kaufmann, and Stone 2003). With greater access to finance, firms can grow faster. Using the World Business Environment Survey (WBES), recent research even finds finance to be the most important constraint on firm growth (Ayyagari, Demirgüç-Kunt, and Maksimovic 2005). Conversely, research finds that financial development results in an increase in firm productivity, competition and innovation, and lower transaction costs. These, in turn, translate into economic growth.

Increase in Productivity and Capital Accumulation. Financial development may lead to growth via: an increase in the savings rate—as people can earn higher returns; increases in investment and capital accumulation (i.e., more and better machines)—as financial intermediaries raise more funds; and increases in total factor productivity—as resources

are more efficiently allocated.³¹ Essentially, because financial development facilitates the funding, finding, and monitoring of investment opportunities, it leads to greater and better capital allocation.³² Moreover, financial development facilitates better risk-sharing; and as a consequence, investors are more willing to put their money in high-risk, high-return projects.³³

Of these channels, the link between financial development, and savings and capital has proven to be not so strong, suggesting that allocation rather than raising capital is the most important channel by which financial development affects growth. Research does, indeed, show that there is a strong link between financial development and productivity growth, with the effects of financial development very large. Take, for example, the case of China. Although China's state-owned companies produce only one-quarter of GDP and are generally considered to be inefficient, they have received to date 35 percent of non-agricultural commercial banking loans and accounted for virtually all local equity and bond market issues. Because of this misallocation, a recent study finds that China could raise its GDP by \$259 billion annually, or about 13 percent of GDP, if it had an efficient resource allocation supported by a better financial sector (McKinsey Global Institute 2005).

One other study robustly finds that financial development leads to an increase in total factor productivity.³⁴ For example, if during the 1960–95 period Mexico had increased its private credit to GDP from 22.9 percent to the sample median of the study (27.5 percent), this would have meant 0.3 percent faster productivity growth per year, putting Mexico on a par with the U.S. productivity growth. This effect is substantial, since the median of Mexican productivity growth was 1.1 percent over that period. It would have led to an additional productivity-led increase in GDP over that period of about 11 percent. Still, a recent study suggests that while productivity increase is a source of growth for developed countries, it finds that capital accumulation primarily drives growth in developing countries. This suggests a “catch-up” effect for low-income, developing countries with the more basic role of the financial sector of raising investment levels followed by an allocation role as income rises (Rioja and Valev 2004).

Increase in Competition and Innovation. Studies also find that financial development can help foster competition and innovation. This line of research traces back to the work of the famous economist Schumpeter, who argued that a developed financial sector provides entrepreneurs with the means to implement good ideas. As such, finance is key to effectively increase competition and innovation to enhance growth.³⁵ Much evidence supports this role of finance.

A study on the impact of financial development on industry growth in the 1980s, decomposes the sources of sector growth into two components: growth in average value

31. Increase in productivity per capita after the effect of an increase in capital is taken into account.

32. See Wurgler (2000) for the link between capital allocation and financial development.

33. See also the theoretical models of Greenwood and Jovanovic (1990) and Acemoglu and Zilibotti (1997).

34. Beck, Levine, and Loayza (2000b). Estimates are corrected for endogeneity bias.

35. For a formalization, see King and Levine (1993) and Aghion and Howitt (1992).

added of firms (size) and growth in the number of firms.³⁶ This study found that the number of firms in an industry grew disproportionately faster in countries that have better financial development. The study estimates that the number of firms in sectors that are more dependent on external finance grew 0.7 percent faster in countries with better financial development. Growth in size seemed to vary less with financial development.

Country-specific and other evidence on increases in competition due to financial development is ample.³⁷ For example, a study of regional differences in financial development in Italy finds a direct effect on competition. Firms in the financially most developed regions have a profit margin of 1.6 percent lower than firms in the financially least developed regions. This is about a third below the average profit margin of 5.9 percent, suggesting greater competition in those regions. The study further estimates that the odds of an individual starting a business increase with 5.6 percent were that individual to move to a financially more developed region. Moreover, it finds that GDP was 1.2 percent higher in financially more developed regions (Guiso, Sapienza, and Zingales 2004).

Further research finds that financial development seems to favor small firms since sectors with a large share of small firms grow disproportionately faster in more financially developed countries. Financial development spurs, for example, disproportionate growth in industries with a natural high fraction of small firms. A study on industry growth in the 1980s finds that sectors that have a higher share of employment in firms with fewer than 20 employees grew faster in countries that were more financially developed.³⁸ However, and contrary to popular belief, there is no solid cross-country evidence that a large SME sector itself drives economic growth (Beck, Demirgüç-Kunt, and Levine 2005). A large SME sector in itself, as measured by the fraction of people in the labor force working for companies with fewer than 250 people, has not been found to be a robust driver for growth.³⁹ Although strong economies have strong SME presence, it is probably an outcome, not a cause of growth.

Financial development does induce technological innovation. A recent study finds that financial development explains the cross-country differences in industry rates of technological progress, rates of real cost reduction, and rates of productivity growth (Tadesse 2005). In addition, average private credit in 1990–95 has a significant impact on average R&D expenditure as a share of GDP in 1996–2004.⁴⁰ Our own evidence suggests that it is

36. Rajan and Zingales (1998). Klapper, Laeven, and Rajan (forthcoming/2004) replicate this finding in a study on European firms. Perotti and Volpin (2005) confirm these results by taking investor protection as a proxy for financial development. Haber (1991) shows that financial sector competition had large differentiating effects on competition in the cotton industries of Mexico and Brazil.

37. Another influential study on the impact of finance on competition is Black and Strahan (2002).

38. Beck, Demirgüç-Kunt, Laeven, and Levine (2004). Specifically, the results suggest that the furniture industry (high small firm share) should grow 1.4 percent per year faster than the spinning industry (low small firm share) in Canada (high private credit) than in India (low private credit). Since the average growth rate in the sample is 3.4 percent, this is a relatively large effect.

39. Beck, Demirgüç-Kunt, and Levine (2005). This study, however, only measures SMEs in the formal manufacturing sector. As such, this measure has some shortcomings.

40. Our own calculations. These results take into account level of GDP in 1995, percent of population with primary schooling in 1990, average share of manufacturing of GDP and average share of services of GDP in 1996–2004. We instrumented private credit to GDP with legal origin to take simultaneity bias into account.

not likely that private credit increases in anticipation of future R&D innovation opportunities. The impact of financial development is substantial: If Mexico had increased its private credit from 27.7 percent to 59.6 percent, the sample average (and close to Italy), it would have boosted its R&D expenditures with almost 0.36 percentage points, a doubling of its actual level.

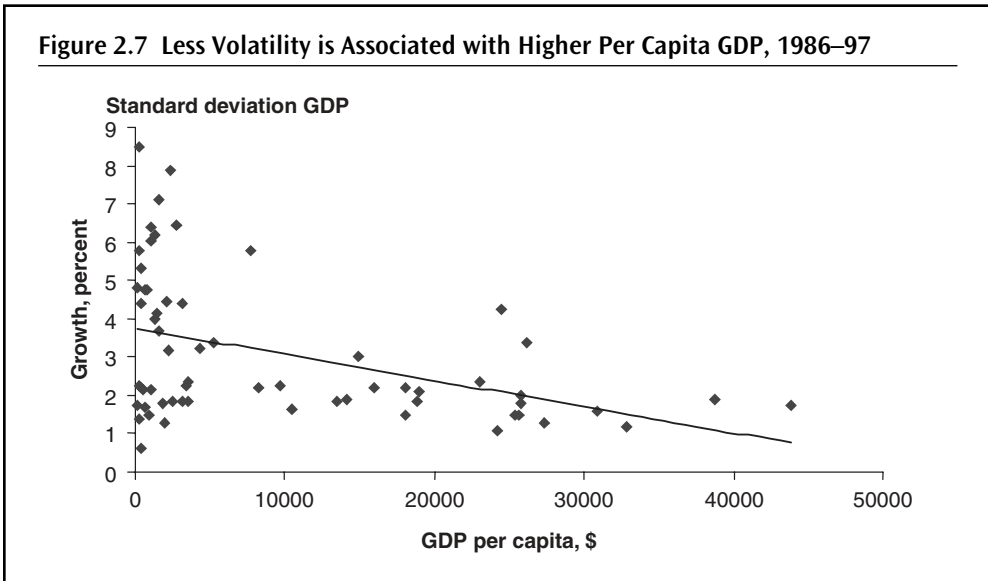
Greater Financial Sector Development Also Lowers Transaction Costs. Financial systems provide many transactions services, from domestic payment services to international remittances to facilitating (international) trade transactions. Gains from better transaction services through more developed financial systems can be large. Today, some payment systems even in advanced developed countries are still largely paper-based and could greatly benefit from an electronic payment system. For example, the United States annually spends 3 percent of GDP, or over \$225 billion, just to make payments. Paper-based systems inhibit ease of transactions and “lock-in” money of firms that could be used for productive investment. Academics estimate the savings for the United States of migrating from a paper-based to a well-functioning electronic payment system to be 1–1.5 percent of GDP (Humphrey, Kim, and Vale 2001).

Also, trade can be facilitated through financial development; the easier it is to make reliable financial transactions, the friendlier is the trading environment. A study finds, indeed, that an industry in a country with higher levels of financial development has higher export shares and trade balances in industries that use more external finance (Beck 2003). For example, take Mexico and South Korea. In the 1980s, their private credit levels were 12 and 66 percent, respectively. Pottery is an industry that uses limited external finance, whereas plastic relies heavily on external finance. Indeed, the study finds that Mexico’s trade balance in the plastic goods industry was 0.05 percentage points *lower* than its trade balance in the pottery industry. However, South Korea’s trade balance in plastic goods was 0.29 percentage points *higher* than its trade balance in pottery. A good part of this difference was due to the varying level of financial sector development.

Financial Development Allows for Risk-sharing and Lowers Volatility

Typically, research shows that lower GDP volatility is associated with higher GDP per capita. Lower GDP volatility means more stable incomes for firms and households. The risks reduction underlying this relationship comes about through the financial system, with the benefits from greater financial development being large. In general, there is much empirical support that financial development results in lower GDP volatility, because investors and lenders can share risks better, and hence, absorb economic shocks more easily. Better risk-sharing makes investors more willing to invest in higher-risk, higher-return projects, enhancing growth. In addition, a well-developed financial system means fewer financial crises.

Absorption of Shocks Through Risk Sharing. A developed financial sector is able to spread risks widely, so that many economic agents bear a small portion of an economic shock, leading to more GDP stability and higher growth. Insurance products and sophisticated financial instruments ensure that risks will be carried by those who are able and willing to do so. The risk reduction comes about more generally through the services a financial system



Source: Data from Beck, Lundberg and Majnoni (forthcoming).

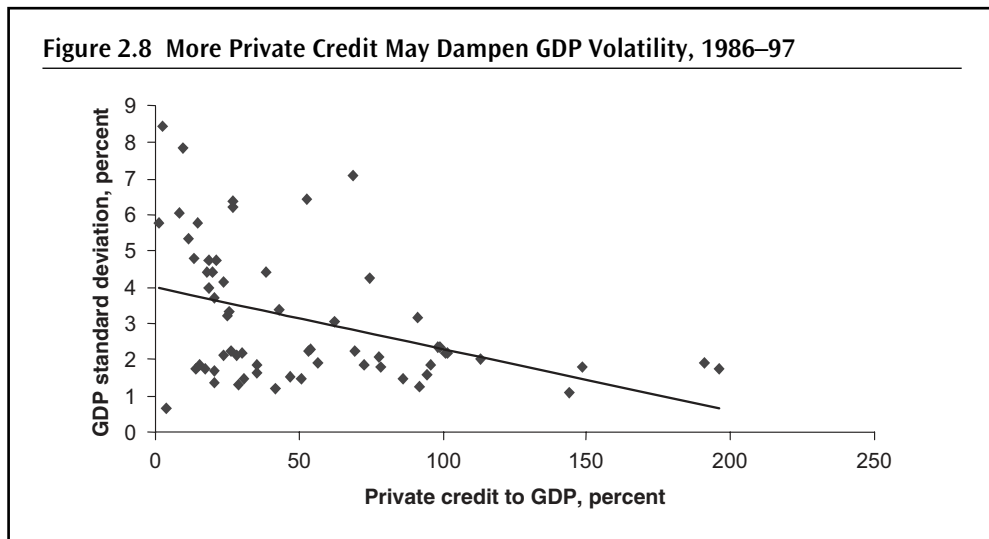
offers. There is much empirical support showing that private credit is associated with lower volatility (Figure 2.7). High volatility has a negative effect on investment because it makes predicting returns on (long-term) investments more difficult. In addition, long-term investments tie up money, exposing investors to the risk of not having money available to absorb sudden income shocks (liquidity risk). Spreading of these risks using financial markets can lead to more investment in long-term, high-return projects, which boosts economic growth. In addition, better financial markets can lower output volatility, because long-term projects will be less frequently terminated due to liquidity problems in recessions (termination would only amplify the recession).

A study, indeed, predicts that a doubling of private sector credit from 20 percent to 40 percent reduces the standard deviation of growth from 4 to 3 percentage points per year (Figure 2.8). This effect is more pronounced for countries with low private credit (Easterly, Islam, and Stiglitz 2001).

Other, more recent research finds that financial development dampened the impact of volatility on GDP per capita growth over the period 1960–95. For example, an increase in private credit to GDP with 38 percent (a one standard deviation in the sample used) would reduce the impact of a 1 percentage point rise in volatility on GDP growth with 0.68 percentage points. This effect is large, given the average annual growth rate of that period.⁴¹

Research also shows that sectors that are more dependent on external finance experience lower output volatility and experience fewer deep crises in countries with more developed financial systems. For example, if Egypt had achieved the financial development of Spain, the standard deviation of its aggregate manufacturing value added would fall from 6.8 to

41. Aghion and others (2005) and Beck, Lundberg, and Majnoni (forthcoming). The latter, though, do not find robust results for the link between financial development and GDP volatility.



Source: Data from Beck, Lundberg and Majnoni (forthcoming).

5.8 percentage points. This represents a 15 percent reduction in volatility that would close half of the volatility gap between Egypt and Spain (1.8 percent; Raddatz 2003).

More investment in Long-Term, High-Return Projects and Fewer Liquidations. High volatility has a negative effect on investment because it makes predicting returns on (long-term) investments more difficult. In addition, long-term investments tie up money, exposing investors to the risk of not having money available to absorb sudden income shocks (liquidity risk). Spreading of these risks using financial markets can lead to more investment in long-term, high-return projects, which boosts economic growth. In addition, better financial markets can lower output volatility, because long-term projects will be less frequently terminated due to liquidity problems in recessions (termination would only amplify the recession).

Fewer and Less-Costly Financial Crises. Financial systems are inherently fragile, in part since they largely rest on contracts that promise to exchange money now for repayment in an uncertain future. Banking systems are especially fragile, as banks fund themselves with short-term deposits and invest long term. Furthermore, banks are subject to moral hazard.⁴² This fragility has resulted in financial crises from time to time, both in developed and developing countries. However, more developed financial sectors are far less fragile and have seen fewer crises.

The real costs associated with a crisis can be high as financial sectors function poorly in the wake of a crisis. Good borrowers are excluded from credit, which reduces growth, and depositors may lose their savings due to bank default or high inflation, reducing the

42. Moral hazard is a technical term that indicates undesirable, costly behavior of the party receiving a loan. For example, a manager receiving money from a bank may sometimes have an incentive to gamble with it because he or she does not (fully) bear the cost of project failure.

supply of savings available for intermediation. Research shows that financial crises are often followed by large output losses and lower growth. Data show that banking crises costing about 20 percent of GDP were roughly associated with a 10 percent output loss (Honohan and Klingebiel 2000).

If a crisis occurs, it appears that governments of countries with poorly developed systems have a harder time resolving them and end up spending more fiscal resources to restore the system. For example, the Indonesian financial crisis in 1997 and the Chilean crisis of 1981 both had fiscal costs of about 50 percent of GDP. However, the Swedish crisis in 1991 had a fiscal cost of less than 5 percent of GDP.

Financial Development Can Stimulate Public Sector Development. Financial development can have a beneficial effect on public finance. For example, large and liquid government bond markets could enable the government to raise cheap capital to finance its budget and invest in key infrastructure. Investments in energy, health care, education, telecom, and transportation infrastructure are deemed to be one of the most important factors to increase proximity to markets and increase productivity (UN Millennium Development Project 2005). Additionally, mature government bond markets can prevent crowding out of private investments in the banking system. At the same time, active bond markets can discipline profligate governments, thereby reducing the risks of a fiscal crisis and its adverse consequences on the population, especially the poor.

Summary and Conclusion

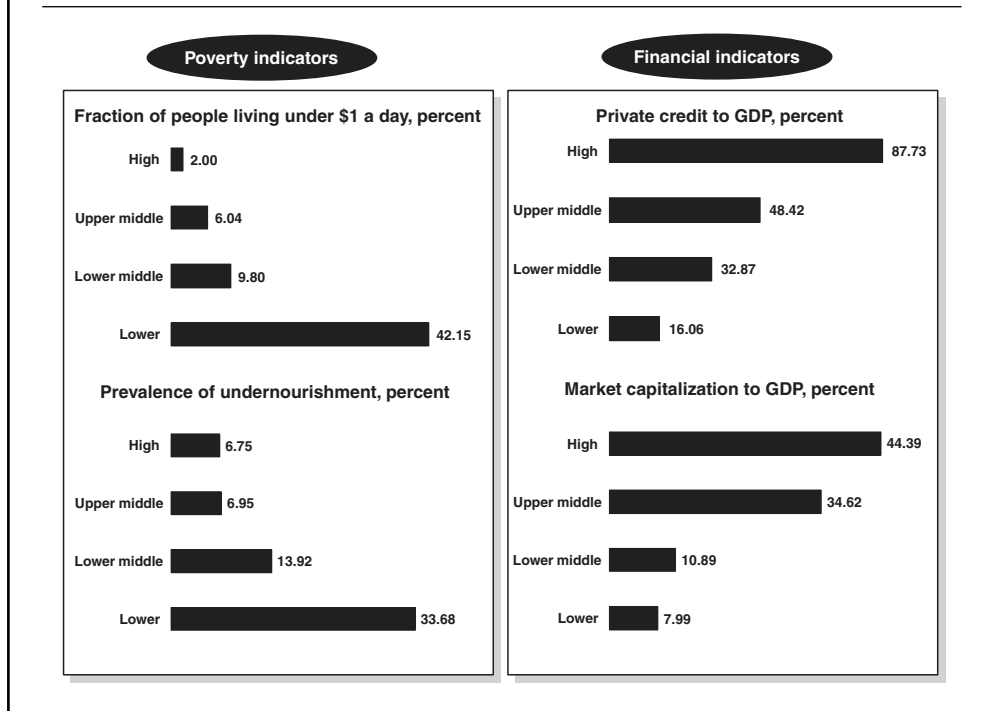
The empirical evidence that financial sector development fosters economic growth and improves financial stability has been accumulating over the last two decades. Little doubt remains that finance is one of the most important drivers of economic growth. The channels through which finance helps economic development have been clearly identified: greater private sector development, increases in productivity and capital accumulation, improvements in competition and innovation, and greater risk-sharing and lower volatility. There can also be beneficial effects from greater financial sector development on public sector management. The evidence also shows that the benefits from greater financial sector development can come from all forms of financial intermediation: banks, capital markets, and other non-bank financial institutions.

Financial Sector Development and Poverty Reduction

Financial development does not only lead to growth, nor does it just benefit the rich. Research shows that the poor specifically can benefit substantially when financial sector performance improves. Casual observation of the data already suggests that poverty indicators and financial development indicators are inversely related (Figure 3.1). Closer scrutiny of the data reveals strong evidence that financial development reduces income poverty significantly, the first component of the Poverty MDG. In addition, new evidence indicates that financial development leads to lower prevalence of undernourishment, the second component of the Poverty MDG.

This section substantiates these claims by providing an overview of the relationships between financial development and poverty reduction. First, we discuss how households can use financial services, such as payment services, credit, savings, and insurance, to reduce poverty. Second, we show that financial development reduces income poverty through two channels: by fostering economic growth and by reducing inequality. We do so by describing the links between income poverty, economic growth, and inequality, and by discussing the links established between financial development, income poverty, and inequality. Third, we present our own empirical results that financial development reduces the prevalence of undernourishment by increasing agricultural productivity. Last, we illustrate the cross-country research findings by discussing some case studies on microfinance programs in India, Bangladesh, and Bolivia.

Figure 3.1 Financial Development and Poverty Across Country Income Groups, 1980–2004¹



¹ Numbers are averages.

Source: World Development Indicators (2005); Authors' analysis.

How Households Use Financial Services to Reduce Poverty

This section elaborates on how financial services can make a direct difference for the poor. First, we discuss how financial products could aid the poor in alleviating poverty. Next, we describe the indirect evidence of the effects of financial development on poverty.

How Financial Products Help to Reduce Poverty on the Household Level

The poor generally have worse access to finance (also, see Chapter 5, Access to Finance for Poor Households and Smaller Firms). At the same time, they disproportionately stand to gain from improved access. For one, access to financial services can provide income as it reduces costs. For example, a World Bank study estimates the cost of being unbanked to be 2.5 percent of median household income in the United States and 5 percent in Mexico (Solo, Caskey, and Durán 2004). Access may also increase income due to higher productivity and dampen income volatility due to better insurance. We review these impacts on poverty arising from the various forms of financial services (payment services, savings, credit, and insurance) one by one.

Payment Services. Payments via a developed financial sector can be cheaper, easier, and safer than cash payments. For example, a well-developed financial sector provides transcripts to prove payment and protects parties from theft, and reduces travel costs. This facilitates and increases transactions between parties, especially those who are unfamiliar with each other (UNCDF 2006). Cash payments are more common among the poor, however. For example, a study finds that in Mexico, 95–99 percent pay in cash and in person (Solo, Caskey, and Durán 2004). They thus incur costs of being unbanked. For example, households are often charged a fee for the services of a money middleman.

One important function of the payment system is the transfer of funds, including remittances.⁴³ Remittances cross-border have grown dramatically in recent years from \$18 billion in 1980 to over \$126 billion in 2004 and are an important source of income for people in developing countries (World Bank 2006c). However, making remittances is much more expensive for the unbanked. For example, a study estimates that a \$100 money wire from New York to Mexico costs \$10 more for an unbanked person than for a person with a bank account.

Savings. Saving is important for households to weather difficult times, like drought, damages, and fire; and to plan for the future, such as accumulate a dowry. However, poor households often have risky, low-yield informal savings in the form of livestock, jewelry, cash, and deposits in rotating savings and credit associations. Investment in livestock is risky and inconvenient because animals are susceptible to illness and can only be sold entirely, even when a household only needs a small amount of cash. Besides being risky, these forms of savings are often costly, implying a low or negative real (inflation-adjusted) yield (UNCDF 2006).

Hence, when the financial sector functions properly, it enables households to diversify their savings over deposits, bond markets, and stock markets (and real assets) with more attractive yields. Despite popular belief, poor households do save using financial instruments when available.⁴⁴ For example, microfinance institution Fonds d'Actions Mutuelles (FAM) in Congo had an average savings balance of \$407 in 2004. For Banco Ademi in the Dominican Republic, this balance was \$807, and it was \$20 for the average saver of Bangladesh Rural Advancement Committee (BRAC) in Bangladesh (MicroBankingBulletin 2006).

Credit. Affordable credit can help households overcome shocks like illness and death, “smooth” their consumption, and give them the opportunity to invest and increase their productivity. For example, credit empowers would-be entrepreneurs and enables households to buy fertilizers, better seeds, tractors, and education services for their children. In turn, higher (agricultural) productivity and higher incomes provide households with access to better nutrition, reducing the prevalence of undernourishment.

Insurance. Volatility of household income, especially the poor, can be high due to fire, theft, drought, illness, death, and so forth. When there are ideal insurance markets, people

43. Remittances are funds sent by migrants working abroad.

44. The overall average savings in microfinance institutions across 70 countries was \$206 in 2004, see also Section Access to Finance.

need not suffer from unavoidable risks. For example, if people in an isolated village could insure each other perfectly, individual income volatility should only respond to village-level income fluctuations and not to shocks to individual incomes, because these can be absorbed by the village population as a whole. However, a study on the Ivory Coast shows that this does not happen in practice (see Chapter 5, *Access to Financial Services for Poor Households and Smaller Firms*, for possible reasons).⁴⁵ This greater exposure to risk could result in underinvestment in higher yield but riskier projects (see Chapter 2, *Financial Sector Development and Income Improvement*).

Shocks can have a severe impact on poor households' welfare, since they often do not have any other cushion of assets.⁴⁶ Besides using financial insurance products, middle- and upper-income households are more likely to be able to mitigate shocks by self-insurance mechanisms such as borrowing, saving, or selling off easily transferable assets (for example, machines or a car). However, even these mechanisms are not very efficient. Hence, there is room for formal insurance. Important and viable forms of insurance for poor households include, among others, rainfall insurance, health insurance, and life insurance (Murdoch 2004).

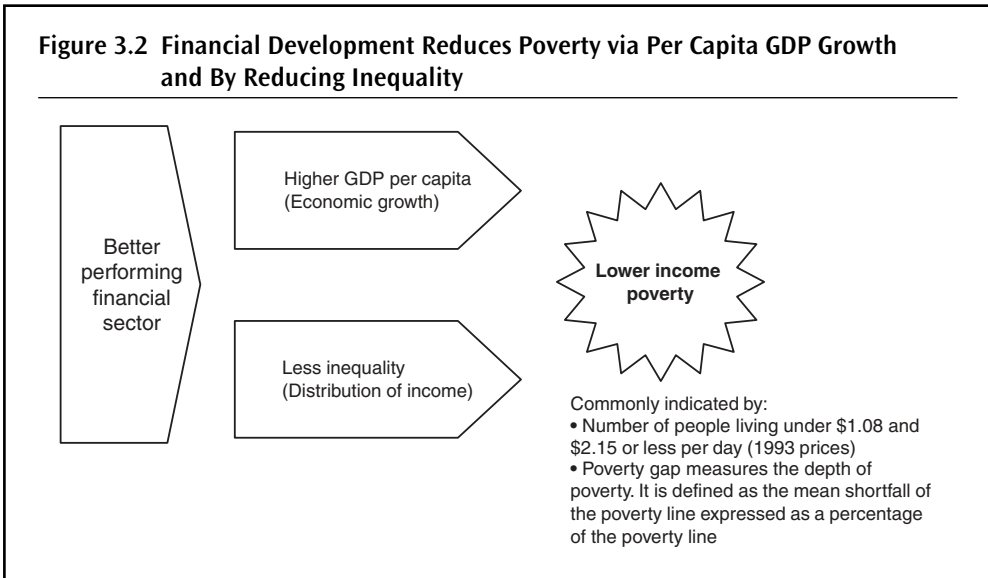
Financial Development Reduces Poverty By Stimulating Economic Growth and Reducing Inequality

In 2001, GDP per capita in the world was on average about \$21 a day. However, in the same year, more than half of the world population lived on less than \$2 a day, and more than 1 billion lived on less than \$1 a day.⁴⁷ Shown this way, poverty reflects the unequal distribution of income around the world. Besides a globally unequal distribution, poverty at the individual country level is, in turn, driven by a combination of lack of economic growth, as measured by GDP per capita, and an unfair income distribution, as measured by inequality. Inequality matters because poverty could be high despite a high level of GDP per capita if inequality is high as well.

45. World Development Report 2006: *Equity and Development* (2005), Chapter 5. For more on risk and insurance of the poor, see World Development Report 2000/2001: *Attacking Poverty* (2000), Chapter 8.

46. A recent research paper describes the impact of these shocks on poor households as follows: The first stage is the immediate impact of the shock, which results in the loss of an asset and/or income, and the need for lump sums of cash. For example, in the case of the death of a family member, there is an immediate need for funds to bury the individual, for a funeral, and for transport of the body and family members. The second stage is the medium and long-term impact of the shock; the repercussions that call for strategic choices by households as they reallocate resources to respond to curtailed cash flow from the loss of assets and work to get back on their feet. The second stage can be particularly debilitating if the shock is the death of a household's major income earner, as the transitory shock of the costs of the death is compounded by the permanent negative shock to income. To demonstrate the effect of a lack of insurance, a research paper describes that although average Chinese incomes were growing with 8 percent per year in the late 1970s, a quarter of the population in a given year suffered losses of 20 percent, mainly due to drought, floods, hail, pest infestation, and livestock disease. Although the poor are able to informally share risk in their communities, the paper argues that the poor do so inefficiently or even not at all (as evidenced by the Ivory Coast study).

47. Note that all these numbers take into account the fact that there are differences in purchasing power across countries.



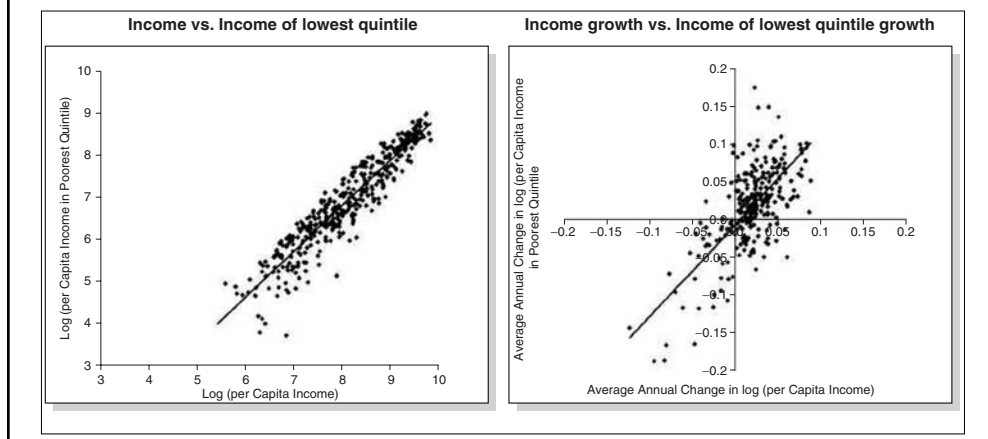
Source: Authors' analysis.

Research has shown that, indeed, growth and reduced inequality both have an individual effect in terms of alleviating poverty. Importantly, research finds that financial development reduces poverty and does so via both channels. There is much direct evidence that financial development helps economic growth, as already discussed in a previous chapter. Recent research, however, also finds that financial development reduces inequality. This is so because access to financial services levels the playing field and gives the poor better opportunities to participate in the (formal) economy. Altogether, financial development's effect on poverty is estimated to come half through its impact on growth and half through its impact on reducing inequality (Figure 3.2). Together, these findings imply that financial development can be an effective poverty reduction policy as it drives economic growth and simultaneously reduces inequality.

Economic Growth, Inequality, and Income Poverty

A large literature is devoted to the important relationships between economic growth, inequality, and poverty. Broadly speaking, research finds empirical support that both economic growth and lower inequality reduce poverty. While there is little debate that both economic growth and reducing inequality matter for poverty reduction, there is much debate about whether policies aimed at reducing inequality also affect economic growth. While the impact of economic growth on inequality seems to be neutral, the relationship between inequality and economic growth is more complex.

Higher Growth and Lower Inequality Reduce Poverty. One piece of evidence on the importance of growth is that the poorest share close to proportional in the benefits of economic growth. Research shows that overall income per capita and growth rate of income

Figure 3.3 Average Income and Income of Lowest Quintile Are Highly Associated

Source: Dollar and Kraay (2000).

per capita are highly associated with, respectively, the level of income of the poorest quintile and the growth rate of the poorest quintile's income (Figure 3.3; Dollar and Kraay 2000). The right panel shows that higher income (GDP per capita) is associated with lower poverty, as expected.⁴⁸ The left panel shows that growth in overall income per capita explains over 80 percent of the variation in the growth of the income of the lowest quintile. The poor thus benefit close to proportional from growth, that is, the poor do share in overall growth (Besley and Burgess 2003).

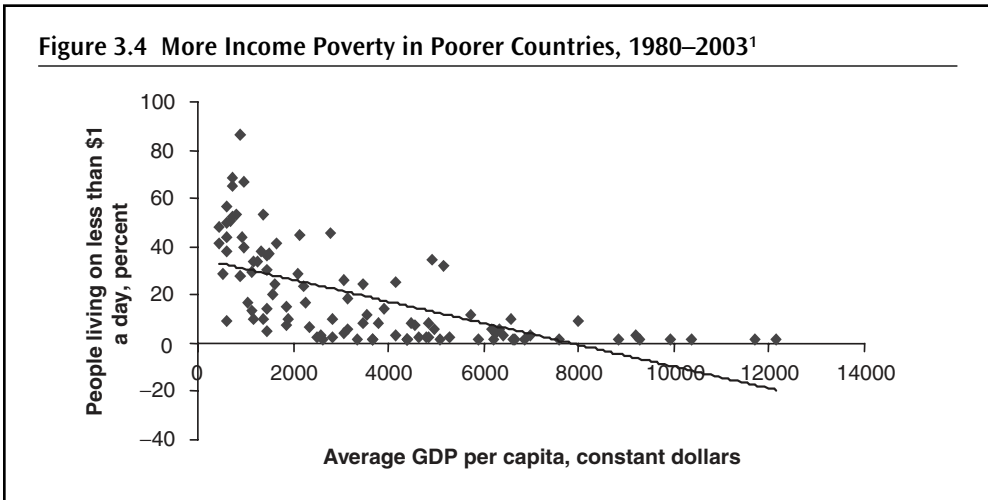
Figure 3.4 confirms that higher incomes lead to reduced poverty, suggesting that any increased inequality associated with higher overall incomes does not offset the gains from overall growth for poverty.

To get a sense of the effects, one study finds that it would require a 3.8 percent per capita world growth rate from 1990 on to cut world poverty in half by 2015. This, however, represents more than a doubling of growth compared to the historical annual growth rate of 1.7 percent from 1960–90, and would be hard to achieve. There are also sharp regional differences in the necessary growth rates. For example, Sub-Saharan Africa would require a yearly growth rate of 4.5 percent, whereas the historical annual growth rate in this region was only 0.2 percent. In East Asia, in contrast, historical and required growth rates are very close.

The importance of growth does not negate the relevance of inequality. A study confirms that less inequality leads to a significant reduction in poverty.⁴⁹ If one could diminish world inequality with one standard deviation without sacrificing growth, poverty would

48. For a discussion, see Ravallion (2001). For a (controversial) confirmation, see Dollar and Kraay (2000).

49. For the effect of inequality on poverty, see Ravallion (2005).



¹ All numbers are corrected for purchasing power parity.

Source: World Development Indicators (2005); Authors' analysis.

be reduced by 67 percent.⁵⁰ In all, these findings imply that both growth and reduced inequality have large effects on poverty.

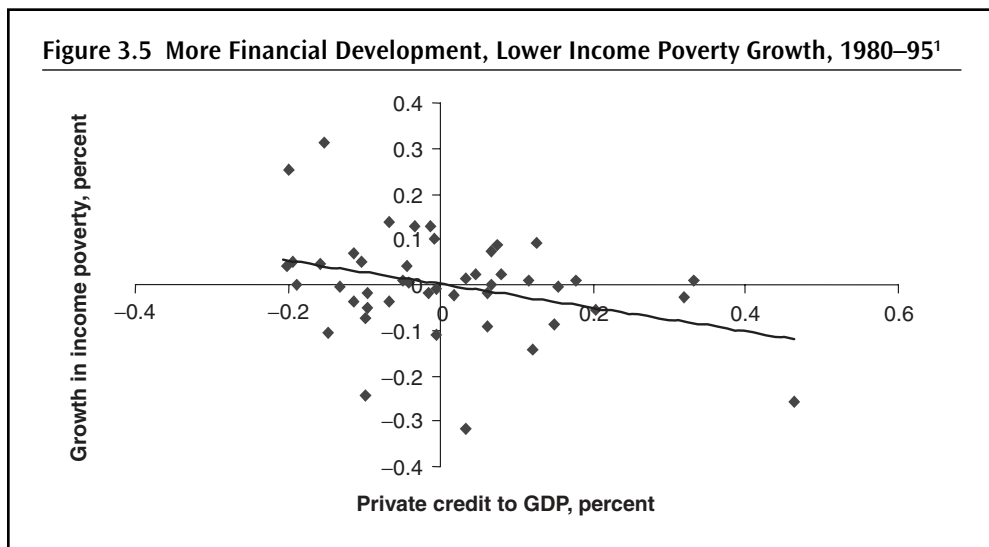
The Role of Financial Development in Poverty Reduction

To bridge the economic growth gap needed to reach the MDG income poverty target, financial development could play an important role via both its growth and inequality channels. The previous section (Chapter 2, Financial Sector Development and Income Improvement) implied that if all countries would have had financial sectors in 1990 equal to the current average, there would have been an additional yearly per capita GDP growth of 0.7–0.9 percentage points. So in principle, financial development alone could lead to growth rates close to about half of the gap needed to cut world poverty in half by 2015.

Financial Development Reduces Poverty. There is also direct evidence that financial development is associated with a lower poverty ratio. A recent study analyzing the relationships between levels of financial development and poverty finds that a 10-percentage point increase in private credit to GDP reduces poverty ratios by 2.5–3 percentage points.⁵¹ This effect persists even when GDP per capita is taken into account, suggesting that besides raising income levels, financial development also works via a reduction in inequality by broadening the opportunity of all to participate in productive economic activities. However, these results do not hold when using measures of stock markets as a

50. Here, inequality is measured as the standard deviation of the world income distribution in logarithms.

51. Honohan (2003). These results are less likely to be infected by endogeneity problems, because only a small fraction of financial assets is held by the poor.



¹ This is a plot of residuals. Both growth in income poverty (percentage of people who live on less than \$1 a day) and private credit to GDP were first regressed on initial poverty, average trade openness, and average inflation.

Source: Data from Beck Demirgüç-Kunt and R. Levine (2000); Authors' analysis.

proxy of financial development. Perhaps, the effects of stock market development on poverty are more indirect, or maybe stock markets benefit richer people rather than poorer people in society.⁵²

Furthermore, and more importantly, financial development accelerates improvements in the poverty ratio and the poverty gap.⁵³ Recent research that studies the period 1980–2000 finds that decreases in poverty are faster in countries that had faster growing ratios of private credit to GDP.⁵⁴ For example, Chile had a *decrease* in its poverty ratio of about 14 percent per year between 1987 and 2000. In Peru, the poverty ratio *increased* at an annual growth rate of 19 percent between 1985 and 2000. The study indicates that if Peru had improved its private credit from 13 percent to 54 percent, the level of Chile, its poverty ratio would have increased only at 5 percent per year. This would have resulted in a poverty ratio in 2000 of 2 percent instead of the actual 15 percent. Analyzing the growth of the poverty gap and financial development in that period produces similar results. These results hold even when other important factors, such as the initial level of poverty, inflation, and trade openness, are taken into account (Figure 3.5).

52. There is some research that shows that stock market liberalization may increase inequality, possibly simply because only rich people can afford to hold stocks.

53. The mean distance below the poverty line, expressed as a percentage of the poverty line. The mean is taken over the entire population, counting the non-poor as having zero poverty gap. The measure reflects the depth of poverty as well as its incidence.

54. Beck, Demirgüç-Kunt, and Levine (2004). The results are even stronger if endogeneity problems are taken into account.

Economic Growth and Inequality Exhibit a Complex Relationship

The link between economic growth and inequality is more complex and has been hotly debated in the theoretical and empirical literature.⁵⁵ The long-standing argument, dating back to the Kuznet's curve, is that countries go through a period of increased inequality as they develop (with some arguing that the increase in inequality actually can spur development), but then see inequality fall again. Recent research finds evidence, however, that changes of inequality in any direction reduce subsequent growth (Banerjee and Duflo 2003). Yet, there is also evidence that economic growth has little impact on inequality. That is, the benefits of growth are distributed over the rich and the poor according to the current level of inequality (Dollar and Kraay 2000). We will not review this large literature, but will focus on the role of financial development.

Financial Development, Income Poverty, and Inequality

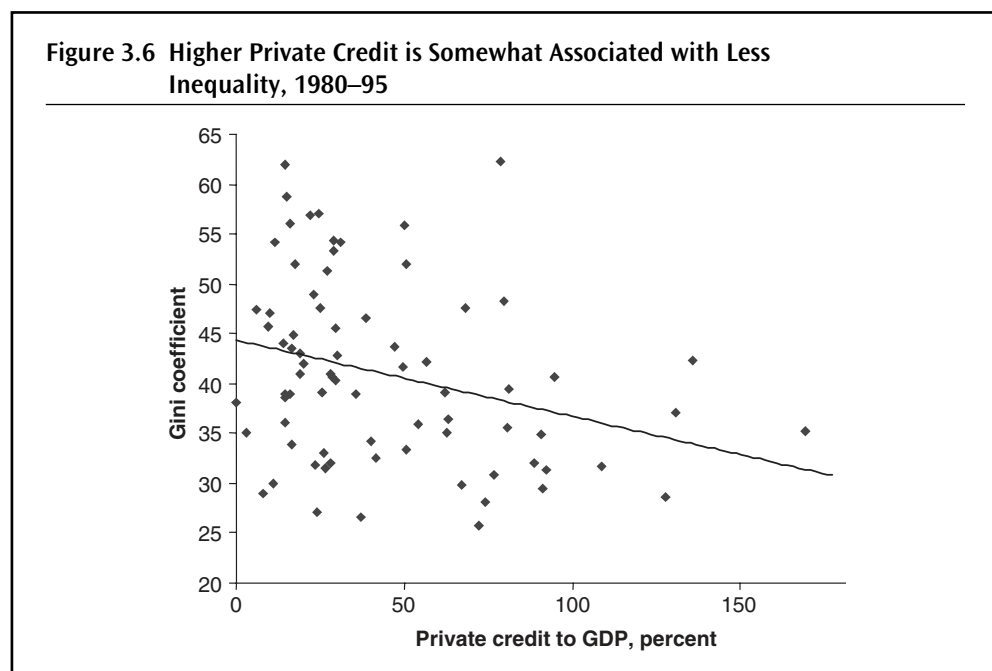
Emerging evidence shows that, besides causing economic growth, financial development is also associated with lower poverty ratios. Moreover, there is evidence that greater financial development leads to a faster reduction of the poverty ratio and the poverty gap. Financial development's simultaneous impact on growth and inequality is very desirable: it avoids any redistributive policies with possible economic costs and might politically be more feasible. However, at the same financial sector, development may mean more financial crises, which can lead to more poverty.

Financial Development Reduces Inequality. Research shows that financial development reduces inequality (Figure 3.6; Claessens and Perotti 2005). It also raises incomes of the poorest households. This later finding may not be obvious. Some scholars argue that only the rich benefit from financial development because only they have access to financial services. Others argue that only in a later stage of development do the poor also get access to financial services (Banerjee and Newman 1993; Greenwood and Jovanovic 1990; and Aghion and Bolton 1997). And others argue that the beneficial effects of financial development for the poor come about in an indirect way, even when they do not have direct access to financial services. The available empirical evidence is nevertheless clear: Financial sector development reduces inequality.

A study finds that financial development reduces inequality as measured by the Gini coefficient, where a higher Gini coefficient indicates more inequality.⁵⁶ For example, in 2000, Sweden, a country with low inequality, had a Gini coefficient of 25. However, for South Africa, it was almost 58. The effect of financial development on inequality is large and stronger for countries with greater financial development (as measured by more private credit). To get a sense of the order of magnitude, if Mexico had increased its average

55. In empirical work, Barro (2000) finds no relationship between inequality and growth in the whole sample, but a positive relationship in rich countries and a negative relationship in poor countries. Forbes (2000) finds a negative relationship overall.

56. Gini coefficient takes on values between 0 (everybody has the same income) and 100 (a single person has all income).



Source: Data from Beck Demirgüç-Kunt and R. Levine (2000); Authors' analysis.

private credit to GDP from the actual 19 percent to the study's average of 38 percent in the period of 1965–90, it would have decreased its Gini coefficient by 5.7 percentage points from 52.⁵⁷

The stronger effect of financial development in more financially developed countries is hypothesized to be due to the fact that during their growth, countries shift from the agricultural to the modern sector. Arguably, working in the modern sector requires more access to finance, for example, to start and run a firm, or to invest in higher education. Hence, financial development reduces inequality disproportionately once the transition to the modern sector is on its way; whereas for developing countries where the modern sector is in its infancy, financial development is not yet as important to increasing economic growth and reducing inequality.

Financial development also *accelerates* the decline in inequality. There is cross-country evidence that an increase in private credit to GDP leads to a faster decline in the Gini coefficient for the period of 1960–99 (Clarke, Xu, and Zou 2003). The study also shows that this happens even faster in countries with initially high inequality. Moreover, the effect of private credit is strong even after the general level of development (as proxied by GDP per capita growth) is taken into account. This suggests that private credit has a disproportionate effect on inequality reduction.

57. Clarke, Xu, and Zou (2003) and Li, Squire, and Zou (1998). They correct for possible endogeneity problems. In the calculation, we assume linearity.

This effect also holds when, besides GDP per capita growth, the level of education and some macroeconomic variables are taken into account. The study estimates that about half of the effect of financial development on the poverty ratio runs via a reduction in inequality. This result suggests that financial development has a disproportionately positive effect on the incomes of the poorest.

Other evidence also suggests that financial development disproportionately increases the income of the poorest 20 percent. Recent research for the period 1960–99 finds that financial development has a beneficial effect on the incomes of the poorest quintile of the income distribution. The study's findings imply, for example, that the poorest quintile of Brazilians could have had an income growth of 1.5 percent per year instead of the actual 0 percent, if Brazil had increased its private credit to GDP from 28 percent to the level of South Korea (74 percent).

The beneficial effects of financial development are confirmed by the costs of limited, poor, or perverse financial development. There is a literature that shows that financial crises increase poverty and inequality. For example, before the Asian crisis, Indonesia had a poverty ratio of around 25 percent. Poverty increased substantially following the 1997 crisis to almost 40 percent. South Korea had a national poverty ratio of 10 percent, which rose to almost 25 percent after its crisis.⁵⁸ Besides the loss of jobs and income, the poor are hit harder than the rich during and after crises via taxation and erosion of their financial accounts. Research on Latin-American crises shows, for example, that the rich and foreigners have more information about the crises and make large withdrawals from their accounts before the crisis happens. This does not happen for smaller accounts (Halac and Schmukler 2003). However, a study on Mexico indicates that the costs of the crisis are spread fairly over all income groups, although household incomes in general declined with 30 percent during the crisis in 1994–95 (Maloney, Cunningham, and Bosch 2003).

Stock market liberalization can also increase inequality in the short run. A study of stock market liberalization in developing countries shows that liberalization's benefits primarily accrue to the rich at the expense of middle-income citizens, and have little effect on the poor as they do not participate in stock markets. Following liberalization, the share of total income by the highest income earners rose by 1.3 percentage points, the income share of the middle class declined by 1.45 percentage points, while the income share of the poorest 20 percent was not affected by liberalization (Das and Mohapatra 2003).

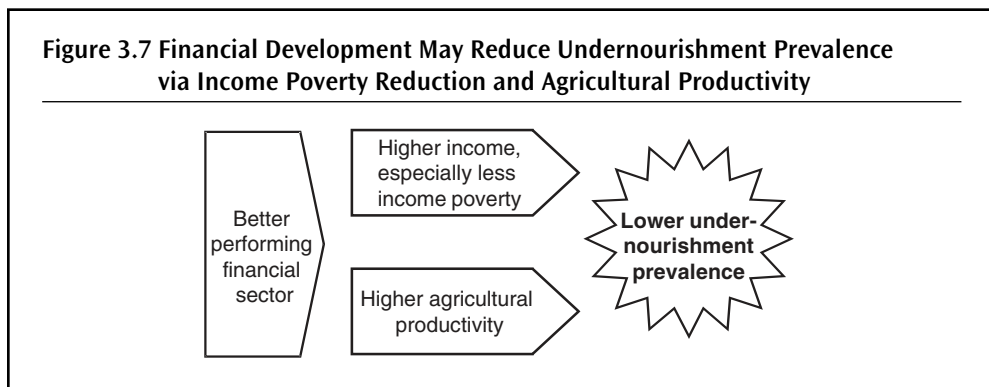
Financial Development May Reduce Undernourishment By Reducing Income Poverty and Increasing Agricultural Productivity⁵⁹

While the effect of financial development on growth has been studied and more recently also its effect on poverty, little research has, so far, studied the link between financial development and undernourishment, another MDG indicator.⁶⁰ Our own results

58. World Bank (2001). The poverty line used for Indonesia was \$1.50 or less per day. The national poverty line according to the South Korean government is about \$8 a day.

59 This section is based on Claessens and Feijen (2006).

60 There is some anecdotal case study evidence: For Bolivia, see MkNelly and Dunford (1999); for Ghana, see Barnes (2001); for Bangladesh, see Chowdhury, Syed, and Bhuiya (2001).



Source: Authors' analysis.

suggest that there are at least two channels through which financial development reduces undernourishment prevalence: via reduced income poverty and via higher agricultural productivity (Figure 3.7).

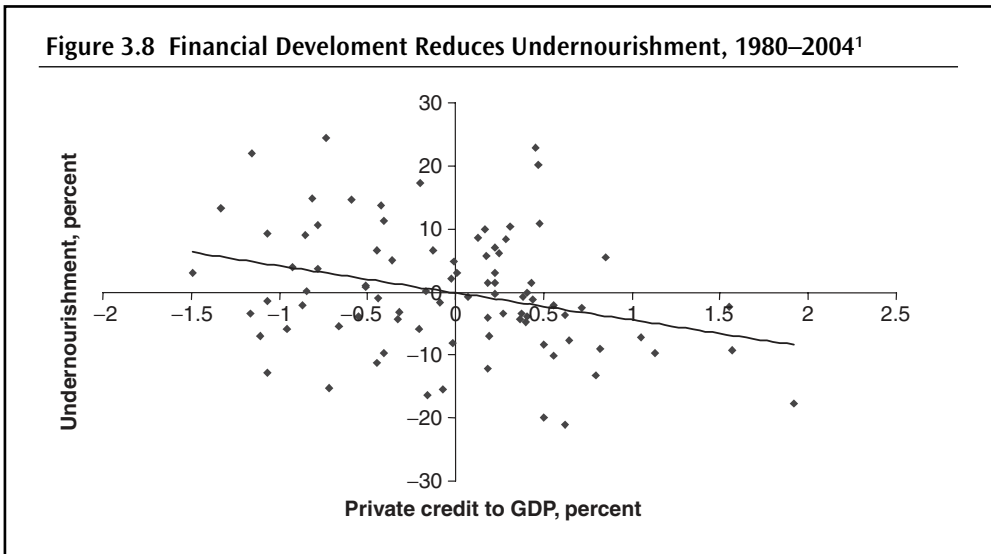
Although productivity and income undoubtedly influence each other, statistical analysis shows that they both exert a strong individual effect on undernourishment (taking into account the effect of the initial value of the other on the prevalence of undernourishment). Higher income enables households to avail themselves of more and better nutrition. Higher agricultural productivity enables rural households to increase the yields of their land for their own consumption or sell and trade the surplus, boosting their incomes. Moreover, higher productivity can lower the market price of food, thereby making it more accessible to poor households.

The poor typically lack income and access to healthy nutrition, which may lead to undernourishment, an important component of the Poverty MDG. One is considered undernourished when one's food intake falls below the minimum requirement or when one's food intake is insufficient to meet dietary energy requirements continuously.⁶¹ In a sample of 94 countries, average prevalence of undernourishment in the 1990s was around 20 percent of the population. However, there is wide disparity. For example, undernourishment's prevalence was 58 percent in Angola (1992), whereas it was only 2.5 percent in Poland (1995).

Using a sample of 49 countries for the period 1980–2004, we show a strong relationship between financial development and undernourishment, a relationship that appears causal (Figure 3.8). For example, an increase in private credit to GDP in Bangladesh from 17.2 percent (25th percentile) to the median, 27.6 percent, would decrease undernourishment prevalence with 8 percentage points from its actual value of 35 percent.⁶²

61. For details, see the Food and Agriculture Organization, www.fao.org.

62. In these regressions, we control for the effect of initial GDP per capita, initial poverty, inflation, trade as a percentage of GDP, share of working population in agriculture, and share of population living in rural areas. All variables, except inflation, are in logs.



¹ Plot of residuals. Undernourishment is the prevalence of undernourishment as a percentage of total population. Both variables were first regressed on initial GDP per capita, initial poverty, share of working population in agriculture, share of population living in rural areas, inflation, and trade as a share of GDP. *Source:* World Development Indicators (2005); Authors' analysis.

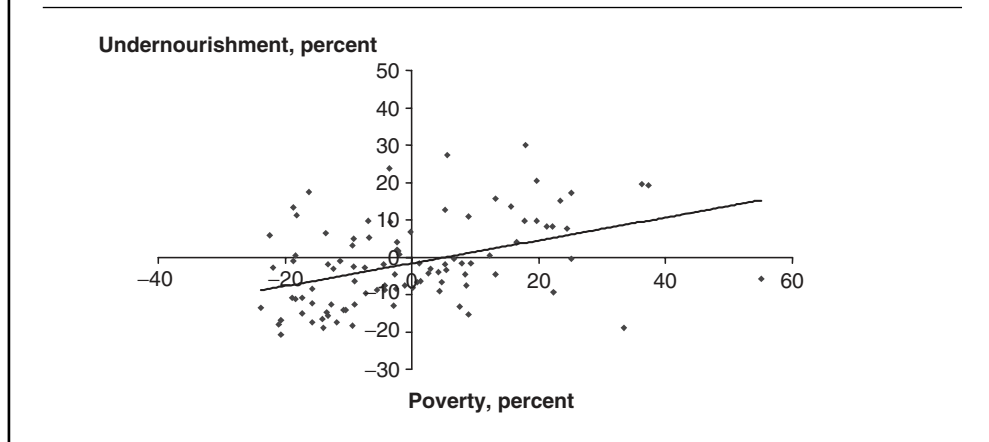
Financial Development Reduces Undernourishment Prevalence Through Income Poverty Reduction

Because financial development reduces income poverty and there exists a strong relationship between income poverty and undernourishment, financial development may reduce the prevalence of undernourishment via income poverty reduction. There is ample anecdotal evidence that income poverty is the main cause of undernourishment. For example, in Indonesia during 1984–87, rising income standards reduced malnutrition in the country, and the fraction of people living at less than 1,400 calories declined by 26 percent (World Bank 1993).

Using a sample of 84 countries in the period 1980–2004, data indeed confirm a strong relationship between the prevalence of income poverty and undernourishment, even when we take into account the effect of average GDP per capita (Figure 3.9). The relation is of substantial importance, and there is evidence that the relationship is causal.⁶³ In terms of order of magnitude, the analysis implies that a one-percentage point increase in private

63. In these regressions, we control for the effect of initial GDP per capita, added value per worker in the agricultural sector, inflation, trade as a percentage of GDP, share of working population in agriculture, and share of population living in rural areas. All variables, except inflation, are in logs. Note that we do *not* consider endogeneity problems, i.e., undernourishment may also affect poverty. When we instrument poverty with legal origin, we do find that poverty significantly causes undernourishment, and the estimated effect is more than twice as high. Econometrically speaking, this instrument is valid, although from a conceptual point of view, this is less clear.

Figure 3.9 Income Poverty and Undernourishment Are Strongly Associated, 1980–2004¹



¹ This is a plot of residuals. Poverty is the average percentage of people who live on less than \$1 a day (1980–2000). Undernourishment is the prevalence of undernourishment as a percentage of total population. First, the variables were regressed on average GDP per capita.

Source: World Development Indicators (2005); Authors' analysis.

credit to GDP reduces the prevalence of undernourishment by 0.22–2.45 percentage points. This finding implies that there is a lot to gain from financial sector development, since private credit to GDP is around 16 percent in low-income countries and around 88 percent in high-income countries.

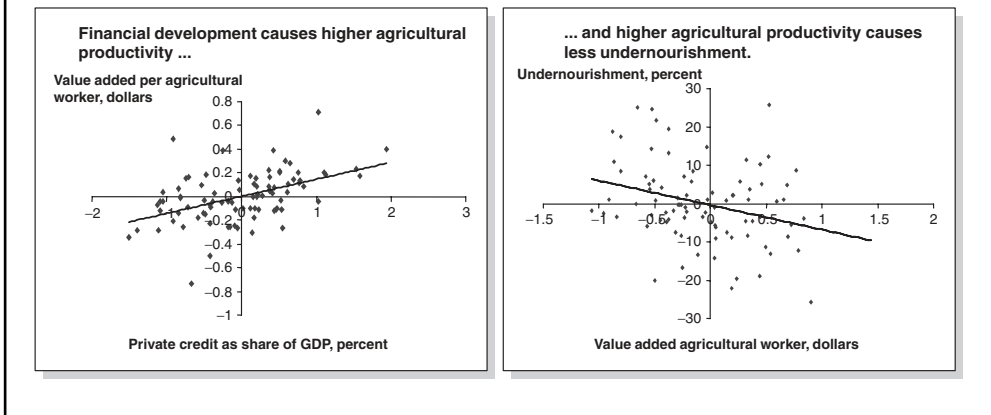
Financial Development Causes Less Undernourishment via Higher Agricultural Productivity

While the link between undernourishment and income poverty may not be surprising, it does focus on the factors driving income, including financial development. In further tests, we find that financial development causes less undernourishment through higher agricultural productivity, which increases income and food output and reduces food prices. We first show that financial development causes higher agricultural productivity. In addition, we find evidence that agricultural productivity causes less undernourishment (Figure 3.10).

We expect that undernourishment influences agricultural productivity and vice versa. However, in a sample of 100 countries in the period 1980–2004, we find that added value per agricultural worker has a *causal* and substantial impact on undernourishment.⁶⁴ For

64. In the regression, we control for the effect of initial GDP per capita, initial poverty, inflation, share of population in rural areas, share of working population in agriculture, and trade as a share of GDP. All variables, except inflation, are in logs. We instrument added value per agricultural worker with fertilizer use and number of tractors per agricultural worker. The instruments are econometrically valid. The results are robust to using the log of added value per agricultural worker to reduce the effect of outliers.

Figure 3.10 Financial Development Causes Less Undernourishment via Agricultural Productivity, 1980–2004¹



¹These are plots of residuals. Value added per agricultural worker is in constant 2000 dollars. First, all variables were regressed on initial added value per agricultural worker, initial GDP per capita, initial poverty prevalence inflation, and trade as a share of GDP.

Source: World Development Indicators (2005); Authors analysis.

example, a 1 percent increase in value added per worker reduces the prevalence of undernourishment by 0.4 to 1 percent.

In addition, for a sample of over 50 countries, we can show a causal relationship between financial development and agricultural productivity. For example, the analysis implies that a 1 percent increase in private credit to GDP increases value added per worker by 1 to 1.7 percent.⁶⁵ We also find a causal relationship between financial development and the *growth* of agricultural productivity. In turn, this is associated with less undernourishment.

Arguably, greater availability of credit enables farmers to invest in productivity-enhancing equipment and techniques like irrigation, fertilizers, and tractors. Indeed, preliminary analyses suggest a strong association (sometimes even causal) between financial sector development and several agricultural productivity variables. Good results are found for the association between financial development and the number of tractors per worker, fertilizer use, cereal yield, crop productivity, and livestock productivity. While we leave it to future analysis to provide more conclusive evidence, our findings nevertheless strongly suggest that financial development can have a direct impact on the economic prospects of those engaged in agricultural production.

65. In the regression, we control for the effect of initial GDP per capita, initial added value per agricultural worker, initial poverty, inflation, share of population in rural areas, share of working population in agriculture, and trade as a share of GDP. All variables, except inflation, are in logs.

The Effect of Financial Services on Household Poverty: Some Case Study Evidence

In addition to these general results, there is a large literature that documents the beneficial effects of access to financial services and microfinance on poverty using more household micro evidence.⁶⁶ Below, we briefly present the results of three case studies on India, Bangladesh, and Bolivia.

*Case 1: Bank Branch Expansion in Rural India Alleviates Poverty.*⁶⁷ Between 1977 and 1990 almost 30,000 bank branches were opened in rural areas, moving from no former commercial bank presence to about 100 branches per area. This was the result of a social project commissioned by the Indian Central Bank. The Bank aimed at improving access to finance in rural areas: In this period, a commercial bank was to open 4 branches in areas *without* banking presence if it opened a branch in an area *with* bank presence (the 1:4 license rule).

This rule led to the less financially developed regions (as measured by the number of branches per capita in 1961) attracting more branches than their financially developed counterparts. As a result, the share of credit and savings in rural areas rose from 1.5 and 3 percent respectively to 15 percent each. However, the reverse was true when the 1:4 license rule was abandoned in 1990.

This natural experiment enabled researchers to study the impact of access to finance on poverty and output in rural areas. They found that non-agricultural output grew faster and poverty declined more in states with lower financial development in the period 1977–90, whereas the opposite was true outside this period. They estimate that a 1 percent increase in the number of rural banked locations reduced rural poverty by 0.36 percentage points and increased total output by 0.55 percent, due to growth in non-agricultural output.

*Case 2: Microcredit and Educational Programs Alleviate Poverty in Bangladesh.*⁶⁸ The microfinance industry originated on a large scale in Bangladesh with the creation of the Grameen Bank in 1983. The Grameen Bank's goal is to provide credit to poor people, particularly poor women, so that they would have the opportunity to become self-employed. By 1994, the Bank mobilized more than 2 million members, and extended credit with a loan recovery rate of 95 percent. Other initiatives like the BRAC and Rural Development Project-12 (BR-12)⁶⁹ also emerged and extended credit in the same spirit of Grameen Bank, and complemented credit with educational programs for skills development.

Based on a survey held in 1991–92, research finds that the microfinance development alleviated poverty in Bangladesh. About 83 percent of Grameen Bank participants were moderately poor and 33 percent were extremely poor before joining the program. After participation, these numbers were reduced to 62 percent and 10 percent, respectively. The

66. Mknelly and Dunford (1998) on Ghana; Panjaitan-Drioadisuryo, Rositan, and Cloud (1999) on Indonesia; Dunn (2001) on Peru; Todd (2000) on Phillipines; and Pitt et al. (2003) on Bangladesh. For an overview on more case studies, see Morduch and Haley (2002).

67. Burgess and Pande (2005).

68. Khandker (1998).

69. A government-run program headed by the Bangladesh Rural Development Board.

21 percent of households that graduated out of poverty did so on average over 4.2 years of membership with the Grameen Bank, which means that about 5 percent escaped out of poverty every year. Similar effects were recorded for the other microfinance programs, 3 percent for BRAC households and 6 percent for RD-12 households. The average increase of household output for all three programs was over 50 percent.

Aggregate poverty at the village level also declined. Moderate poverty declined with 14 percent in RD-12 villages, 12 percent in Grameen Bank villages, and 10 percent in BRAC villages, respectively. In addition, Grameen Bank villagers were able to increase their wages at the village level with 21 percent by an increase in self-employment and escaping from the informal labor pool.

About half the population of Bangladesh is eligible to participate in a microfinance program and about 45 percent actually does participate. Hence, assuming that 5 percent of microfinance clients graduate out of poverty every year, one can argue that microfinance programs in Bangladesh have alleviated 1 percent of the total population out of poverty every year.

*Case 3: Rural and Urban Microfinance All Alleviate Poverty in Bolivia.*⁷⁰ Bolivia has an active microfinance industry with an urban focus. The Bolivian microfinance developed in the 1980s due to a combination of factors: Bolivia had a high population density, experienced rapid economic growth, deregulated its interest rates, and had a weak formal financial sector. As a consequence, in 1999, 41 percent of all borrowers were clients of microfinance institutions, representing a portfolio of \$180 million (4 percent of total bank assets). Broadly speaking, microfinance evolved from urban nongovernmental organizations (NGO) operations to rural commercial institutions.

A study assessed the impact of four Bolivian microfinance institutions (ProMujer, SARTAWI, BancoSol, and PRODEM) on several dimensions of poverty relative to a control group, which was otherwise comparable to the credit takers. Initially, 14 to 27 percent of microfinance institutions' clients were considered to be poor. The income increase of all clients relative to the control group of the four institutions was between 50 to almost 100 percent. The number of clients who lived in poverty decreased between 12 and 20 percent.

Assets can be thought of as a more reliable measure of poverty. Data show that there was also a substantial increase in the value of assets of clients of the microfinance institutions, with total assets of poor clients increasing by 150 to 225 percent. For enterprises, the largest portion was accounted for by increases in working capital (around 250 percent). For households, the largest value increase was in household equipment (125–225 percent).

Summary and Conclusion

Recent evidence has shown a strong link between financial sector development and the reduction of poverty. The channels through which this occurs are multiple and include access to payments, savings, credit, and insurance services. Empirical evidence at the country, firm, and household levels has confirmed the importance of these channels for reducing

70. Mosley (2001).

poverty, with reduction occurring through the beneficial impacts on overall income (growth) and an (accelerated) reduction in inequality. New cross-country studies show that financial sector development also reduces the prevalence of undernourishment through two specific channels: the use of financial services to smooth consumption in the face of shocks; and financing for productivity enhancing equipment, translating into a reduction of general undernourishment through price and quantity effects. These cross-country findings are confirmed by individual case studies. Together they suggest an important policy role of financial sector development in reaching the most important Millennium Development Goal: the reduction of poverty by half in 2015.

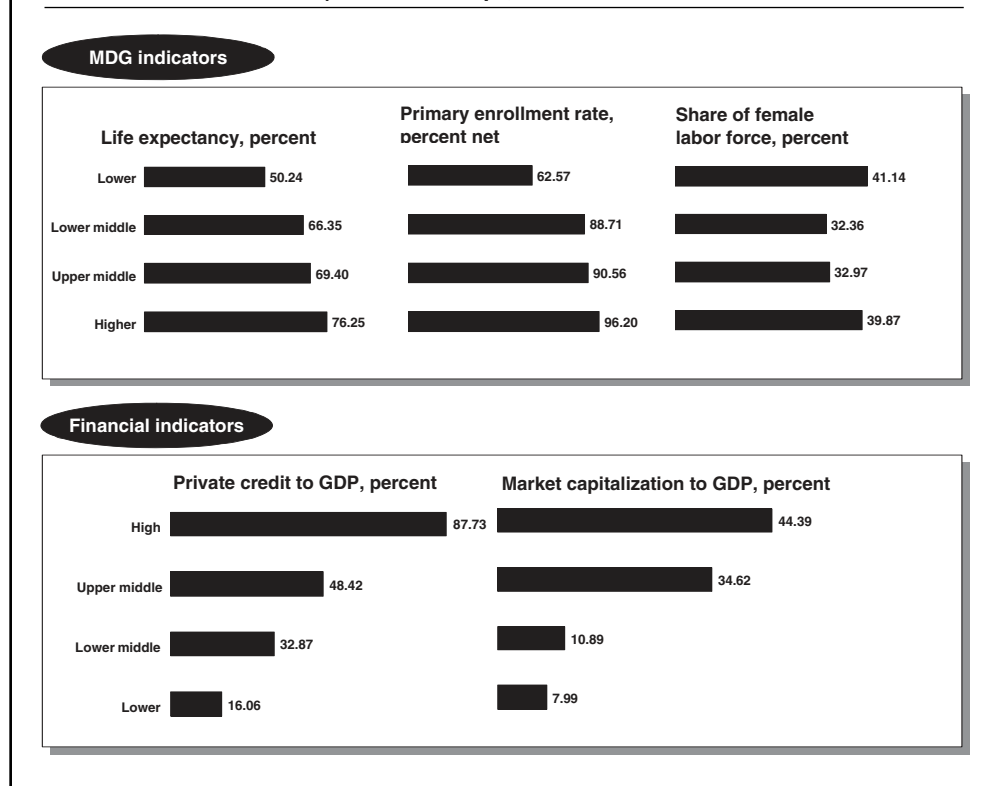
Financial Sector Development and Health, Education, and Gender Equality Improvement

Theory suggests that access to financial services can be important for the MDGs health, education, and gender equality through several channels: health and education facilities and programs need financing; medical insurance can affect health outcomes; and gender equality can be affected by the presence of financing opportunities for women. Indeed, anecdotal and micro-based evidence from several credit programs all over the world suggests that financial development can have beneficial effects in these areas.

On the aggregate country level, however, the effects of financial sector development on these MDGs are likely to be more indirect and maybe too small to be detected. While country-level analyses do show some associations of financial development with health, education, and gender equality indicators, we cannot confirm that financial development is a cause, and that the associations are not merely an effect of other factors driving both financial development and these outcomes. This weaker association between financial development and these three MDG themes is also suggested by a crude representation of the data (Figure 4.1).

In this section, we provide an overview of the relationship between financial development and health, education, and gender equality. First, we discuss the determinants of each theme, not considering financial development. In addition to showing the large impact of income and poverty on these MDGs, the literature finds that these MDGs codetermine one another. Second, for each theme, we consecutively discuss its relation to financial development. In doing so, we first discuss possible channels through which financial development could benefit the MDG themes. Next, we discuss some new results using cross-country regression analyses. Last, we present supporting case study evidence on the impact of financial development on these MDGs.

Figure 4.1 Health, Education, and Gender Equality and Financial Development Across Country Income Groups, 1980-2004¹



¹ Numbers are averages.

Source: World Development Indicators (2005); Authors' analysis.

Determinants of Health, Education, and Gender Equality

Health, education, and gender equality outcomes are highly intertwined with each other. Another important factor that affects these three MDG themes is income, especially the escape from poverty (discussed in the chapter Financial Sector Development and Poverty Reduction).

*Determinants of Health*⁷¹

Research shows that income and education strongly matter for health. Data show that especially income and health of women have a disproportionate effect on overall household health. Moreover, a sound health care infrastructure affects health directly.

Income, Especially of the Mother, Matters for Life Expectancy and Child Mortality. Income has an important impact on health, with the impact higher in low-income countries than

71. Largely based on World Development Report 1993: Investing in Health.

in high-income countries. Research shows that when GDP per capita (in 1990) doubles from \$1,000, life expectancy increases by eleven years, compared to an increase in four years when income doubles from a level of \$4,000. This disproportional impact stems from the fact that households in poor countries lack even the basic necessities that have a high impact on health, like a healthy diet and proper shelter, and that life expectancy is limited regardless of income.

Child mortality rates also decrease as a result of higher incomes. Research found in a sample of 58 developing countries that a 10 percent increase in income reduces infant and child mortality rates by between 2–3.5 percent (and increases life expectancy by a month). A 10 percent increase in income reduces infant mortality by 1–2 percent in Nigeria, Sri Lanka, Thailand, and several Latin-American countries and as much as 4–8 percent in the Ivory Coast and Ghana. Another study shows that if economic growth in developing countries had been as fast in the 1980s as in 1960–80, 6 percent of total infant deaths in 1990, or 350,000 children, could have been averted.

Studies find that especially higher income of women has a large impact on the health of the family, particularly children. In Bangladesh, child mortality rates two years after the death of a mother are two or three times higher than after the death of a father. In Brazil, income in the hands of the mother has a bigger impact on family health than in the hands of the father. Research found that in Jamaica, households headed by women eat more nutritious food than those headed by men.

Moreover, women tend to spend money on children-centered goods and less on alcohol and tobacco. A study in the Ivory Coast found that in households headed by women, the share of alcohol and cigarettes in the household budget is 26 and 14 percent lower, respectively. In Guatemala, it takes fifteen times more spending to achieve a particular improvement in child nutrition when income is earned by the father than when it is earned by the mother. Although working women tend to have less time to take care of the children, studies show that the beneficial effects of mothers working offset these costs.

Education of Parents, Especially of the Mother, Matters in Developing Countries. Research consistently finds that households with better education enjoy better health. Arguably, this is because these families value health more and adjust their nutrition and lifestyles, and/or are able to make better use of health information and the health care system. As women are mostly responsible for a broad range of household activities that affect household health—for example, they are more likely responsible for domestic hygiene, prepare meals, feed and take care of the children, and look after the sick—especially women’s education matters for child mortality and household health.

Data for thirteen African countries in the period 1975–85 show that a 10 percent increase in female literacy rates reduces child mortality by 10 percent, whereas changes in male literacy do not matter. Demographic and health surveys in 25 developing countries find that one to three years of maternal schooling reduce child mortality by 15 percent, whereas this reduction is only 6 percent for similar paternal schooling.

Basic needs are already met in high-income countries. Nevertheless, in these countries, studies still find that the degree of inequality matters for life expectancy. For example, Japan and the United Kingdom had similar levels of income distributions and life expectancies in 1970. However, in the early 1990s, Japan had a much more equal income distribution than the United Kingdom and a three-year higher average life expectancy.

Reach and quality of the health care and sanitation system. Government expenditures on health care infrastructure matter for the prevention of basic illnesses and the way in which health care problems are dealt with. The quality and reach of health care services such as immunization programs and the capacity and quality of hospitals directly affect health outcomes. In addition, access to sanitation, safe drinking water, and safe working conditions greatly reduces illnesses and injuries.

*Determinants of Education*⁷²

Research shows that the health of children and parents and the income and education of parents directly affect educational participation and efficiency of education outcomes of children. In turn, a sound educational infrastructure is needed to achieve these outcomes.

Health Directly Influences the Gains of Schooling. Poor health reduces the possible gains from schooling in three ways: enrollment, the ability to learn, and the participation of girls. A study in Nepal found that the probability of attending school is only 5 percent for poorly nourished children, compared to 27 percent for children at the dietary norm. In a study in Jamaica, children who were moderately infected with whipworm scored 15 percent lower before treatment than unaffected children at the same school. Another study found that children in Thailand whose weight-for-age, an indicator of health, was 10 percent below the average, scored 14 percent lower in grade attainment (World Bank 1993).

The death or illness of an adult can also push a household into poverty, resulting in lower enrollment rates. A 1991 World Bank study for Tanzania showed that school attendance of children between ages 15 to 20 was reduced by half when the household lost a family member in the former year.

Income and Education of Parents Determine Schooling Participation. An international study on the determinants of educational quality found that the income and education of parents have a strong impact on student performance (Lee and Barro 2000). One reason is that children can be a vital source of labor to secure the livelihood of the household. Hence, it is often costly for poor families to send their children to school. Moreover, poor families typically undervalue, or are simply unaware of, the benefits of sending their children to school.

Reach and Quality of the Educational System. More educational resources, especially smaller class sizes, boost student performance (Lee and Barro 2000). Educational resources are to a large extent determined by government expenditures on education and policy. The quality and number of teachers and teaching materials, and the capacity and proximity of schools often are very limited in developing countries, affecting the interest of parents to send their children to school. For example, a national survey in India found that more than 40 percent of parents did not send their children to school because they were not “interested” or considered the educational system a “failure.”

72. Largely based on World Development Report 1993.

*Determinants of Gender Equality*⁷³

Gender equality and women's empowerment are closely related. Researchers suggest at least six manifestations of women's empowerment: (1) sense of security and vision of a future, (2) mobility and visibility, (3) ability to earn a living, (4) decisionmaking power within the household, (5) ability to act effectively in the public sphere, and (6) participation in non-family groups (Schuler and Hashemi 1991). Important drivers helping realize these six components are higher income and better education of women. Moreover, cultural values can inhibit effective economic participation of women in society.

Higher Income and Education of Women. Women are in part empowered when they can own assets and earn their own income. This can be more easily attained if they are well educated. Literate women can make more efficient use of information, are typically more entrepreneurial, have more options in the labor market, and are able to themselves organize better. Often their families, most notably their children, especially girls, reap the benefits, thus starting a virtuous cycle.

Cultural Values and Legal Status of Women. In many countries, women do not have the same rights as men. For example, they are often discriminated by law in the labor market, when they seek access to credit, and in property rights. Moreover, women often need to be protected from domestic violence and rape: it represents about 5 percent of the total disease burden in developing countries (in developed countries, this is 19 percent; but there, the burden of other diseases is much lower).

Between one-fifth and one-third of the global disease burden for women afflict women exclusively. However, cultural values may inhibit women to seek professional help: for example, when they are affected by sexually transmittable diseases or need an abortion. This, in turn, affects women's ability to function optimally in society.

Financial Sector Development and Health

We analyze the various channels by which financial development may affect health outcomes. Analyzing country-level data, we find strong evidence that financial sector development and health indicators are robustly associated, but we fail to determine causality. We can hypothesize that the main, country-level effects of financial development on health go through credit, savings, and insurance as they can greatly help financing health care and help in smoothing income in the face of health shocks. We cannot show these specific channels, though, with the data we have.

How Financial Services May Boost Health

Income Effect: Access to Insurance, Credit, and Savings Gives Access to Better Health Care Treatment and Living and Working Conditions. Health care expenses can be high and often come unexpected. They are often induced by lack of past health care treatment and poor living

73. Largely based on World Development Report 1993.

and working conditions. Health care insurance enables households to take precautionary health care measures and treat illness and disease more effectively.⁷⁴ Moreover, financial services enable households to invest in better living and working conditions (that is, better housing and safer working equipment), reducing the probability of accidents and hygiene-related diseases. In addition, financial services are able to help households struck by diseases to keep their income streams relatively stable. Indeed, a survey in China showed that 50 percent of respondents save as a precaution in case their family or they themselves get sick (McKinsey Global Institute 2005). With access to financial services, the household is not forced to sell off productive assets or take children from school (Parker, Singh, and Hattel 2000).

Education Effect: Financial Services May Improve Education, Which is Beneficial for Future Household Health. Previously, we discussed that financial services could improve access to education and enhance the gains from schooling. In turn, we can expect that financial development will influence the health of future households via better education of their children.

Gender Equality Effect: Financial Services May Empower Women Leading to Better Household Health Care. Research shows that women take better care of their children and spend more of their household budget on improving household welfare than men do. Hence, financial services that empower women will indirectly contribute to better household health conditions.

Infrastructure Effect: Financial Development Induces Economic Growth and Facilitates Public and Private Investment in Health Care Infrastructure. Higher economic standards and growth are associated with better and more health services, for example, more hospitals and clinics. Since financial development spurs economic growth, facilitating more investment, it can lead to a better health care system.

Country-Level Analysis: Financial Development is Robustly Associated With Health Improvements, But There is Less Evidence for a Causal Relationship

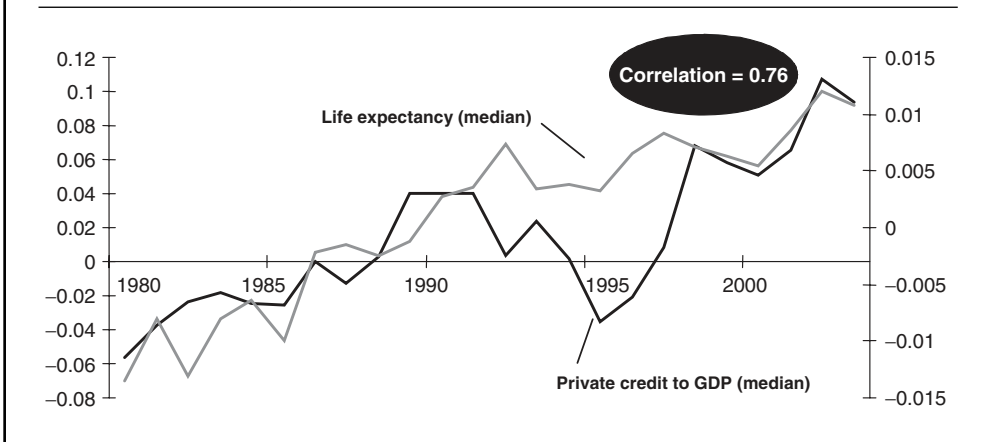
One of the most basic health indicators to study is life expectancy, with large variations in life expectancy across country income groups.⁷⁵ Using several statistical techniques to study averages over the period 1980–2004 for a minimum of 54 countries, we find a very strong positive relationship between (the growth rates of) life expectancy and private credit to GDP (Figure 4.2).⁷⁶ We are, however, not able to find robust evidence of a causal relationship.

74. Developed countries can play a role here. Recently, the Dutch government launched the Health Insurance Fund in Africa, which will support over 200,000 people in covering their health insurance premiums to access basic health care facilities.

75. For example, in low-income countries, life expectancy is 50 years, whereas it is 76 years in high-income countries. In Burkina Faso, people can expect to live 44 years. In Japan, people on average live 79 years.

76. In all analyses for averages over the period 1980–2004, we take into account the effect of: the average size of the government, the average birth rate, average trade share of GDP, average inflation, the initial poverty level, average share of health expenditure of GDP, initial level of GDP per capita, and the initial value of the dependent variable. Except for inflation, all are in logs.

Figure 4.2 Financial Development and Life Expectancy in Lower Income Countries Are Related, 1980–2003¹



¹ This is a graph of residuals after running country fixed effects regressions. First, both variables are regressed on GDP per capita, government expenditures to GDP, inflation, and trade to GDP. All variables are in logs. The residuals of lower income and lower middle income were collected, and the yearly median was taken. We did not test for unit cointegration.

Source: World Development indicators (2005); Authors' analysis.

Perhaps, higher life expectancy is a good indicator for higher income or higher productivity, which may increase the demand for financial services. Or, third factors may explain financial sector development and life expectancy. Nevertheless, the effect is non-negligible. Ignoring causality problems, going from the 25th to the 50th percentile of private credit to GDP, is associated with increases in life expectancy of about one year (both are averages for the period).⁷⁷

We also studied financial development and life expectancy *over time*.⁷⁸ Again, we find a strong relationship, with an elasticity of 0.03. Globally, this translates into a 0.5 percent increase in life expectancy in the next 10 years if private credit continues to follow its current growth trend of about 1.6 percent per year.

In addition to these findings, we document a strong negative relationship *over time* between (the growth rate of) the rate of mortality under five years of age and private credit to GDP.⁷⁹ The elasticity is -0.34 and implies a large effect: when financial development follows its current growth trend of 1.6 percent per year, it would be associated with a reduction in child mortality by almost 6 percent in the next 10 years.⁸⁰ Again, however, we cannot show that this is a causal relationship.

77. We calculated this as $\exp((3.36 - 2.65) * 0.023)$.

78. We take into account the impact of inflation, trade as a share of GDP, and the size of the government as a share of GDP. The results are robust to including the impact of GDP per capita.

79. However, this finding is not robust to a transformation of the variables to logs. We take into account the impact of inflation, trade as a share of GDP, and the size of the government as a share of GDP. The results are robust to including the impact of GDP per capita.

80. We calculated this as $\exp(-0.336 * 10 * \text{LN}(1.016))$.

Box 4.1: Case Study Evidence on the Effects of Financial Services and Household Health

There are few case studies that document the positive effect of financial services on health outcomes.⁸¹ One is the effects of housing finance in India on the prevalence of diseases in slums. The SEWA Bank in India offers three categories of financial products to its borrowers. The first and largest, until recently, is loans for income-generating enterprises. The second consists of loans for housing and for participation in the Parivartan (meaning transformation) scheme, aimed at upgrading slum infrastructure. The third comprises funds disbursed as safety nets, including schemes for life insurance, work security, and maternity benefits, plus occasional emergency loans.

The Parivartan scheme finances citywide upgrading of slums by means of an extensive infrastructure package, including housing finance. Housing finance means that households are able to finance improved shelter and sanitation facilities. As a result, based on informal interviews with clients, the SEWA Bank reports that health problems and serious illnesses (typhoid, malaria, diarrhea, and skin disease) have been reduced by 75 percent.

We can also document the impact of financial development on some health infrastructure indicators. We find, for example, a statistically significant relationship between the growth rate of sanitation facilities and private credit to GDP. We also find an association between private credit to GDP and the number of physicians per 1,000 persons. As with the other health variables, however, we do not find evidence of causal relationships.

Financial Sector Development and Education

We next investigate the possible effects of financial sector development on education outcomes, first reviewing the possible channels and then the empirical evidence. We hypothesize that the largest contribution of financial services is that they help to smooth income volatility, reducing the necessity of child labor. As a result, enrollment rates and school attendance improve. Country-level analysis suggests that financial sector development and improvements in education are somewhat associated. We fail to determine causality, however, between financial sector development and educational outcomes.

How Financial Services May Boost Education

Income Effect: Access to Credit and Savings to Pay for Schooling Expenses. When household income is low, households cannot afford educational services, although education is

81. For Ghana, see MKNelly and Dunford (1998); for Ecuador and Honduras, see Smith and Jain (1999).

clearly a good investment otherwise (for reasons, see chapter 5, Access to Financial Services for Poor Households and Smaller Firms). Income may be structurally low or could be temporarily low due to shocks, as in the case of droughts. As a consequence, children may not enroll or drop out of school prematurely. With better functioning financial markets, households may be able to borrow against future income to pay for tuition fees, school uniforms, and transportation costs, even when current income is low.

Income Effect: Child Labor Substitutes for a Lack of Agricultural Insurance. A study on India for the period 1975–78 finds that child labor is used as insurance against unexpected seasonal fluctuations in the income of agrarian households (Jacoby and Skoufias 1997). As a consequence, school attendance is lower in these periods. Assuming that education has positive returns, this self-insurance mechanism may be detrimental to households in the long run (however, the authors do not find conclusive evidence of this). Again, financial markets can help overcome this problem.

A study in Tanzania finds similar results by studying the impact of unexpected crop losses on child labor (Beegle, Dehejia, and Gatti 2003). Moreover, the study finds that households with assets that may serve as collateral, which the researchers interpret as a measure of access to credit, have a lower prevalence of child labor. Households with durable assets are able to offset roughly half of a shock. This result suggests that child labor is a significant substitute for credit or access to finance, and vice versa, that greater access to financial services can encourage less child labor and a greater investment in education.

Gender Equality Effect: Financial Services May Empower Women, Which Leads to Better Education of Children. Research shows that women take better care of their children and spend more of the household budget on improving household welfare, including through education, than do men. Hence, financial services that empower women can indirectly contribute to better education of their children.

Health Effect: Financial Services May Increase School Returns by Better Health Care and Less Undernourishment. Research has shown that good health of both parents and children increases school returns. Financial services in the form of credit, savings, and health insurance can prevent common diseases by making precautionary doctor visits and immunization possible. In addition, financial services can enable households to pay for better health treatment and medicines. Indeed, we find a strong relationship between life expectancy, our indicator of health, and financial development. In turn, financial services may boost educational performance via health improvements.

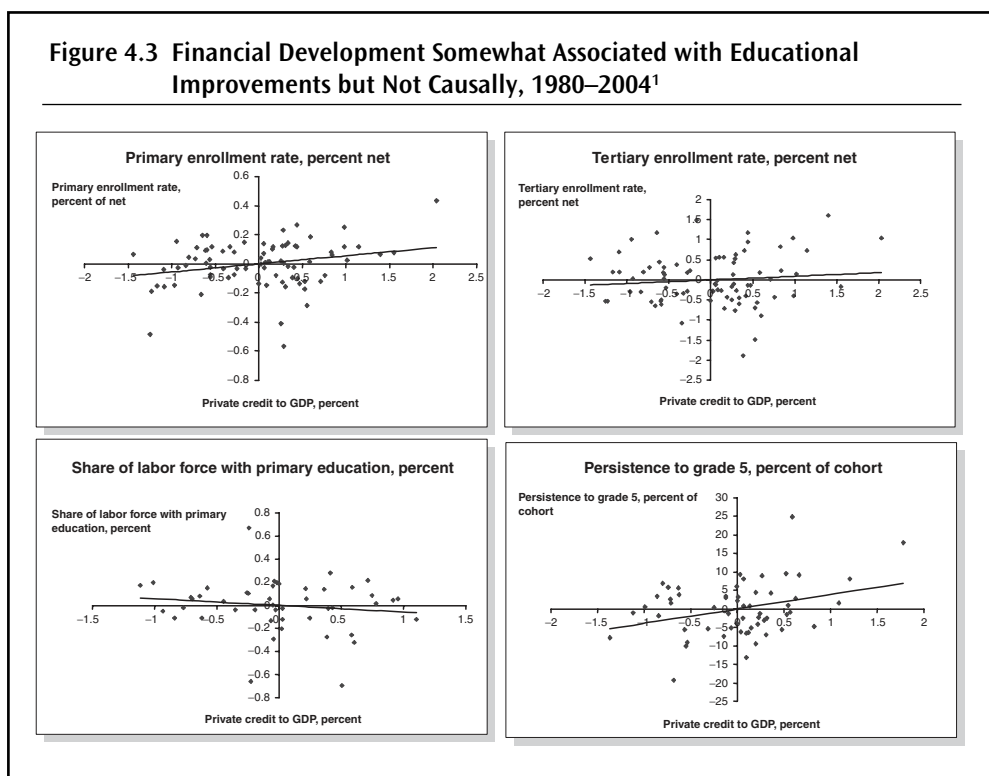
Undernourishment is an important factor that decreases returns to schooling. We have already shown that there is a causal relationship between financial development and undernourishment. Hence, financial development may boost educational returns by reducing child undernourishment.

Infrastructure Effect: Financial Development Induces Economic Growth That Leads to Greater Public and Private Investment in Educational Infrastructure. Higher economic standards and growth are associated with better and more schools. Because financial development spurs economic growth, it can indirectly contribute to a better educational system.

Country-level Analysis: Financial Development is Somewhat Associated with Educational Improvements

We study several indicators of education. One of them is primary enrollment rates. There is substantial variation in enrollment rates across countries. In the period 1980–2004 enrollment in lower income countries was 63 percent, whereas in higher income countries it was 96 percent. As illustrations, in Afghanistan, enrollment was merely 27 percent, whereas it was 99 percent in Belgium.

We conduct a series of empirical tests to assess the impact of financial development on education at the country level. We are not able to find robust and conclusive evidence that financial development and education outcomes are causally related. We do find that average private credit to GDP is positively associated with the average persistence to stay in school until grade 5 (percent of cohort), and primary and tertiary school enrollments (percent net). However, this effect vanishes once we control for endogeneity problems. We even find some evidence that private credit to GDP is negatively associated with the share of labor population with primary education (Figure 4.3).



¹These are plots of residuals. First, all variables were regressed on the initial schooling variable, initial GDP per capita, initial poverty, average government spending on education, initial size of the government, share of working population in agriculture share of population living in rural areas, inflation, and trade as a share of GDP.

Source: World Development Indicators (2005); Authors' analysis.

Box 4.2: The Effect of Financial Services on Education: Microcredit Increases Schooling in Bangladesh

Because there are so many and quite general channels between financial development and education, it can be more useful to look at micro-evidence from case studies. There is, indeed, ample case study evidence that credit programs have a positive effect on the education of children.⁸² For example, microcredit in Bangladesh had a significant impact on children's schooling, especially for boys. The increase in boys' schooling was statistically significant for three credit variables (female credit from RD-12,⁸³ female and male credit from Grameen Bank). For girls' schooling, a statistically significant increase was shown for one only (female credit from Grameen Bank).

The largest and most precisely estimated credit effects on both boys' and girls' schooling were obtained for the effects of female credit obtained from Grameen Bank. At the mean, a 1 percent increase in Grameen Bank credit provided to women increased the probability of school enrollment by 1.9 percent for girls and 2.4 percent for boys. In comparison, at the mean, a 1 percent increase in male credit from Grameen Bank increased boys' school enrollment by 2.8 percent, with no impact on girls' schooling. A 1 percent increase in credit to women from RD-12 had the largest impact on boys' school enrollment, 3.1 percent, and no significant impact on girls' schooling. Thus, for both Grameen Bank and RD-12, female credit seems to benefit boys more than girls in terms of school enrollment.

Source: Khandker (1998).

Financial Sector Development and Gender Equality

We hypothesize that financial services mainly benefit gender equality through boosting female income generating activities. In our country-level analysis, when we study indicators that pertain to both education and participation in the labor force, we do not find any association between financial development and the improvement of gender equality. Possibly the relationship is more complex, non-linear, and influenced by other, cultural phenomena.

How Financial Services May Boost Gender Equality

Income Effect: Finance Can Contribute to General Female Independence. Access to financial services enables women to take their destiny more in their own hands and be more productive. Using financial services, they can manage their own income and can borrow money for entrepreneurial activities without being (as) dependent on their husband or middlemen.

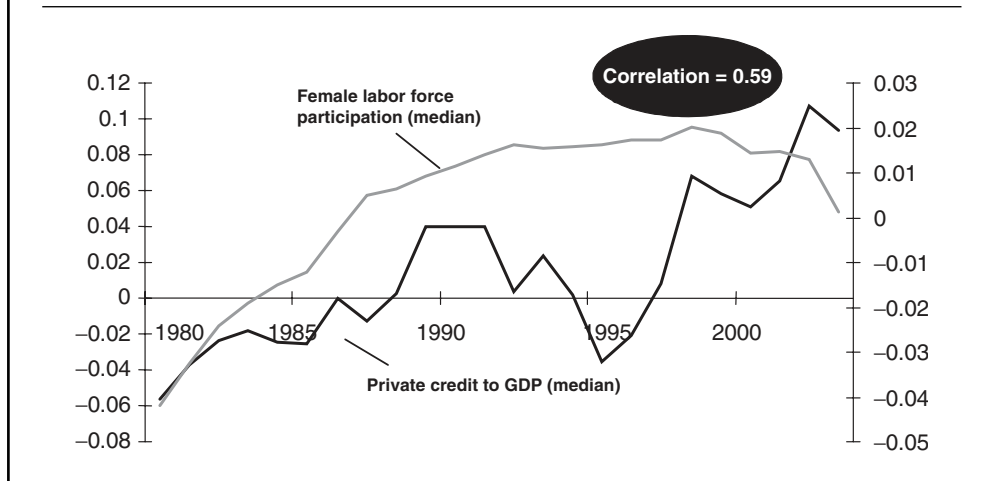
Education Effect: Current Financial Services May Lead to Better Future Education of Women Who Consequently are Better Able to Take Control of Their Lives. Greater current availability of financial resources to send more girls to school can produce a future generation of literate, better-educated women who are better able to take control of their lives.

Health Effect: Financial Services Targeted at Women's Special Health Care Needs May Empower Them. Credit, savings, and insurance may enable women to access basic women-specific health care, like hospitalization during child birth.

82. For Zimbabwe, see Barnes (2001); for Uganda, see Barnes, Gaile, and Kimbombo (2001); for India, see Chen and Snodgrass (2001); for Bangladesh, see Chowdhury, Syed, and Bhuiya (2001).

83. A government-run program headed by the Bangladesh Rural Development Board.

Figure 4.4 Financial Development and Female Labor Force Participation in Lower Income Countries are Related, 1980–2003¹



¹ This is a graph of residuals after country fixed effects regressions. First, both variables are regressed on GDP per capita, government expenditures to GDP, inflation, and trade to GDP. All variables are in logs. The residuals of lower income and lower-middle income were collected, and the yearly median was taken. We did not test for unit roots and cointegration

Source: World Development indicators (2005); Authors' analysis.

Country-level Analysis: Mixed Evidence on the Association between Financial Development and Gender Equality Improvement

Empirically, we find mixed evidence that financial sector development and improvements of gender equality are related. There is a large dispersion in gender equality all over the world. In most high-income countries, women are as educated as men and participate fully in the (non-agricultural) labor force. On average though, for 177 developing and developed countries over the period 1980–2004, there were slightly fewer girls than boys in primary education: 94 girls for every 100 boys. Female school participation is, thus, a function of income. In Afghanistan, for example, for every 100 boys, there were only 52 girls enrolled. In contrast, in Sweden, there are 112 girls for every 100 boys enrolled.

We studied female participation in the labor force *over time*.⁸⁴ Here we find a significant relationship with financial development (Figure 4.4), with an estimated elasticity of 0.02. This implies that if private credit continues to follow its current growth trend of 1.6 percent per year, female labor force participation would increase by 0.3 percentage points in the next 10 years. However, we cannot replicate these results when we study *averages* over the period 1980–2004. One of the reasons we do not find a relationship may be due to a complex, U-shaped relationship between income and financial sector development on the one hand and female labor participation on the other hand.

84. We take into account the impact of inflation, trade as a share of GDP, unemployment, and the size of the government as a share of GDP. The results are robust to including the impact of GDP per capita.

Box 4.3: Financial Services and Gender Equality: Empowerment of Women in Bolivia

Several case studies show a beneficial effect of credit programs on empowerment of women and gender equality.⁸⁵ For example, a case study on Bolivia reveals that financial services can increase self-confidence of women and improve their involvement and status in the community. Evaluations of other credit programs have also confirmed a relationship between women's increased cash earnings and their status or "say" within the household (Berger and Buvinic 1989). Since 1989, Freedom from Hunger has worked with local partners to develop and disseminate a cost-effective integrated program strategy called Credit with Education.

It is thought that program participation creates fundamental changes in women's inner sense of self, their social relations, and their lifestyle. These changes empower them to confront problems, take risks, and make their own informed choices for better health and nutrition. In addition to its potential for economic impact, group lending exposes women to new ideas, new experiences, and new opportunities for leadership roles that can foster their self-confidence.

To test for these effects, the study develops an empowerment index.⁸⁶ With a maximum score of seven, the mean score for the 1997 participants was 4.2; for non-participants, 2.6, and for residents in control communities, 2.8. When controlling for distance from major markets, the mean empowerment score for the participants was significantly greater than the mean score for non-participants of the credit for education program or residents of control communities' participants.

Source: MKNelly and Dunford (1999).

We also studied several other indicators of gender equality. We analyzed the boy-to-girl ratio in primary education and the ratio of the share of educated females to the share of educated males in the labor force. In doing so, we used information for primary, secondary, and tertiary education levels. We did not find any relationship between these indicators and financial development.

Summary and Conclusion

The determinants of the MDGs health, education, and gender equality, not considering financial development, have been much analyzed. In addition to showing the large impact of income and poverty on these MDGs, the literature finds that these MDGs codetermine one another, that is, healthier people are also better educated and display less gender inequality. The relationships between financial development and health, education, and gender equality have not been much researched to date. But for each theme, one can

85. For India, see Simanowitz and Walters (2002); for Nepal, Philippines and Rwanda, see Cheston and Kuhn (2002).

86. A respondent could receive a maximum score of seven; one point for each of the following: (1) membership in a group or association; (2) helping a friend with his/her work in the last six months; (3) offering health/ nutrition advice in the last six months; (4) offering income-generating advice in the last six months; (5) speaking at a General Assembly Meeting; (6) holding or running for elected office; and (7) hosting a community.

identify clear possible channels through which financial development could benefit the specific MDG theme. New results using cross-country regression analyses show that there are positive relationships between financial sector development and these MDGs, with some evidence of causal relationships, but the quality of data does not allow for very strong tests. Supporting case study evidence—using household surveys and specific interventions—suggests, however, that there are beneficial causal impacts of financial development on these MDGs.

Access to Financial Services for Poor Households and Smaller Firms

The previous chapters have shown that financial sector development is positively associated with many of the MDGs, often even causally. Micro-evidence provided demonstrated direct evidence for the positive effects of access to financial services on achieving the individual MDGs, and the aggregate country-level results suggested that these relationships apply more generally. Hence, access to financial services can have powerful effects on people's welfare and outcomes such as the MDGs. However, data and research show that poorer households and smaller firms lack usage and access to financial services. This result, then, raises the following questions: Exactly how many poorer households and smaller firms lack access to financial services? What are the barriers for them to get (greater) access to financial services?

These are questions of both what drives financial sector development and what determines the access to finance by individual households and firms. The simple answer is that many financial sectors, especially in lower-income countries, lack the development and outreach to efficiently and effectively provide a broad range of affordable financial services to all. As a result, especially poorer households and smaller firms have lower usage of—and experience higher barriers to access to—financial services. Conversely, financial sector development in general, but specifically financial sector development that increases access for poor households and smaller firms, will have a disproportionate effect on welfare. While much is known about what drives financial sector development in general, it is less clear how to enhance access for the poor and how to create a level playing field for smaller firms relative to their larger counterparts (Greenwood and Jovanovic 1990). As a consequence, the potential impact of financial sector development on the MDGs remains largely untapped.

This section provides an overview of the state of access to financial services across the world. First, we provide evidence on the lack of development and outreach of financial

sectors in lower-income countries. We focus on the size of the financial sector relative to the economy as the development indicator, and the reach to households and smaller firms as the access measure. We also show that poorer households and smaller firms suffer disproportionately from lack of access. We, therefore, next analyze the root causes of the mismatch between the supply and demand sides of financial services for poor households and smaller firms. We also discuss evidence that the politically powerful block access to finance for their competitors to create an unfair competitive advantage.

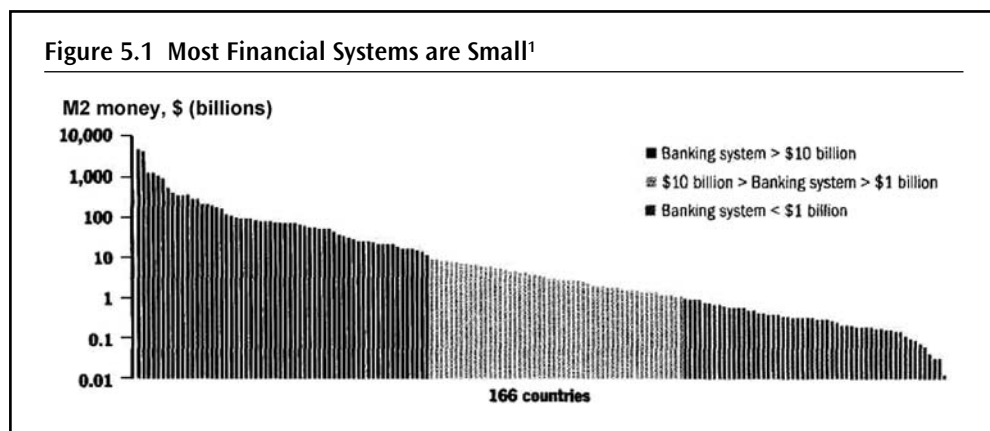
Lack of Development and Reach of Financial Sectors

Most financial sectors in lower-income countries function ineffectively and inefficiently; they are not well developed and have poor outreach to clients. This manifests itself in small banks; shallow stock markets; rudimentary insurance markets; low usage of loans, deposits, and insurance products; and poorly developed bank networks and other distributions channels. The result is that especially financial services are out of reach for poor households and smaller firms.

Wide Variation in General Financial Sector Development Across Countries

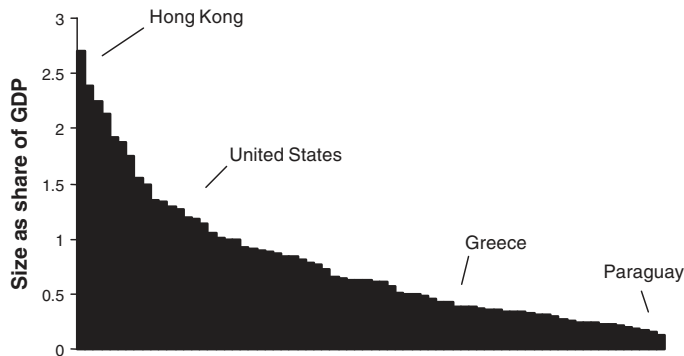
Most financial systems lack the size and infrastructure to efficiently provide banking and other financial services, translating into low banking and market activity.

Large Variation in Overall Financial Sector Size. Most financial systems are small: in one-third of the countries, total assets in the banking system are under \$1 billion, an amount less than the balance sheet of almost any individual bank in developed countries. In another one-third of the countries, the size of the banking system is worth between \$10 billion and \$1 billion (Figure 5.1), still less than a small bank by developed countries' standards (World Bank 2001).



¹ M2 money is a measure of the money supply. It includes currency in circulation plus demand deposits or checking account plus net time deposits.

Source: World Bank (2001).

Figure 5.2 Large Variation in Average Overall Size of Financial Sectors, 1980–95¹

¹ Size is defined as deposit money bank assets and stock market capitalization as share of GDP.

Source: Financial Structure Database, World Bank.

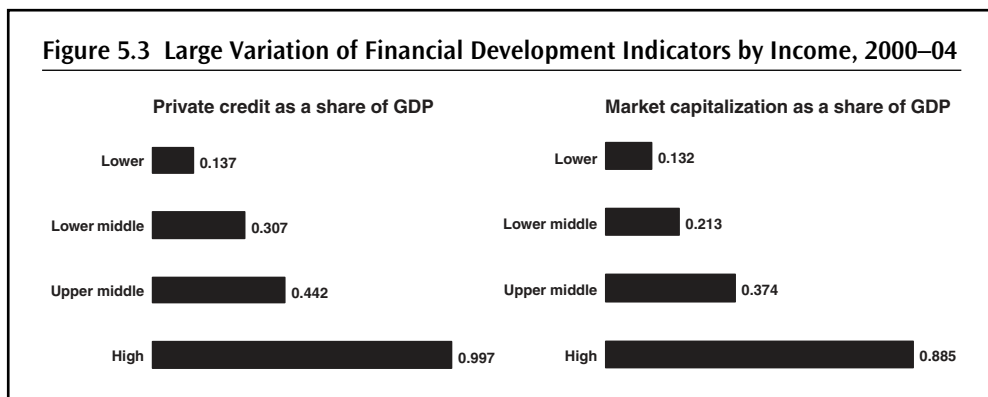
Many financial sectors suffer from this lack of scale. Small financial sectors provide fewer services at higher costs because they cannot exploit economies of scale and often lack sufficient competition. Small financial sectors may also underperform because they suffer from a concentration of risk: the smaller, the more vulnerable the financial sector is to shocks. This is especially relevant when the financial sector is isolated from the global financial system.

Large Variation in Private Credit and Market Capitalization. When scaling size relative to economic activity, there remains significant variation in the size of the financial sectors across the world (Figure 5.2). For example, the size of the financial system in Hong Kong is 270 percent of GDP, whereas in Paraguay this comparable figure is a mere 13 percent.

The relative financial development indicators show a large variation by income (Figure 5.3). Private credit and stock market capitalization⁸⁷ as shares of GDP in high-income countries are on average about seven times larger compared to lower-income countries. Still, there are big disparities within income classes. For example, among middle-income countries, Thailand's private credit to GDP is 100 percent, whereas Peru's is only 23 percent; and Malaysia's stock market capitalization is 140 percent as a share of GDP, whereas it is 10 percent in the case of Costa Rica.

Insurance Industries are Underdeveloped in Lower Income Countries. Insurance industries have sharply developed worldwide in the last decade. Total world written premiums (in real terms) increased from \$1.6 trillion to \$2.9 trillion between 1997 and 2004, an increase of 82 percent. Life insurance business rose by 104 percent, whereas the non-life insurance grew by 60 percent (Arena 2006). But insurance markets are still shallow in most low-income

87. The total value of all listed shares in the stock market.

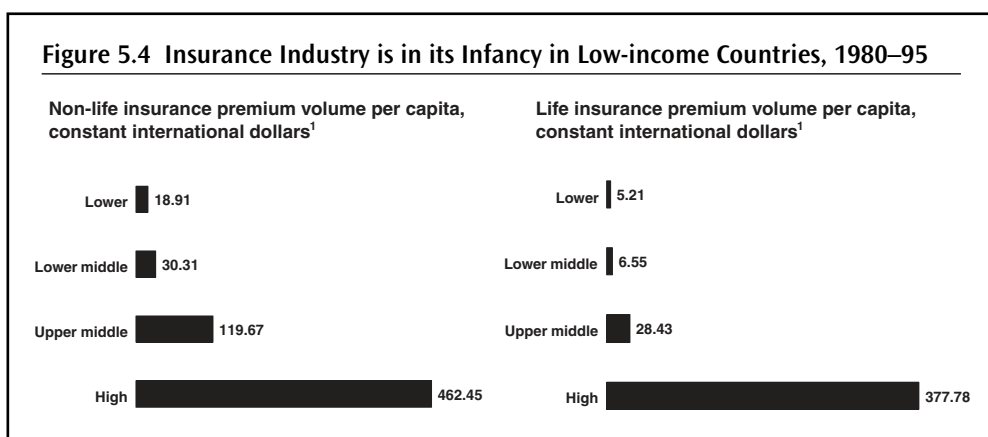


Source: Financial Structure Database, World Bank.

countries (Figure 5.4). As measured by premium volumes per capita, insurance sectors in low-income countries are 20 to 40 times smaller than in high-income countries, showing the difference in penetration levels.

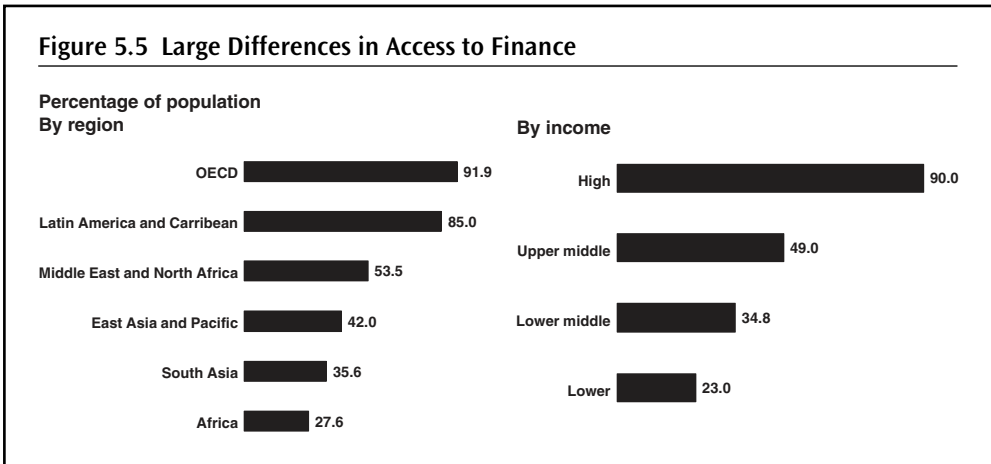
Low Financial Services Usage Among Households in Lower Income Countries

Outreach to households is significantly lower in lower-income countries and affects the poor more. In this section, we present some estimates of the use of financial services in lower- and higher-income countries and some sample data from selected African countries on the actual usage by households. We show that in lower-income countries, there is a general limited use of, and access to, financial services. More specifically, lower-income countries have lower penetration of banking branches and ATMs, and a lower usage of deposits, loans, and insurance policies. Despite improvements, the microfinance industry



¹ Numbers are medians.

Source: Financial Structure Database, World Bank, 2006c.



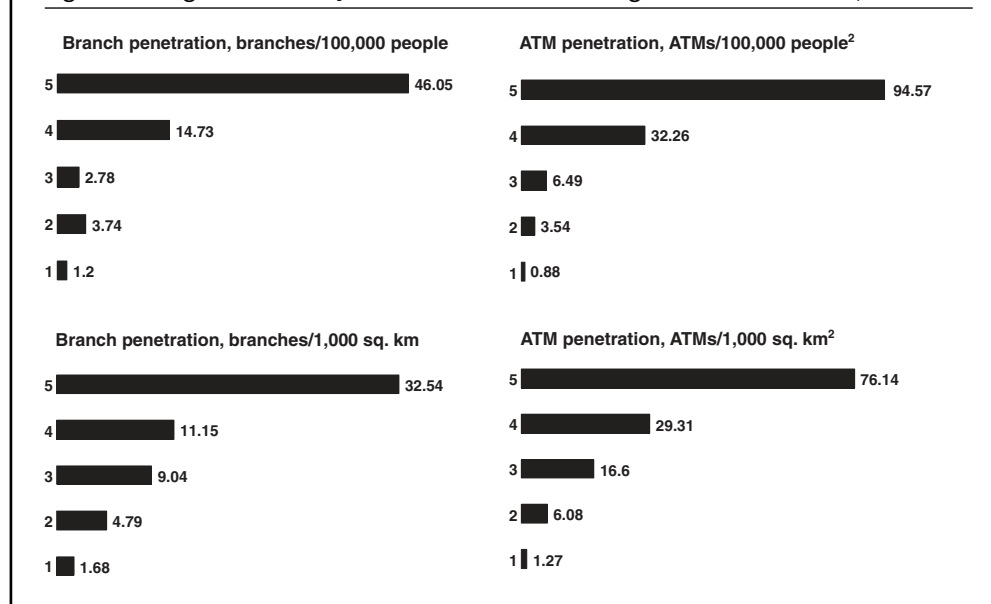
Source: Honohan(2006).

still lacks scale and stability to compensate for this lack of financial services in developing countries.

Lower Outreach, Penetration of Branches and ATMs, in Lower Income Countries. Use of financial services by households varies greatly between countries. Higher-income countries and regions like the OECD have high use, with about 90 percent of households using financial services; whereas lower-income countries experience low use, at about 27–28 percent (Figure 5.5). Regions where usage is relatively low include Africa and South Asia.

The lack of access to finance for lower-income countries derives in part from low banking sector outreach. Banking sector outreach—how wide is the distribution network in the form of branches, kiosks, and other contacts points—varies widely across countries. Generally speaking, and related to the low access and usage of banking services, low-income countries have lower banking services penetration (Figure 5.6; Beck, Demirgüç-Kunt, and Martinez Peria 2005). For example, Tanzania has only 0.23 branches per 100,000 people; whereas for the United States, this is 9.81. In Pakistan there are 0.53 ATMs per 100,000 people, compared to 42.45 in the United Kingdom. Since the poor in lower-income countries tend to live in rural regions with low population densities, and ATMs and branches are typically concentrated in urban areas; the poor have disproportionately less access to banking branches and ATMs.

Lower Usage of Loans and Deposits in Lower Income Countries. Usage numbers, as in the number and size of loans and deposits per capita, confirm the large disparities among countries (Beck, Demirgüç-Kunt, and Martinez Peria 2005). Usage of financial services is relatively high in developed countries (Figure 5.7). In 2005, on average, 95 percent of households in developed countries used a checking or a deposit account (Eurobarometer 2006). However, this usage is significantly lower in developing countries. In Uganda, there are 5.79 loans per 1,000 people, compared to 709.9 in Israel. The size of the loan in Uganda is almost 11 times GDP per capita, whereas this ratio is

Figure 5.6 Highest Income Quintiles Have Better Banking Services Penetration, 2003–04¹

¹ 5 is highest income quintile; 1 is lowest income quintile. Numbers are medians.

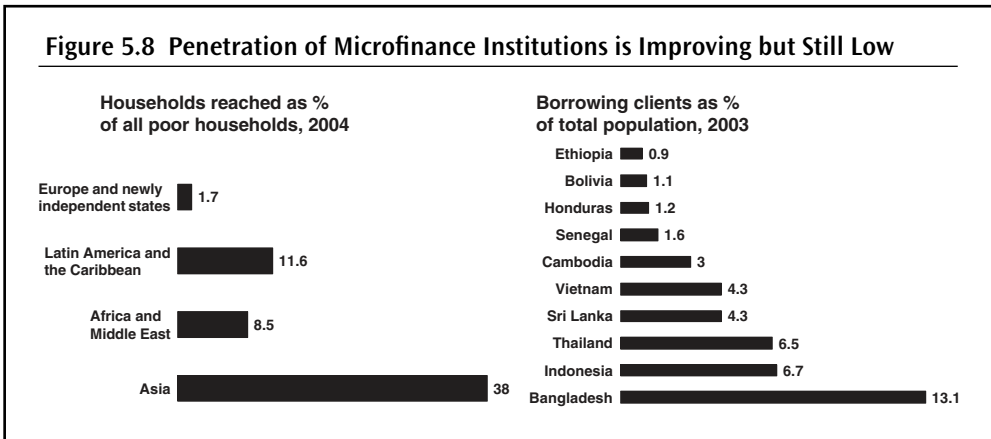
² ATM = Automatic Teller Machine.

Source: Beck, Demirguc-Kunt, Martinez Peria(2005).

Figure 5.7 Highest Income Quartiles Have More, but Relatively Smaller Loans and Deposits, 2003–04¹

¹ 5 is highest income quintile; 1 is lowest income quintile. Numbers are medians.

Source: Beck, Demirguc-Kunt, Martinez Peria(2005).



Source: Daley Harris (2005) and Daley Harris (2003).

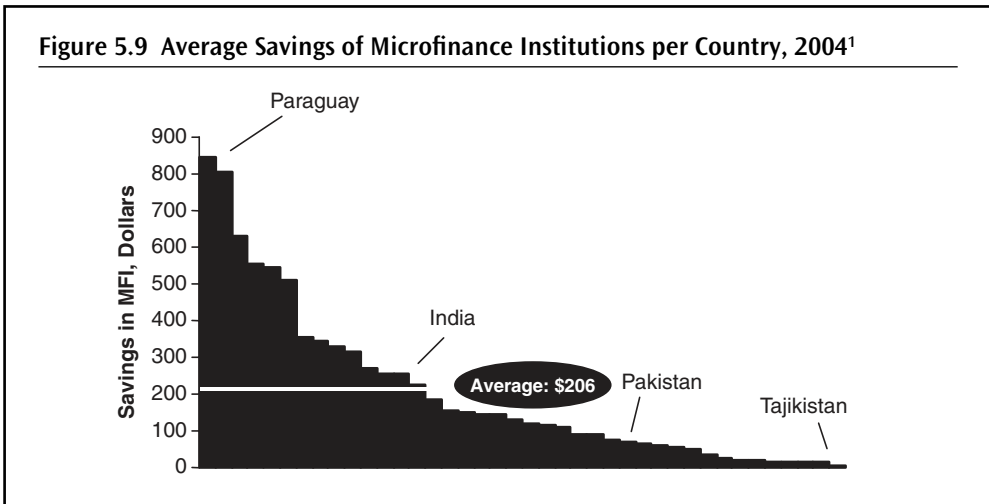
only 1.58 in Israel. The higher average loan and deposit values in lower-income countries suggest that only the relatively rich and the larger firms make use of formal banking services. Of course, the fewer deposits and loans in lower-income countries and their relative larger size could be driven by demand and/or supply side problems (see next section).

Increasing But Still Low Penetration of Microfinance Institutions. Some of the differences in the usage of formal banking services may reflect the more widespread usage of informal financial services in developing countries. This includes microfinance programs, which are especially targeted to providing services towards the poorest in lower-income countries. Although there are large regional differences, these microfinance institutions also have a relatively low penetration rate, however (Figure 5.8; Honohan 2004). These institutions reached 66.5 million of the poorest in 2004, which is a substantial improvement compared to the 13.8 million in 2000, an annual growth rate of 37 percent. However, 66.5 million still represents less than 10 percent of the 1.1 billion poorest households worldwide.⁸⁸ In addition, although there have been promising successes, most notably in Bangladesh and Indonesia, about half of the microfinance institutions are still not profitable (Cull, Demirgüç-Kunt, and Morduch 2006).

There is also large variation across countries in microfinance institutions' loans and savings balances (Figure 5.9 and 5.10). While the average savings in 2004 was around \$200; in Paraguay average savings were \$843, compared to only \$6 in Tajikistan. The average outstanding loan obtained from microfinance institutions across all developing countries was \$325, but in Burkina Faso, the average outstanding loan was \$943, whereas it was only \$44 in Indonesia. These large differences suggest that the successes of microfinance

88. Daley-Harris (2005). The poorest are in the bottom half of those living below their country's poverty line or below US\$1 a day.

Figure 5.9 Average Savings of Microfinance Institutions per Country, 2004¹



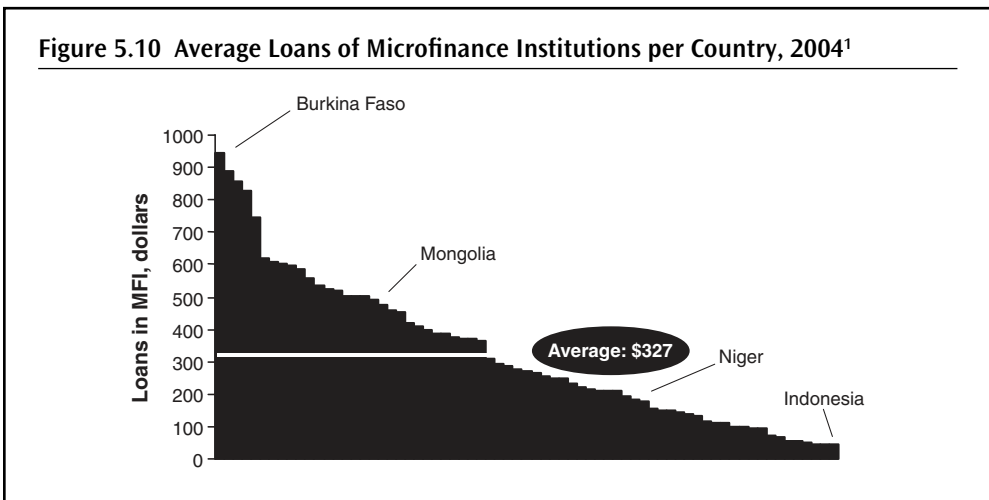
¹ Numbers are average savings balances over all microfinance institutions in a country.

Source: MicroBankingBulletin.

institutions in delivering financial services to the poor show a lot of country variation that remains unexplained to date.

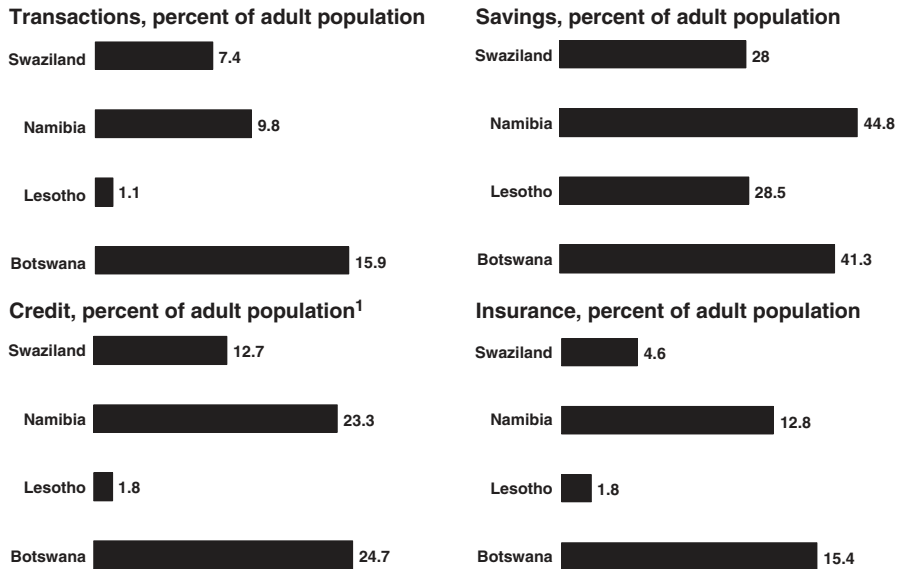
Use of Financial Services in Selected African Countries. The data on usage only cover the formal and microfinance institutions and may miss usage of some other forms of financial services. They also do not provide insights in what is preventing usage: high costs, poor product design, poor outreach, and so forth. Although there is a general lack of data of use and access to finance for developing countries, some data collection has been done in India, and a few Latin American and African countries. The African and other data confirm that

Figure 5.10 Average Loans of Microfinance Institutions per Country, 2004¹



¹ Numbers are average savings balances over all microfinance institutions in a country.

Source: MicroBankingBulletin.

Figure 5.11 Use of Financial Services in Selected African Countries, 2003

¹ Includes estimates of microloans.

Source: FinMark Trust (2006).

the use of financial services such as transactions, credit, savings, and insurance is far under par relative to developed countries' standards (where there is mostly over 70 percent usage). Savings has the highest penetration, whereas insurance the lowest (Figure 5.11).

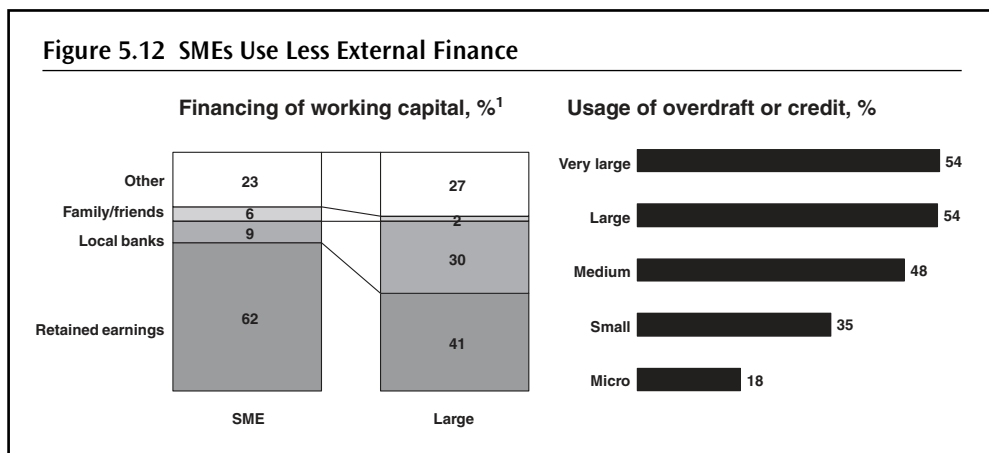
Financial Services Use Among Firms and SMEs⁸⁹

Usage of financial services for firms has typically been more extensively covered than for households. Evidence indicates that globally small firms have lower usage of financial services than large firms and as a result suffer more from financial constraints relative to their larger counterparts. What exact barriers are higher for small firms, though, is a matter of policy and research debate.

General studies support the lack of financing for SMEs. The Investment Climate Survey of the World Bank in 2006, covering over 30,000 entrepreneurs in more than 50 countries, found that smaller firms use less banking finance and do not have an overdraft facility or credit (Figure 5.12). SMEs in the survey financed over 60 percent of their working capital with retained earnings. A similar financing pattern was reported for new investments.

Low usage of financial services by SMEs does not necessarily mean low demand of smaller firms for external financing. Rather, there is much evidence that SMEs are

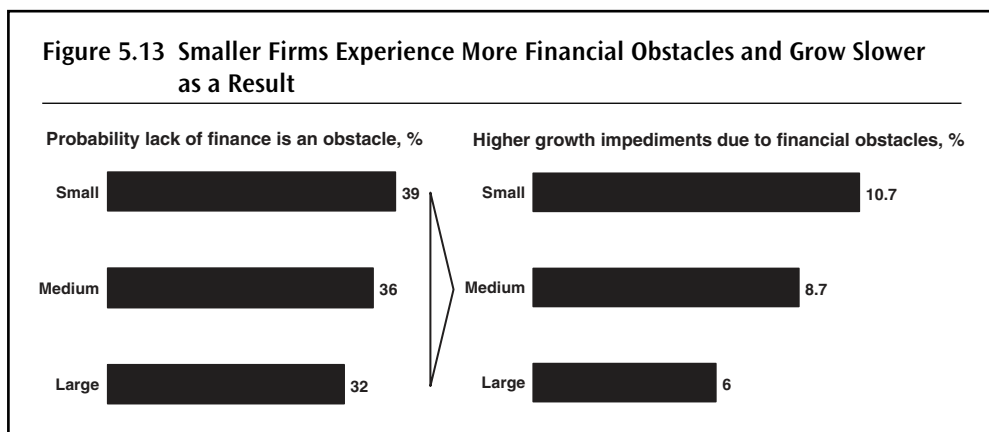
89. For an overview, see Beck and Demirgüç-Kunt (2005).



¹SME combines “Micro”, “Small”, and “Medium” firms. Large combines “Large” and “Very large” firms.
 Source: Online Investment Climate Survey, World Bank (2006c); Authors’ analysis.

credit-constrained, that is, they have an unmet demand for external financing. Recent research finds that locally owned SMEs report more financing obstacles than larger, older, and foreign-owned firms. Specifically, the probability that a small firm lists financing as a major obstacle (as opposed to moderate, minor, or no obstacle) is 39 percent compared to 36 percent for medium-size firms and 32 percent for large firms (Beck, Demirgüç-Kunt, Laeven, and Maksimovic 2006).

Some of this lower usage and constrained demand occur in any circumstances. Both in the developing and in the developed world, small firms have been found to have less access to external finance and to be more constrained in their operations and growth than large firms (Berger and Udell 1998). Still, because smaller firms face financing constraints more often, they tend to grow slower (Figure 5.13). Recent research, based on the World Business Environment Survey of the World Bank, finds that SMEs consistently suffer most



Source: Beck, Laeven, Demirguc-Kunt, and Maksimovic (2006); Demirguc-Kunt, and Maksimovic (2004).

from financial, legal, and corruption constraints. Due to financing constraints, small, medium, and large firms are estimated to have grown slower by 10.7, 8.7, and 6.0 percent in the period 1996–99, respectively (Beck, Demirgüç-Kunt, and Maksimovic 2005). Hence, lack of access to finance can hurt smaller firms relatively more compared to their larger counterparts.

An interesting case study on India provides evidence that smaller firms are credit-constrained, and growth is stunted. The study points out that a policy change in 1998 made smaller firms eligible for cheaper, directed credit. These firms used this credit to expand production, as evidenced by the acceleration in the growth rate of sales and profits. This can be taken to be indirect evidence that these firms were credit-constrained, because the additional credit would otherwise be used as a substitute for more expensive outstanding credit (Banerjee and Duflo 2004).

Causes for Access Problems for Poor Households and SMEs

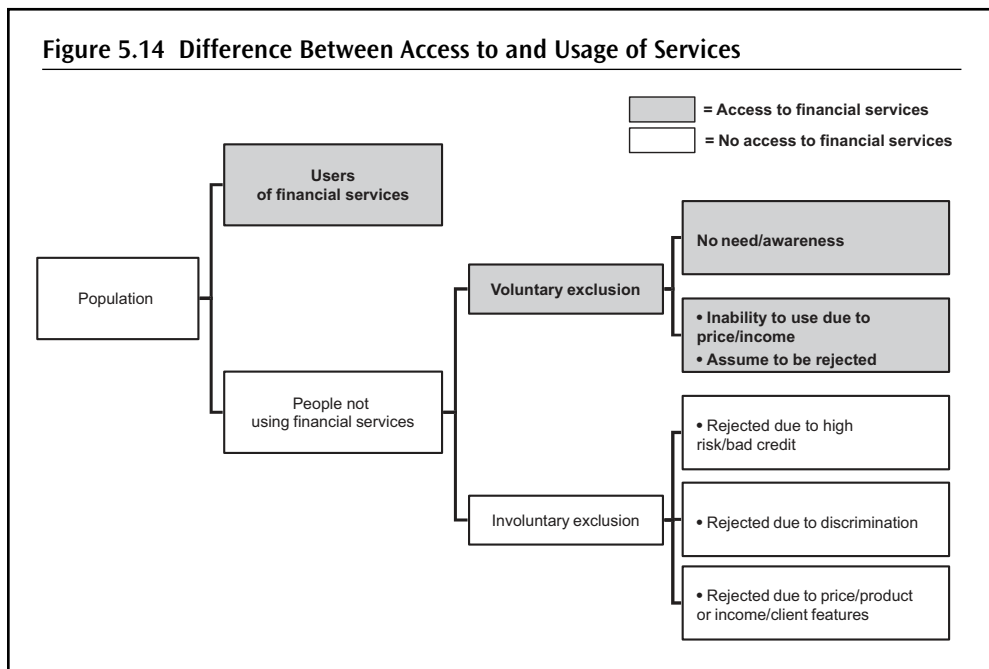
The previous section showed that poor households and smaller firms typically have lower usage of, and complain more about, lack of access to financial services. They are not well able to raise affordable external financing, and have to finance more internally and incur more risks. As a consequence, poor households and smaller firms are not able to fully participate in the economy and accumulate enough capital (in terms of assets, education, and health) to improve their living standards, resulting in underinvestment in many ways, leading to worse MDG outcomes. This unequal access may perpetuate societal inequality as well, which in turn may induce further unequal access (see next Section Financial underdevelopment as a political instrument to keep power concentrated).⁹⁰

Why do poor households and smaller firms have lower access to, and usage of, financial services? In answering this question, we would have to review the large literature on financial sector development and the newly developing research on access to financial services. Here we only briefly review the most important problems associated with access and usage of financial services.⁹¹ We differentiate problems with the general economic and institutional environment from those having to do with the mismatch between demand and supply of external financing. Lastly, we discuss evidence that access to finance can be misused to keep power concentrated. We use some recent data to bring out some of the specific constraints on why poor households do not use financial services.

The starting point for answering the question is differentiating between access and usage of financial services. Usage is the actual consumption of financial services, whereas access is the availability of the supply of financial services at a “reasonable cost.” Hence, there can be a difference between access and usage: when a household or firm does not use financial services, it may have access but chooses not to use it; or it may not have access

90. For an overview of the issues and evidence of underinvestment, see World Development Report 2006: Equity and Development (2005), Chapter 5. See Chapter 9 for the relationship between unequal access to (financial) markets and societal inequality.

91. For a more sophisticated overview, see Beck and De La Torre (2006), Claessens (2005), and Peachey and Roe (2006).



Source: Claessens (2005).

and, consequently, is not able to use it. As with other goods and services, demand for financial services may not exist even when access exists (Figure 5.14).

Furthermore, the reasons for not using financial services are multiple. Many households in developed countries choose not to have a bank account, as they write no checks, collect their wages in cash, and transact their finances in cash. So, while they likely have access, they may not be burdened by lack of use. Firms that do not use external credit may choose not to do so because their rates of return on capital are too low to justify formal finance or because they are not willing to provide the necessary information about their business to banks and by implication to others, including the tax authorities. Equally important, and even in the best financial systems, financial service providers may not wish to supply financial services to all customers since it is not profitable or sustainable to do so. This does not reflect any market failures, but rather indicates that finance, like other services, has its own demand and supply forces.

The General Economic Environment Distorts Access to Financial Services

Macroeconomic instability, a weak institutional environment, large government intervention, and a lack of competition can act as barriers to accessing financial services or, even when accessible, make financial services more expensive.

Macroeconomic and General Institutional Environment. High inflation and large systemic risks make financial intermediation more difficult. In terms of credit, such risks

decrease the probability of repayment of otherwise viable investment opportunities, making lenders more reluctant to lend. This relationship can be exacerbated by institutional weaknesses such as a poor legal system, absence of credit information, and poor collateral registration (see also Beck 2006 and subsection below on Supply-side mismatch drivers). As a consequence, the financial sector can remain small and access more limited.⁹²

Government Intervention. Unnecessary government policies—such as interest rate ceilings, targeted lending, or subsidized credit programs—often distort access, can impede proper pricing, and reduce the interests of financial institutions to innovate and offer new financial products.⁹³ In general, these interventions can twist good economic decision-making. They can remove incentives for banks to attract deposits, and make good loans. Also, they can reduce the willingness of depositors to put money in banks and of borrowers to exert enough effort and pay back. Moreover, while some of these government interventions are designed to increase access to financial services for the underserved households and firms, reality often entails that only the well-connected are offered this preferential access. Therefore, the effects may be perverse; rather, the ones with the best investment opportunities are crowded-out.

Competition. A lack of competition makes financial institutions less interested in providing basic services. It often results in banks targeting only the more affluent consumers and the large corporations that provide higher margins. With more competition, financial institutions are more inclined to go downstream to look for profitable growth opportunities. Particularly, foreign bank entry has proven to be beneficial to enhance competition. Besides intensifying competition, foreign banks can also bring in more sophisticated technology, systems, and people. Analysis of borrowers' perceptions across 36 countries finds that financing obstacles are lower in countries with higher levels of foreign bank penetration (Cull, Clarke, and Martinez Peria 2001). This work reports strong evidence that even small enterprises benefit, and there is no evidence that they are harmed by greater foreign banks' presence.

For example, in Mongolia, with an income per capita of less than \$500 and a very rural-based economy, the government-owned Agricultural Bank of Mongolia (Khan Bank) was placed in receivership in 1999 after many years of operating deficits, loan losses, and a failed attempt at privatization. In March 2003, HS Securities of Japan bought Khan Bank for \$6.85 million. Khan Bank now operates a network with 379 points of service throughout Mongolia, greater than any of the other 16 banks operating in the country (and up from 269 when new management took office). Today, one of two Mongolian households is reportedly a client of Khan Bank, and it seems to continue to expand its branch network and services (World Bank 2006b).

Research shows that more competition in the banking system can foster greater access to financial services, including from microfinance institutions. For microfinance, it appears that access for the poor or the near-poor is worse in countries with higher GDP per capita,

92. See for example, Djankov, McLiesh, and Shleifer (2006).

93. For the role of the government, see for example Demirgüç-Kunt (2006).

in countries with poorer institutional quality, and in countries with a smaller market (Honohan 2004). This suggests that good country institutions and a large potential market can help the microfinance industry to grow. The same analysis shows that a poorer quality in the main banking system discourages the spread of microfinance institutions. Specifically, countries with higher spreads and higher profitability in their main banking system have fewer microfinance institutions.

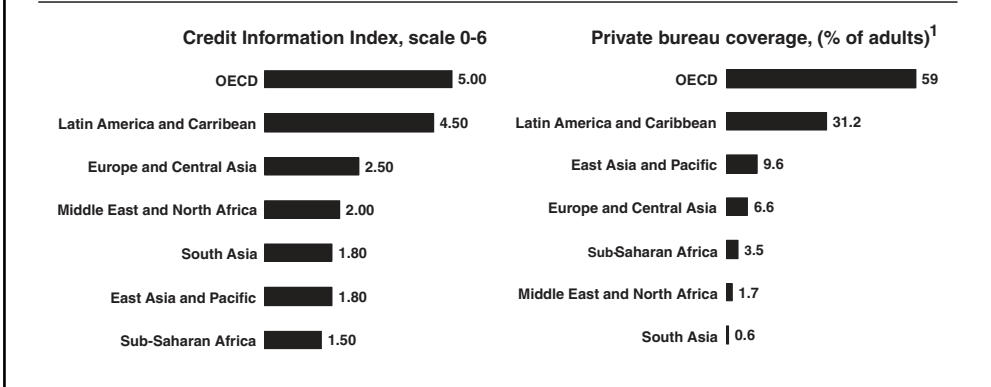
Improving competition does not mean free entry or not being concerned about market structure. Some analysts have argued that recent trends in banking systems may have adverse consequences on access. Consolidation of the banking system in many countries increases the distance between borrower and lender, making lending based more on hard information. This ends up reducing the role of relationships, which can be especially useful for new and small firms. Yet part of this increased consolidation is a consequence of increased competition, which in general helps to increase access. Indeed, while there is some cross-country evidence that more concentrated banking systems could lead to increased financing obstacles, this is mostly the case if the system is not competitive and dominated by public banks.

Mismatch Between Demand and Supply of Financial Services

Even without some of these general and institutional environment weaknesses, access to financial services can remain limited, as observed in even the most developed financial markets. The main reason for the mismatches between demand and supply is that current products can be ill suited for the needs of poor and small firms. From the supply side, financial services providers often simply do not target the poor and small firms due to problems of information, high transaction costs, and poor enforcement of contracts. From the demand side, households and smaller firms often lack financial sophistication and literacy, do not trust financial institutions, or simply do not realize their need for financial services. As a consequence, they do not demand financial services.

An example of mismatches between demand and supply that result in financial services not suitable for poorer segments is that financial institutions typically target affluent customers and do not adapt their business model to the needs of low-income people. The model for the middle- and high-income segments relies on larger revenues per client, expensive marketing strategies, and higher sophisticated client understanding of financial products. However, these sophisticated financial products are not profitable when transplanted to the poorer segment of the population. For example, a Mexican survey showed that 75 percent of the respondents do not use banking services. Seventy percent of these unbanked indicated they do not use banks because fees and minimum balances are too high (Solo, Caskey, and Durán 2004). Without product innovation, the result is that financial institutions simply do not reach lower segments. Proximity to banking services can also be an issue (Peachey and Roe 2006). This is especially a problem in rural, less densely populated regions, which are more likely to have a weak transportation infrastructure.

Another example is the credit market. In a perfect world, investment decisions do not depend on wealth, income, social status, or connections of individuals. Decisions to provide financing would be purely driven by the risk adjusted, expected returns of an investment and the market price for capital. Any individual with a healthy investment opportunity would be able to raise funding. Unfortunately, the world—at least the financial

Figure 5.15 Large Variation in Availability of Credit Information, 2006

¹ The number of individuals or firms listed by the private credit bureau with current information on repayment history, unpaid debts, or credit outstanding.

Source: Doing Business, World Bank.

sector world—is not perfect. At the root of the supply and demand mismatch in financial intermediation lie several problems, from which especially poor households and SMEs suffer as lenders refuse to extend credit or make it too expensive.

These problems pertain to all financial services, but most prominently to credit. They can be classified in supply and demand side mismatches.

Supply-Side Mismatch Drivers—Information Problems. Often, suppliers of credit or insurance companies cannot obtain enough information about the investment opportunity and the behavior of the borrower, making them reluctant to extend financing.⁹⁴ This happens when there is no credit history of the potential borrower, when the cash flow calculations cannot be trusted due to weak accounting standards, or when the lender simply does not have the sophistication to assess the quality of the investment. Credit information is important for financial institutions to extend financing, especially to households and smaller firms. A lack of credit information may result in rejection of otherwise good loans, as only crude characteristics such as income or region can be used.

Data show that there are wide disparities in terms of credit information availability across countries (Figure 5.15). Afghanistan and Albania have the lowest score on a credit information index, and Austria and Spain score amongst the highest. Coverage of private credit registry organizations varies from 59 percent in OECD countries to 0.1 percent in South Asia. Information availability matters, and it has been shown empirically that greater information availability and better contract enforcement are associated with greater financial depth and more access to financing by firms (Djankov, McLiesh, and Shleifer 2006).

94. Raising the interest rate, however, to compensate for this risk does not work. It will only deter otherwise creditworthy borrowers who are willing to repay. Instead, it will attract borrowers who are more likely not to repay at all. The result is that the lender does not extend credit at all (adverse selection). Another problem is that after the loan is extended, the lender cannot observe whether the borrower exerts enough effort or “gambles” with the money by allocating it to a less healthy, more risky investment. This may happen because the lender does not fully bear the cost of the investment when it goes bad (moral hazard).

Another related problem is that future income streams of the poor are harder to estimate and keep track of, whereas middle class salaries are often paid by established organizations and are more easily tracked (Rajan 2006). A reason for this is that poor people are often active in the informal economy and do not make bank transactions to avoid monitoring, including by the tax office. This situation results in more costly transacting with the poor, which often means banks shying away from extending loans to the poor in the first place.⁹⁵

Transaction Problems. To be sustainable, and taking into account the costs associated, a loan, insurance policy, payments service, or a deposit account should be profitable for its provider. However, this is less likely in the case of small accounts or loan sizes: accepting a \$1 deposit can cost as much as accepting one of \$1,000. Extending credit or opening an account involves several transactions such as writing the contract, and talking to an official. These transactions, however, cost money and involve high fixed costs, including the maintenance of a costly branching network. This is an important problem since the average deposit of a poor person can be as little as a few cents. Furthermore, it may be more costly to provide financial services to poor people: They often lack identity cards or birth certificates that are necessary to open an account, implying that other means will be needed to facilitate their access to financial services.

When opening an account, high minimum deposit amounts or fees may be required to compensate for these costs. However, this requirement limits access to the richer segments of society. In recent household surveys conducted by the World Bank in Columbia and Mexico, 78 and 70 percent of households respectively indicated that high cost and minimum balances were an important reason why they did not use formal financial services (Kumar and others 2005). Having to pass on costs can be a larger problem for financial institutions that operate on a relatively small scale or have to operate in areas with low population density, like some microfinance institutions (Honohan 2004). By gaining size and economies of scale and using better cost management, unit cost can be lower, potentially leading to higher outreach and more attractive prospects for financial institutions.

Adopting state of the art know-how and best practice techniques and using the advances of technology can help reduce cost and expand access. Training programs for loan officers and proper use of management information systems can facilitate better loan making. In addition, proper, competitive bonus compensation schemes and clear responsibility structures for loan officers can help improve their information gathering and monitoring efforts, thereby increasing access.

Enforcement Problems. A good legal system and well-functioning courts can help with access; ease of enforcement, for example, facilitates repayment of a loan. Conversely, in the absence of a good legal environment, lenders will be more hesitant to extend loans. Further, poor people will be more affected by these legal and judicial deficiencies. They often lack documents to prove ownership of assets that can be used as collateral. For example, in Europe and Central Asia, registering property costs 3 percent of its value. However, in South Asia, this cost is 6.8 percent. In Sub-Saharan Africa, it even costs 12.6 percent

95. This is anecdotally confirmed by officials of NFX, a Dutch public-private partnership that promotes financial sector development in developing countries.

(World Bank 2006a). Credit extended is accordingly less in these regions. In some countries, women are even worse off, since they are not allowed to hold assets at all (UN 2006).

Providing collateral or co-financing does not just supply security, but also ameliorates information problems, since borrowers will behave more prudently when they may lose their own assets. However, poor households and SMEs typically do not have the necessary assets to begin with. Hence, lenders often need to take refuge to crude personal and cultural characteristics, which often discriminates against the poor and small firms that could otherwise represent healthy businesses (UNDP 2006). For example, a study of informal trade credit in Kenya and Zimbabwe found that the average monthly interest rate for the dominating trading groups, Indians in Kenya and whites in Zimbabwe, was 2.5 percent, while blacks paid 5 percent in both places, controlling for the investment opportunities available to these groups (Fafchamps 2000).

Demand Side Mismatch Drivers—Financial Illiteracy. The poorest households are often illiterate and have limited understanding of financial products. For example, applying for a loan or an account may involve filling in several forms, too challenging for many. As a result, the illiterates are less able to deal with the often high administrative burden of opening an account or applying for a loan. For example, a recent Brazilian household survey by the World Bank found that only 28 percent of respondents with education less than primary level have a bank account; in contrast, 84 percent of the respondents with a bank account had more than a secondary school education (Kumar and others 2005).

Lack of Trust. In a recent Mexican household survey by the World Bank, 16 percent named lack of trust and safety as the main reasons why they remain unbanked Solo, Caskey, and Durán 2004. Partly driven by mistrust in the financial system, as well as for cultural reasons, Indian households, for example, invest over 55 percent of their savings in low-yielding physical assets such as land, houses, cattle, and gold (Farrell and Lund 2005). Households may mistrust banks for good reasons, especially after financial crises. In this regard, research has shown that lower-income segments bear disproportionately the brunt of adjustment.

Financial companies often work with aggressive sales agents outside the target community who are paid on a commission basis. Yet, the solution to overcome trust problems is not likely to be a traditional sales model, because it can also breed mistrust. Such selling practices have shown to create mistrust amongst new clients. South Africa's-based Group Schemes, however, have been found to build trust by recruiting local salespeople who get fixed salaries. Each locally recruited salesperson typically sells eight policies a week whereas a traditional salesperson only sell two (Moore 2000).

Informal Financial Services. Many households and SMEs do not obtain financial services via the official financial system, but rely on other means. Remittances are often processed through informal networks or through money order transfer companies that operate outside the formal financial system. Family, friends, and their internal savings are typically the first source for those in need of capital. This informal finance happens in both developed countries and developing countries, but more so, in financially less-developed countries. For example, the World Business Environment Survey in 2000 of the World Bank finds that in East Asia and the Pacific, firms on average used 13 percent from informal

sources to satisfy their financing needs, like family and friends, compared to only 1.47 percent in OECD countries.

As previously indicated, this self and informal financing has serious growth impediments for firms, especially for smaller ones. Informal lending for one does not come cheap. Credit supplied via a well-functioning financial sector can be substantially cheaper than interest rates of informal lenders who may enjoy significant monopoly rents; their rates can be typically between 10 and 100 percent per month (Robinson 2001). For example, a study finds that in Chambhar, a market town in Sindh, India, the average borrowing interest rate was 78.5 percent in 1980–81 (Banerjee 2004). While informally provided financial services will always remain an important avenue, the poor will suffer the most from the lack of access to formal financial services.

Access to Financial Services as a Political Instrument to Keep Power Concentrated

It should be clear by now that financial development can level the playing field for firms and households. Optimal allocation of capital in healthy financial sectors provides the best and brightest with opportunities to fund their ideas, not the wealthiest or best connected. Hence, equal access to financial markets is paramount to creating more equality, economic growth, and better social outcomes, that is, success with the MDGs (Claessens and Perotti 2005; World Bank 2005a).

However, recent evidence points out that firms with political connections can have more favorable financial access, even when they are less efficient or less likely to repay. Countries for which evidence along these lines is documented include Brazil, Mexico, Thailand, Pakistan, and Russia.⁹⁶ In addition, incumbents with political clout have strong incentives to make sure potential entrants do not have access to finance (Rajan and Zingales 2003a, 2003b). They can do so by lobbying politicians and bribe officials for low-investor protection, opaque accounting standards, direct refusal of loans to competitors, and so forth (Perotti and Volpin 2004; Feijen and Perotti 2006).

Research, indeed, finds that finance is used as an instrument to retain power. A study documents that countries that liberalized their trade, subsequently improved in terms of their financial development only if the winners of liberalization had more to gain than the losers had to lose (Braun and Raddatz 2005). Another study shows that while Brazilian textile industry in the 19th century became more competitive due to political changes that triggered liberalization and banking development, in Porfirio Diaz's Mexico, the elite controlled access to finance, creating less-efficient producers. Related work documents that increased political competition across states in the U.S. federal system in the 1880s increased accountability and forced local financial intermediaries to face competition, in contrast to Mexico, where banking remained extremely concentrated and politically connected to the autocracy under Diaz (Haber 1991, 2004).

96. See, for example: Faccio (2006); Claessens, Feijen, and Laeven (2006) on Brazil; Khwaja and Mian (2005) on Pakistan; Charumilind, Kali, and Wiwattanakantang (2005) on Thailand; La Porta, Lopez-de-Silanes, and Zarrripa (2003) on Mexico; and Laeven (2001) on Russia.

Another study indicates that the financial system can be abused by richer, more powerful firms. The study hypothesizes that these powerful firms lobby politicians and bureaucrats to make the financial system deliberately fragile by weakening investor protection. As a consequence, poorer firms may not survive economic shocks because they are refused access to additional credit and are forced to exit their sectors, resulting in a profit increase of the remaining stronger firms. The study finds empirical evidence, which is consistent with this hypothesis (Feijen and Perotti 2006).

Financial sector development will, therefore, need to take into account the political economy of financial reform. Without addressing the fundamental constraints, financial reform may either be captured and give little access to the poor households and small firms, or not go anywhere. How to do so remains an important area of policy and research.

Summary and Conclusion

Many financial systems are simply too small and as a consequence lack outreach to poorer households and smaller firms. Indeed, in less financially developed countries, poorer households and smaller firms use fewer financial services. As a consequence, smaller firms experience higher growth obstacles than larger firms do.

Although the size of financial systems can broadly hamper access to finance, we identify three specific problems for poor households and smaller firms:

- *Unstable general economic and institutional environment.* Macroeconomic instability, a weak institutional environment, large government intervention, and a lack of competition can act as barriers to accessing financial services or, even when accessible, make financial services more expensive or not viable.
- *Supply and demand mismatches.* Even without some of these general and institutional environment weaknesses, access to financial services can remain limited, as observed in even the most developed financial markets. The main reason of the mismatches between demand and supply is that current products can be ill-suited for the needs of poor and small firms. From the supply side, financial services providers often simply do not target the poor and small firms due to problems of information, high transaction costs, and poor enforcement of contracts. From the demand side, households and smaller firms often lack financial sophistication and literacy, do not trust financial institutions, or simply do not realize their need for financial services. As a consequence, they do not demand financial services.
- *Influence of special interests.* An emerging academic literature shows financial development can be captured by special interests. The reason they oppose financial development is that it creates a level playing field and enables newcomers to finance and implement their ideas and defy the economic status quo. As a result, access to financial services is restricted to insiders.

Improving Access to Financial Services: Recommendations

Previous chapters showed that financial development and access to financial services can help achieve the MDGs. However, as Chapter 5 has documented, many poor households and small firms lack access. In this chapter, we provide recommendations to expand supply and access to financial services by reviewing suggestions made and best practices observed, focusing on the implications for government policies. Based on our analysis in the previous chapters, we identify nine recommendations, which fall into four overarching objectives: (1) increase size and outreach of financial systems, (2) stabilize the general economic environment, (3) address supply and demand mismatches, and (4) improve data and expand research on access to finance (Figure 6.1).

Increase Size and Outreach of Financial Systems

1. Increase Size of Individual Financial Institutions and Overall Financial System to Benefit From Economies of Scale

Increase Scale of Individual Financial Institutions, Including Microfinance. Expansion of size is necessary because the fixed costs in financial intermediation make it hard for small institutions to provide services for small clients, especially in small markets. While better cost management can lower unit costs, there are limits to cost management at the level of an individual institution. At the same time, economies of scale lead to decreasing unit costs as transaction volumes increase, making some specialization attractive for increasing

Figure 6.1 Overview of Recommendations to Improve Access to Financial Services

| Objective | Recommendation |
|---|--|
| <ul style="list-style-type: none"> • Increase size and outreach of financial systems | <ol style="list-style-type: none"> 1. Increase size of individual financial institutions and overall financial system to benefit from economies of scale 2. Use existing networks to expand outreach 3. Improve credit infrastructure |
| <ul style="list-style-type: none"> • Stabilize the general economic environment | <ol style="list-style-type: none"> 4. Reduce government regulations to a necessary minimum 5. Enhance competition in the financial system |
| <ul style="list-style-type: none"> • Address supply and demand mismatches | <ol style="list-style-type: none"> 6. Push for universal access to financial services 7. Introduce innovative products and best practices to address customer needs |
| <ul style="list-style-type: none"> • Improve data and expand research | <ol style="list-style-type: none"> 8. Collect data on access and broaden coverage 9. Conduct further research and analysis on access to finance |

Source: Authors' analysis.

access. Evidence on the economies of scale for banks in mature financial markets shows these gains.⁹⁷

Evidence on microfinance institutions also reveals the lack of economies of scale (Honohan 2004). The proliferation in the number of microfinance institutions in many countries makes most of them inefficient and has not necessarily benefited final clients, because few institutions have reached the necessary scale (Hoff and Stiglitz 1998).

Increase Scale of Overall Financial Sector. Similar constraints arise at the country level, where many financial systems are very small (less than a few billion dollars equivalent, smaller than a very small bank in most developed countries), hindering effective financial services provision and making the system less resilient to economic shocks (Hanson, Honohan, and Majnoni 2003). Greater size can be attained by, for example, having foreign banks enter small markets and by encouraging regionally operating banks to use a common infrastructure.

2. Use Existing Networks to Expand Outreach

Use of Public Networks. . . . Many countries have large networks of postal offices that could be used to allow various financial institutions to offer electronic finance services, thus sharing the fixed costs of a large network. In Brazil, where the postal office has a presence

97. See Berger and Humphrey (1997) for a survey.

in 1,738 of the more than 5,000 municipalities without a bank outlet, the government auctioned the exclusive right to distribute financial services through the post offices in 2001. Although this may quickly improve access, it does carry some risk of local monopolies. However, by using existing public networks, access need not be limited to one provider. In India, for example, discussions are under way to use existing networks, such as the postal system for the delivery of new financial services by other public and private providers.

... is Especially Efficient to Provide Savings and Payment Services. The use of savings and payments services is especially a function of the size and quality of the distribution networks, including those of postal systems, saving banks, and other specialized financial institutions. Research shows not only that countries with better-developed financial systems and more efficient banks have wider branch and automated teller machine penetration, but also that the use of deposit and loan services is more evenly distributed among banking clients, that is, access is better (Beck, Demirgüç-Kunt, and Martinez Peria 2005).

Country-specific evidence confirms the importance of the distribution network. In Brazil, for example, the size and scope of branch networks, as well as the split between public and private banks and domestic and foreign banks, play a role in the degree of use of financial services by households (Kumar and others 2005; Kumar 2004). More specialized financial institutions, such as savings banks and other proximity banks that have, besides profitability, the objective of providing financial services to a large segment of society, have been shown to broaden usage (Peachey and Roe 2006). These findings suggest that what is driving use is not purely the scope for profitable banking, the overall institutional environment, and level of development, but also that factors such as distribution networks and type of financial institutions can drive access.

3. *Improve Credit Infrastructure*

Analysis of the access of small firms to financial services suggests that the institutional environment matters, perhaps even more than for households.⁹⁸ This is particularly so on the credit side. Indeed, research finds that small firms and firms in countries with poor institutions use less external finance, especially less bank finance. The absence of credit information, difficulty in registering and recovering collateral, and problems with contract design and property rights enforcement can make lending especially difficult. Credit services may, consequently, be limited to entrepreneurs with credit history, immovable collateral, such as real estate, or (political) connections, even if the entrepreneur has an otherwise sound investment opportunity.

In many countries, these problems are exacerbated because of uncertain repayment capacity arising from volatile income and expenditures. Especially new and smaller firms often have high exposures to these systemic risks, including macroeconomic volatility, financial crises, default by governments, and arbitrary taxation.

An innovative approach to addressing the problem of creditworthiness due to a lack of transparency of smaller firms in Mexico can be found in Box 6.1.

98. See Berger and Udell (2005) for a review of the conceptual issues.

Box 6.1: Improving Creditworthiness for Smaller Firms in Mexico

An innovative example to improve creditworthiness by increasing transparency for smaller firms is a program developed by Nafin, a government development bank in Mexico. The project enables many small suppliers to use their receivables from large creditworthy buyers, including foreign multinationals, to receive working capital financing. By effectively transferring the creditworthiness of large firms to small firms the program allows small firms to access more and cheaper financing. Nafin operates an Internet-based platform, reducing costs, increasing transparency, and improving security. In the short run, overhead costs are being subsidized; but by lowering costs for working capital for small firms, the program expects to generate more business and become sustainable (Klapper 2004).

Stabilize the General Economic Environment

4. Reduce Government Regulations to a Necessary Minimum

Reduce Regulation Interfering with Operations. Governments need to regulate financial services provision, but sometimes this can interfere with efficient provision of financial services. Many countries, for example, have customer identification requirements, so called “Know your customer” rules, which can limit the ability to offer simple banking products. The recent focus on anti-money laundering and counterterrorism financing has led to laws that can adversely affect the provision of financial services, as it has threatened to do in South Africa (Napier 2005).

When these and other regulatory and supervisory requirements tradeoffs arise, the requirements are often meant to serve other public policy purposes, such as financial stability and integrity. But other approaches may exist that can more effectively serve both access and financial integrity purposes. In many countries, for example, usury laws prevent small borrowers from getting access to credit at all, even at high interest rates, and anti-predatory lending laws are rather needed. Also, simplifying truth in lending requirements for small-scale lending, rather than applying the extensive small-print type regulations many countries have, can usefully facilitate the supply of financial services.

Reduce Regulation Hindering the Emergence of New Financial Institutions. Regulation can discourage the emergence of financial institutions more suited to the needs of lower-income households or smaller firms. Rigidity in chartering rules, high minimum capital adequacy requirements, restrictions on funding structures, excessive regulation and supervision, and overly strict accounting requirements and other rules can prevent the emergence of microfinance institutions and smaller financial institutions aimed at providing access to financial services by the poor and by smaller firms.

Researchers argue, though, that new institutional forms should not be created for microfinance institutions unless there are several mature and well-managed non-profit organizations ready to transform into such financial intermediaries, and the existing institutional forms—such as banks or finance companies—are unusable (due to high minimum capital requirements, for instance) or too limited because of operational restrictions (such as the inability to mobilize deposits; Jansson, Rosales, and Westley 2004).

In South Africa, bank regulation and supervision were being extended to microfinance institutions, which reduced their capacity to offer financial services profitably to the lower-income segments of the population (Glaessner and others 2004). Separate charters may be useful, with the legal and supervisory structure required depending on such factors as whether the institution borrows, takes deposits, or is owned by its members (Christen, Lyman, and Rosenberg 2003).

Adapt Regulation to Facilitate Multiple Forms of Financial Services. Many households are interested in savings and payments services only, not in credit services. Hence, in its regulation, the government may need to consider savings mobilization separately from credit extension. These types of financial services provision may require different forms of regulation and supervision. In this context, it might be useful for international and national agencies to develop “models” on various new aspects of access, such as advice on regulations of microfinance institutions and their activities, especially as the new Basle Accord is being implemented, and rules for aspects such as consumer protection, know your customer rules, and anti-money laundering and counterterrorism financing.

Adopt Financial Literacy Programs. The general level of financial literacy may need to be increased, as is actively being done in some countries. Consideration needs to be given to educating people on the risks of (new) financial services and different types of financial service providers, so that people can strike the right balance between risk and benefits.

Enforce Regulation. Finally, much regulation is aimed at protecting savers and borrowers against misuse and risks; yet it may not be effective in developing countries, given the lack of supervisory capacity, independence, and effective checks and balances, and may end up impeding access (Barth, Caprio, and Levine 2005). A balance will need to be found between rules and enforcement capacity, with more emphasis given to market forces when enforcement is weak.

5. Enhance Competition in the Financial System

Ensure Equal Access to the Financial Infrastructure Smaller and non-bank financial institutions have often limited access to existing networks. In many countries access to the payments system is limited to a club of large banks. Information-sharing is restricted in many countries to incumbent banks and formal financial institutions. Few countries, for example, allow non-bank financial institutions and entities such as department stores access to bank information. This together with the limited existence of (private) credit bureaus can make it difficult for other institutions to provide financial services, especially to low-income households and small firms. Yet, lower-income people often get their credit from these non-financial institutions. In Mexico, for example, close to 50 percent of credit for those with no banking relationship comes from department stores (Caskey, Durán, and Solo 2004).

Bring in Foreign Banks In addition to the general view that competition can help with access, there is specific evidence that allowing greater entry by foreign banks can enhance

access.⁹⁹ As discussed, a study on borrowers' perceptions found that reported financing obstacles were lower in countries with high levels of foreign bank penetration (Clarke, Cull, and Martinez Peria 2001). The same study found strong evidence that even small enterprises benefited. It discovered no evidence that they were harmed by the presence of foreign banks.

The channels appear to be both competitive pressures of foreign banks on the domestic banking system, forcing local banks to lend to smaller firms, as well as direct provision of financial services by foreign banks. In addition, foreign bank entry has indirect effects on the overall banking system, such as greater financial stability and improved efficiency of financial intermediation. These two effects can make the local banking environment more conducive to lending, including to lower-income segments, and can put pressures on local banks to engage more in lending to lower-income segments as profitability in other segments declines.

Empirical and anecdotal evidence is abundant. A Latin America study found that foreign banks with small local presence do not appear to lend much to small businesses, but that large foreign banks in many cases surpass large domestic banks in such lending (Cull, Demirgüç-kunt, and Morduch 2006). At the same time, government-owned banks do not help. The impact of outreach on financing obstacles, for example, does not vary with the degree to which the banking system is government-owned—government-owned banks do not “solve” the access problem.

Address Supply and Demand Mismatches

6. *Push for Broader Access to Financial Services*

For services deemed to be essential, such as access to clean water, education, and health-care, governments often intervene and either provide these services themselves, provide subsidies or require the traditional providers to extend their services to all in society, or at least to many, even if for some individuals the private costs exceed the private returns.

These universal access objectives are generally not found in financial services, however. This is, in part, because, even though the overall gains from access to financial services for household welfare—including in terms of MDGs—are being documented, much remains unknown. To determine whether there is a case for universal provision of financial services, more needs to be known about the benefits of access, about why households and firms demand (or do not) financial services, about why financial service providers provide (or do not provide) financial services, and about the costs to society of providing greater access.

7. *Introduce Innovative Products and Best Practices to Address Customer Needs*

Make Financial Products More Suitable to the Customer. Banks and other financial institutions can also improve access through innovation to make their products more suited to low-income households and small firms. Mostly, this drive for innovation

99. Clarke, Xu, and Zou. (2003) review the evidence.

will occur through competitive forces. Payments (domestic and international) innovations exemplify this. The sharp drop in the costs of international remittances over the last few years, for example, is largely due to competition (Orozco 2004; Maimbo and Ratha 2005).

Yet, there have also been large effects of the improvements in technologies, both in terms of financial engineering and information and communications technology, driving innovations and lowering costs. Experiences suggest that there is still ample room for financial institutions to improve access for other forms of financial services, including through using new technology.

Use Technology to Reach Customers. New technology, including the internet, smart cards, and the use of mobile phones, can help to broaden access (BIS 2004). On one end of the income spectrum, in Vienna payments for parking fees and in Finland payments at vending machines can be made by mobile phone. On the other end, due to innovations in information and communications technology, developing countries benefit from the increasingly wide coverage of cell-phone networks. Mobile phones can be used for financial services provision. Since mobile phones are often more widespread than fixed lines and have a lower threshold for many users than banks do, mobile phones have already facilitated access for low-income households in developing countries.

In many countries electronic payments can be made through voice access, text messaging (SMS), or wireless application protocol (WAP), as a gateway to the Internet. Another arrangement allows customers to pay using the prepaid value stored on their mobile phone as a direct debit or to pay later, with charges for goods or services placed on the customer's phone bill. Some of these financial technologies discussed are not really new, but are now being employed more extensively, even in the lowest-income countries. In many developing and transition countries (Bolivia, Brazil, China, Ghana, India, Lithuania, Malawi, Malaysia, Mexico, Nigeria, the Philippines, Russia, Turkey, and Venezuela), for example, banks have offered prepaid cards that can facilitate payment services for low-income households (BIS 2004).

Handheld remote transaction tools are now being used by several microfinance institutions in developing countries to process on-the-spot loan applications and approvals. In Uganda, Hewlett-Packard and other technology firms active in the microfinance industry have been working to increase the scale of microfinance. They have developed a remote transaction system using handheld devices to capture transaction data and transmit it back to management information systems on head office servers (See Microsave.org for other examples).

Facilitate Product Introduction by the Government. Sometimes, though, new products will come not by competition and market forces alone, but also because of prodding by government and public opinion. In South Africa in 2004, for example, the country's four big retail banks along with the post office's Postbank launched the Mzansi account, a low-cost bank account aimed at extending banking services to the black majority. Set up under a financial sector charter agreed on by the industry in 2003, the account requires a minimum deposit of 20 rand (about \$4) and is aimed at providing access to financial services to some 13 million low-income South Africans without prior access to bank accounts. Whether this effort will be profitable and sustainable is to be seen, but the initial take-up has been promising (Napier 2005).

Box 6.2: Government Actions to Enhance Access

In 1999, the U.S. Treasury Department initiated a program to pay all federal benefits, such as social security payments, by electronic transfer accounts. One impediment was the large number of recipients without bank accounts who cashed their checks instead of depositing them in a bank account. Subsidies were used to encourage banks to open accounts and recipients to switch to electronic payments. The Treasury offered to pay banks \$12.60 for each electronic transfer account established for benefit recipients, and specified a minimum set of characteristics that these accounts must meet (the accounts could not cost account owners more than \$3 a month, and banks could not levy a fee for electronic deposits coming in). The switch would benefit the government as supplier (lower costs) and could also help recipients by inducing them to use financial services. In the end, the take-up was less than expected, suggesting that lack of use reflects, in part, lack of demand rather than lack of access and is part of a broader issue of social exclusion.

Standard Bank of South Africa had earlier already tried new ways of meeting the needs of an unbanked population (Paulson and McAndrews 1998). In 1993, Standard Bank set up E-bank, offering card-only access to a simple savings product. It was supported by a dedicated staff speaking a mix of local languages and operating out of dedicated outlets to help overcome problems of illiteracy and concerns about security in a high-crime environment. It had high start-up costs, but provided financial services to a low-income segment of the population. E-bank has since been absorbed in the bank's more general provision of financial services to low-income households.

Take on a Leading Role in Providing Access to Finance by the Government. Government can sometimes take on a primary role in facilitating access to finance. For example, the government could try to expand electronic transfers of social security, tax, and other individual-oriented payments, to encourage more bank access (see Box 6.2).

There are other options open for governments to stimulate use of banking and other basic financial services by households. First, the regulatory system can be used to direct, but not mandate, banks to address the problem. This might be described as the Community Reinvestment Act (CRA) approach, following the model used in the United States. Second, authorities can mandate all banks to provide minimum banking services (basic accounts) for otherwise-excluded segments of the market. Third, governments can rely on banks with a social commitment (in the legal form of public banks, cooperatives, foundations, the postal network, or proximity banks such as local savings banks) to offer very restricted retail services. Each approach has advantages and disadvantages (see Box 6.3).

Reconsider Credit Extension Programs. Credit extension programs, especially for small and medium-size enterprises, have been plentiful in both developed and developing countries, suggesting a large public need to provide these forms. The efficacy of these interventions is doubtful, however, and the need seems to have arisen largely from political economy pressures.¹⁰⁰ The means of distributing credit under these programs is generally

100. For a general review of credit lines, see World Bank (2005c); Caprio and Demirgüç-Kunt (1997) provide some empirical evidence on subsidies and review general experiences.

Box 6.3: Other Options for the Government to Increase Access

The U.S. CRA, enacted in 1977 and revised in 1995, aims to help meet the credit requirements of the communities in which banks operate, including low-to-moderate income neighborhoods. Each bank is rated every three years on its performance in making loans to low- and moderate-income people, allowing the general public to apply pressure for noncompliance. Ratings focus on lending, services, and investment, with lending carrying the most weight. Claims for its success are contested, with neither side establishing a strong position. The CRA model is very specific and has not been followed elsewhere, which suggest that its replicability is limited. Furthermore, the CRA should not be seen in isolation, but rather, within the broader, political economy context of exclusion.

France, Ireland, Sweden, and the United Kingdom, among others, have tried to broaden access by legal means. In France, anyone who applies to open a bank account but is rejected can contact the Bank of France, which will provide a bank (often the postal bank) that will be obligated to open an account. In some countries, postal banks (often government owned) are required to provide basic cash and banking services. There is little review of the effects and efficiency of these schemes, however. Peachey and Roe (2004) review experience with proximity banks and find empirical support for a positive effect on access from a greater presence of such banks. Also, credit unions and other not-for-profit financial institutions can make a difference in access.

distortive. Credit often does not reach the intended target group but rather the well-connected. In addition, since banks do not develop their credit analysis skills, institutional development is undermined. The case for direct and indirect intervention in access to credit is, therefore, less clear than the case for access to basic savings, payments, and transaction services.

Improve Data and Expand Research

8. Collect Data on Access and Broaden Coverage

A more definite interpretation of the factors affecting access will have to await better data on access to, and use of, financial services at both the micro and the macro level. This will require actions by national and international agencies to develop more comparable data on use and access barriers. Data will have to come from different sources: providers of financial services (directly and from national statistics), users of financial services (from surveys), and experts (to identify constraints).

Data can be collected across countries on the terms and conditions under which financial services are being provided—for example, costs of a bank account, type of services, requirements to get a loan—to provide more insights into barriers to access. Each of these data sources has tradeoffs in quality, costs, and coverage—so simultaneous actions will be needed. Without better data, however, little progress can be made on policy recommendations (Honohan 2005; World Bank 2005b). With better data and benchmarking systems (across and over time), more analysis on what is driving use and better identification of the barriers to access will be possible. Guidance on what data to collect, how it should be collected, and from whom it should be collected will be necessary.

9. Conduct Further Research and Analysis on Access to Finance

Further analyses of the success of different models aimed at enhancing access and rigorous empirical evaluations of government interventions are needed. At the micro level, there has already been more emphasis in recent years on monitoring and evaluation using impact data on access to financial services, including by donors, the Consultative Group to Assist the Poor (CGAP), the International Finance Corporation (IFC), World Bank, and others. These data and methodologies are often not comparable, however. Furthermore, as policy moves away from specific lending and other interventions and emphasizes the general policy and institutional environment, there is more need to measure access to financial services at the system level as well.

How to Enhance Access. While there is much analysis of what affects financial sector development and what role the institutional environment plays, evidence on what affects households' and firms' access to financial services is very limited (World Bank 2001). At the individual intervention level, controlled "experiments," such as those by Karlan and Zinman (2005), in which consumers are randomly offered different terms on possible loans, can provide good insights in the functioning of credit markets. By applying different treatments to different forms of financial service provision (for example, by introducing new technology "randomly" at the branch level), it may be possible to better distinguish which reforms aimed at enhancing access are most successful in what circumstances (the Centre for Micro Finance Research in India, the Poverty Action Lab at the Massachusetts Institute of Technology (MIT), and others are pioneering research in this area). This type of analysis can help private financial institutions deliver financial services more profitably and guide national and international policy interventions.

On the Benefits of Access. We do not know at the micro-level sufficiently well what the benefits and impacts of finance are. The gains of access to basic health care services such as immunization are much easier to document than the gains from access to financial services. There is also evidence that, from a social point of view, people invest too little in primary health care or education, thus justifying government intervention. We do not know systemically, however, whether individuals underuse basic (formal) financial services even when they have access at a reasonable cost. Furthermore, access to credit may be a problem when it leads to impoverishing indebtedness from over-borrowing. There is plenty of anecdotal evidence that some households may have difficulty managing access to credit, suggesting that some restraint in the use of financial services, until financial literacy is more adequate, may well be welfare-enhancing.

More generally, the fact that the poor and disenfranchised do not use financial services may be more a problem of poverty than of access. Although data are weak and do not allow anywhere near a definitive assessment, there are likely many people among the group with no access in developing countries who have no demand for financial services. Consequently, the share of those with potential demand for financial services but no access in developing economies may well be small, which arguably would negate any call for large public interventions.

On the Means of Intervening. Not only is too little known about whether there is a public goods argument to be made in favor of extending financial access more broadly, but also

little is known on how to best go about intervening if necessary. Other services, notably telecommunications and postal services, though, offer some lessons as they have some parallels. As for these services, financial services display some properties of network industries (Claessens and others 2003). Payment systems, branches, and automated teller machines and other points of sale are distribution networks, similar to telecommunication networks and post offices. There may be parallels between financial services provision and these industries in arguments for and against government intervention. There are the fixed costs—from the investments in branches and other distribution networks—and the externalities of use—as in payments systems and stock markets, where additional use lowers the unit costs. Also, as these industries typically have universal service objectives, there may be lessons on the preferred ways in which governments can intervene to broaden access (for example, it is better subsidizing the user or the provider or through using universal service obligations).

On Political Economy Factors. Trying to broaden access, as will be clear by now, should not necessarily be a public policy goal. Furthermore, public interventions, if any, will need to be carefully considered given political economy factors. Broadening access through government policies may not relax credit and savings constraints when only households or firms with good prospects, and possibly already having access, apply for credit. Subsidies not only distort markets, but evidence is plenty that subsidies are typically captured by the relatively well off, who often already have access. Priority lending requirements can also divert resources from the lowest-income segments. For example, interventions to improve the supply of housing finance often end up being a subsidy for the middle-class. In Brazil, the cost of the housing finance and agricultural finance programs—captured by the better off—are important factors behind the generally high financial intermediation spreads, hurting borrowers and depositors through higher lending rates and lower deposit rates, especially those less well off. In the end, enhancing access can hurt those truly in need.

On Other Perverse Effects. Another example of possibly perverse interventions relates to microfinance institutions. In the past, multilateral financial institutions and bilateral donors have given much emphasis to microfinance institutions, including providing subsidies for setting up such institutions. If eventual financial sustainability is desired, as it should, these subsidies can work perversely, however, leading to higher subsequent spreads to recover fixed costs (Hoff and Stiglitz 1998). Thus, direct and indirect subsidies should remain minimal, and cost and risk-sharing with the private sector are important market tests. Even where there is a case to try to extend financial services provision to a larger segment of the population, general public finance arguments tell that the costs of such provision can outweigh its benefits, as when the means to raise the necessary fiscal revenues are very distortive.

On Other Ways to Stimulate Access. There is some evidence that the demand for, and supply of, financial services may be stimulated in other, less-costly ways. Many employers prefer to deposit their payroll and wages electronically and would be willing to provide some form of subsidy to encourage use of formal bank services by employees (for example, facilitating branching within the premises, encouraging the establishment of a credit union, or facilitating private savings schemes).

Summary and Conclusion

Our nine policy recommendations can be summarized as follows:

- *Increase size and outreach of financial systems.* Increasing the access to financial services will require actions by financial institutions and governments alike. Experiences show that the scope for further market-based extension and broadening of access to financial services is still considerable in many developing countries, especially when considering the new technology that has become available.
- *Improve the general economic and institutional environment.* Governments can continue to improve their institutional infrastructures, thereby facilitating greater access. Enhancing competition has special importance as that can lead to relative quick gains in access. The case for government intervention in access to basic savings, payments, and transaction services is clearer than that for access to credit. Direct and indirect public interventions will need to be carefully considered, also given political economy factors.
- *Address supply and demand mismatches.* Specific private-sector interventions exist that can lead to greater access, but have to be carefully designed. Experiences show, that, in part by using new technology, the private sector can increase the supply of financial services specifically geared towards poor households and small firms. However, there are questions on the degree to which these can be scaled up.
- *Improve data and expand research.* A more definite interpretation of the factors affecting access and the scope for increasing access will have to await better data and analysis on access and use at both the micro and the macro level, especially in developing countries. While broadening access is a valid public policy goal, the means by which to broaden access are less clear. Therefore, more analysis on access to finance can help guide delivery of financial services profitably and improve national and international policy interventions. More generally, much is unknown about how to best enhance access.

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Financial Sector Development and the Millennium Development Goals is part of the World Bank Working Paper series. These papers are published to communicate the results of the Bank's ongoing research and to stimulate public discussion.

This study investigates the relationship between financial sector development and progress in reaching the Millennium Development Goals (MDGs). We assess the contribution of countries' financial sector development to achieving the MDGs. We focus on the relationships between financial development and economic welfare and growth, and the following four MDG-themes: Poverty, Education, Health, and Gender Equality. In doing so, we review the theoretical channels, survey existing empirical evidence—both cross-country and case study evidence—and provide new evidence. We find that financial development is an important driver for economic welfare in that it reduces the prevalence of income poverty and undernourishment. In addition, we provide new evidence of a positive association between financial development and health, education, and gender equality.

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