

Access to Finance: An Unfinished Agenda

Thorsten Beck and Asli Demirgüç-Kunt

Recent data compilations show that many poor and nonpoor people in many developing countries face a high degree of financial exclusion and high barriers in access to finance. Theory and empirical evidence point to the critical role that improved access to finance has in promoting growth and reducing income inequality. An extensive literature shows the channels through which finance promotes enterprise growth and improves aggregate resource allocation. There is less evidence at the household level, however, and on the effectiveness of policies to overcome financial exclusion. The article summarizes recent efforts to measure and analyze the impact of access to finance and discusses the unfinished research agenda. JEL codes: G2, G21, O16

Financial markets and institutions emerge to alleviate market frictions arising from information asymmetries and transaction costs. A substantial theoretical and empirical literature shows the importance of efficient financial systems for long-term economic development (see Levine 2005 for a survey). Recent evidence shows that financial development is both pro-growth and pro-poor. Countries with deeper financial systems grow faster and reduce income inequality and poverty headcounts faster (Beck, Demirgüç-Kunt, and Levine 2007). However, most of the empirical cross-country literature on the impact of financial development focuses on financial depth, using measures such as total outstanding deposits or credits. Only recently have researchers turned their attention to questions of financial outreach and inclusion—the extent to which households and firms can access and use formal financial services.

What is the degree of financial exclusion across countries, and what drives the variation? Does improved access have an impact on individual welfare, enterprise growth, and aggregate economic growth and poverty reduction? And what policies are effective in expanding outreach and inclusion? As background work for the Policy Research Report on access to finance (World Bank 2007), a World

Thorsten Beck is a professor of economics and CentER fellow and chair of the European Banking Center at the University of Tilburg; his email address is T.Beck@uvt.nl. Asli Demirgüç-Kunt (corresponding author) is a senior research manager, Finance and Private Sector Development, in the Development Economics Research Group at the World Bank; her email address is Ademirguckunt@worldbank.org.

THE WORLD BANK ECONOMIC REVIEW, VOL. 22, NO. 3, pp. 383–396
Advance Access Publication November 7, 2008

doi:10.1093/wber/lhn021

© The Author 2008. Published by Oxford University Press on behalf of the International Bank for Reconstruction and Development / THE WORLD BANK. All rights reserved. For permissions, please e-mail: journals.permissions@oxfordjournals.org

Bank conference in March 2007 addressed these and related questions. This special issue contains several of the papers presented at the conference. This introduction summarizes the main findings of the conference in the broader context of recent advances in measuring and analyzing access to finance.

Theory suggests that financial exclusion acts as a brake on economic development. Many models point to poor people's lack of access to finance as inhibiting human and physical capital accumulation. This lack of access not only impedes growth, as many worthwhile investment projects cannot be realized, but also results in persistent income inequality (Galor and Zeira 1993; Banerjee and Newman 1993). Most development economists take these financial frictions as given and focus on fiscal redistribution to reduce income inequality and promote growth. But because lack of access to finance has a continuous impact on income inequality, such redistribution often has to be repeated, with negative repercussions for incentives to save and work (Aghion and Bolton 1997). By contrast, focusing on financial sector reforms that broaden access to financial services and reduce exclusion does not involve negative incentive effects and does not require permanent income redistribution. Building more inclusive financial systems also appeals to a wider range of philosophical perspectives than does implementing redistributive policies: redistribution aims to equalize outcomes, whereas better functioning financial systems serve to equalize opportunities (Demirgüç-Kunt and Levine 2007).

Recent cross-country evidence points to the positive impact that financial sector deepening can have on reducing income inequality and poverty. Specifically, Beck, Demirgüç-Kunt, and Levine (2007) show that countries with better developed financial systems experienced faster increases in the income share of the poorest quintile and faster reductions in income inequality, as measured by the Gini index, over the period 1960–2005. Further, countries with deeper financial systems experience faster reductions in the share of the population that lives on less than \$1 a day. This relationship is not only statistically, but also economically significant: almost 30 percent of the cross-country variation in changing poverty rates can be explained by variation in financial development.

Beck, Levine, and Levkov (2007) confirm the dampening effect that finance has on income inequality by exploiting the branch deregulation experience across U.S. states in the 1980s and 1990s. Exploiting differences across states over time, thus controlling for state- and time-fixed effects, and using income distribution data from one source while focusing on a specific policy change that was implemented almost exactly across states helps the authors address concerns related to cross-country regressions, such as measurement and endogeneity biases. Again, the effect of financial liberalization on income distribution is not only statistically, but also economically significant: more than 60 percent of the cross-state, cross-year variation in income distribution is explained by elimination of restrictions on branching.

Beck, Levine, and Levkov (2007) also explore the channels through which financial deepening reduces income inequality. Perhaps surprisingly, it was not

by broadening access to credit services or by advancing entrepreneurship that financial liberalization reduced income inequality. Rather, it was by boosting output and demand for labor, especially unskilled labor. Consequently, the wage and salary earnings of the unskilled and lower paid part of the labor force increased, both absolutely and relatively to the earnings of the skilled and higher paid part of the labor force, which in turn led to a tightening in income distribution.

Nor are these results specific to an industrialized country such as the United States. Giné and Townsend (2004) obtain similar findings for the Thai economy. Calibrating general equilibrium models with microdata taking into account labor market effects, they find that the main impact of finance on income inequality is indirect, working through the inclusion of a larger share of the population in the formal economy and higher wages rather than through the provision of direct access to credit for the poor.

These initial findings are tantalizing. They suggest that besides direct benefits of access, small firms and poor households can also benefit indirectly from the effects of financial development. They also suggest that pro-poor financial sector policy needs a broader focus than access for the poorest and that improving access by the excluded nonpoor micro and small entrepreneurs can have a strongly favorable indirect effect on the poor. The importance of access issues for development means that expanding access to financial services remains an important policy challenge capturing the attention of researchers and policymakers alike around the world.

The first section of the article presents recent efforts to measure financial outreach and exclusion. Section II discusses recent research on the importance of access to credit for firms, while section III focuses on access to financial services by households and microenterprises. Section IV discusses policy options to broaden outreach, and section V considers the unfinished research agenda.

I. MEASURING FINANCIAL OUTREACH AND EXCLUSION

While time-series data on financial depth are readily available for a large cross-section of countries over a long period, data on the number of users and barriers to access to financial services have become available only recently. How many depositors are behind total deposits in a country's banking system? How many borrowers are behind total credit outstanding? What barriers prevent many people in developing countries from accessing formal financial services? It is important to distinguish between use and access in this context. Critically, nonusers of financial services can be differentiated into those who voluntarily exclude themselves because they do not need financial services, have religious or cultural reasons for not using the services, or have indirect access through friends and family, and those who are involuntarily excluded.

While those who have access but choose not to use services pose less of a problem for policymakers, since their lack of usage reflects their lack of

demand, it is important to distinguish among different groups of involuntarily excluded in order to formulate proper policy advice. First is the group of households and firms that are considered unbankable because their incomes are too low or they pose too high a lending risk. Rather than trying to include them in the financial system, nonlending support mechanisms might be more appropriate. Three other groups of involuntarily excluded call for specific policy actions, as their exclusion may be due to discriminatory policies, deficiencies in the contractual and informational frameworks, or inadequate price and product features.

Seeking to provide headline indicators of access to and use of financial services, Beck, Demirgüç-Kunt, and Martinez Peria (2007) collect data on the aggregate number of bank branches, automated teller machines, and bank deposit and loan accounts across up to 99 countries. They find some striking differences. Ethiopia has less than one branch per 100,000 people; Spain has 96. In Albania, there are four loans per 1,000 people; in Poland, there are 774. While only rough proxies, these indicators closely predict harder to collect micro-level statistics of household and enterprise use of banking services.

Honohan (2007) uses the number of bank loan and deposit accounts and similar statistics for microfinance and cooperative financial institutions to compute a synthetic headline indicator of access to finance. Specifically, extrapolating the relationship between the number of accounts and micro-survey-based measures of the proportion of households with a financial account for a small set of countries to a broad cross-section of countries with data on the number of accounts allows him to estimate the proportion of a country's population that has access to a financial account. These estimates provide a stark picture of cross-country differences in financial inclusion, ranging from Continental Europe, where more than 90 percent of the population has access to a financial account, to Sub-Saharan Africa, where less than 20 percent has.

Why do large proportions of the population in many developing countries not use financial services? Beck, Demirgüç-Kunt, and Martinez Peria (2008) survey the largest banks in 62 countries and document large differences in price and nonprice barriers associated with deposit, credit, and payment services. For example, in Cameroon, the minimum deposit to open a checking account in a commercial bank is more than \$700—higher than average GDP per capita. In South Africa and Swaziland, no minimum amounts are required. In Sierra Leone, annual fees to maintain a checking account exceed 25 percent of GDP per capita. In the Philippines, there are no annual fees. In Bangladesh, Pakistan, and the Philippines, it takes more than a month to get a small business loan processed. In Denmark, the wait is only a day.

The authors show that these types of barriers are negatively correlated with banking penetration and outreach and may prevent a large percentage of the population from using banking services in many countries. Specifically, back-of-the-envelope calculations show that annual checking account fees

alone exclude more than 90 percent of the population in several African countries from such accounts. Factors associated with financial depth such as the effectiveness of credit information sharing, creditor rights, and contract enforcement are highly correlated with barriers, but so are nonfinancial factors such as infrastructure development and the extent of media freedom. More competitive banking systems and market-based supervisory policies are associated with lower barriers. Contrary to conventional wisdom, government banks are not associated with lower access barriers. Instead, bank customers face higher barriers to credit services in banking systems that are predominantly government-owned, while a larger share of foreign bank ownership is associated with lower barriers in deposit services.

While such supply-side barriers are powerful in excluding large segments of the population in many developing countries, there might also be cultural barriers to using formal banking services, as Osili and Paulson (2008) show using data on immigrants in the United States. The authors examine the determinants of financial market participation among these immigrants, considering the influence of both individual-level factors (like wealth and education) and of the institutional environment in the country of origin. The authors find that immigrants from countries with institutions that more effectively protect private property and provide incentives for investment are more likely to have a U.S. bank account and to participate more extensively in U.S. financial markets. These effects are persistent, lasting at least 28 years after immigration, and are present even in immigrants who arrive in the United States as young children. These results suggest that institutional reform is likely to be an important tool for expanding access.

II. FIRMS' ACCESS TO FINANCE

One of the critical channels through which finance promotes growth is the provision of credit to the most deserving firms. A large number of studies show the positive effect that financial development has on firms' growth, especially firms that need it most (Demirgüç-Kunt and Maksimovic 1998; Rajan and Zingales 1998). Finance helps firms overcome liquidity constraints and thus improve resource allocation in the economy (Love 2003; Wurgler 2000). The broad cross-country evidence is confirmed by individual case studies using detailed loan and borrower information. Specifically, Banerjee and Duflo (2004) study detailed loan information on 253 small and medium-size borrowers from an Indian bank before and after they became eligible for a directed credit program. The finding that these firms expanded after becoming eligible suggests that they had previously been credit constrained. The exogenous policy change is an important tool for the authors to disentangle the impact of access to credit on sales and profits from the impact of other, unobserved, enterprise characteristics on business performance.

An alternative method to identify the impact of access to credit on firm performance is through controlled experiments. McKenzie and Woodruff (2008) designed a field experiment in Mexico that administered treatments of cash or equipment to randomly selected microenterprises in their sample, hence generating shocks to capital stock that are uncorrelated with entrepreneurial ability or growth opportunities. Their results suggest returns to capital of 20–33 percent a month, which are much higher than market interest rates and even higher than returns from a similar experiment in Sri Lanka (de Mel, McKenzie, and Woodruff 2008). Furthermore, interacting the treatment effect with different measures of financial constraints and access to finance, they find that the return is much higher (70–79 percent per month) for firms that report themselves as financially constrained. Indeed, they cannot reject the possibility of no return for the financially unconstrained group of firms. Very high levels of return at very low levels of capital stock also imply that there may be no minimum investment threshold below which returns to capital are so low as to discourage entry into self-employment.

Access to finance favorably affects firm performance along a number of channels. Recent cross-country efforts to collect consistent firm-level survey data have allowed researchers to explore the mechanisms through which finance affects economic growth and the structure of the economy. Research using these firm-level surveys has shown that improvements in the functioning of the formal financial sector reduce financing constraints more for small firms (Beck, Demirgüç-Kunt, and Maksimovic 2005; Beck and others 2006; Beck and others, 2008). Research also indicates that access to finance promotes more start-ups and that smaller firms are often the most dynamic and innovative (Klapper, Laeven, and Rajan 2006). Better access to the financial system also enables incumbent firms to reach a larger equilibrium size by enabling them to exploit growth and investment opportunities (Beck, Demirgüç-Kunt, and Maksimovic 2006). Furthermore, greater financial inclusion allows the choice of more efficient asset portfolios and innovation (Claessens and Laeven 2004; Ayyagari, Demirgüç-Kunt, and Maksimovic 2007). Financial deepening can also increase incentives for firms to incorporate, thus reaping benefits from the resulting opportunities of risk diversification and limited liability (Demirgüç-Kunt, Love, and Maksimovic 2006).

How important is financial exclusion as a constraint to firm growth compared with other dimensions of the business environment, such as the macroeconomic environment, infrastructure, taxation, and security? In micro-surveys, firms generally point to multiple obstacles to their operation and growth, but it is not clear that all obstacles are equally binding. Ayyagari, Demirgüç-Kunt, and Maksimovic (2008b) use firm-level survey data to explore the relative importance of different features of the business environment. They find that only obstacles related to finance, crime, and political instability directly affect firm growth. Further sensitivity tests reveal that only access to finance is consistently and robustly linked to the performance of firms.

To what extent can informal financial institutions substitute for formal financial institutions? China is often mentioned as a counterexample to the findings in the finance and growth literature, since it is one of the fastest growing economies in the world despite the weaknesses in its banking system (see Allen, Qian, and Qian 2005). Using firm-level survey data, Ayyagari, Demirgüç-Kunt, and Maksimovic (2008a) find, however, that despite the financial sector weaknesses, financing from the formal financial system is associated with faster firm growth, whereas raising financing from alternative channels is not. Overall, the results suggest that even in fast growing economies like China, where the formal financial system serves only a small part of the private sector, the fastest growing firms depend on finance from the formal financial system. These findings suggest that the role of reputation- and relationship-based informal financing and governance mechanisms in supporting the growth of private sector firms is likely to be limited and unlikely to substitute for formal mechanisms.

III. HOUSEHOLDS' ACCESS TO FINANCIAL SERVICES

There are many reasons why poor people do not have access to financial services, ranging from physical distance to discrimination and lack of education to high fees and minimum balances. Specifically, there are two important problems in access to credit services. First, the poor have no collateral and cannot borrow against their future income because they tend not to have steady jobs or income streams. Second, dealing with small transactions is costly for financial institutions. Johnston and Morduch (2008) show that many unbanked individuals in Indonesia, although judged creditworthy by microfinance professionals, seek loans that are too small to be profitable at common interest rates, even for an innovative microlender.

Microfinance institutions have tried to overcome these two constraints in innovative ways. Group lending schemes improve repayment incentives and monitoring through peer pressure and also build support networks and educate borrowers (Ghatak and Guinnane 1999; Karlan 2007; Karlan and Valdivia 2006). Increasing loan sizes, as customers continue to borrow and repay, reduces default rates. The effectiveness of these innovations in different settings is still being debated. Recently, many microfinance institutions have moved from group lending products to individual lending, especially where the borrowing needs of customers start to diverge. Initial evidence finds both techniques to be successful (Giné and Karlan 2006).

Although the attention in microfinance has traditionally focused on providing credit for very poor entrepreneurs, and although enthusiasts—such as Nobel Laureate Mohammed Yunus—often emphasize how microfinance unleashes the productive potential of borrowers, leading to increased productivity and growth, much of microcredit is not used for investment. Johnston and Morduch (2008) find that loans for small business are an important but

not predominant fraction of all loans. Low-income households in the survey use loans as often for household needs, including school fees, medical treatment, daily consumption needs, and social and holiday expenses.

What is the impact of microcredit on borrowers' welfare? While many heartening case studies are cited—from contexts as diverse as the slums of Bangladesh to rural Peru to the villages of Thailand—there are only a few rigorous studies that compare groups of borrowers with nonborrowers, controlling for individuals' characteristics and using eligibility criteria or random assignment as identification restrictions to overcome problems of unobserved borrower characteristics being correlated with outcomes. While some of these studies have shown a positive impact of access to credit (Karlan and Zinman, forthcoming), others have not (Coleman 1999), or the results depend on the econometric methodology applied (Pitt and Khandker 1998; Morduch 1998).

That a large share of microcredit clients use their loans for consumption rather than investment points to the absence of adequate savings instruments for these population segments. Research by Ashraf, Karlan, and Yin (2006 a,b,c) shows that innovative savings products such as deposits collected directly from customers and savings commitments can increase savings. Distance can be an important impediment to use of formal savings services by the poor, as Aportela (1999) shows for the case of a Mexican savings bank.

Most research exploring the impact of new methodologies and products on take-up and clients' welfare is based on “experiments,” whether they exploit exogenous variation in implementation or eligibility criteria or they are controlled randomized experiments, where researchers control implementation. In controlled randomized experiments, clients are randomly assigned to a control or treatment group and only the treatment group gets access to the new program or product. Researchers can rigorously control for selection bias arising from certain clients selecting into the new program or product, and the treatment group constitutes a proper counterfactual. Although such controlled experiments have limitations, carefully planned and executed random experiments are a powerful tool of impact evaluation. On the downside are their very high costs, which prevent many microfinance institutions from using them, and concerns of external validity, or whether the results found in one specific geographic or socioeconomic environment can easily be applied to a different environment.

In contrast to the well-developed literature on microcredit, research on micro-insurance is still limited. In one of the few studies in this area, Giné, Townsend, and Vickery (2008) study barriers to household participation in micro-insurance products by documenting the institutional details and contractual features of an innovative weather insurance policy for small farmers in Southern India. They find that insurance take-up increases in the correlation between insurance payouts and the risk to be insured, and wealth, and decreases in credit constraints. They also find that inconsistent with theory, risk adverse households are less likely to buy the insurance product, potentially

suggesting that many households may be uncertain about the insurance product itself, given their limited experience with it. Similar results are reported by Giné and Yang (forthcoming) who find that farmers in Malawi are more likely to take up a credit-only product than a credit-plus-insurance product, which would allow them to forego repayment in case of drought or flooding.

Demand for payment services has also increased enormously over the past decades, especially for international remittances, a consequence of large migration flows. International remittance flows (funds earned by migrants abroad and sent to their families in developing countries) are now the second largest source of external finance for developing countries after foreign direct investment (World Bank 2005). Formal remittance services, however, are often costly, especially if competition is absent and senders lack knowledge of delivery options. Lack of bank penetration not only reduces competition, but also makes remittances more expensive, as a detailed study of the Tonga-New Zealand remittance channel shows (Gibson, McKenzie, and Rohorua, 2006). Recent studies on El Salvador and Mexico show, however, that remittance flows can pull new customers into the formal banking system (Aggarwal, Demirgüç-Kunt, and Martinez Peria 2006; Demirgüç-Kunt and others 2007).

IV. POLICIES TO BROADEN OUTREACH AND INCLUSION

The broad institutional framework plays an important role in expanding financial outreach and inclusion, as several articles in this symposium show. Osili and Paulson (2008) show that U.S. immigrants from countries with more developed institutional frameworks are more likely to use formal financial services, while Beck, Demirgüç-Kunt, and Martinez Peria (2008) show that barriers to banking are lower in countries with more competition and openness. However, institution building is a long and difficult process.

Recent research suggests that prioritizing institutional reforms may be possible, helping authorities make difficult choices. For example, empirical evidence suggests that in low-income countries, information infrastructure matters most for financial deepening, while enforcement of creditor rights is more important in high-income countries (Djankov, McLiesh, and Shleifer 2007). But even within the existing contractual framework, there are certain short-cuts. Procedures such as those related to collateral that enable individual lenders to recover on debt contracts are found to be more important in boosting bank lending in relatively underdeveloped institutional environments than procedures such as bankruptcy codes that are concerned mainly with resolving conflicts between multiple claimants (Haselmann, Pistor, and Vig 2005). Allowing loan repayment to be deducted directly from the borrower's payroll check can lower interest rates, as in Brazil, where banks provided payroll loans at significantly lower rates than regular consumer loans, which were subject to the slow and inefficient recovery procedures of the Brazilian legal system (Costa and de Mello 2006).

Bank regulation is also important. Beck, Levine, and Levkov (2007) show that branch deregulation in the United States led to less income inequality and higher earnings for low-skilled workers. Guiso, Sapienza, and Zingales (2006) study the impact of bank deregulation on access to and cost of finance using the 1936 Italian banking law and its repeal in the 1980s as a natural experiment. After deregulation, the provinces that had been more penalized by restrictions in competition experienced a higher than normal aggregate growth rate. These results emphasize the importance of bank regulation and its impact on competition in broadening access to finance.

A controversial topic in expanding access to finance is the role of state-owned institutions. The poor record of government development banks in delivering broad access weakens the case for using this tool on the credit side. However a handful of more sophisticated government-owned development finance institutions have moved away from credit to provide more complex financial services. Their know-how, willingness, and capacity to take initiatives that are consistent with a social remit has allowed them to introduce to developing countries products and markets that are proven elsewhere but that entail heavy set-up costs and often a lengthy initial period of loss-making, without the certainty of high financial return. Involving little or no credit risks, these services are less subject to the political subversion of state-provided credit. They can help overcome coordination failures, first-mover disincentives, and obstacles to risk sharing and distribution, with private–public partnerships.

De la Torre, Gozzi, and Schmukler (2007) illustrate this with three examples from Mexico. One is the electronic brokerage of reverse factoring developed by Nafin, a government development bank, which allows many small suppliers to use their receivables from large creditworthy buyers to receive working capital financing. Another example is the electronic platform implemented by BANSEFI, another government-owned institution, to help semiformal and informal financial intermediaries reduce their operating costs by centralizing back-office operations. The third example is a government-owned development finance institution turned investment bank, FIRA, which has brokered complicated structured finance products to realign credit risks with the pattern of information between financial intermediaries and participants in the supply chains for shrimp and other agro-fish products. Ultimately, with patient capital, private capital could have undertaken each of these successful initiatives. Indeed, the Mexican government explicitly envisages privatization of at least some of these initiatives. But they have had a useful catalytic function in kick-starting certain financial services.

V. LOOKING FORWARD: AN UNFINISHED RESEARCH AGENDA

Recent advances in measuring and analyzing financial outreach and products for the poor, including the discussion in the articles in this symposium, have

provided important insights. In the past few years, researchers have developed the first estimates of financial outreach across countries, assembled ample evidence on the impact of finance on firm performance and the channels through which it works, and presented initial results on techniques and products to reach out to micro-borrowers and -savers. They have gained some insights on policies that help deepen and broaden financial systems. However, the agenda on access to finance is still unfinished.

First, the theory on the effect of financial sector reforms on opportunities faced by individuals needs to be expanded (Demirgüç-Kunt and Levine 2007). Financial sector reforms can avoid the negative incentive effects that come with redistribution; it is important to understand the channels through which financial sector reforms can have positive effects on opportunities and thus on economic development and poverty alleviation.

Second, more and better data are needed on financial outreach and inclusion. The first data sets described in section II provide some insights but have to be expanded—in numbers of both countries and institutions—and updated regularly. Building data sets that benchmark countries annually would help focus the attention of policymakers and allow them to track and evaluate efforts to broaden access. However, these aggregate surveys have to be complemented by household surveys that focus on household access to and use of different financial services from various institutions. Only combining such demand-side data with supply data from banks and other financial institutions will enable identifying the banked and the commercially bankable populations, as well as the bottlenecks that result in difference between the two groups (Beck and de la Torre 2007).

Third, more analysis is needed to better understand the channels through which financial deepening and inclusion help reduce income inequality and poverty. How important is direct provision of finance for the poor? Is it more important to improve the functioning of the financial system, and so to improve access to its existing enterprise and household clients, or is it more important to broaden access to the underserved (including the nonpoor, who are often excluded in many developing countries)? Initial evidence points to powerful trickle-down effects of financial deepening. Given that not only the poor but also large parts of the nonpoor middle class are excluded from efficient financial services, looking beyond microcredit might be necessary. But more research is needed.

Fourth, more rigorous impact evaluation of specific policy reforms offers promise. While some reforms are introduced in a way that allows researchers to overcome identification problems, in other cases, careful planning might allow randomized experiments to assess the effect. As more countries look for policies to increase financial inclusion in a market-friendly way, proper evaluation of government reforms can provide the much-needed guidance going forward.

REFERENCES

- Aggarwal, Reena, Asli Demirgüç-Kunt, and Maria Soledad Martinez Peria. 2006. "Do Workers' Remittances Promote Financial Development?" Policy Research Working Paper 3957. World Bank, Washington, D.C.
- Aghion, Philippe, and Patrick Bolton. 1997. "A Theory of Trickle-Down Growth and Development." *Review of Economic Studies* 64(2):151–72.
- Allen, Franklin, Jun Qian, and Meijun Qian. 2005. "Law, Finance, and Economic Growth in China." *Journal of Financial Economics* 77(1):57–116.
- Aportela, Francisco. 1999. "Effects of Financial Access on Savings by Low-Income People." Working Paper. Massachusetts Institute of Technology, Cambridge, Mass.
- Ashraf, Nava, Dean Karlan, and Wesley Yin. 2006a. "Deposit Collectors." *Advances in Economic Analysis and Policy* 6(2):1483–83.
- . 2006b. "Female Empowerment: Further Evidence from a Commitment Savings Product in the Philippines." Working Paper. Yale University, Economics Department, New Haven, Conn.
- . 2006c. "Tying Odysseus to the Mast: Evidence from a Savings Commitment Product in the Philippines." *Quarterly Journal of Economics* 121(2):635–72.
- Ayyagari, Meghana, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2007. "Firm Innovation in Emerging Markets: The Role of Governance and Finance." Policy Research Working Paper 4157. World Bank, Washington, D.C.
- . 2008a. "Formal versus Informal Finance: Evidence from China." Policy Research Working Paper 4465. World Bank, Washington, D.C.
- . 2008b. "How Important Are Financing Constraints? The Role of Finance in the Business Environment." *World Bank Economic Review* doi:10.1093/wber/lhn018.
- Banerjee, Abhijit, and Andrew Newman. 1993. "Occupational Choice and the Process of Development." *Journal of Political Economy* 101(2):274–98.
- Banerjee, Abhijit V., and Esther Duflo. 2004. "Do Firms Want to Borrow More? Testing Credit Constraints Using a Directed Lending Program." CEPR Discussion Paper 4681. Centre for Economic Policy Research, London.
- Beck, Thorsten, and Augusto de la Torre. 2007. "The Basic Analytics of Access to Financial Services." *Financial Markets, Institutions, and Instruments* 16(2):79–117.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Maria Soledad Martinez Peria. 2007. "Reaching Out: Access to and Use of Banking Services across Countries." *Journal of Financial Economics* 85(1):234–66.
- . 2008. "Services for Everyone? Barriers to Bank Access and Use around the World." *World Bank Economic Review* doi:10.1093/wber/lhn020.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Ross Levine. 2007. "Finance, Inequality and the Poor: Cross-Country Evidence." *Journal of Economic Growth* 12(1):27–49.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2005. "Financial and Legal Constraints to Firm Growth: Does Size Matter?" *Journal of Finance* 60(1):137–77.
- . 2006. "The Influence of Financial and Legal Institutions on Firm Size." *Journal of Banking and Finance* 30(11):2995–3015.
- Beck, Thorsten, Ross Levine, and Alex Levkov. 2007. "Big Bad Banks? The Impact of U.S. Branch Deregulation in Income Distribution." Policy Research Working Paper 4330. World Bank, Washington, D.C.
- Beck, Thorsten, Asli Demirgüç-Kunt, Luc Laeven, and Ross Levine. 2008. "Finance, Firm Size and Growth." *Journal of Money, Credit, and Banking* 40(7):1379–1405.
- Beck, Thorsten, Asli Demirgüç-Kunt, Luc Laeven, and Vojislav Maksimovic. 2006. "The Determinants of Financing Obstacles." *Journal of International Money and Finance* 25(6):932–52.
- Claessens, Stijn, and Luc Laeven. 2004. "What Drives Bank Competition? Some International Evidence." *Journal of Money, Credit, and Banking* 36(3):563–82.

- Coleman, Brett. 1999. "The Impact of Group Lending in Northeast Thailand." *Journal of Development Economics* 60(1):105–42.
- Costa, Ana Carla, and Joao de Mello. 2006. *Judicial Risk and Credit Market Performance: Micro Evidence from Brazilian Payroll Loans*. NBER Working Paper 12252. Cambridge, Mass.: National Bureau of Economic Research.
- De la Torre, Augusto, Juan Carlos Gozzi, and Sergio Schmukler. 2007. "Innovative Experiences in Access to Finance: Market Friendly Roles for the Visible Hand?" Policy Research Working Paper 4326. World Bank, Washington, D.C.
- De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2008. "Returns to Capital in Microenterprises: Evidence from a Field Experiment." *Quarterly Journal of Economics* 123(4):1329–72.
- Demirgüç-Kunt, Asli, and Ross Levine. 2007. "Finance and Economic Opportunity." Policy Research Working Paper 4468. World Bank, Washington, D.C.
- Demirgüç-Kunt, Asli, and Vojislav Maksimovic. 1998. "Law, Finance, and Firm Growth." *Journal of Finance* 53(6):2107–37.
- Demirgüç-Kunt, Asli, Inessa Love, and Vojislav Maksimovic. 2006. "Business Environment and the Incorporation Decision." *Journal of Banking and Finance* 30(11):2967–93.
- Demirgüç-Kunt, Asli, Ernesto Lopez-Cordova, Maria Soledad Martinez Peria, and Christopher Woodruff. 2007. "Remittances and Banking Services: Evidence from Mexico." World Bank, Development Research Group, Washington, D.C.
- Djankov, Simeon, Caralee McLiesh, and Andrei Shleifer. 2007. "Private Credit in 129 Countries." *Journal of Financial Economics* 84(2):299–329.
- Galor, Oded, and Joseph Zeira. 1993. "Income Distribution and Macroeconomics." *Review of Economic Studies* 60(1):35–52.
- Ghatak, Maithreesh, and Timothy Guinnane. 1999. "The Economics of Lending with Joint Liability: Theory and Practice." *Journal of Development Economics* 60(1):195–228.
- Gibson, John, David McKenzie, and Halahingano Rohorua. 2006. "How Cost-Elastic Are Remittances? Estimates from Tongan Migrants in New Zealand?" *Pacific and Asian Journal of Energy* 21(1):112–28.
- Giné, Xavier, and Dean Karlan. 2006. "Group vs. Individual Liability: A Field Experiment in the Philippines." Policy Research Working Paper 4008, World Bank, Washington, D.C.
- Giné, Xavier, and Dean Yang. Forthcoming. "Insurance, Credit and Technology Adoption: A Field Experimental Approach." *Journal of Development Economics*.
- Giné, Xavier, and Robert Townsend. 2004. "Evaluation of Financial Liberalization: A General Equilibrium Model with Constrained Occupation Choice." *Journal of Development Economics* 74(2):269–307.
- Giné, Xavier, Robert Townsend, and James Vickery. 2008. "Patterns of Rainfall Insurance Participation in Rural India." *World Bank Economic Review* doi:10.1093/wber/lhn015.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales. 2006. *The Cost of Banking Regulation*. NBER Working Paper 12501. Cambridge, Mass.: National Bureau of Economic Research.
- Haselmann, Rainer, Katharina Pistor, and Vikrant Vig. 2005. "How Law Affects Lending." Columbia Law and Economics Working Paper 285. Columbia Law School, Center for Law and Economic Studies, New York, New York.
- Honohan, Patrick. 2007. "Cross-Country Variation in Household Access to Financial Services." World Bank, Development Research Group, Washington, DC.
- Johnston, Don, and Jonathan Morduch. 2008. "The Unbanked: Evidence from Indonesia." *World Bank Economic Review* doi:10.1093/wber/lhn016.
- Karlan, Dean. 2007. "Social Connections and Group Banking." *Economic Journal* 117(517):F52–F84.
- Karlan, Dean, and Jonathan Zinman. Forthcoming. "Expanding Credit Access: Using Randomized Supply Decisions to Estimate the Impacts." *Review of Financial Studies*.

- Karlan, Dean, and Martin Valdivia. 2006. "Teaching Entrepreneurship: Impact of Business Training on Microfinance Clients and Institutions." *Review of Financial Studies*.
- Klapper, Leora, Luc Laeven, and Raghuram Rajan. 2006. "Entry Regulation as Barrier to Entrepreneurship." *Journal of Financial Economics* 82(3):591–629.
- Levine, Ross. 2005. "Finance and Growth: Theory and Evidence." In *Handbook of Economic Growth*, ed. Philippe Aghion, and Steven Durlauf. Amsterdam: North Holland Elsevier Publishers.
- Love, Inessa. 2003. "Financial Development and Financing Constraints: International Evidence from the Structural Investment Model." *Review of Financial Studies* 16(3):765–91.
- McKenzie, David, and Christopher Woodruff. 2008. "Experimental Evidence on Returns to Capital and Access to Finance in Mexico." *World Bank Economic Review* doi:10.1093/wber/lhn017.
- Morduch, Jonathan. 1998. "Does Microfinance Really Help the Poor? New Evidence from Flagship Programs in Bangladesh." Princeton University, Department of Economics, Princeton, N.J.
- Osili, Una Okonkwo, and Anna Paulson. 2008. "What Can We Learn about Financial Access from U.S. Immigrants? The Role of Country of Origin Institutions and Immigrant Beliefs." *World Bank Economic Review* doi:10.1093/wber/lhn019.
- Pitt, M. M., and S. R. Khandker. 1998. "The Impact of Group-Based Credit Programs on Poor Households in Bangladesh: Does the Gender of Participants Matter?" *Journal of Political Economy* 106(5):958–96.
- Rajan, Raghuram, and Luigi Zingales. 1998. "Financial Dependence and Growth." *American Economic Review* 88(3):559–87.
- World Bank. 2005. *World Development Indicators 2005*. Washington, D.C: World Bank.
- . 2007. *Finance for All? Policies and Pitfalls in Expanding Access*. Washington, D.C: World Bank.
- Wurgler, Jeffrey. 2000. "Financial Markets and the Allocation of Capital." *Journal of Financial Economics* 58(1–2):187–214.