

**EIGHT QUESTIONS ABOUT THE RELATIONSHIP BETWEEN FINANCE AND
ECONOMIC DEVELOPMENT**

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Introduction

How does the structure and growth of the financial sector in a country affect the growth and development of its economy? How is the rural economy affected by improved access to financial services? What are the results of the new emphasis on improving the access of the poor to microfinance services? An explosion of empirical research in recent years provides new information that I use in this survey paper to address these issues. Many of the publications cited concerning the cross-country analysis of financial systems were based on the analysis of new multi-country data sets recently created covering the period 1960 to 1997.¹ A recent AID conference on rural finance also provided important information summarizing the state of the art.²

I have identified eight major questions as a guide to organize the key results of the literature consulted. Four caveats are important. First, although there tends to be a convergence of views about some topics, important issues have yet to be resolved through research. Moreover, future studies will undoubtedly lead to refinements and modifications of some views that predominate today. Second, I make no attempt to review the detailed measurement and estimation issues treated in these studies, nor do I delve into the many nuances crucial to a full understanding of such complex questions. Third, I limited my focus to credit markets and excluded the equally important issue of the role of equity markets in economic growth, and I did not deal with the controversial issue of capital market liberalization and controls. Fourth, it would be an impossible task for me to relate these questions to the specific and complex circumstances of Brazil, so I challenge you to think about how these generalizations fit your specific case.

Brazil has a long history of heavy intervention in its financial sector so questions about the relationship between finance and development are of paramount importance to both researchers and policymakers. If the questions raised here are not being discussed in Brazil, they should be. The highlights of the literature summarized here will demonstrate reasons why I think this is so.

Eight Questions

1. How have economists' views evolved over time regarding the relationship between the financial system and growth?

Historically, economists have held strikingly different views about the importance of the financial system for economic growth (Levine, 1997). On the one hand, John Hicks argued that it played a critical role in England's industrialization, while Joseph Schumpeter reasoned that well-functioning banks spurred technological innovation by identifying and funding the most innovative entrepreneurs. On the other hand, Joan Robinson felt that where enterprise led, then finance would follow. Levine observed that the pioneers of development economics often did not even mention finance in their work. He notes that Stern's (1989) review of development economics does not discuss financial systems, not even in the section of omitted topics.

¹ A description of some of the World Bank data sets and a summary of the research results obtained using it can be found in Demirguc-Kunt and Levine (2001).

² "Paving the Way Forward for Rural Finance: An International Conference on Best Practices," USAID, Washington, D.C., June 2-4, 2003, <http://www.basis.wisc.edu/rfc/agenda.html>

Gurley and Shaw (1960) identified contributions that finance makes to the economy and Patrick (1966) observed that some countries pursued supply-leading policies which were intended to accelerate growth by expanding the financial system. Goldsmith (1969) is credited with being the first to document the growth in financial activities that occurs with overall growth in the economy, but he hesitated to conclude the direction of causality: Were financial factors responsible for accelerating economic development or did financial development reflect economic growth? Shaw (1973) and McKinnon (1973) were the first to describe how controls and regulations contributed to financial repression, which negatively affects economic growth. Their models were narrowly focused on money, although their descriptive narratives were broader. For example, McKinnon noted the importance of finance by using the example of technology adoption by farmers. He thought economic growth would be slowed without efficient finance because it would be virtually impossible for farmers to self-finance the needed investment to speedily adopt new technologies. Wachtel (2001) noted that McKinnon forcefully argued for financial liberalization and, by 1990, concluded that “there is widespread agreement that flows of saving and investment should be voluntary and significantly decentralized in an open capital market at close to equilibrium interest rates” (p. 336).

Moving beyond money, Levine (1997) developed a comprehensive theoretical framework to explain how finance broadly defined can be conceptually linked to growth. This framework was used to organize his discussion regarding the explosion of research that emerged in the 1990s. The starting point is that financial markets and institutions may arise to ameliorate problems created by information and transaction frictions. Financial systems serve the primary function of facilitating the allocation of resources across space and time in an uncertain environment. This primary function was broken into five basic functions (p. 691):

- facilitate the trading, hedging, diversifying, and pooling of risk,
- allocate resources,
- monitor managers and exert corporate control,
- mobilize savings, and
- facilitate the exchange of good and services.

These financial functions are expected to affect economic growth through capital accumulation and technological innovation. Levine’s framework helped guide subsequent empirical research that tested the relationship between finance and growth. Defined in this way, these functions help to justify the view that the financial sector operates like the “brain of the economy” (World Bank, 2001).

2. What does the empirical evidence reveal about the connection between financial development and growth?

Many recent studies have tested the relationship between finance and growth so that analysis has begun to catch up with policy making. Levine concluded in his 1997 review that the preponderance of the theoretical and empirical evidence suggests a positive relationship between financial development and economic growth. More recently, Wachtel (2001) arrived at the same conclusion. He noted that the *efficiency-enhancing* aspect of financial sector development has more impact than its effect on the *amount* of investment. High rates of investment and savings do not always translate into high rates of growth. Countries with similar levels of capital investment can have widely diverse growth experiences.

Levine cited three important studies by King and Levine that are credited with the first broad cross-country test of the relationship between finance and growth. They analyzed 80 countries over the period 1960-1989 and used four different measures of financial

development. They are ratio of liquid liabilities of the financial system to gross domestic product (GDP), share of domestic credit allocated by banks, ratio of credit to private enterprises to total domestic credit, and credit to private enterprise divided by GDP. The beginning-of-decade measures of these variables were found to be strongly related to countries' economic growth, capital accumulation, and productivity growth over the subsequent decade, after controlling for income, education, political stability, and monetary, trade and fiscal policy.

Rajan and Zingales (2001) cautioned that these results could be due to common omitted variables, or to the fact that financial development might be a leading *indicator* of growth rather than a *causal* factor, that is financial markets might simply anticipate economic growth. They cite their own empirical research and other studies to conclude that financial development indeed facilitates growth, rather than is simply correlated with it. Similarly, Wachtel (2001) argued that his research of 47 countries demonstrates the direction of causality is from financial measures to real GDP with no evidence of feedback from GDP to the financial variables. He concluded "richer countries have more developed intermediaries and market-based private sector institutions are more important than in poorer countries," (pp. 342-343).

The question of the relation between sources of growth and financial intermediary development has been explored. Beck, Levine and Loayza (2000) used data for 63 countries over the period 1960-1995 to test how finance affected real per capita GDP growth, real per capita capital stock growth, growth in total factor productivity, and private savings rates. The financial variable was defined as private credit measured as the value of credit by financial intermediaries to the private sector divided by GDP. This measure excludes credit by central and development banks, which were included in some other studies. They hoped this measure would better capture the ability of intermediaries to research and identify profitable ventures, monitor and control managers, ease risk management, and facilitate resource mobilization. They concluded that financial intermediary development produced faster rates of economic growth and total factor productivity growth, but the results were ambiguous for physical capital accumulation or private savings rates. Thus they interpreted their results as being consistent with the Schumpeterian view that *financial intermediaries affect economic development primarily by influencing total factor productivity growth rather than through increased savings or growth in the capital stock*.

The question of the size of the estimated effect of the financial contribution to growth is important. Finance could make a difference, but only a small one. However, Levine, Loayza, and Beck (2000) concluded that its contribution was substantial for a panel of 74 countries. According to their estimates, if Argentina, for example, had enjoyed the level of financial intermediary development of the average developing country during the 1960-1995 period, it would have experienced about one percentage point faster per capita GDP growth per annum over the period.

3. Does the structure of the financial market make a difference?

Financial systems are organized in different ways. Rajan and Zingales (2001) discuss the differences between institution-heavy *relationship-based systems*, typically associated with Germany and Japan, and the *market-intensive arm's length systems* associated with the U.S. In the former, the financier is granted and attempts to maintain some monopoly power over the firms being financed. Barriers to entry are erected to raise the cost of entry for potential competitors. In the market-based system, the financier is protected by explicit contracts and transparency. Institutional relationships matter less and the market is the important medium

for directing and governing transactions. Relationships are largely self-governing in the first system so they can survive in environments where laws are poorly drafted and contracts poorly enforced. Market-based systems require the prompt and unbiased enforcement of contracts by courts as a precondition for efficient transactions. Moreover, market-based systems require transparency while relationship-based systems utilize opaqueness to protect relationships from competition. Price signals also play a more prominent role in one system compared to the other. In a market-based system, competing lenders can give firms independent assessments of the costs of undertaking projects, while costs are simply negotiated between lenders and borrowers in the relationship-based system.

An empirical analysis conducted by Beck et al. (2001) suggests the differences between these two types of financial systems makes little difference to growth, but Rajan and Zingales (2001) insist that stage of development may be important. In a developing economy, relationship-based financing may be particularly useful when institutions are underdeveloped and the sectors to benefit from investments are fairly clear. In this type of environment, the market may not have the necessary infrastructure in place to work well and market signals may not be particularly informative.

The concentration of the banking industry may also have a qualifying effect on growth. For example, an unconcentrated industry might approximate perfectly competitive conditions compared to a market dominated by a few banking institutions. Uncompetitive markets can introduce inefficiencies that reduce the total amount of credit available in the economy and harm firms' access to credit, thus hindering growth. However, banks with monopoly power may have greater incentives to establish lending relationships with clients that facilitate access to credit. An analysis by Cetorelli and Gambera (2001) of 41 countries and 36 industries revealed that bank concentration has an average depressive effect on industry growth, but the impact is heterogeneous across industrial sectors, as discussed in the next section.

Two theories exist regarding the relationship between government ownership of banks and economic growth. The *development view* is that government can jump start both financial and economic development by owning financial institutions. By owning banks, the government has extensive control over the choice of projects financed while leaving project implementation up to the private sector. The alternative *political view* emphasizes that governments acquire control of enterprises and banks to provide employment, subsidies, and other benefits to supporters in return for votes, political contributions, and bribes. La Porta, Lopez-de-Silanes, and Scheifer (2002) tested these theories using data from 92 countries. They found that in the average country, the government owned 59 percent of the equity of the 10 largest commercial and development banks in 1970 and that share was still 42 percent in 1995. The government share tended to be higher for countries with a French civil law tradition compared to common law countries, for poorer and less democratic compared to richer more democratic ones, and in countries with less developed financial systems. Countries with higher government bank ownership in 1970 concentrated more credit on the top 20 firms, grew at a slower rate, and were less efficient during the 1970-1995 period. As government ownership rose by 10 percentage points, growth fell by 0.24 percent per annum, and the annual rate of productivity growth in the economy fell by 0.1 percent. These negative impacts were greater in lower income countries than richer ones. The effect of private ownership is substantial. For example, if Bangladesh would have had the average share of government ownership (57 percent) rather than its actual 100 percent, its average growth rate would have risen by 1.4 percent annually during this period. Although this is an oversimplified projection, the conclusion of this research points in the direction of the

political theory that *government bank ownership tends to reduce the growth of the financial system, politicizes the resource allocation process, and reduces efficiency.*³

Government-owned development finance institutions (DFIs) have had a checkered history in most developing countries and had fallen out of favor by the 1980s due to poor portfolios and financial performance (World Bank, 1989). The model developed by Armendariz de Aghion (1999) identifies the role that a development bank might play in a laissez-faire decentralized banking system where commercial banks underinvest in and undertransmit expertise about long-term industrial finance. Government support for a development bank might reduce these problems. The author notes, however, the process seemed to work well with French support for its Credit National but poorly for the Nacional Financiera in Mexico. The relatively large role of the government in total ownership and its influence in operations are among the reasons given for the poor performance of development banks in developing nations compared to the experience of Europe and Japan.

4. How does the legal and regulatory environment affect the performance of the finance system and its impact on economic growth?

The legal and regulatory system may fundamentally influence the ability of the financial system to provide high quality financial services. Levine et al. (2000) argue that the ability of financial intermediaries to acquire information, and write and enforce contracts will determine their ability to identify credit worthy firms, exert corporate control, and perform the other functions specified in Levine's 1997 financial framework. Levine et al. (2000) used dummy variables to represent legal traditions in a study of 74 countries during the 1960-1995 period and concluded the legal/regulatory system exerts a powerful influence on financial sector development, and this component of financial development explains economic growth. Countries that give high priority to secured creditors, with legal systems that rigorously enforce contracts, and with accounting standards that produce high-quality corporate financial statements tend to have better developed financial intermediaries. They also supported the view that particular legal origins tend to produce specific types of laws, regulations and enforcement mechanisms. Financial systems that most effectively ameliorate information and transaction costs induce a more efficient allocation of resources and faster growth.

Competing theories of law and finance view law operating through two different channels (Beck, Demirguc-Kunt, and Levine, 2001). The first emphasizes the *political channel* in which legal traditions determine differences in the protection of private property rights. Countries are divided into those with predominately English, French, German, or Scandinavian legal origins, which are shown to influence their legal and regulatory environment governing financial sector transactions. The French Civil Code was a major influence over the Portuguese and Spanish legal systems whose traditions spread to Central and South America. The literature stresses that English law evolved to protect private property, and this facilitated private contracting and financial development. The French civil code, by contrast, evolved to solidify government control of the judiciary.

The second legal view emphasizes *legal adaptability*. The common law tradition is viewed as inherently more dynamic as judges respond case-by-case to changing transactions, while civil law is considered less flexible because legislatures are alleged to respond slowly to changing

³ Important exceptions to this general conclusion can be found in government-owned institutions working in agriculture in Asia. For example, the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand and the unit desa system of Bank Rakyat Indonesia have achieved good performance while avoiding politicization (Meyer and Nagarajan, 2000).

conditions. The framers of the German civil code rejected the French code and specifically designed a more dynamic system that evolves as conditions changes. The analysis of 49 countries by Beck, Demirguc-Kunt, and Levine (2001) revealed that common-law countries tend to have greater financial development than civil-law countries, especially French civil-law countries. Their results are more consistent with the legal system adaptability channel than with the political channel.⁴

Whichever theory of law and finance is used, if taken literally, the results imply that a country based on more of French legal traditions is inexorably condemned to low legal protection and lax enforcement and, therefore, to a low level of financial development. However the *new political economy* approach to the study of law and finance recognizes that politicians can change laws if they choose, and the state is recognized as an agent for political forces that reflect the economic interests of their constituencies (Pagano and Volpin, 2001). These changes influence how financial institutions operate. For example, U.S. bankruptcy law has been shaped by a series of crises in which borrowers used the political process to negotiate legislation favorable to them. Likewise, one of the reasons for the over expansion of U.S. farm debt in the late 1970s and early 1980s was the successful lobbying by farmers to ease the credit standards used by the Farm Credit System, which held the largest market share of farm loans.

Beck, Demirguc-Kunt, Levine, and Maksimovic (2001) used country, industry and firm level data to test both the financial services and law and finance view of financial structure. The three levels of analysis led to remarkably consistent results. They concluded that “*economies grow faster, industries depending heavily on external finance expand at faster rates, new firms form more easily, firms’ access to external finance is easier, and firms grow more rapidly in economies with higher levels of overall financial-sector development and in countries with legal systems that more effectively protect the rights of outside investors.*” (p. 233).

A complementary line of research has been conducted in which researchers have identified specific legal constraints for rural finance in developing countries. A paper presented at the recent AID conference summarized these problems (Fleisig and de la Pena, 2003). Many countries lack a legal framework to efficiently create and enforce security interests in property. This restricts the type and value of assets accepted as collateral for loans. For example, Nicaraguan law does not permit using movable property to secure a loan unless the property is being purchased on credit. This prevents the refinancing of equipment already owned. In Argentina, the registry law requires a specific description for filing a security interest in property. This restriction limits the use of general descriptions such as 100 head of cattle, or all inventories on hand, or the standing crop in a field. Enforcing claims may be so expensive and time consuming that some transactions are avoided. In Peru, the legal process of evicting tenants from real estate can take at least a year, and even longer if they contest the action. For a time, lenders in the Philippines would not take agricultural land as collateral because of uncertainties caused by the agrarian reform laws. Bolivian agrarian reform laws have created similar problems.

Three priority areas for reform were identified by Fleisig and de la Pena (2003) so that rural financial transactions can occur quickly and inexpensively as in developed nations. First, improve the framework for secured transactions using movable property. Second, reform systems for using land as collateral. Third, bypass defective judicial systems with innovations such as arbitration and petty claims courts.

⁴ Could it be that the “jeitinho” emerged in Brazil as a response to a somewhat inflexible legal system?

5. Does the impact of finance vary by size or type of firm or industry?

Firms finance themselves in various ways. Some use more external finance than others so the banking structure can have a greater impact on them. Rajan and Zingales (1998) classified firms in 36 manufacturing sectors in more than 40 countries according to their use of external finance as reflected in U.S firms. They concluded that industries more dependent on external finance grow faster in more financially developed countries. The effect of financial development occurs mostly through growth in the number of establishments rather than through growth in average size of establishment.

Cetorelli and Gambera (2001) extended that analysis to test how measures of bank concentration affect the growth of firms. Their results revealed that industries in which young firms are more dependent on external finance grow faster in those countries in which the banking system is more concentrated. The depressive effect of banking concentration on growth, therefore, may be offset by the positive effect on specific industries. If these results are found to be robust under additional testing, the implication is that there is no optimum banking market structure. Banking can have an impact on technological progress if it facilitates credit access to younger firms that are more likely to introduce innovative technologies. In this way *the banking market structure may actually contribute to shaping industrial structure and the cross-industry size distribution of firms by providing finance to firms that grow more quickly.*

Although efficient legal and financial systems can be a significant determinant of the financing of firms, it is not clear which aspects of financial and legal development are most significant and how they affect firms of different sizes. Beck, Demirguc-Kunt and Maksimovic (2002) used data from a sample of over 4,000 firms in 54 countries to test if the firms' responses to questions of perceived constraints in fact affect growth, measured by growth in firm sales, and if the effect was different by sizes of firms.⁵ The survey provided "information on whether collateral requirements, bank bureaucracies, the need to have special connections with banks, high interest rates, lack of money in the banking system, and access to different types of financing are troubling enough issues for firms to report as constraints" (p. 6). The firms were asked their opinions about what they find particularly constraining about the legal system and most troubling about corruption. Small firms reported the highest financial and corruption constraints and the largest firms reported the highest legal constraints.

The econometric results revealed that *all three constraints – financial, legal and corruption – adversely affect firm growth, with small and medium firms being most seriously affected.* Bank paperwork and bureaucracies, the need to have special connections, collateral requirements, high interest rates, and lack of money in the banking system significantly reduce firm growth. The corruption of bank officials and general legal constraints also constrain firm growth. The authors interpreted these results as evidence of institutional failures in the banking system's ability to perform the monitoring role of financial institutions in overcoming market failures due to information asymmetries. Small and medium firms would especially benefit by improvements in financial development and reductions in corruption. The efforts by development institutions to promote development of the SME sector are supported by these results.

⁵ These data were obtained in the 1999 World Business Environment Survey led by a steering committee created by the World Bank. The firms surveyed reported how their growth was constrained by features of their financial and legal systems and the corruption they faced. About 40 percent of the firms surveyed were small (5 to 50 employees) and 40 percent were medium (51 to 500 employees) enterprises (SMEs). The large firms were defined as having over 500 employees.

These results concerning the constraints faced by new and small size firms provide some justification for governments attempting to accelerate and shape economic growth by supporting business start-ups through venture capital funds, and improving access of the poor to financial services through microfinance.

6. What is the paradigm shift that has occurred concerning the appropriate methods to increase the supply of financial services, especially credit, to small and medium enterprises (SMEs) and to agriculture?

Donors and governments began providing massive amounts of financial assistance to SMEs and to agriculture in developing countries in the 1960s, long before the new literature appeared that demonstrates the linkage between financial development and economic growth. SMEs were supported to stimulate efficient economic growth, create employment and reduce poverty through modern small enterprise. Some programs supported rural nonfarm enterprises, but most were urban oriented and consisted of small business promotion activities including credit, management assistance, technology development, entrepreneurship promotion and marketing support often in integrated support packages, sometimes in industrial estates (Haggblade, Mead, and Meyer, 2003).

Few of these small business promotion activities were successful. Donors began to realize the cost of integrated projects was high and the desired impacts were not realized. An analysis of cost recovery revealed that only the financial components were sustainable, which led to refocusing on minimalist credit programs. This analysis contributed to what eventually became known as microfinance.

The supply-leading approach to farm credit emerged in the 1960s just at the time the Green Revolution technologies for the basic cereals began to demonstrate their potential for substantially increasing agricultural productivity. Increased production was desired to bring down commodity and food prices that were at historic highs and to improve food security for both urban and rural populations. Donors and governments began channeling billions of dollars into agricultural credit and small farmer development projects in which credit was promoted as an integral part of the new production packages along with seed, fertilizer and pesticides. Interest rates were subsidized as an additional inducement to encourage farmers to adopt. In several countries, including Brazil, interest rates were set at even lower levels for small farmer loans. Brazil, Mexico, and India were three of the countries that most aggressively used this approach but I don't believe that many developing countries surpassed Brazil in the ratio of amount of annual loans disbursed relative to agricultural GDP.⁶

The failures of this old paradigm have been amply documented (Von Pischke, Adams, and Donald, 1983; Adams, Graham, and Von Pischke, 1984; Vogel and Adams, 1997; Meyer and Larson, 1997; World Bank, 1989). Repayment rates were often so low that the programs were unsustainable. Richer farmers borrowed the major share of the funds even in programs designed for small farmers. Transaction costs were high so borrowers continued to use large amounts of higher interest rate informal finance even when they obtained formal loans. The savings capacity of farmers was ignored because of the overemphasis on lending. Far too little attention was paid to the institutional development of financial institutions. The accumulated evidence of the failures was so great that by the late 1980s most donors discontinued these projects, although some governments still support them today, especially in South Asia.

⁶ This ratio for Brazil rose from 0.12 in 1960 to a peak of 0.80 in 1982 (Shirota, Araujo and Meyer, 1990).

Even though agricultural credit may have made positive impacts on farmers and the rural economy, the distortions created by subsidies, and the poor performance and collapse of many financial institutions led to an abandonment of this strategy in most developing countries by the mid 1980s. Many agricultural development banks were closed or rehabilitated with new business plans, and many agricultural credit rediscount lines from central banks were closed.⁷ Microfinance emerged as the new development model with its promise to improve access of the poor to finance provided by sustainable financial institutions. Only now is there a rekindling of interest in credit for agriculture and the rural economy as demonstrated in the recent AID conference⁸.

7. What is the objective of microfinance, and what are the differences between the successes of some microfinance development projects and the failures of most SME and agricultural credit programs?

The institutions and practices that gave rise to what is called microfinance have many roots. For example, ADEMI in the Dominican Republic and the Alexandra Business Association in Egypt started as institutions to support micro and small enterprises in urban areas. Many microfinance institutions (MFIs) began as specialized lending institutions to assist the poor (e.g. Grameen Bank in Bangladesh) or evolved into special microbanks (e.g. BancoSol in Bolivia). Others grew out of NGO relief agencies that provided emergency relief following floods (e.g. ASA in Bangladesh) or earthquakes (e.g. Calpia in El Salvador). An unusual case is the unit desa system of the Bank Rakyat Indonesia that emerged out of the ashes of a bankrupt agricultural development bank. Regardless of their origin, MFIs share a common objective: provide financial services to those who are too poor, with too little collateral to access to the formal banking system.

The successful MFIs are based on the *new development finance paradigm* that advances policies, practices, products and technologies far superior to those followed in directed credit SME and agricultural projects. The differences include the fact that most successful MFIs charge interest rates and fees that cover most if not all costs and risks. They target clients rather than the end use of loans and leave more discretion to borrowers to determine how to use borrowed funds. First-time borrowers are limited to small short-term loans and loan terms and conditions improve with repeat loans as borrowers demonstrate their capacity and willingness to repay. Adverse selection and moral hazard problems are reduced by lending to groups of borrowers, by requiring group members to screen fellow members as their organize into groups, and by encouraging group members to use peer pressure to encourage high repayment performance. MFIs that make individual loans reduce lending risks by taking collateral in the form of assets with high use value to the clients. Frequent loan payments are required so loan officers keep in close contact with borrowers. Staff incentives, well-designed loan technologies and products, and good management information systems contribute to high levels of institutional efficiency and productivity. Savings, insurance and other financial products are slowly being introduced into exclusively lending programs. *In summary, effective MFIs pay attention to client demand, to product and technological design, and to institution building rather than simply dispensing credit and achieving disbursement targets*

⁷ It is commonly believed that total agricultural credit supplies fell after the directed credit approach was abandoned, but there is no definitive study that shows how frequently and in which countries this occurred. A study by the Inter-American Development concluded that from 1990-92 to 1994-96 the ratio of agricultural credit to agricultural GDP rose in Bolivia, Guatemala, Mexico and the Dominican Republic, and fell in Brazil, Costa Rica, El Salvador, Honduras and Jamaica (Wenner and Proenza, 2000).

⁸ See footnote 2.

as often occurred in directed SME and agricultural credit projects (Chaves and Gonzalez-Vega, 1996; Krahn and Schmidt, 1994; Otero and Rhyne, 1994).

Many microfinance institutions (MFIs) follow the best practices advocated by the new paradigm but the microfinance industry as a whole has a mixed record. The thousands of commercial banks, specialized microfinance banks, credit unions, and NGOs engaged in microfinance serve millions of clients, most of which cannot access financial services, especially loans from the formal financial system. But many MFIs are inefficient and financially unsustainable without the continuous infusion of government and donor funds. The MicroBanking Bulletin provides comparative benchmarks based on the financial information supplied by participating MFIs that are generally considered to be among the best in the industry. The November 2002 issue⁹ reports that of the 147 that reported their results, 62 (42%) were fully financially self-sustainable MFIs.¹⁰ They tended to be older, had larger loan portfolios, served more clients, and had lower ratios of adjusted expenses to total assets. On average they reported a higher ratio of average loan size to the country's GNP per capita, implying they serve less poor clients or their new clients are initially as poor but graduate to larger loans so average loan sizes rise.

The important current debates about microfinance today include the extent to which MFIs actually reach the very poor (Navajas et al., 2000), the appropriate role of financial institutions in poverty alleviation (Gonzalez-Vega, 1998; Gonzalez-Vega, 2003), the potential for mission drift away from poor clients as they move towards greater commercialization (Woller, 2002), and the tradeoffs and synergies between outreach, sustainability and impact (Zeller and Meyer, 2002). There is also a concern about the applicability of the microfinance technology for agricultural lending. The role and need for subsidies also arises in these debates (Morduch, 1999). Subsidies may be warranted, especially for those MFIs that attempt to innovate to deepen and broaden the outreach of microfinance (Christen and Drake, 2000; Zeller, 2003), *but the problem remains of how to optimally design subsidies so they do not produce the negative effects experienced in most SME and agriculture credit programs.*

8. What has been the impact of providing the agricultural sector and microentrepreneurs with greater access to formal finance?

The lessons to be learned from directed agricultural credit projects are still hotly debated. Many advocates argue that agricultural credit contributed to increased agricultural production but they have difficulty in explaining why production continued to rise even after credit supplies fell. Undoubtedly, part of the explanation in countries like Brazil where total agricultural credit was huge is that some leaked into nonagricultural activities.

Many impact evaluations were conducted of agricultural credit projects to determine if and how much production and farm income changed due to borrowing. Most early studies suffer from failures to adequately deal with self-selection and other biases (David and Meyer, 1980). This problem usually led to overestimations of credit impact. A few impact studies used robust techniques. For example, Binswanger, Khandker, and Rosenzweig (1993) used district level data in India to study the investment decisions of government, financial institutions and

⁹ MicroBanking Bulletin, November 2002, Microfinance Information eXchange, 1919 Pennsylvania, Washington, D.C. 2006. www.themix.org.

¹⁰ According to Christen and Drake (2000), 64 of the 124 MFIs reporting to the Bulletin in 2001 were fully sustainable and 35 of them were operating Latin America. Twenty-nine of the 35 operated under some type of regulated non-bank, bank or credit union framework indicating a considerable degree of commercialization of microfinance compared to other regions where NGOs and other non-regulated MFIs predominate.

farmers, and the effects on agricultural investments and output. The data covered the agricultural years 1960/61 to 1981/1982, a period when India aggressively expanded its financial system into rural areas and agricultural lending.¹¹ The authors concluded that the expansion of banking into rural areas had a larger impact on output through expanding fertilizer use than through increased investments. The availability of credit was more important than the subsidized interest rates. Bank expansion was greatly facilitated by government investments in roads, which enhance the liquidity position of farmers and reduce the transaction costs of both banks and farmers. *This finding demonstrated the importance of rural investments as a precondition for the effective demand and use of credit.*

Impact analysis has been an important feature of microfinance, often to test the claim that it lifts borrowers out of poverty. Analysts have also developed more comprehensive analytical frameworks to consider impacts of borrowing on consumption smoothing and household balance sheets (Zeller et al., 1997). Methodological problems have also plagued many microfinance impact evaluations (Hulme, 2000; Meyer, 2002; Ravallion, 2001). One of the most rigorous studies was conducted in Bangladesh, a country with over 20 million microfinance clients and home of the famous Grameen Bank (Khandker, 1998). The analysis covered borrowers of the Grameen Bank and two other large programs. The analysis measured the differences between eligible and ineligible households in program and nonprogram villages, so the differences found among households were attributed to participation in one of the programs. The results showed that borrowing by men and women had an expected positive impact on household per capita weekly expenditures, but borrowing by women produced either no or a much smaller positive effect on household net worth than borrowing by men. Women may be inclined to meet immediate family needs while men may be more inclined to accumulate assets for longer-term gains. It was concluded that five percent of the participant households rose above poverty each year.

Another carefully designed impact study concerned the village banking methodology used in Northeast Thailand in 1995-96. It arrived at less promising conclusions (Coleman, 1999). The huge Bank for Agriculture and Agricultural Cooperatives (BAAC) has a deep penetration into rural areas so there may be fewer capital-constrained households than in Bangladesh. In the villages surveyed, 63 percent of the households were BAAC members. Eight villages with village banks were selected along with six control villages without banks, and members and nonmembers were selected at random. The results showed that number of months of village bank membership had no significant impact on household physical assets, production, sales, expenses, labor time, or expenditures on health care and education. Several women fell into a debt cycle of borrowing from moneylenders at three percent per day to repay village bank loans then used village bank loans to repay moneylenders. Many women without specific investment plans joining largely for social reasons, while others borrowed and relented money at higher rates. There was no evidence that village bank loans were directly invested in productive activities. One explanation was that these relatively small loans were used largely for consumption smoothing rather than investment.

These two examples from the microfinance literature suggest households may experience positive benefits from borrowing, *but the results are conditioned by type of microfinance program, other sources of finance available to borrowers, and the nature of the economic opportunities.* There is speculation that impacts from borrowing may be greater for households located close to the poverty line than for poorer, more-risk averse households (Hulme and Mosley, 1996). Undoubtedly, some borrowers are worse off because of

¹¹ India employed a number of policies including nationalization of banks, linking the authorization to open profitable urban branches to the opening of less-profitable rural branches, and requiring lending to priority sectors.

participating in microfinance and this may be one explanation for the high dropout rate some programs experience (Nagarajan, 2001).

Conclusions and Implications

The most significant conclusion of this paper is that finance matters. Financial markets serve several functions as the brains of the economy. Contrary to popular expectations, empirical evidence shows that financial intermediaries affect economic development primarily by influencing total factor productivity growth rather than through increased savings or growth in the capital stock. Relation-based versus market-based financial systems may not make much difference except in countries where the infrastructure is not yet in place for market systems to work well. Government ownership of banks tends to reduce the growth of the financial system and damages the performance of development banks; however, there are exceptions as we have seen occasionally in agriculture. Economies grow faster, industries dependent on external finance expand at faster rates, new firms form more easily, firms' access to external finance is easier, and firms grow more rapidly in economies with higher levels of overall financial-sector development. Countries with legal systems that more effectively protect the rights of outside investors also contribute to development of the financial system and the economy.

The directed credit paradigm has largely been a failure when used in SME and agricultural credit projects, especially when evaluating the financial sustainability of the financial institutions that implemented them. The microfinance industry has performed better following the new development finance paradigm, but it also suffers from many unsustainable institutions. The results of impact analysis are mixed. There may be cases where the expansion in credit supplies contributed to agricultural growth but the impact may be attributed more to improved access to finance than to subsidized interest rates. Distortions have been created by the use of subsidies to build financial systems, and many legal and other impediments constrain the development of rural finance.

While the academic literature provides ample evidence that financial sector development promotes economic growth, it gives little guidance on how best to develop the financial sector. Financial sector expansion resulting from inflationary liquidity creation or deterioration in lending standards will not enhance long-term growth (Wachtel, 2001).

What should governments do so their financial systems more efficiently perform the functions identified in this literature? If the brains of the economy are not working well, what should be done?

Some argue for more of an activist role for the state in financial market operations. For example, this is implied in the paper by Stiglitz and Uy (1996) who argued that several East Asian countries benefited from "mildly" repressive financial systems and subsidy systems which rewarded firms effectively penetrating export markets. Unlike most countries, they were able to create financial institutions and utilize them effectively to augment resource flows to priority sectors. The successful institutions insisted on commercial standards and avoided political pressures to finance bad projects and poor incentives to screen and monitor projects. According to Zeller (2003), many important institutional innovations in microfinance are rarely the pure product of market forces, but rather the results of public investments or private altruistic action. Besley (1994), however, was cautious about the role of governments in effectively resolving problems caused by market failures in rural financial markets. The position of Gonzalez-Vega (2003) is even clearer in his argument that action is

necessary to prevent the reintroduction of protectionist-repressive approaches now being advocated in some Latin American countries. These cautionary views reflect a clear understanding of the failures of governments and donors that followed the old paradigm of directed credit. They also reflect the pessimistic views of those who recognize the perverse incentives and lack of skills in financial analysis that led to poor donor projects in the past still exist as problems among donor agencies today (Von Pischke, 2003; Rosenberg, 2003).

Government ownership of financial institutions is especially problematic. The recent World Bank (2001) analysis of the financial literature, including the industry studies cited in this paper, led to a clear conclusion: state ownership of banks tends to stunt financial sector development, thereby contributing to slower growth, especially in less developed countries. Generally, bureaucrats are bad bankers because of the incentives imposed by the political process. Under state ownership, governments are exposed to an incentive problem because one part of the government is charged with monitoring another part. Once governments have acquired banks, efficient privatization imposes another challenge.

There are some areas of clear consensus concerning the role of governments. First, governments need to create a sound policy environment including efforts to achieve greater price stability and flexibility in interest rates, and less urban bias in agricultural and development policies. Second, a good financial infrastructure is needed to support an efficient financial system. A key component is a strong prudential regulatory and supervisory capacity for the financial system. In many low-income countries, this requires shifting from verifying whether disbursement targets and specified loan terms and conditions are met, to ensuring the safety and soundness of the banking system. Developing an appropriate regulatory system for microfinance is an important issue in many countries. All countries need to review their information systems, such as property registries and credit bureaus, and other public goods that provide benefits to all financial institutions.

Third, governments must invest in institutional development. One of the key differences between the old and new paradigms of financial system development is the emphasis placed on the slow and expensive process of building financial institutions serving agriculture and the poor. Unfortunately, recommendations for long-term commitments to institutional development are not something that politicians interested in short-term impacts are eager to hear. However, those of us close to agriculture are aware of the great investments that were made in institutions to support the agricultural sciences in Brazil and elsewhere. No less an effort is required for developing a strong, modern financial system.

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