Edited by
José M. Fanelli and Rohinton Medhora

FINANCIAL REFORM
IN
DEVELOPING COUNTRIES

IDRC

CANADA

FINANCIAL REFORM IN
DEVELOPING COUNTRIES

Financial Reform in Developing Countries

Edited by

José M. Fanelli
Senior Researcher – Economics
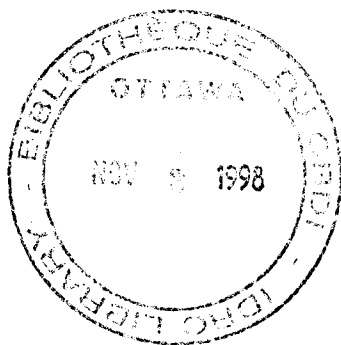*Centro de Estudios de Estado y Sociedad*
Buenos Aires

and

Rohinton Medhora
Senior Specialist – Economics
International Development Research Centre
Ottawa

Foreword by Lance Taylor

IDRC
CANADA

To my wife

José M. Fanelli

To my parents

Rohinton Medhora

Contents

PART III   THEMATIC ISSUES

List of Tables

List of Figures

11 Microeconomic Elements and Perspectives from Finance Theory

Varouj A. Aivazian[1]

11.1 INTRODUCTION

The current trend toward the restructuring of financial systems in many countries makes an evaluation of the economic merits of alternative financial systems timely and important. This chapter examines microeconomic aspects of financial liberalization, paying attention to the range of market and non-market institutions composing the financial system and the impact of financial liberalization on real investment decisions. The discussion is also tied to the liberalization experience of the sample of countries studied in this volume.

The financial system consists of institutions that facilitate the saving–investment process; it includes not only financial intermediaries, markets and instruments, but also the legal mechanism for enforcing contracts and resolving disputes (for example, corporate bankruptcy laws), regulations governing financial transactions and reducing fraud (for example, disclosure rules), the accounting system and the tax system. McKinnon (1973) and Shaw (1973) have argued that there is a positive association between financial development and economic growth, and that a regime of financial repression, involving such policies as government controls on interest rates, or direct controls on credit allocation, tends to retard financial development and economic growth.

Recently, King and Levine (1993) have tested the hypothesis that financial deepening induces growth using data on 80 countries over the period 1960–89. They show that various measures of financial development are strongly associated with real per capita GDP growth, the rate of physical capital accumulation, and improvements in the efficiency in which economies employ physical capital. They also show that financial development is a good predictor of future rates of economic growth, physical capital accumulation and economic efficiency improvements.

The measures of financial development employed by King and Levine include the ratio of liquid liabilities to GDP (a measure of the size of the financial intermediary system), as well as several other indicators of the relative importance of specific institutions in the financial intermediation process. De Gregorio and Guidotti (1995) also examine the relationship between economic growth and financial development, using the ratio of bank credit to the private sector to GDP as the measure of financial development. They find that financial development is positively associated with long-run growth of real per capita GDP, and that the effect is particularly pronounced for middle and low-income countries.[2] They also find a negative relationship between financial development and economic growth for Latin American countries and explain this, 'in light of the extreme experiments of financial liberalization that were witnessed by Latin America during the 1970s and 1980s, and which subsequently collapsed'.[3] Odedokun (1996) examines data for 71 countries spanning the 1960s to 1980s, and also shows that financial intermediation promotes economic growth. Missing from these studies, however, are separate measures of the development of stock and bond markets, as well as of the accounting, regulatory and legal systems. All of these could have an important bearing on financial development and growth. Still unresolved issues in the literature concern causality, whether the relationship proceeds from financial development to growth or in the reverse way, or both, as well as the underlying microeconomic channels via which financial development affects growth.

From a theoretical perspective, finance tends to matter for real economic decisions when there are missing or incomplete markets due to transaction costs and asymmetric information – that is, outside a Miller–Modigliani world. In incomplete markets there tend to be interactions between real and financial decisions of households and firms, and the level of financial development or deepening will have a bearing on economic growth. Improved efficiencies from financial development – as the scale and scope of transactions via capital markets and financial intermediaries increase – are expected to accrue from better coordination of savings and investments, better monitoring and screening of investment projects, improved mechanisms for effecting corporate control transactions and enhanced scope for value-maximizing decisions by firms, greater competition and risk diversification, the lowering of the market price of risk, and reduced reliance on informal financial markets.

To understand better the impact of financial liberalization on real investment decisions and growth, it is important to identify the channels through which interactions between real and financial decisions occur, and the

impact of financial liberalization on these channels. Underlying these interactions are incentive problems facing individual agents and firms due to moral hazard and adverse selection, bankruptcy and recontracting problems, tax factors, as well as broader informational problems pertaining to systemic risks.

Critical to any discussion of financial liberalization and of the merits of a more market-based financial system are the roles of financial contracts and institutions in overcoming adverse incentive problems, and the informational role of security prices for efficiently coordinating saving and real investment decisions. A related issue concerns financing problems of individual firms. While developing country firms are in many ways like their counterparts in developed economies, variations in institutional environments – legal, accounting, tax, regulatory and macroeconomic – may generate differences in financing patterns of firms across economies. In assessing financial liberalization policies in developing countries, it is important to understand the nature of financing problems facing firms in such countries, because financial constraints on firms have an important bearing on investment and growth.

Among important differences in the constraints governing decisions of firms in developing and developed countries are the following: developing country firms typically are less diversified and have less access to security markets for arm's-length financing, while these markets tend to be informationally less efficient; they also have less access to institutions and instruments for managing risks, and face a less developed and more unstable institutional infrastructure, for example the legal system, the bankruptcy code, and prudential regulations in banking. Restricted access to security markets causes greater reliance by developing country firms on retentions and bank borrowing; this, in turn, makes their investment activity more strongly dependent on past earnings and on the business cycle. Given the inadequate institutional infrastructure, a policy of rapid market deregulation in developing countries can create systemic risks[4] and seriously aggravate the economic performance of firms, as illustrated by the experiences of Argentina, Chile and Uruguay in the 1970s.

Limited risk diversification opportunities for investors in developing countries make corporate control an important objective for some investors. Thus, firms in many developing countries seem reluctant to list publicly in order to preserve owner control, and avoid disclosure rules, as in India where family ownership is common. Public policy measures have tried to reduce corporate control in many developing countries, as in Mexico where publicly listed and widely held shares are exempt from

capital gains taxes, and in India where widely held companies are subject to a lower corporate tax rate.[5] With financial liberalization, and improved opportunities for domestic and international risk diversification, control goals may become less significant. Lack of diversification opportunities in developing economies may also aggravate agency conflicts with managers of firms, leading to suboptimal investment decisions. With financial liberalization, corporate take-over transactions may become easier, reducing agency problems and increasing the scope for value-maximizing investment decisions by firms.[6]

Financial liberalization involves complicated questions of institutional choice, and entails much more than the deregulation of market interest rates or the removal of direct government controls on credit allocation. Efficient financial liberalization probably dictates the removal of restrictions on market transactions at one level, and the simultaneous imposition of new regulatory and legal provisions at another level. While it is possible to study financial liberalization by examining each separate part of the financial system, one should not lose sight of the interdependence of the parts forming the whole structure. Judging from the experiences of countries studied in this volume, as well as other countries, there is no clear-cut recipe for efficient financial liberalization; what is efficient tends to depend on a host of initial conditions prevailing in each country at the time of liberalization. There are, nevertheless, strong reasons for believing that institutional factors such as the legal infrastructure, bankruptcy code, accounting, disclosure and prudential regulations are all important for fostering the operation of financial markets and capturing any ensuing efficiency gains, and should be central elements in the process of financial liberalization.

A major difficulty in discussing financial liberalization stems from the fact that the notions of liberalization, or repression, are vague and do not clearly differentiate between, on the one hand, regulations and institutional schemes that hinder the efficient functioning of markets and, on the other, those that sustain the operation of markets and overcome market failures.[7] Furthermore, given the fact that initial institutional structures, and transaction costs, tend to differ across countries, what might be restrictions on efficient market transactions in one country may serve to correct market failures in another.[8] Also, the absence of one set of institutions or regulations in an economy may make others more important. For example, in the absence of a well-functioning legal infrastructure to enforce financial contracts, the banking system may perform an important role in overcoming incentive and information problems. Or, government controls on interest

rates and bank credit may be efficient, at least for a while, in overcoming adverse selection problems under asymmetric information.[9]

One important lesson that emerges from the liberalization experiences of some of the countries discussed in this volume is that the relaxation of restrictions on financial markets without adequate regulatory and institutional infrastructure may engender serious financial crises, leading to a reduction rather than an increase in financial deepening.[10] A related issue pertains to the optimal timing, or sequencing, of liberalization schemes.[11] The experiences of some of the countries studied in this volume illustrate the importance of sequencing. India instituted financial liberalization schemes gradually (for instance, liberalizing the internal financial sector before the external one), and this approach has probably enabled it to avoid major macroeconomic crises. In Argentina and Uruguay, on the other hand, sequencing considerations were ignored (for instance, internal and external liberalization schemes were brought in simultaneously), which probably contributed to the financial and macroeconomic crises in these countries.

The remainder of the chapter is organized as follows. Section 11.2 discusses the economic function of the financial system, the information aggregation role of financial markets, and the problems of 'noise' and systemic risks in financial markets. Sections 11.3 and 11.4 discuss the issue of optimal financing of firms, and the interaction between financial and production decisions, taking into account the effects of taxes, legal infrastructure, and the bankruptcy code. It is shown that tax codes in many developing economies encourage borrowing, which in the absence of strong regulatory and legal safeguards makes firms more vulnerable to bankruptcy risks, possibly increasing the financial fragility of the economy.[12] Section 11.5 discusses incentive problems due to asymmetric information as a further channel in the interaction between financial and production decisions of firms in developing economies. It also discusses institutional responses to incentive, informational and systemic risk problems in developing economies. The discussion ranges from the choice between market-based and bank-based financial systems, to the role of prudential regulations in facilitating the process of liberalization and the viability of financial markets in developing economies. Section 11.6 briefly compares patterns of firm financing for a sample of developed and developing economies. Section 11.7 highlights the liberalization experiences of the five economies surveyed in this book, while Section 11.8 draws some general policy implications from the previous discussion. Section 11.9 concludes the chapter.

11.2   THE ECONOMIC FUNCTION OF THE FINANCIAL SYSTEM AND MARKET EFFICIENCY

The financial system allows the economy to respond to the problems raised by time and uncertainty. Financial markets provide for the coordination of intertemporal choices of households and firms, as well as for risk-sharing and risk diversification. A distinguishing feature of financial transactions is that the ultimate objects of choice are not perfectly synchronized, so that current goods exchange for promises and claims to future goods. Uncertainty attaches not only to the occurrence of future states of nature, but also to whether promises will be kept, and therefore the design of contract terms which induce performance is highly important for the financial system.

In a symmetric information environment with zero transaction costs, perfect competition, and no problems of contract enforcement – a perfect market environment – the price of an asset will reflect its so-called fundamental value and will change only when fundamental economic data change. A capital market with asymmetric information, but where prices aggregate information fully, is said to be informationally efficient in that prices of financial claims reflect their fundamental value.

There is a school of thought, going back at least to Keynes, that argues that at least in stock markets prices do not aggregate or communicate information well. Keynes argued that speculative and strategic factors dominate the stock market, and the following often-quoted statement illustrates his view:

Professional investment may be likened to those newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs, the prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole; so that each competitor has to pick, not those faces which he himself finds the prettiest, but those which he thinks likeliest to catch the fancy of the other competitors, all of whom are looking at the problem from the same point of view. It is not a case of choosing those which, to the best of one's judgement, are really the prettiest, nor even those which average opinion genuinely thinks the prettiest. We have reached the third degree where we denote our intelligences to anticipating what average opinion expects the average opinion to be. And there are some, I believe, who practice the fourth, fifth and higher degrees.[13]

Indeed, when expectations are widely divergent, strategic factors may have an important impact on trading, so that market prices of financial assets may provide biased measures of fundamental values. There is ample historical evidence of financial market bubbles that dramatically illustrates divergences between fundamental and market values.[14]

Standard Walrasian models of economic equilibrium stress the constraining role of prices on resource allocation, rather than their informational role. As Grossman (1991) points out:

> In some ways these models treat people like rats in a maze. Prices are like the walls that the rats are bumping into, which produce pain and thus guide them in the right direction. The rats (presumably) do not get statistically useful information about the structure of the maze when they bump into a wall.[15]

Suppose we allow individuals more rationality. Consider a market where an individual's demand for a security depends on her private information about future returns of the security and where it is also common knowledge that others have private information about the security. Individuals may learn about the assessment of others, and about the economic environment from market prices, and such learning in turn induces a revision in their expectations about returns, making the original price no longer a market clearing price, and providing incentives to renegotiate the original price. The process stops when there are no further incentives to renegotiate market prices, and the market attains a rational expectations equilibrium.[16] Significant deviations between market and fundamental values may prevail in such an equilibrium. Furthermore, Grossman and Stiglitz (1980) have also shown that when information is costly to acquire then there will be no equilibrium if prices are fully revealing, because no one would have any incentive to acquire information. But if no one acquires information then prices cannot convey information. On the other hand, if prices are noisy signals, that is, if they are not fully revealing, then an equilibrium will exist where the noisiness of prices (the lack of full revelation) allows individuals to be compensated for the private cost of information acquisition. Of equal importance, however, is that noise may make a financial panic more likely. It is possible, under rational expectations, for a panic (for example, a stock market crash) to result from incorrect inferences made by less informed investors (noise-traders) from non-fundamental price disturbances.[17] This signal extraction problem is also present when there is a bank run, where the negative signal is not market price but other

depositors' withdrawal actions. Such phenomena may lead to systemic risks.[18] It is likely that developing country financial markets tend to have more noise and, as a result, face greater systemic risks than markets in developed economies. The problem of noise may become more severe as financial markets become more internationally integrated, and may have adverse consequences for developing economies – as illustrated by the experiences of emerging markets after the Mexican crisis. Calvo and Mendoza write,

> In the days after the Mexican crash, emerging markets worldwide also fell as the 'Tequila effect' propagated, and global investors reacted to the news on Mexico by suddenly changing their views on the merits of investments in emerging markets... This kind of 'herding' behavior by the global investor does not require any irrational behavior and does not require sophisticated theories to be justified.[19]

Thus, the liberalization of the external financial sector may generate, in a noisy financial environment, large and volatile capital flows; the experience of Argentina after the Mexican crash is one such example.

11.3 TAXATION

We discuss in this and the next two sections the various channels through which financial decisions interact with real investment decisions of firms. We consider the impact of taxes in this section, bankruptcy, and the legal infrastructure in Section 11.4, and adverse incentive problems due to asymmetric information in Section 11.5.

As is well known, in perfect and efficient markets with no taxes or information asymmetries the particular mix of financing used by the firm (issuing stocks, bonds, borrowing from banks) is irrelevant; the form of financing does not affect the firm's overall cost of capital and its incentives governing real investment activity. This is the Modigliani–Miller theorem.[20] While this irrelevance result provides a useful benchmark for analysis, real-world economies are characterized by transaction and bankruptcy costs, taxes and informational problems, so that a firm's financial structure tends to affect its cost of capital and optimal investment decisions. Investment and financing decisions then become interdependent, and the mix of financing used may induce or constrain the growth of firms and of the economy. For example, a standard corporate finance model considers optimal financial structure as the product of the trade-off between

the subsidy inherent in the tax deductibility of interest payments, and the potential bankruptcy costs engendered by debt.

Modigliani and Miller (1963) introduced corporate, but not personal, taxation into their earlier model and showed that the market value of the firm is an increasing function of its debt. This result simply reflects the tax subsidy to borrowing due to the deductibility of interest, because the marginal after-tax cost to the firm of borrowing is less than the debt holder's marginal valuation of debt. Miller (1977) gave a new twist to the tax argument by showing that even with personal taxes on interest income debt is irrelevant to the firm, although the aggregate level of debt outstanding in the economy is relevant. In the Miller model, the marginal debt holder's personal tax rate equals the corporate tax rate, and an individual firm does not capture tax-induced surpluses generated by debt, although these surpluses are captured by inframarginal debt investors. While Miller (1977) assumes that all firms are taxed at the same rate, the subsequent literature has highlighted the fact that the effective corporate tax rate tends to vary across firms and that the marginal after-tax cost of debt to the firm depends not only on the statutory corporate tax rate, but also on potential tax shield substitutes to debt, the risk and probability of bankruptcy of the firm, and tax-loss carry-forward and backward provisions.[21] Such considerations imply that the level of borrowing may well affect a firm's cost of capital and its investment decisions.

A simple expression depicting the tax advantage of debt to firms (under the Miller assumptions) is given by the formula, $1 - [(1 - t_c)(1 - t_e)]/(1 - t_d)$, where t_c is the corporate income tax rate and t_e and t_d are the personal tax rates in on equity and interest income, respectively. This measure is used in Table 11.1 to determine the tax advantage of interest income relative to equity income in different economies. The table allows for the fact that equity income accrues in two alternative forms, capital gains and dividends. Note that in most developing countries interest is deductible from business income, and that there are tax-loss carry-forward provisions (but usually no carry-backs).

Tax systems have many features beyond personal and corporate tax rates. They impose limits on certain transactions, may change often and may not be well enforced, especially in developing countries. In addition to the direct effect of taxes on the financing decisions of firms, government tax policy indirectly influences such choices via its effects on the structure of financial markets.[22] In spite of the intricacies of the tax code, it is still useful to look at a general measure of the tax advantage of debt relative to equity for the corporate sector in different economies, using the gains-to-leverage formula given above. While borrowing may have a tax

Table 11.1   Various countries: tax advantage of interest income relative to equity income

Country	Brazil 1995	India 1995	Jordan 1995	South Korea 1995	Malaysia 1995	Mexico 1995	Pakistan 1995	Thailand 1995	Turkey 1995
Corporate tax rate	1.25	0.40	0.55	0.30	0.30	0.34	0.46	0.30	0.25
Highest marginal personal tax rate	0.35	0.40	0.45	0.45	0.32	0.35	0.35	0.37	0.55
Personal capital gains tax rate	0.15	0.20	0.00	0.75	0.00	0.35	0.35	0.00	0.00
Tax rate on personal interest income	0.35	0.40	0.00	0.45	0.32	0.02	0.10	0.37	0.55
Personal tax rate on dividend income	0.35	0.40	0.00	0.22	0.32	0.34	0.10	0.37	0.00
Net interest income per marginal dollar	0.65	0.60	1.00	0.55	0.68	0.98	0.90	0.63	0.45
Net capital gain per marginal dollar	0.64	0.48	0.45	0.18	0.70	0.43	0.35	0.70	0.75
Net dividends per marginal dollar	0.49	0.36	0.45	0.55	0.48	0.44	0.49	0.44	0.75
Tax loss carry-forever (years)	Forever	8	6	5	Forever	5	6	5	5
Marginal tax advantage of interest to dividends	0.25	0.40	0.55	0.00	0.30	0.56	0.46	0.30	-0.36
Marginal tax advantage of interest to capital gains	0.20	0.20	0.55	0.68	-0.03	0.56	0.61	-0.11	-0.36

Table 11.1 *(continued)*

Country	Zimbabwe 1995	USA 1995	Argentina 1995	Canada 1995	France 1995	Germany 1995	Hungary 1995	Japan 1995	Nigeria 1995	Poland 1995	Singapore 1995	UK 1995	Uruguay 1995
	0.40	0.35	0.30	0.29	0.33	0.45	0.18	0.38	0.35	0.40	0.27	0.33	0.30
	0.40	0.40	0.30	0.53	0.57	0.53	0.44	0.65	0.30	0.45	0.30	0.40	0.30
	0.20	0.28	0.00	0.40	0.19	0.53	0.10	0.65	0.20	0.45	0.00	0.40	0.00
	0.40	0.40	0.30	0.53	0.57	0.53	0.44	0.20	0.30	0.20	0.30	0.40	0.00
	0.15	0.40	0.00	0.34	0.57	0.53	0.10	0.65	0.30	0.20	0.30	0.40	0.00
	0.60	0.60	0.70	0.47	0.43	0.47	0.56	0.80	0.70	0.80	0.70	0.60	1.00
	0.48	0.47	0.70	0.43	0.54	0.26	0.74	0.22	0.52	0.33	0.73	0.40	0.70
	0.51	0.39	0.70	0.47	0.29	0.26	0.74	0.22	0.46	0.48	0.51	0.40	0.70
	6	15	5	7	5	Forever	5	5	4	3	Forever	Forever	3
	0.15	0.35	0.00	0.00	0.33	0.45	-0.32	0.73	0.35	0.40	0.27	0.33	0.30
	0.20	0.23	0.00	0.09	-0.25	0.45	-0.32	0.73	0.26	0.59	-0.04	0.33	0.30

Source: All data are from Ernst and Young, *International Corporate Tax Guide* (1996), and *International Executive Tax Guide* (1996)

advantage, it increased bankruptcy risk making firms vulnerable to unanticipated changes in demand and cost conditions, especially in economies offering limited opportunities for risk diversification and inadequate institutions governing bankruptcy.[23]

Table 11.1 assumes that the marginal investor is taxed at the highest personal tax rate, and that corporations are taxed at the corporate tax rate stipulated by the tax code, although effective corporate tax rates tend to be lower (note for example that all the countries in Table 11.1 have tax loss carry-forward provisions). The table calculates the after-tax value of a pretax dollar channeled to the investor via interest income, dividend income and capital gains income in each country, and determines the tax advantage of debt relative to equity. It shows that debt has a tax advantage over equity in most of the developing countries represented, except Argentina and Turkey. Thus, tax systems in many developing countries seem to encourage borrowing, increasing the vulnerability of firms to systemic shocks such as from abrupt currency devaluation or unanticipated interest rate movements. This may be especially serious for firms (financial and non-financial) in developing economies, because they tend to be less diversified, have less recourse to risk management schemes (such as via forward, futures and option markets), and face inadequately developed institutional infrastructures such as a bankruptcy code and deposit insurance.

Foreign rather than domestic tax rates become relevant for estimates of the tax advantage of debt to a firm when the debt holder lives outside the country. Foreign tax rates may affect corporate financing choices in a climate of increased financial market liberalization and integration. Constraints imposed by the international tax environment on the process of financial liberalization and on the financing decisions of firms are an area that requires future research.[24]

11.4 THE BANKRUPTCY CODE AND THE LEGAL INFRASTRUCTURE

The bankruptcy code provides standard procedures for the process of recontracting between the firm and its creditors. It reduces the transaction costs associated with recontracting in case of default by providing rules for liquidation and reorganization. An efficient bankruptcy code induces liquidation when the going concern value of the firm is less than its liquidation value, and induces reorganization when the reverse is true. The bankruptcy code also serves as a deterrent against opportunistic borrower

conduct. A country's bankruptcy code and legal infrastructure expand the scope for intertemporal exchange agreements by promoting the growth of security markets, and enable firms to obtain arm's-length financing through security markets.[25]

Increased reliance on financial markets requires a well-functioning legal infrastructure, accounting norms and regulations such as disclosure rules, and a bankruptcy code without which not only will the recontracting process have high transaction costs but default risk will be mispriced, leading to socially suboptimal default incentives and investment decisions. Furthermore, significant externalities may be associated with bankruptcy whereby the failure of one firm may engender the failure of others. Financial fragility refers to such externalities. Such systemic risks may affect both the real and the financial sectors. An effective legal and regulatory infrastructure and bankruptcy code may help attenuate such systemic externalities.

Most developing countries lack well-developed and functioning legal infrastructures and bankruptcy codes. As a result, arm's-length financial transactions tend to occur through claims that are simpler to enforce and that do not require highly developed bankruptcy and legal infrastructures such as secured debt; for the same reasons, financing through retentions and bank loans tends to dominate in such economies.

11.5   PROBLEMS OF MORAL HAZARD AND ADVERSE SELECTION

Asymmetric information problems, because of adverse selection and moral hazard, induce interactions between production and financing decisions. For example, when it is difficult to screen borrowers, credit rationing can serve as a mechanism used by lenders to resolve adverse selection.[26] Collateral can also serve a signalling role in such circumstances. A similar problem emerges in corporate financing under asymmetric information when the qualities of firms are unobservable. Myers (1984) argues that a hierarchical pattern of financing, termed a pecking order, serves to signal firm quality in such circumstances. For example, suppose that a firm is considering undertaking a risky investment project when management has information about the quality of the investment that cannot be credibly communicated to the capital market. If in management's view the market undervalues the project then the firm prefers internal over external funds to finance the project. If it must resort to the capital market, it prefers to use debt rather than equity, because fixed-income

securities such as debt provide lower benefits to outside claimants from a successful high-quality project. If, on the other hand, the project is over-valued by the market, then the firm prefers to finance through external equity rather than debt or retained earnings. Under rational expectations, the firm's pattern of financing signals its quality, and a pecking-order equilibrium emerges in which firms prefer internal to external financing, and, in the case of external financing, they prefer debt to equity.

When there are moral hazard problems such as underinvestment incentives resulting from conflicts between debt and equity holders, then features such as protective covenants on debt, call options and conversion options serve to attenuate adverse incentive problems.[27] However, as was argued in the previous section, with ill-developed legal and regulatory infrastructures (which is the case in most developing economies), financial transactions tend to involve instruments that are simpler to enforce such as secured debt; or there may be less reliance on arm's-length transactions and greater reliance on banking, because banks tend to have a comparative advantage in gathering information about potential borrowers and in screening and monitoring borrowers, thus reducing adverse selection and moral hazard problems.[28]

Given the costliness of monitoring bank portfolios by depositors, banking can generate moral hazard problems of its own as banks accept (pursuing the narrow interests of their owner-shareholders) more risk than is optimal for depositors. However, such risk-taking incentives by banks in developing countries may be partially offset by a lack of risk diversification opportunities; with limited risk-diversification opportunities, bank owner-shareholders in developing economies may be less prone to risk taking than those in developed economies. A more serious problem in banking concerns systemic risks, where one bank's failure may trigger (as a result of the signal extraction problem discussed earlier) the failure of other banks. Government deposit insurance or the central bank's acting as a lender of last resort might attenuate these problems, but such insurance schemes create familiar moral hazard problems of their own, which might be overcome by imposing regulations on bank portfolio allocation or by making the price of deposit insurance a function of bank portfolio risk.[29] If the regulatory monitoring and enforcement capacity is lacking for such schemes, as it is in many developing economies, bank risk can perhaps be controlled more efficiently by careful screening of potential banking firms and by restricting entry. If monopoly surpluses can be earned in banking then banks have more to lose if they fail, which reduces incentives to take on excessive risks.[30]

11.6   PATTERNS OF CORPORATE FINANCING IN DEVELOPING AND DEVELOPED ECONOMIES

This section examines and compares patterns of corporate financing for a sample of developing and developed economies. Mayer (1990) has examined financing patterns for eight developed economies for the period 1970–85, using flow-of-funds statements as well as company accounts. The countries are: Canada, Finland, France, Germany, Italy, Japan, the UK and the USA. He observes[31] that retained earnings are the dominant source of financing growth in all these economies; also, that banks are the dominant source of external financing, and that in none of these countries are securities markets a major source of financing new investments. Mayer argues that the heavy reliance on retentions in these countries is because they enable shareholders to maintain control over the company. However, an explanation based on asymmetric information wherein retained earnings are the cheapest form of finance, seems just as plausible.

Singh and Hamid (1992) present data for nine developing economies (India, Jordan, Korea, Malaysia, Mexico, Pakistan, Thailand, Turkey, and Zimbabwe) for the period 1980–8. The observations are for the fifty largest manufacturing firms listed on stock markets in these countries and indicate that, in general, firms in these countries rely more on external financing, and less on retentions than firms in developed economies. The average after-tax retention ratio was less than 50 per cent for the firms in developing economies, which is significantly less than for Mayer's sample of companies in developed economies. The figures also indicate that firms in developing countries financed significantly less of their expansion from internal sources compared with firms in developed economies. For example, for the fifty South Korean corporations, an average of about 15 per cent of growth was financed from retained earnings, about 40 per cent by issuing stock and about 45 per cent by issuing debt.[32]

It may be puzzling that financing through retentions is significantly lower for firms in developing economies than for those in developed economies. One would expect greater reliance on capital markets by firms in developed economies, given the lower transaction costs and informational asymmetries in their markets. It must be remembered, however, that the firms in the Singh and Hamid data are not very representative; the data pertain to the largest (and presumably best-known) fifty corporations in each economy. Such firms have the best access to security markets to obtain financing. Smaller and less well-known firms would presumably be at a disadvantage in getting long-term market financing, and have to rely more on retentions or bank financing. Note, for example, the

predominance of short-term financing in the debt structures of firms in Argentina and the fact that the larger firms were much less dependent on short-term financing than smaller ones.[33] Heavy reliance on retentions and on short-term borrowing, which is likely for the majority of firms in developing countries, tends to make investment activity strongly dependent on past earnings, the business cycle and macroeconomic stability. There is a great need for studies on the determinants of the financing behaviour of firms in developing economies.[34]

11.7   A BRIEF OVERVIEW OF THE LIBERALIZATION EXPERIENCES OF ARGENTINA, INDIA, NIGERIA, TURKEY AND URUGUAY

As can be deduced from the country studies in this volume,[35] the liberalization experiences of Argentina (in 1991), Turkey (in the 1980s) and Uruguay (in the 1970s) were in many ways quite similar. Financial liberalization in these three countries, and especially in Argentina and Uruguay, involved the simultaneous liberalization of the domestic and the external financial sectors; however, in all three cases, regulatory safeguards such as prudential regulations in banking, legal infrastructure, and bankruptcy code, were not very strong. Liberalization in each of these countries involved most if not all of the following: deregulation of interest rates, removal of controls on bank credit allocation, removal of entry prohibitions into banking and increased competition in the financial sector, deregulation of stock markets, and full convertibility of currencies. While liberalization led to financial deepening and had a favourable impact on overall investment and macroeconomic performance for a while, it also increased systemic risks and engulfed these economies into serious episodes of financial crises.

In Argentina and Uruguay, assets and liabilities of the banking system became increasingly dollarized as a result of external financial liberalization, exposing banks and borrowing firms to significant devaluation risks. In Argentina financial liberalization resulted in an increase in the financial leverage of firms, but debt maturity remained short-term. The Mexican crisis triggered a financial crisis in Argentina in 1995, leading to capital outflows and bank runs, and a major economic crisis was avoided through government intervention. The experience of Argentina was similar to that of Chile in 1982; in both instances, the crises could be at least partially attributed to the rapid liberalization of the financial system without an adequately functioning regulatory infrastructure. In Turkey, financial liberal-

ization led to highly volatile stock markets and exchange rate fluctuations, and exposed the financial and real sector to significant systemic risks.

The Indian experience with financial liberalization (in 1991) seems to have been quite different. India followed a gradualist approach, and already had a reasonably well-developed financial sector; along with policies such as the deregulation of interest rates, the easing of entry into the financial intermediary sector, and the deregulation of stock markets, India maintained certain regulatory controls and introduced others to insure the safety and solvency of the financial sector, and to induce further financial market development; while restrictions on international capital flows were eased, they were not removed. The financial liberalization experience in India led to financial deepening and has not been marked by episodes of major financial crisis. Since liberalization, the corporate sector has increased significantly its reliance on external financing, both from rapidly growing, near-banking institutions and from long-term, arm's-length financing in security markets.

The financial liberalization experience of Nigeria (in the 1980s) seems more similar to those of Argentina, Turkey and Uruguay than to that of India. Financial liberalization in Nigeria entailed interest rate deregulation, the easing of controls on sectoral credit allocation, easing of entry into banking, and reduced control on international capital movements. The relaxation of entry into banking, while significantly increasing the number of banks, seems to have affected their quality and resulted in a large number of bank failures. A major problem for Nigeria has been its inadequate legal and regulatory enforcement capacity. Financial reforms have not resulted in financial deepening but instead have generated significant systemic risks, leading to a wave of bankruptcies of financial and non-financial firms.

11.8   SOME GENERAL POLICY IMPLICATIONS

As mentioned earlier, a major difficulty in discussing financial liberalization is due to the fact that the notions of liberalization, or repression, are vague and do not clearly differentiate between regulations and institutional arrangements that restrict the efficient functioning of markets and those that sustain the operation of markets and overcome market failures.[36] Furthermore, because initial institutional structures, and transaction costs, tend to differ across countries, what may be restrictions on efficient market transactions in one country may serve to sustain markets (correct market failures) in another.

We argued that the legal infrastructure, bankruptcy code, accounting and disclosure rules, and prudential regulations are all important for fostering the operation of financial markets and for capturing any ensuing efficiency gains, and should be central elements in the process of financial liberalization. It is, however, difficult to determine the most efficient mix of institutions and regulations for sustaining the saving–investment process for any specific economy. The absence of one set of institutions in an economy may make others more important. For example, in the absence of a well-functioning legal infrastructure to enforce financial contracts, the banking system performs an important role in overcoming incentive and information problems. Or, if the regulatory capacity for deposit insurance is lacking, as it is in many developing countries, then bank risk can perhaps be more efficiently controlled by screening potential banking firms and restricting entry. This way monopoly surpluses can be earned in banking, reducing banks' incentives to take on excessive risks. As another example, consider a market environment with asymmetric information; government controls on interest rates and bank credit may be efficient, at least for a while, in overcoming adverse selection problems.[37] This is illustrated by the experiences of South Korea and some other East Asian countries, where interest rate ceilings and government direct credit controls seem to have enhanced the operation of the financial system and economic development for a while; however, in other economies such regulations on the financial system have created inefficiencies.

An important policy lesson that emerges from the discussions in the previous sections is that the relaxation of restrictions on financial markets without adequate legal, accounting and regulatory institutions, and insurance markets, may engender serious financial crises, leading to a reduction rather than an increase in financial deepening. This is illustrated by the liberalization experiences of Argentina, Chile, Nigeria, Turkey and Uruguay.

11.9 CONCLUSION

This chapter has argued that in order to assess financial liberalization policies in developing countries it is important to understand the nature of financing problems facing firms in such countries, because financial constraints on firms have an important bearing on investment and growth. The chapter has stressed the importance of legal, accounting and regulatory infrastructures for the process of financial liberalization. It also argued that there is no clear-cut recipe for efficient financial liberalization. What is

efficient will tend to depend on a country's initial institutional structure and transaction costs. Among important areas for future research suggested by this chapter are the following: an examination of the determinants of financing decisions of firms in developing economies; the impact of financial liberalization on agency problems and governance structures of firms in developing economies; constraints imposed by the domestic and international tax environment on the process of financial liberalization; the informational efficiency of financial markets in developing economies; the nature of systemic risks in a liberalized financial environment and the efficiency of alternative mechanisms for controlling such risks.

Notes

1. This chapter is a significantly revised version of a paper presented at the International Workshop on 'Financial Liberalization in Developing Countries', held in Ankara, June 1996, sponsored by the International Development Research Centre, Canada. I would like to thank the discussant, Gulnur Muradoglu, for useful comments. I would also like to thank participants of the Economic Development workshop at the University of Toronto where some of the ideas in this chapter were discussed. I have benefited from discussions with John Floyd, and Xiaodong Zhu. José Fanelli and Gerry Helleiner provided extensive comments on earlier versions of this chapter, for which I am grateful. Their comments proved very useful for this revision. I would also like to thank Shihab Abu-Zeid and Joan Zabokrzycki for research assistance, and Kerstin Aivazian for editorial assistance. Responsibility for any mistakes remains, naturally, with the author.
2. De Gregorio and Guidotti argue that 'the weak relationship observed in high-income countries is due to the fact that financial development occurs to a large extent outside the banking system, while our proxy for financial development focuses on banking sector development' (p. 434).
3. Ibid., p. 434.
4. Davis (1992) uses the term systemic risk 'to describe a disturbance in financial markets which entails unanticipated changes in prices and quantities in credit or asset markets, which lead to a danger of failure of financial firms, and which in turn threatens to spread so as to disrupt the payments mechanism and capacity of the financial system to allocate capital' (p. 117).
5. See Glen and Pinto (1994).
6. However, corporate take-over transactions in a stock market economy may not necessarily induce efficient investment decisions by the firm when there are problems of asymmetric information or free-rider problems. See Grossman and Hart (1980) and Stiglitz (1991).
7. This point is recognized by several writers, including Gibson and Tsakalotos (1994).
8. This is an implication of the theory of second best.
9. This policy seems to have worked in some East Asian countries, such as South Korea, but failed in others.

10. In fact, Diaz-Alejandro (1985) has argued that financial liberalization can reduce the efficiency and increase the instability of financial markets. Akyuz (1994) points to the hazards of financial liberalization and the need for judicious government intervention.
11. McKinnon (1991) has argued that, 'Governments cannot, and perhaps should not, undertake all liberalizing measures simultaneously. Instead, there is an "optimal" order of economic liberalization, which may vary for different liberalizing economies depending on their initial conditions ...' (p. 4).
12. The term 'financial fragility' is usually used to refer to the externalities generated by bankruptcy. Thus, Davis (1992) writes,

    especially when default is widespread and involves households and large businesses as well as small businesses, all of these analyses may be guilty of taking a partial view (of an agent or firm in isolation), because there may be significant *externalities* to widespread loan default. The failure of a company is likely to impact on other companies and could cast their solvency into doubt, for example if it defaults on loans due, or if it is costly for firms to switch suppliers or markets. Unemployed workers may default on their own debts.' (p. 47)

13. Keynes (1936), p. 156.
14. See Fama (1991), Shiller (1931); for a dissenting but compelling perspective see Miller (1990). Some economists (Hirshleifer, 1971; Fama and Laffer, 1971) have argued, in the same spirit as Keynes, that stock market research produces information with high private return but low social return, that stock price revaluations engendered by such research are primarily redistributive rather than productive.
15. Grossman (1991), pp. 1–2.
16. See Grossman (1991), Chapter 1.
17. Ibid.
18. See note 4 for a definition of systemic risk.
19. See Calvo and Mendoza (1996).
20. Modigliani and Miller (1958).
21. For a review of these tax issues see Aviazian and Turnbull (1987).
22. Tax policies in many developing countries have attempted to stimulate the development of security markets and to reduce corporate control. See World Bank (1990) and Glen and Pinto (1994).
23. This is sometimes termed financial fragility, see Davis (1992).
24. In this context, also see Helleiner (1996) for a discussion of tax policy and international financial flows.
25. For a discussion of the importance of the legal infrastructure, see Modigliani and Perotti (1991).
26. See Stiglitz and Weiss (1981) and Cho (1986).
27. See Jensen and Meckling (1976), Myers (1977), Aivazian and Callen (1980), Harris and Raviv (1991).
28. For a model analysing the costs and benefits of arm's-length financing versus bank financing see Rajan (1992). Allen (1993) has argued that the reliance placed on the stock market versus the banking system depends on the nature of the production technology that is being financed. When the technology is new and information about it widely dispersed, the stock

market aggregates investor assessments of the likelihood of success of the venture and thus enables more efficient production decisions by management based on better information. Financing through a bank, it is argued, is not efficient in such circumstances, because the information aggregation function is weak or missing. On the other hand, when the technology is a standard one, so that the information aggregation function is unimportant, bank financing becomes more efficient, because banks have a comparative advantage in overcoming moral hazard problems.

29.   For a discussion of these issues see Davis (1992) and F. Mishkin (1996). Gerry Helleiner has pointed out (private communication) that governments in many developing countries have also frequently served as the ultimate source of bail-out for otherwise bankrupt institutions, which goes well beyond their lender-of-last resort function and seriously aggravates moral hazard problems.

30.   See, for example, Caprio and Summers (1993).

31.   See Mayer (1990), pp. 310–17.

32.   See Singh and Hamid (1992), who also find that firms in the high-growth economies of East Asia use more debt than firms in other countries in the sample.

33.   See Fanelli *et al.* (1998).

34.   Both and Aivazian (1996) perform an econometric study of determinants of financial structures (proportions of debt financing) for firms in developing countries. The data baseused for the study is an expanded version of that underlying the Singh and Hamid (1995) study developed by the World Bank (International Finance Corporation). Booth and Aivazian find that while certain variables such as profitability and tangibility of assets are important, country factors (dummy variables) matter at least as much for developing economies. These results indicate the importance of country institutional factors.

35.   See Ayogu *et al.* (1996), Balkan and Yeldan (1996), Fenelli *et al.* (1996), Noya *et al.* (1996) and Sen and Vaidya (1996).

36.   This point is made by several authors, including Gibson and Tsakalotos (1994).

37.   Stiglitz (1994) has argued that in environments with incomplete markets and significant asymmetric information, as in developing economies, higher interest rates can adversely affect the incentives and the quality mix of borrowers, and that government interest rate and direct-credit controls may enhance efficiency by improving this quality mix; also, that in such environments, firms may prefer to finance with equity because of lower moral hazard problems (avoidance of potential bankruptcy problems) as compared to debt. A similar point is made by Cho (1986), who relies on the Stiglitz and Weiss (1981) argument. On the other hand, Myers (1984) and Kumar (1994) recognize that there also may be significant moral hazard problems with equity.

Bibliography

Aivazian, V. and J. Callen (1980) 'Corporate Leverage and Growth: The Game-Theoretic Issues', *Journal of Financial Economics*, 8 (4): 379–99.

Aivazian, V. and J. Callen (1987) 'Millers Irrelevance Mechanism: A Note', *Journal of Finance* 42 (1): 169–80.

Aivazian, V. and S. Turnbull (1987) 'Taxation and Capital Structure: A Selected Review' in J. Mintz and D. Purvis (eds), *The Impact of Taxation on Business Activity*, Proceedings of a Conference Held at the Conference Centre, Ottawa, 11–13 November 1985 (Kingston, Ontario: Queens University Press) 230–62.

Akyhz, Y. (1994) 'Issues in Financial Policy Reform: Myth and Reality', paper presented at the International Conference 'Economic Growth and Long-Term Development: Performance and New Thinking Toward the XXI Century', El Elscorial, Madrid, Spain (11–13 July).

Allen, F. (1993) 'Stock Markets and Resource Allocation', Rodney L. White Center for Financial Research, Reprint no. 036, (Pennsylvania: Wharton School).

Ayogu, M., C. Emenuga and C. Soludo (1998) 'Nigeria', this volume, Ch. 4.

Balkan, E. and A.E. Yeldan (1998) 'Turkey', this volume, Ch. 5.

Booth, L. and V. Aivazian (1996) 'Capital Structures in Developing Countries', Working Paper (May).

Calvo, G.A. and E. Mendoza (1996) 'Petty Crime and Cruel Punishment: Lessons from the Mexican Debacle', *American Economic Review*, 86 (2): 170–5.

Caprio, G. Jr and L.H. Summers (1993) 'Finance and Its Reform: Beyond Laissez-Faire', World Bank Policy Research Working Papers, WPS 1171 (Washington, DC: World Bank).

Cho, Y. Je (1986) 'Inefficiencies from Financial Liberalization in the Absence of Well-Functioning Equity Markets', *Journal of Money, Credit, and Banking*, (18): 191–9.

Davis, E.P. (1992) *Debt, Financial Fragility, and Systemic Risk* (Oxford: Clarendon Press).

De Gregorio, J. and P.E. Guidotti (1995) 'Financial Development and Economic Growth', *World Development*, 23 (3): 433–48.

Diaz-Alejandro, C. (1985) 'Good-Bye Financial Repression, Hello Financial Crash', *Journal of Development Economics*, 19 (1–2): 1–24.

Fama, E. (1991) 'Efficient Markets: II', *Journal of Finance*, 46 (5) (December): 1575–1617.

Fama, E. and Latter, A. (1971) 'Information and Capital Markets', *Journal of Business*, 44(3): 289–98.

Fanelli, J., G. Rozenwurcel and L. Simpson (1998) 'Argentina', this volume Ch.2.

Gibson, H. and E. Tsakalotos (1994) 'The Scope and Limits of Financial Liberalization in Developing Countries: A Critical Survey', *Journal of Development Studies*, 30 (3): 578–628.

Glen, J. and B. Pinto (1994) 'Debt or Equity? How Firms in Developing Countries Choose, International Finance Corporation', Discussion Paper Number 22 (Washington, DC: World Bank).

Grossman (1991) *The Informational Role of Prices* (Cambridge, Mass.: MIT Press).

Grossman, S. and O. Hart (1980) 'Takeover Bids, the Free Rider Problem, and the Theory of the Corporation', *Bell Journal of Economics*, 35 (2): 42–64.

Grossman, S.J. and J.E. Stiglitz (1980) 'On the Impossibility of Informationally Efficient Markets', *American Economic Review*, 70 (3): 393–408.

Harris, M. and A. Raviv (1991) 'The Theory of Capital Structure', *Journal of Finance*, 46: 297–355.

Helleiner, G.K. (1996) 'Capital Account Regimes and the Developing Countries', in UNCTAD, International Monetary and Financial Issues for the 1990s, Vol. VIII: 1–25.

Hirshleifer, J. (1971) 'The Private and Social Value of Information and Reward to Inventive Activity', *American Economic Review*, 61 (4): 561–74.

Jensen, M.C. and W. Meckling (1976) 'Theory of the Firm: Managerial Behavior, Agency Costs and Capital Structure', *Journal of Financial Economics*, 3: 305–60.

Keynes, J.M. (1936) *The General Theory of Employment, Interest, and Money* (New York: Harcourt Brace).

King, R. and R. Levine (1993) 'Finance and Growth: Schumpeter Might be Right', *Quarterly Journal of Economics*, 108 (3): 717–37.

Kumar, P. (1994) 'Inefficiencies from Financial Liberalization in the Absence of Well-Functioning Equity Markets: Comment', *Journal of Money, Credit, and Banking*, 26 (2): 341–4.

McKinnon, R. (1973) *Money and Capital in Economic Development* (Washington, DC: Brookings Institution).

McKinnon, R.I. (1991) *The Order of Economic Liberalization* (New York: John Hopkins University Press).

Mayer, C. (1990) 'Financial Systems, Corporate Finance, and Economic Development', in R.G. Hubbard, (ed.), *Asymmetric Information, Corporate Finance and Investment* (University of Chicago Press).

Miller, M.H. (1977) 'Debt and Taxes', *Journal of Finance*, 32: 261–75.

Miller, M.H. (1990) 'The Crash of 1987: Bubble or Fundamental?' in S. Rhee and R. Chang (eds), *Pacific-Basin Capital Markets Research*, vol. I (Amsterdam: North-Holland) 27–40.

Mishkin, F.S. (1996) 'Understanding Financial Crises: A Developing Country Perspective', National Bureau of Economic Research Working Paper, 5600 (Cambridge, Mass.)

Modigliani, F. and M.H. Miller (1958) 'The Cost of Capital, Corporation Finance, and the Theory of Investment', *American Economic Review*, 48: 261–97.

Modigliani, F. And M.H. Miller (1963) 'Corporate Income Taxes and the Cost of Capital: A Correction', *American Economic Review*, 53: 433–43.

Modigliani, F. and Perotti (1991) 'The Rules of the Game and the Development of Security Markets', in S. Rhee and R. Chang (eds), *Pacific-Basin Capital Markets Research*, vol. II (Amsterdam: North-Holland).

Myers, S.C. (1977) 'Determinants of Corporate Borrowing', *Journal of Financial Economics*, 5: 147–75.

Myers, S. and N.S. Majluf (1984) 'Corporate Financing and Investment Decisions when Firms Have Information that Investors Do Not Have', *Journal of Financial Economics*, 13: 187–221.

Myers, S.C. (1984) 'The Capital Structure Puzzle', *Journal of Finance*, 39: 575–92.

Nola, N., C. Casacuberta, and F. Lorenzo (1998), 'Uruguay', this volume, Ch. 6.

Odedokun, M. (1996) 'Alternative Econometric Approaches for Analyzing the Role of the Financial Sector in Economic Growth: Time Series Evidence From LDCs', *Journal of Development Economics*, 50: 199–246.

Rajan, R. (1992) 'Insiders and Outsiders: the Choice between Relationship and Arms-Length Debt', *Journal of Finance*, 47: 1367–400.

Sen, K. and R.R. Vaidya (1998) 'India', this volume, Ch. 3.

Shaw, E.S. (1973) *Financial Deepening in Economic Development* (Oxford University Press).

Shiller, R. (1981) 'Do Stock Prices Move Too Much to be Justified by Subsequent Changes In Dividend?', *American Economic Review*, 71: 421–36.

Singh, A. and J. Hamid (1992) 'Corporate Financial Structures in Developing Countries', *International Finance Corporation Technical Paper*, no. 1 (Washington, DC: World Bank).

Stiglitz, J.E. (1991) 'Government, Financial Markets, and Economic Development', (Cambridge, Mass.) National Bureau of Economic Research Working Paper, 3669 Working Paper Series.

Stiglitz, J.E. (1994) 'The Role of States in Financial Markets', in Bruno, M. and B. Pleskovic (eds), Proceedings of the World Bank Annual Conference on Development Economics, 1993 (Washington, DC: World Bank) (May): 19–52.

Stiglitz, J.E. and A. Weiss (1981) 'Credit Rationing in Markets with Imperfect Information', *American Economic Review*, 71: 393–410.

World Bank (1990) *Financial Systems and Development* (Washington, DC: World Bank).