



WP/07/227

IMF Working Paper

Public Financial Institutions in Developed Countries—Organization and Oversight

Lev Ratnovski and Aditya Narain

IMF Working Paper

Monetary and Capital Markets Department

Public Financial Institutions in Developed Countries—Organization and Oversight

Prepared by Lev Ratnovski and Aditya Narain

Authorized for distribution by David Marston

September 2007

Abstract

This Working Paper should not be reported as representing the views of the IMF.

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

While public financial institutions (such as public development banks) are commonly associated with developing countries, in fact they are prevalent in the developed world as well. We study a sample of public financial institutions in industrialized countries and identify dominant trends in their organization and oversight. While practices in developed countries may be a useful reference point, a more nuanced approach, accounting for the disparity of institutional environment, regulatory capacity, and government accountability and effectiveness, may be required in developing countries. Further investment in the accumulation of evidence and formulation of best practices in the organization and oversight of public financial institutions seems warranted and necessary.

This paper was prepared while Mr. Ratnovski was working in the Financial Supervision and Regulation Division during January–April 2006. The authors are grateful to Jonathan Fiechter, David Marston, and participants of an MCM seminar in April 2006 for their helpful comments.

JEL Classification Numbers: G21, G28, H81

Keywords: Financial institutions, banking regulations, banking supervision

Authors' E-Mail Address: Lev.Ratnovski@bankofengland.co.uk and anarain@imf.org

Contents	Page
Introduction: Access to Finance and Public Policy	3
A. Access to Finance.....	3
B. Fundamental Policies	4
C. Public Provision of Financial Services.....	6
D. Regulatory Perspective	7
E. Study Scope and Method.....	7
II. Rationale of Public Financial Institutions in Developed Countries	11
A. Housing Finance	11
B. Small- and Medium-size Enterprises/Innovation Finance	12
C. Agriculture	13
D. Are These Rationales Always Valid?	13
E. Other Common Types of Public Financial Institutions.....	14
III. Organization of Public Financial Institutions in Developed Countries	16
A. Typical Financial Instruments.....	16
B. Financing.....	19
C. Ownership	20
D. The Importance of Focus	21
IV. Oversight of Public Financial Institutions in Developed Countries	21
A. Need for Strong Oversight	21
B. Oversight in Practice	22
C. Capital Requirements	24
D. Challenges of Oversight.....	25
E. Principles of Oversight.....	26
V. Conclusions.....	27
References.....	28
Tables	
1. Sample of Public Financial Institutions	8
2. Main Properties of the Public Financial Institutions in Developed Countries	10

I. INTRODUCTION: ACCESS TO FINANCE AND PUBLIC POLICY

A. Access to Finance

We understand access to finance (or financial access) to mean the opportunity for individuals and firms to use, at a fair cost, financial system instruments that facilitate personal and commercial economic transactions, such as:

- Credit instruments;
- Insurance (hedging) instruments; and
- Savings, payment, and remittance instruments.

In the ideal Modigliani-Miller world, individuals and firms can obtain financing to undertake all worthwhile (positive net present value (NPV)) projects. This benchmark result holds subject to a set of restrictive assumptions. Available information should be perfect, contracts complete and costlessly enforced, markets complete and efficient, and transaction costs, taxes, and bankruptcy costs absent. In reality, these restrictive assumptions do not hold. Therefore, it is natural for agents, even in the most financially developed economies, to be unable to obtain financing for some positive NPV projects—access to finance is always imperfect.

However, there are two significant concerns. Firstly, access to finance is **unequal on average across countries**. Agents in developing countries typically have access to a narrower range of financial instruments than that available in more developed economies. Low average access to finance is called insufficient **financial depth**. Secondly, access to finance is **unequal across agents within a country**. Wealthier individuals and larger established firms typically have better access to financial instruments than the middle class and small- and medium-size enterprises (SMEs), because they have accumulated more collateralizable wealth, may have longer credit histories, and, as incumbents, do not suffer from common discriminatory arrangements such as entry restrictions. Financial access for poor individuals and micro enterprises can be severely restricted and may not even be possible at all. Developing countries typically have a higher degree of distributional inequality of access, referred to as insufficient **financial breadth** (see Claessens and Perotti, 2005).

One can relate across-country and within-country variations in access to finance to the closeness of a country's financial system to the ideal Modigliani-Miller benchmarks. Access to finance is deeper and wider under better institutions (more transparency, better property rights) in more developed financial markets, and in an environment less distorted by taxes, unnecessary regulations, and other avoidable costs. Recent literature suggests that access is significantly influenced by institutional factors, such as transparency and a contracting

environment. For a detailed review of the literature on financial access determinants and effects, we direct the reader to Levine (2005).

B. Fundamental Policies

Deepening and broadening of financial access should be an important public policy objective. Better financial access translates into robust **economic growth**, as more firms are able to make profitable investments. It also enhances **financial stability**, for example, by allowing firms to hedge their risks, or more easily obtain refinancing if in financial distress. Lastly, broader access to finance also reflects the values of **social justice** by contributing to equal economic opportunities.

To achieve a fundamental increase in financial access, public policy should target its main determinants—institutional and financial system development.

The principal institutional dimensions are:

- Well defined commercial **property rights**, including:
 - Effective contract enforcement;
 - Collateral pledging and claiming mechanisms;
 - Bankruptcy procedures; and
 - Investor protection and corporate governance systems.
- An environment that fosters **transparency**, including adequate accounting principles and other mechanisms enabling credible disclosure

The principal financial system dimensions are:

- Efficient financial regulation and supervision;
- An ownership structure of financial institutions, reflecting:
 - A clear and focused role for state financial institutions, if they exist;
 - The degree of foreign ownership reflecting the country-specific benefits and costs; and
 - Controls on the negative effects of bank-industry cross-ownership.

- An entry and competition policy that balances entry opportunities with preserving the charter value of financial institutions;
- Crisis resolution tools, such as deposit insurance, liquidity support mechanisms, effective financial institutions bankruptcy procedures; and
- Financial infrastructure, such as the payments system and credit databases.

The institutional and financial system development policies are necessary to achieve a fundamental increase in financial access, and should, therefore, be regarded as a priority. However, there can be a number of problems in their implementation. Firstly, even the best fundamental development policies, especially those targeting institutional improvements, may have very long gestation periods. The government may have the need to provide more immediate transitory solutions. Secondly, there can be genuine market failures restricting access to finance, which cannot be resolved by improving the overall economic environment, but may require more targeted and direct government interventions. The examples of such market failures in financial markets are:

- Insufficient collateral endowment of agents;
- Lack of statistical information (e.g., credit histories) for agents with historically low economic activity, or in volatile economies;
- Incomplete, illiquid, or not deep enough markets;
- Underinvestment in financial infrastructure or the public's financial literacy due to coordination problems and sunk costs; and
- Underinvestment in industries exhibiting positive externalities.

In addition to these economically objective reasons that restrict the effects of fundamental policies, there may be significant political resistance to the fundamental improvement of financial access. The resistance is commonly associated with economic incumbents, who see the widening of the public's financial opportunities as a threat to their domination and monopolistic rents. While such special interests lobbying may lead to socially detrimental results, even a well-intentioned government may be unable to withstand its pressure.

The effects of political resistance can be overt, in the form of the country's unwillingness to adopt fundamental policies. Or they can be subtler, when the design or implementation of formally well-intended policies is "captured" by established interests. As a result, instead of expanding economic opportunity, the "development" policies could end up benefiting a few

who are already better off. Such captures can often be traced, for example, in the analysis of unsuccessful financial liberalizations.

C. Public Provision of Financial Services

When fundamental financial access policies do not work—due to long gestation, genuine market failures, or political opposition—governments may choose to correct for the lack of market-based finance by the public provision of missing financial services. Undoubtedly, well-designed interventions by a “noble” and efficient government can indeed provide transitory solutions to complement long-term development policies and correct financial market failures. But, in practice, governments are commonly not fully “noble,” but influenced by special interests. The efficiency of governments is also commonly limited by bureaucratic incentive structures.

As a result, even when market failures create a theoretical field for social welfare improving interventions, practical **government failures** may in fact be more distortionary than the market shortcomings they were intended to address, and render public involvement undesirable. Put differently, market failures by themselves do not warrant public intervention. Recognizing its limitations, government should act only if it can address the economic imperfection better than the market. In practice, however, governments around the world are often excessively interventionist, in which case their policies may compromise rather than improve social welfare.

There are, therefore, a number of major problems in the public provision of financial services:

- Distortionary, excessive or otherwise **improperly designed interventions**, generated by political pressures or bureaucratic incentives.
- Prevalent **inefficiencies**, including politically connected lending, often to political allies or powerful incumbents (“national champions”).
- **Entrenchment**, reluctance to downsize, reform or liquidate once the market is able to take over their functions. Public financial institutions can create strong vested interests, where their beneficiaries exercise organized political pressures aimed at the preservation of enjoyed rents.
- A major long-term problem is the **delay of necessary fundamental reforms**. Governments tend not to reform unless they absolutely have to, and transitory solutions provide “patches” that reduce pressures to carry out fundamental reforms. Delayed reforms often increase the costs of imminent adjustment.

Therefore, the net economic effect of public financial institutions is ambiguous. On the one hand, a strong case can be made for the merits of public interventions in providing transitory solutions or addressing market failures. On the other hand, the common costly inefficiencies of public financial institutions may not be ignored. Therefore the “big” question, of whether a particular public financial service should or should not be provided, is a highly complex one. This paper aims to address one dimension of this question, taking the standpoint of financial regulators and supervisors, and considering what can be the basis of crafting a regulatory approach to public financial institutions.

D. Regulatory Perspective

Despite the recognized risks and costs, public financial institutions are an important part of the financial landscape around the world. Public financial institutions are commonly associated with developing countries, which turn to them when their growing real sector potential seems to outrun financial system capacities. In practice, however, public financial institutions exist and are often prominent even in the most financially developed countries.

The establishment of government financial services is typically a political decision on which financial regulators may have only limited influence. Therefore, **they view the decision on the creation, preservation, or liquidation of public financial institutions as given.** The relevant question is how the regulators should respond to such decisions. The response should seek to maximize possible benefits of enhanced financial access, while seriously acknowledging potential costs and risk, and seeking to contain them. While possibly not having direct authority, regulators may contribute to the public discussion on the rationale and optimal design of public financial institutions.

Addressing public financial institutions can be a challenging task for financial regulation and supervision. These institutions often have significant systemic, fiscal, and economic policy importance. Yet they frequently suffer from a common lack of market discipline, low profitability, and owner and managerial myopia, which may create significant mismanagement risks. Also, the chance of regulatory forbearance induced by political pressures is high. To perform their functions adequately, regulators need to be equipped with sufficient (international) evidence, where possible, distilled to best practices.

E. Study Scope and Method

This paper seeks to contribute to the analysis of public financial institutions by drawing on the evidence from developed countries. We study a sample of 18 public financial institutions from five G10 countries—Canada, Germany, Japan, United Kingdom, and United States. We focus on public interventions facilitating finance in three most commonly targeted sectors—

housing, SMEs and innovative firms, and agriculture. The public financial institutions included in our sample are shown in Table 1.

Table 1. Sample of Public Financial Institutions

	Housing	SME/Innovation	Agriculture
United States	Fannie Mae/Freddie Mac, Federal Home Loan Banks	Small Business Administration Credit Guarantees Program	Farm Credit System
Canada	Canada Mortgage and Housing Corporation	Business Development Bank of Canada, Canada Small Business Financing Program	Farm Credit Canada
United Kingdom		Small Firms Loan Guarantee Program, High Technology Fund / Regional Venture Capital Funds	
Germany	KfW Foerderbank	KfW Mittelstandsbank	
Japan	Japan Housing Loan Corporation	National Life Finance Corporation, Japan Finance Corporation for Small and Medium Enterprise, Shoko Chukin Bank, Development Bank of Japan	Japan Agriculture Finance Corporation

We examine evidence on three dimensions of public financial interventions: **Rationale, Organization, and Oversight**. Within rationale, we study whether the declared or understood rationale is valid, and whether the intervention is outdated, excessive, or otherwise wrongly designed or implemented. Among the organizational features, we address the financial instruments that are provided, financing mechanisms, profitability, and ownership. In oversight, we examine how government exercises its control rights— through the mechanisms of governance structures (typically CEO and board appointments) and external regulation and supervision—and draw conclusions in respect of the best practices of public financial institutions’ governance and regulation.

Our reading of the findings is twofold:

Firstly, we find that public financial institutions even in developed countries may have an unclear or outdated economic rationale, be entrenched and inefficient, distort rather than complement markets, and be a potential source of significant systemic and fiscal risks. The extent of the inefficiencies in the developed countries is a strong caution for the developing

world, where government accountability mechanisms and the institutional environment may be less developed.

Secondly, we identify dominant trends in the organization and regulation of government financial services, which may provide a useful reference point. However, these practices may not be suitable for direct adoption in the developing world. Organization and regulation of financial services in developing countries may require different arrangements, particularly in those with lower regulatory capacity, lagging institutions, and less accountable and effective governments.

The rest of the paper is organized as follows: Table 2 summarizes the characteristics on key dimensions of the sample of public financial institutions. Sections II to IV address in more detail the dimensions of public financial institutions' rationale, organization, and oversight. Section V concludes.

Table 2. Main Properties of the Public Financial Institutions in Developed Countries (Summary Table)

Public Financial Institution	Country	Industry	Intervention			Financing				Oversight			
			Principal Instrument(s)	Assets + guarantees, % GDP	Operational financing	Government guarantees on liabilities	Intended profitability **	Subsidies (direct or by guarantees)	Ownership	Government appoints CEO or Sr Mgmt?	Board composition ***	Routine external financial supervision	Prudential requirements as in the private sector
1 Fannie / Freddie	US	Housing	PS, MS	14.5 + 19	Mkt	Implicit	For profit	Implicit	Private	No	Independent	Dedicated	No, 2.5% cr
2 FHLBS	US	Housing	IL	7.5	Mkt	Implicit	For profit	Implicit	Banks' coop	No	Coop membs	Dedicated	No, 4% cr
3 SBA Guarantees	US	SME	CG	0.4	Govt	n/a	Subsidized	Explicit	Within executive	Yes	n/a	None	n/a
4 Farm Credit Sys	US	Agriculture	IL	0.8	Mkt	Implicit	For profit	Implicit	Banks' coop	No	Coop membs	Dedicated	No
5 CHMC	Canada	Housing	DL, MS, CG	7.4	Mkt	Explicit	For profit *	Implicit	Public	Yes	Industry	None	Voluntary compliance
6 Business Dev Bk	Canada	SME	DL, LP	0.7	Mkt	Explicit	Break even	Implicit	Public	Yes	Industry	None	Close, simplified
7 CSBFP	Canada	SME	CG	0.05	Govt	n/a	Subsidized	Explicit	Within executive	Yes	n/a	None	n/a
8 Farm Credit Can	Canada	Agriculture	DL, LP	0.9	Mkt	Explicit	Break even	Implicit	Public	Yes	Industry	None	No
9 SFLG	UK	SME	CG	0.06	Govt	n/a	Subsidized	Explicit	Within executive	Yes	n/a	None	n/a
10 HTF and RVCF	UK	SME	LP, IL	0.02	Govt and Mkt	No	n/a	n/a	Public	Privately managed investment, oversight as in the private sector	n/a	None	Voluntary compliance
11 KfW Foerderb.	Germany	Housing	IL, PS	3.7 + 3.5	Mkt	Explicit	Break even	Implicit	Public	Yes	Govt, Labor, Ind-ry, Indep	None	Voluntary compliance
12 KfW Mittelstandsb.	Germany	SME	DL, IL, PS	4.2	Mkt	Explicit	Break even	Implicit	Public	Yes	Managers	Shared	No
13 J Hous Loan Corp	Japan	Housing	DL	11	FILP	Explicit	Break even	Implicit	Public	Yes	Managers	Shared	No
14 NLFC	Japan	SME	DL	1.8	FILP	Explicit	Break even	Implicit	Public	Yes	Managers	Shared	No
15 JASME	Japan	SME	DL, CG	1.4 + 5.6	FILP	Explicit	Break even	Implicit	Public	Yes	Managers	Shared	No
16 Shoko Chukin Bk	Japan	SME	DL	1.8	Mkt	Implicit	Break even	Implicit	Publ + SME coop	Yes	Coop membs	Shared	No
17 Dev Bank of J	Japan	SME	DL	2.7	FILP	Explicit	Break even	Implicit	Public	Yes	Managers	Shared	No
18 Agri Fin Corp	Japan	Agriculture	DL, IL	0.7	FILP	Explicit	Break even	Implicit	Public	Yes	Managers	Shared	No

Sources : Public documentation of the institutions surveyed (e.g. Annual Reports, web sites, etc.)

CG = Credit Guarantees

DL = Direct Lending

IL = Intermediated Lending

LP = Market Liquidity Provision

MS = Market Securitization (guaranteed)

PS = Public Securitization

* Except direct lending activities, where Break even

** Break even point may be absolute or relative to the cost of financing

*** Actual domination on the board of directors

II. RATIONALE OF PUBLIC FINANCIAL INSTITUTIONS IN DEVELOPED COUNTRIES

This section is based on a review of official documents (e.g., annual reports or budgetary documentation) and official information material (from official websites) of the surveyed public financial institutions. All institutions relate the need for their presence to market incompleteness, market failures, or externalities. The rationales can be stated in more or less formal terms (be derived from formal legislation, government programs, or just policy understandings), but are largely similar in content across countries. Differences in emphasis can be traced to current or historical financial system structures or policy goals (e.g., degree of paternalistic welfare concerns).

Further, we systematically review the suggested economic rationales for public financial institutions and analyze whether such rationales indeed provide a valid justification for public intervention.

A. Housing Finance

Market incompleteness (underdevelopment)

There are a number of reasons for markets' possible underperformance in housing finance. Individuals demand long-term and commonly fixed-rate mortgages, while banks are commonly financed primarily by demandable deposits. Banks that offer long fixed-rate mortgages become exposed to a number of significant financial risks:

- Liquidity risk – should depositors decide to withdraw unexpectedly, a bank may be unable to repay them, as long-term mortgages are nearly impossible to liquidate; and
- Interest rate risk – should short-term interest rates rise, the costs of new deposits for the bank would increase, reducing or rendering negative the bank's margin.

The bank's ability to provide mortgages depends on whether it can hedge these risks. Hedging opportunities depend on financial market development:

- Liquidity shortages can be covered by short-term bridge borrowing, which requires sufficiently deep money and bond markets; and
- Interest rate risks can be hedged by interest rate derivatives, such as swaps. This requires developed interest rate derivatives markets. Alternatively, they can be avoided by long-term, fixed-rate borrowing by banks themselves. Such long-term funds can be provided by a developed private pensions or life insurance industry.

In addition to liquidity and interest rate risks, there is mortgage credit risk. That risk can be systematic and difficult to diversify, particularly when house prices are correlated within and across geographic regions, and co-move with the business cycle. The mortgage risk management problems are further amplified by the mere volume of mortgage finance required to respond to the housing needs of a growing economy.

Social concerns

In some countries (e.g., Canada), the need for appropriate housing is a part of the government's welfare policy agenda. This gives rise to the policy of social housing, for which preferential financial access may be one mechanism.

B. Small- and Medium-size Enterprises/Innovation Finance

Market failures in SME finance

Potentially, long-term creditworthy small- and medium-size enterprises (SMEs) may have difficulty in obtaining initial credit from commercial banks. The underlying reasons are the lack of collateral or credit history, and the high transaction and agency costs of small-scale lending. As a result, long-term, creditworthy SMEs may get “trapped;” by not getting financing today, they are deprived of business opportunities, cannot accumulate collateralizable assets or develop credit history, nor can they increase the scale of their business to become more attractive to borrowers in the future.

Market failures in innovation finance

Innovation finance, e.g. venture capital, is a sophisticated activity, which requires significant sunk investments in expertise and relies on risk sharing between a number of specialized markets. In a simplified way, the innovation finance chain can be represented as early-stage financiers selling maturing ventures to later-stage investors, who in turn exit through an IPO or a merger. Innovation investment would not take place unless specialized financiers are confident in the liquidity of their exit markets. Therefore, innovation finance requires simultaneous depth of a number of markets, which may fail to happen by itself due to low economic activity or coordination problems, thus creating a field for public intervention to foster the liquidity of innovation markets.

Externalities

SMEs are universally regarded as a major source of employment in the economy. Smaller and innovative firms are also seen as keen adopters of new technologies, producing positive spillovers on the rest of the economy.

Community finance

There is a distinct set of market failures in housing and SME finance that relate to deficient financial access in remote or poor regions or neighborhoods, so-called “community finance” issues. Individuals and businesses in communities with historically undersupplied finance lack not only collateral and personal credit history, but also suffer from the paucity of community-specific statistical information, making lending to them ever more risky and unattractive (in the absence of information, banks may assume the worst or just refrain from lending due to being unable to quantify the risks). As a result, whole communities can be “trapped” in low financial access triggered by unresolved community-wide statistical

uncertainty. Geographic remoteness from major financial centers of financially consolidated economies can be an additional problem.

Also, undersupplied community lending may be associated with “**capital drain**,” where communities deprived of credit still have access to savings facilities, but with received funds being invested elsewhere. As a result, the savings of capital drained communities do not contribute to the local economy. The typical solutions to the capital drain problem are public (such as Spaarkassen or Landesbanken in Germany) or directed (such as the Community Reinvestment Act in the U.S.) **community reinvestment** schemes.

C. Agriculture

Market failures

Agricultural production is subject to highly systemic shocks, with some of them being close to catastrophic—low crop yields or diseases. Other shocks include agricultural commodity price movements and export fluctuations. At the same time, agriculture critically depends on effective and smooth financing. Farming is a low-yield but capital-intensive industry, with long gestation periods. Credit is required to achieve efficient resource allocation: facilitate transitions in and out of business, and allow smooth intergenerational agricultural asset transfers. Due to significant risks coupled with low profitability and long gestation periods, markets may be unable to provide the desired level of credit, particularly to small/family farmers.

Externalities and rural financial access

Agriculture is regarded as an important source of employment for the economy. Also, some agricultural production takes place in remote areas, creating a need for universal coverage, which markets may find hard to provide.

D. Are These Rationales Always Valid?

We have outlined above the possible valid economic rationales for public intervention in the provision of financial services. The described market failures are economically plausible, and, should they exist, an efficient government may address them with well-designed interventions, thereby increasing social welfare. However a deeper analysis reveals that a significant number of public financial institutions in developed countries either operate on an outdated or questionable economic rationale, or are excessive in their scope and therefore distort the markets and likely reduce social welfare.

Outdated rationale: housing finance

Public programs of housing finance provide a striking example of significant public involvement in financial markets, operating on a mostly outdated rationale. Most surveyed housing finance programs were launched in the first half of the twentieth century against the background of underdeveloped financial markets and banks financed predominantly by local

deposits. Government intervention was beneficial, helped create housing finance infrastructure, and gave a strong impulse to the development of private mortgage markets alongside public institutions. However, there is no doubt that today's financial markets in developed economies can provide most services supplied by public housing finance institutions. The only area where government intervention may still be warranted is the financing or construction of social housing projects, but it is not clear whether preferential lending is the right modality of intervention there.

Public housing finance institutions were not responsive to the development of the financial markets, and failed to downsize accordingly. In addition to creating market distortions, continued government intervention poses significant fiscal and financial stability risks. In the U.S., the total volume of government-sponsored housing lending and guarantees stands at about 40 percent of GDP, and while that number is smaller in Canada, Germany, and Japan—being in the region of 7 percent to 10 percent of GDP—it is still significant. House price shocks can lead to significant losses for government housing finance institutions, whose exposures are concentrated in the single sector. Should institutions be in financial distress, government may need to bail them out to preserve financial stability. Real estate is a primary source of collateral and the deterioration of housing finance markets may lead to a profound credit crunch. However, the bail-out of such large financial institutions would be associated with substantial fiscal costs.

Excessive intervention: SME finance

Public SME finance programs are typically much smaller in scale than housing finance interventions and do not pose systemic risks. Still, public funds can be a large share of the SME finance market, and, if improperly targeted, may compete with private credit, creating inefficiencies and market distortions. It is a matter of concern that some government SME lending programs (e.g., in Canada or Japan) provide credit also to medium-sized and larger firms, which, if creditworthy, should, in principle, be able to obtain market financing. In addition to crowding out the private sector, such public intervention may be internally wasteful, with predominantly lower-quality firms rejected by private lenders applying under public programs.

E. Other Common Types of Public Financial Institutions

In this subsection, we mention some other sectors which are commonly targeted by public financial institutions, but which are not covered in our sample.

Most developed countries have public education and healthcare finance programs, rationalized by positive economic externalities and social concerns. Government often facilitates financing for infrastructure and transport projects, which commonly require long-term, fixed-rate finance not easily available on the markets (see a discussion of similar

problems in mortgage finance), can have positive externalities, and are sometimes seen as public goods.

Most countries have public financial institutions supporting exporters, rationalized by positive externalities as well as international contracting problems.¹ Export projects benefit the economy by improving the current account and helping establish a foothold in new markets. At the same time, exporters carry foreign exchange, political, and foreign contracting risks, and the government may assist them in bearing such risks.

Governments also often commonly provide catastrophe insurance (or reinsurance)—hedging instruments against natural disasters, crop failures, and terrorism. Catastrophic events are rare but carry very large losses. The statistical uncertainty about the risk prevents market participants from estimating adequate premiums, while potential losses can be so high that markets can be unable to refinance insurers in severe circumstances.

Many governments are traditionally involved in the provision of social insurance, including health insurance and pensions. Also, governments and central banks commonly provide special services to the financial sector, e.g., they invest in financial infrastructure, such as the payments system, and offer crisis resolution and emergency liquidity assistance mechanisms, including deposit insurance and last-resort lending.

Lastly, many governments in developing countries sponsor poverty-related microfinance programs. Microfinance is different from other public financial access interventions in its long-term emphasis on empowering the clientele. Very poor individuals may have a demand for small-scale savings, credit, insurance, and remittance instruments. Providing them with financial access is socially desirable, but often unprofitable due to high transaction and agency costs. It is hoped that beyond immediate social support and poverty alleviation, the longer-term effect of microfinance should be the inclusion of recipients in the mainstream economic and financial system. While there are positive examples of self-sustaining private microfinance operations, a substantial government subsidization or organizational involvement is still most commonly required. Similar issues exist for access to finance in geographically remote or insecure areas. An additional rationale for providing access is the need to foster integration between those areas and the rest of the country.

¹ It may be costly or impossible for private agents to enforce rights against counterparties in foreign jurisdictions, while the government may have more channels for commercial conflict resolution with other sovereigns.

III. ORGANIZATION OF PUBLIC FINANCIAL INSTITUTIONS IN DEVELOPED COUNTRIES

A. Typical Financial Instruments

We distinguish six distinct financial instruments that are provided by the sample of public financial institutions (see Table 2, column 1).

- **Direct lending** to ultimate borrowers.
- **Intermediated lending** – providing credit to private lenders (e.g., commercial banks), earmarked for further intermediation to the designated sectors or firms.
- **Public securitization**—purchasing existing loan portfolios of private lenders.
- **Guaranteed market securitization** – guaranteeing private lenders’ loan-backed or mortgage-backed securities (LBS, MBS).
- **Credit guarantees** on private loans to, and securities issuance by, ultimate borrowers.
- **Market liquidity provision** – public portfolio investments aimed at increasing the financial market’s depth.

Any provision of public credit typically involves a degree of subsidization along price (interest rate) or nonprice dimensions of the lending contract. This is natural, because nonsubsidized credit can equally be provided by the markets. The rest of this subsection addresses some trade-offs in the choice between different financial instruments provided by public financial institutions.

Direct versus intermediated financing

Intermediated public finance outsources to the private sector borrower screening, monitoring and retail relationship management functions—areas where public institutions may be relatively inefficient. Ideally, by engaging the private lenders, intermediated financing can also contribute to the development of financial markets.

Public financial institutions that provide direct lending may operate as first-tier banks, providing services through retail chains. We find a number of such institutions in our sample (Canada, Japan). There can be two possible rationales for the direct provision of credit. One can be the need for universal coverage, such as in agriculture finance. Another can derive from synergies with nonlending operations, such as consulting services extended by public financial institutions to small businesses or agricultural producers. It remains unclear, however, even with these economic reasons in place, whether it may be more efficient to procure retail network and consulting services from the private sector.

There may be another reason for direct lending, but applicable more to developing countries. Intermediated finance creates an additional layer of agency costs in public lending; therefore, its efficiency critically depends on the government's ability to contract with private lenders. In many developing countries, public procurement is not well developed and may be associated with even higher inefficiencies than direct public provision of services. Improperly designed public lending or guarantees may lead to soft budget constraints and the deterioration of private screening and monitoring incentives. Nontransparent contracting between government and commercial banks may breed corruption. Private lenders may become engaged in rent seeking (e.g., by lobbying for program expansion) rather than concentrating on the prudence of lending.

There are a number of mechanisms that can be used to alleviate agency problems in intermediated public finance.

- **Caps on lending or guarantees** extended to a given private lender in a given period can induce the lender to be more selective in choosing borrowers. They can also restrict incentives for rent seeking by lobbying for program expansion.
- **Periodic reviews of credit quality**, with a system of performance-based bonuses and sanctions.
- **Substituting lending with “smart subsidies,”** in the form of ex-post grants to ultimate borrowers who have successfully repaid private lenders on commercial terms. Such interest rate subsidization bypasses banks and, hence, may be less distortionary to their screening and monitoring activities. On the other hand, smart subsidies can lead to over-borrowing and be organizationally challenging to implement.

The optimal solution to the direct versus intermediated public finance trade-off depends on the relative size of public and private sector agency problems. However, since governments are intrinsically likely to be over-intrusive, it is advisable to see intermediated lending **as a** default approach of the two, unless a clear case can be made otherwise.

Lending versus guarantees

Another trade-off is between public lending (direct, intermediated, or public securitization) and guarantees (credit guarantees or market securitization). Guarantees can engage private lenders more deeply, and, therefore, be beneficial for financial market development. Limited guarantees may help preserve private screening and monitoring incentives.

Guarantees do not require public resources at the time of underwriting, and afterwards rely on them also only in a limited set of contingencies. On the surface, this may be fiscally

prudent, as the initial use of public resources is minimized. However, the fact that guarantees do not require public money upfront may create the conditions for laxity in financial discipline in guarantee underwriting. Unless strict controls are in place, there is a danger of extending too many guarantees too easily, without proper risk assessment or preparation of contingency plans for the coverage of future losses. Our review of annual reports and other documents of public financial institutions reflected the scarcity of information on risk assessments for guarantees. This suggests that this dimension may not be receiving the necessary attention and could pose unaccounted fiscal and potential financial stability risks. Accountability issues are likely to be of critical importance in public guarantee programs in developing countries.

Recent trends in public financing

Often, SMEs have good access to senior debt, but suffer from the inability to raise junior debt or equity. Mezzanine financing (debt convertible into equity in the case of the company's underperformance) is often used in private venture capital, and is regarded as an instrument most suitable for alleviating moral hazard problems in entrepreneurial finance. In the last decade, some public financial institutions in our sample, such as the Business Development Bank of Canada (BDBC) and KfW Foerderbank, have acknowledged these financing needs, and started providing SMEs with more sophisticated financial instruments. Regional Venture Capital Funds in the U.K. makes equity investments in private regional investment companies, supporting their equity investments in local businesses.

When financial market performance is compromised by insufficient depth, the government may intervene to enhance market liquidity. Additional depth contributes to market activity, reduces risks and costs of trading, creates conditions for more informative prices, and stimulates investment in infrastructure and specialized expertise. High Technology Fund in the U.K., and the analogous programs within the BDBC and KfW Foerderbank, invest public money in venture capital markets through privately run commercial fund-of-funds. Such an arrangement allows the outsourcing of investment picking to the private sector. Public investment funds are open to private co-financing on market terms.

While public investment companies and venture capital funds represent a possibly efficient and not distortionary mechanism of public intervention, it should be kept in mind that equity and especially venture capital investments are risky. The venture capital program of the BDBC made losses in five out of seven years of operations (maximum loss was 20 percent of investment in 2002/03). While such performance may be a part of a normal returns pattern for venture capital investments (in fact, BDBC is reported to have done as well or better than the Canadian VC market on average over that time frame), this may lead to budgetary controversies in public institutions.

Directed lending

Another mechanism, often used by governments for stimulating the financial access of sectors, but not covered in this study, is **directed lending**, where banks are obliged to devote a share of lending to defined preferential borrowers. Such restriction on activities represents an implicit tax, but with uncertain and hard-to-measure monetary value. The potential hazard of ill-designed directed lending programs is that they can compromise the soundness of financial intermediaries. The U.S. Community Reinvestment Act is an established example of a directed lending program.

B. Financing

Typical arrangements

Most surveyed public financial institutions **finance their lending operations by borrowing from financial markets** (Table 2, column 3). While there may or may not be explicit government guarantees on the public financial institutions' debt, **markets always perceive an implicit guarantee** (Table 2, column 4). Most public lenders are **formally intended to break even**, but have an **implicit subsidy in the form of preferential market access** (courtesy of government guarantees—Table 2, column 6), and, occasionally, tax breaks and simplified regulation (Table 2, columns 10–11).

Japan had a special mechanism (currently under reform) of public lender's borrowing—the Fiscal Investments and Loan Fund. The Fund issues government-guaranteed bonds (mostly acquired by Japan Post), and makes proceeds available to public lenders at market rates that are benchmarked by policy-adjusted rates.

Subsidization and government guarantees

The implicit subsidy stemming from guarantees should not necessarily be regarded as a sign of inefficiency. The lower profitability of public financial institutions is explained by the fact that they fulfill social (policy) goals and lend to less creditworthy or profitable borrowers, who are not well financed by the market. Therefore, a degree of subsidization may be a natural outcome.

The U.S. case exemplifies that financial markets always perceive government guarantees despite possible official statements to the contrary. It stems from the institution's systemic and policy importance and general close affiliation with the government. Market exposures to public financial institutions stemming from perceived guarantees may indeed render government intervention ex-post necessary in the case of financial trouble.

The main concern here is the accountability of government guarantees on public financial institutions' debt. It seems prudent to accurately estimate government exposures and

establish fiscal contingency plans. This is particularly important, since many types of public financial services, such as housing or agriculture finance, are associated with large, undiversified exposures. The assessments of the value of received guarantees and of possible government fiscal risks were commonly lacking in the public accounts of institutions in our sample.² From the standpoint of accountability, it may be advisable to adopt **explicit guarantees as a default solution**.

Credit guarantee programs

Credit guarantee programs typically target the smallest firms which lack bankable collateral, making them high-risk borrowers. As a result, credit guarantee programs are commonly loss-making and therefore explicitly subsidized by the government. The specter of possible losses observed varies from 2.6 percent of lending in Canada to 35 percent of loans that default in the U.K. The losses should not necessarily be seen as a sign of inefficiency, rather they can reflect a proper focus on the smallest new firms (see Graham Review, 2004).

C. Ownership

Our sample provides examples of a wide range of public financial institutions' ownership structures (Table 2, column 7).

- Wholly government-owned, nonprofit corporations – the most common ownership structure.
- Programs within the departments of the executive – typically smaller scale with a narrow focus, such as credit guarantees

The United States has adopted an approach (in some cases) of privately-owned, publicly-chartered financial services:

- Private for-profit corporations—Fannie Mae and Freddie Mac.
- Private bank-owned cooperatives—Federal Home Loan Banks and Farm Credit System.

Another example of the public-private approach is the Shoko Chukin Bank of Japan, currently planned for privatization, which is a jointly, publicly-privately owned corporation with government majority.

² The annual U.S. Budget document did provide some assessment of fiscal exposures.

The United States experience seems to suggest caution on the merits of public ownership or co-ownership of policy-driven corporations. The potential virtues of deeper private involvement, such as improved efficiency or better governance, appear to be limited in practice. At the same time, the option value of the government guarantee creates opportunities and incentives for private owners to seek rents through the socially inefficient expansion of the institution's operations.

D. The Importance of Focus

Beyond lack of efficiency and accountability, the two major problems associated with public financial institutions are the **uneven playing field** that they create and their **entrenchment**.

Uneven playing field: Public financial institutions, including those in our sample, commonly have access to cheaper funds and enjoy less regulation. On this uneven playing field, they may out-compete and crowd out potentially more efficient private counterparts. Reform or downsizing of public financial institutions is complicated by the numerous vested interests they create. Vested interests commonly stem from financing recipients as well as lenders benefiting from government support.

Entrenchment: Any public financial institution is likely to enjoy a preferential competitive position and create some vested interests. However, the negative effects can be minimized if the activities of the institution are narrowly focused on the underlying financial market failures. Such narrow focus restricts activities to those that are not performed by markets, alleviating public-private competition. Limiting activities reduces the number of recipients and the vested interests, and helps reform, restructure, or downsize the institution, should that be required in the future. Narrowly-focused institutions are typically more transparent, and, therefore, easier to oversee and govern.

A narrow focus on market failures can therefore be seen as a major precondition for the efficiency of public financial institutions. Optimally, their activities should be undertaken only in response to researched, verified, and tracked marketplace gaps.

IV. OVERSIGHT OF PUBLIC FINANCIAL INSTITUTIONS IN DEVELOPED COUNTRIES

A. Need for Strong Oversight

Should the financial supervision of public financial institutions be less or more stringent than that of private ones? On the surface, the answer is ambiguous, as there may be arguments in favor of either looser or more stringent oversight. Arguments for looser oversight are that public financial institutions are nonprofit and, therefore, have lower profit-seeking, risk-taking incentives. They also enjoy more stable and longer-term financing sources and have a commitment of government support in the case of financial distress. However, we believe that the arguments for the need of more stringent oversight are more powerful:

- **Public financial institutions are likely to have higher risks.** While risk-taking incentives may be lower, risks inherent in the activities seem to be much higher. The housing and agriculture sectors are characterized by high systematic risks. Also, the volatility of the SME sector is typically above economy average. The high risks are amplified by the low diversification and low profitability of the public financial institutions.
- **Public financial institutions are likely to have worse managerial incentives.** Close government affiliation may create a bureaucratic environment that accommodates low transparency, under-reporting of risks, and concealment of losses. Due to government guarantees, public financial institutions are exposed to **limited market discipline**. Lastly, there may be incentives for low-quality, politically driven **connected lending**.
- **The financial distress of public financial institutions may have severe implications,** particularly when such institutions are large and have systemic importance. They provide financial services that are missing on the market and their failure may leave target industries (e.g., agriculture) without financing, or even result in an economy-wide credit crunch (as for housing finance). The failures of public financial institutions also carry significant fiscal risks, with high costs of necessary additional taxation.

Keeping these arguments in mind, the supervision of public financial institutions should ideally be at least as stringent as that of private ones.

From the regulatory perspective, public financial institutions have much in common with “too-big-to-fail” (TBTF) banks. Both enjoy implicit or explicit government guarantees that reduce market discipline. The financial distress can lead to systemic instability and large fiscal costs. Lastly, corrective action is problematic—such institutions cannot be easily liquidated or put under external management, recapitalizations are costly, and regulatory intervention may be sensitive in terms of market or political impact. Because characteristics are similar, the supervisory practices for TBTF banks can provide a useful reference. For example, recognizing the difficulty of corrective action for TBTF banks, some regulators adopt so-called “**preventive supervision**,” where continuous inspection by permanently placed and dedicated on-site teams is designed to reveal and nip in the bud any problems before they become too large and costly to handle.

B. Oversight in Practice

In well-functioning systems, government financial institutions are subject to multiple layers of possible stringent **administrative oversight** and **audit**. For example in Canada public financial corporations are overseen by the ministries in charge and, through the approval of

annual plans, also by other central agencies (including the treasury); they also have their financial statements audited externally by a private-sector auditor and the Auditor General of Canada, and are subject to a special examination conducted by the Auditor General of Canada every five years. Co-financing by the private sector may create incentives for additional scrutiny and impose some market discipline.

In addition to administrative oversight, governments typically exercise control by **corporate governance** mechanisms. In many of the government-owned institutions studied, the government appoints the CEO and the Board (Table 2, columns 8–9). The Board may consist of public officials, industry representatives, or independent directors (such as CEOs from other industries).

Yet, routine **financial supervision** may still be helpful and necessary to ensure prudence in such aspects of financial operations as adequate risk management assumptions, or the control of large (and systemically important) exposures with the rest of the financial sector. This is the aspect of oversight that we find lacking in our sample. In contrast to the stringent oversight one might have expected, given the risks and the systemic nature of public financial institutions, the surveyed government-owned financial institutions typically do not have routine external financial supervision. In particular, none of them is fully supervised by the principal financial sector supervisor (Table 2, column 10). Government financial institutions in Japan submit their annual reports to supervisors, but are not subject to the routine inspections regime.

Dedicated and shared supervision

Government-sponsored financial institutions in the U.S. are supervised by dedicated offices, —Office for Federal Housing Oversight for Fannie Mae and Freddie Mac, and Federal Housing Finance Board for Federal Home Loan Banks. Some form of external supervision is considered essential, because in the U.S. the financial institutions are privately owned, and it is the shareholders or cooperative members who exercise corporate governance functions and appoint CEOs and the Boards.

The benefits of dedicated rather than general external supervision of public financial institutions are not clear. Dedicated supervisors may have less experience and resources than mainstream supervisors, and are a likely target for regulatory capture. On the other hand, the supervision of public financial institutions may be viewed as special due to low profitability and un-diversifiable risks typically involved in public financial intermediation. It also likely breeds political conflicts. In such a case, the government may wish to avoid burdening otherwise efficient mainstream financial regulators with problem institutions and choose a separate organizational arrangement instead.

The performance of public financial institutions should be assured also for the achievement of entrusted policy aims, which may be best done by the ministry in charge of the relevant industry. This creates a situation in which financial and policy supervision is shared between two separate offices, resulting in a major challenge regarding the distribution of enforcement authority. Inspections may lose effectiveness if the supervisor is unable to enforce necessary corrective action. At the same time, corrective actions may lead to conflicts between financial and policy supervisors, for example, when limits on lending to improve capitalization compromise policy performance. In our sample, Japan represents a case of supervision shared between the financial supervisor and the ministry in charge. While the financial supervisor may review major financial documents, it has limited inspection rights, and can implement corrective action only through the ministry in charge. It is not clear whether such an approach is conducive to financial soundness, or whether a more equal distribution of authority may, in principle, be advised.

C. Capital Requirements

Based on the risk profile with higher and un-diversifiable risks, one would expect public financial institutions to operate under, at least, similar if not more stringent prudential requirements than for private banks. However, we do not observe this in practice (Table 2, column 11). A majority of studied public financial institutions do not have any capital requirements. Some, e.g., in Canada and Germany, voluntarily comply (i.e., operate in a manner consistent) with the major prudential requirements imposed on private banks. Others, such as Fannie Mae, Freddie Mac, and Federal Home Loan Banks in the U.S. have significantly lower capital requirements.

We believe that one can explain this pattern by considering the role of capital in public financial institutions more closely. In private banks, capital has two major roles: reducing shareholders' risk-taking incentives and providing a cushion in case of financial distress. In public financial institutions, the disciplining function may be redundant, as the owner (government) and managers may have limited risk-taking incentives anyway. As for the insurance function—where a private bank has to draw on its capital to cover possible losses or otherwise go bankrupt—public financial institutions may turn to the government and use its guarantees. Therefore, we interpret our findings on prudential requirements in the studied public financial institutions as the evidence of substitution of capital by government guarantees.

Is such substitution desirable? On the one hand, there may be an economic efficiency rationale for it. When loss events are rare, government may be better off by not investing taxpayers' money in an idle capital cushion, but rather using its deep liquidity to always cover losses in the case of financial distress ex-post.

On the other hand, using guarantees instead of capital may create major accountability challenges. Firstly, fiscal risks need to be properly accounted, but such measurements and contingency planning seem to be commonly lacking in the studied institutions. Secondly, capital requirements impose natural limits on the expansion of an institution's activities – there can be no lending above the threshold defined by existing capital and capital requirements. Guarantees do not provide such automatic limitation. Instead, they create incentives for expanding operations, in order to capitalize on their option value. Therefore, and given pervasive accountability problems in private financial institutions, it seems advisable to rely on capitalization rather than guarantees as a default solution.

D. Challenges of Oversight

There are a number of specific challenges in the oversight of public financial institutions, compared to private banks.

- Critically, there may be a within-government conflict of interests between its functions as an owner and a supervisor.
- Preserving financial performance may require a reduction of lending or recapitalizations, which the government may be hesitant to undertake.
- Independence of external supervisors may be compromised by political pressures.
- The lack of market discipline reduces the information content of prices, and deprives regulators of an important source of information.

Independent boards may be one of the mechanisms to alleviate opacity, contribute to independent supervision, and help resolve within-government conflicts of interest. However, while occasionally present (in the U.S.), independent boards are generally lacking in the public financial institutions of our sample. In Canada and Germany, boards commonly include a large proportion of industry representatives, who, although possibly possessing relevant skills, may represent their own vested interests. For example, real estate managers on the board of housing finance corporations are likely to favor the expansion of activities. Most government financial institutions in Japan have managerial boards with no outside membership. A similar board membership problem applies to developing countries, where, as Marston and Narain (2004) report from a broader sample of public financial institutions, there is commonly no independent representation on the board.

Increased **disclosure** may be another way to improve transparency. A lot of public financial institutions have simplified accounting and disclosure requirements, often rationalized as a means of reducing costly paperwork. However, the merits of such savings, compared to the costs of the opaque and unaccountable environment they contribute to, are questionable. For most surveyed public financial institutions, there is a clear need for greater disclosure of financial performance (including risk assessments) and of performance in meeting defined policy objectives.

E. Principles of Oversight

For the purpose of guiding policy-makers and supervisors in improving efficiency and reducing risks of public financial institutions, it would be most useful to have distilled best oversight practices. However the existing evidence and conceptual understanding of the functioning of public financial institutions seem to still be insufficient to formulate clear, unambiguous, and widely applicable best practices.

At present, there are two major suggestions on the dimensions of such best practices.

The Organization of Economic Development and Cooperation's (2005) **Guidelines for the Corporate Governance of State-Owned Enterprises** consists of six chapters, addressing:

1. An effective legal and regulatory framework
2. The state acting as a [responsible] owner
3. Equitable treatment of shareholders
4. Relations with stakeholders
5. Transparency and disclosure
6. The responsibilities of the board.

In Fiechter and Kupiec (2004), the authors outline ten **Principles for the Effective Supervision of State-Owned Financial Institutions**. The principles derive from the Basel Core Principles of Banking Supervision and emphasize the regulator's independency, ability to oversee capital adequacy, disclosure, and risk-management practices, and enforce corrective measures if necessary.

The analysis of our sample suggests the following contributions to the development of future best principles for the oversight of public financial institutions:

- The Principles need to reflect the substitutability between regulation / supervision and the corporate governance mechanism in controlling the performance of public financial institutions.
- The Principles need to put maximum emphasis on the transparency of public financial institutions, as this dimension seems both currently lacking and difficult to achieve due to limited market discipline.
- The Principles need to clearly address the issue of different financial and institutional jurisdictions, and the possible resulting divergence of optimal oversight structures. In

particular, developing countries may benefit from keeping a more robust external regulation and supervision approach to public financial institutions in addition to strengthening governance mechanisms.

V. CONCLUSIONS

This paper studied a sample of 18 public financial institutions in developed countries. There are genuine financial market failures that public intervention may correct, and, indeed, there are some examples of well-designed public interventions. Yet, from this broad sample we have identified a number of concerns about the operations of public financial institutions. (These results are based on generalization and should not be regarded as applying to all institutions in the sample.)

Many of the studied public financial institutions in developed countries suffer from inefficiencies apparently stemming from the excessive scope of intervention. In some cases, their activities may be wasteful and distortionary, and even pose risks to the stability of the financial system. Explicit or implicit government guarantees constitute contingent public expenditures, and effectively transfer risks to the taxpayers. Some public financial institutions in the sample suffer from weak accountability and oversight arrangements, and their reforms may be compromised by pervasive entrenchment.³

These results give a further caution to developing countries wishing to expand public provision of financial services. In deciding on the scope of public involvement in financial markets, the reasons for actual or presumed credit market failures should be examined more closely. An analysis should focus on the possibilities of addressing them with more “market-friendly” and long-term market development policies, such as better regulation, improved property rights, higher transparency, etc. In case of doubt, countries may be better off foregoing public development banks altogether, or at least should seek to minimize their scope. At the same time, more investment in the accumulation of evidence and formulation of best practices in the organization and oversight of public financial institutions seems warranted and necessary.

³ In addition to prudential and fiscal aspects discussed in this paper, the reliance on public banks may also have consequences for the conduct of monetary policy. When credit is intermediated under artificial (nonmarket) interest rates, this may hamper the normal transmission mechanism.

REFERENCES

- Claessens, Stijn and Enrico Perotti, 2005, “The links between finance and inequality: channels and evidence,” *World Development Report 2005 Background Paper*.
- Graham Review of the Small Firms Loan Guarantee, 2004, *U.K. Treasury*.
- Fiechter, Jonathan and Paul Kupiec, 2004 “Principles for Supervision,” in Caprio et.al, eds. *The Future of State-Owned Financial Institutions*, Brookings Institution, Washington, D.C.
- Levine, Ross, 2005, “Finance and Growth: Theory and Evidence,” in Philippe Aghion and Steven Durlauf, eds. *Handbook of Economic Growth*, Elsevier Science: Amsterdam.
- Marston, David and Aditya Narain, 2004 “Observations from an IMF Survey” in Caprio et. al, eds. *The Future of State-Owned Financial Institutions*, Brookings Institution, Washington, D.C.
- OECD (2005) “Guidelines for the Corporate Governance of State-Owned Enterprises.”