



SERVICES, DEVELOPMENT AND TRADE:
THE REGULATORY AND
INSTITUTIONAL DIMENSION OF
INFRASTRUCTURE SERVICES

Vol. II





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FOREWORD

The Accra Accord, adopted at UNCTAD XII, calls for UNCTAD to assist developing and transition economies in establishing regulatory and institutional frameworks and cooperative mechanisms to help strengthen their domestic services capacity, efficiency and competitiveness. As part of its efforts in that regard, UNCTAD has convened two sessions of in-depth multi-year expert meetings on key trade and development challenges with focus on the regulatory and institutional dimensions of infrastructure services, such as financial services, electricity, water, telecommunications and transportation services. This publication reflects the deliberations and results of the two sessions with a view to enhancing understanding of the various issues and identifying operational options in relation to efficient and effective regulatory and institutional frameworks for infrastructure services, in particular in developing countries and least developed countries (LDCs). The analysis report prepared by the UNCTAD secretariat on the results of an UNCTAD survey targeted at national regulators concerning key regulatory and institutional issues is also contained in the publication.

Infrastructure services are crucial for supporting other economic sectors (i.e. agriculture, manufacturing and other services sectors). In this respect, they form the backbone of national economies. At the same time, they are also major economic sectors in their own right with their global combined annual revenue accounting for 24 per cent of total world output. They account for one tenth of worldwide employment (310 million workers), and over 35 per cent of global services trade (\$1.1 trillion). Moreover, these services are essential to accelerate social development and enhance human welfare. Universal access to these services thus becomes an important objective of national and international development efforts, including those aimed at the Millennium Development Goals (MDGs), especially in the LDCs.

Over the past three decades, there have been efforts to increase the efficiency, productivity, quality and sustainability of national infrastructure services markets through improved policies, regulations and institutions that devise, monitor and enforce them. In many sectors, reforms have involved identifying and implementing regulatory and institutional frameworks needed for markets to work properly. This has been done by correcting market failures, including information asymmetries, natural monopolies and externalities; creating stable and competitive market environments; building domestic supply capacity; promoting environmental protection; and enhancing access to essential services by the poor through universal access policies.

Growing recognition of the need to strengthen regulatory and institutional frameworks has been a part of a paradigm shift in development policy thinking, particularly on the role of the State. An adequate regulatory and institutional framework is now viewed as a precondition for achieving better outcomes in terms of delivering efficiency, building competitive supply capacities and generating tangible benefits for consumers, as well as providing solutions for anti-competitive behaviour and addressing social concerns.

While the case for regulating services is widely acknowledged, less agreement exists about what constitutes good regulation. National experiences with regulatory systems have revealed both successes and failures, including the more recent regulatory failures in both developed and developing countries. There are no simple recipes for regulatory and institutional frameworks. Developing countries, therefore, face significant challenges when striving to build capacity to regulate effectively. Capacity-building, resource-sharing, training, and a gradual approach to regulatory and institutional framework development are, indeed, vital for improving regulatory performance in these countries. Strengthened capacity-building and donor support are also essential. It is hoped that this report will assist developing and least developed countries to address those challenges and strengthen their regulatory and institutional frameworks.



Supachai Panitchpakdi
Secretary-General of UNCTAD

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The volumes were edited and prepared by Mina Mashayekhi with assistance from Liping Zhang from the Trade Negotiations and Commercial Diplomacy Branch of the Division. The major contributors are the authors of the individual papers and substantive contributions of the participants in the above forum.

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LIST OF ABBREVIATIONS

ADAM	Approach to Distribution Asset Management
BEE	Black Economic Empowerment
BCBS	Basel Committee on Banking Supervision
DCF	Discounted Cash Flow
DRC	Depreciated Replacement Cost
DSM	Demand Side Management
EDI	Electricity Distribution Industry
ESI	Electricity Supply Industry
EU	European Union
FSA	Financial Services Authority
GDP	Gross Domestic Product
GWh	Gigga Watt Hours
IDP	Integrated Development Plan
IMF	International Monetary Fund
INEP	Integrated National Electrification Programme
IPPs	Independent Power Producers
IRBA	Internal ratings-based approach
ISO	Independent Systems Operator
KICs	Key Industrial Customers
MDG	Millennium Development Goals
NERT	National Energy Response Team
OECD	Organization for Economic Cooperation and Development
OTC	Over-the-counter trading
REDs	Regional Electricity Distributors
SAPP	Southern African Power Pool
SDA	Service Delivery Agreement
SLA	Service Level Agreement
SOE	State-owned enterprises
UNCTAD	United Nations Conference on Trade and Development
WEPS	Wholesale Electricity Pricing System



PART ONE:
FINANCIAL SECTOR

| 1

I. PROPOSALS FOR FINANCIAL SECTOR REGULATORY REFORMS: PERSPECTIVES OF DEVELOPING COUNTRIES

Yaga Venugopal Reddy¹

There are several proposals for Financial Sector Reforms under consideration globally. These include the Report of the Stiglitz Commission of the United Nations, the Warwick Commission Report, Reports of Financial Stability Board, the G30 Report chaired by Paul Volcker of the United States, the Turner Report chaired by chairman of the Financial Services Authority (FSA) of Britain, the G-20 Working Group Report and other statements, the Report by Mr. J. de Larossier for the European Union (EU), and more recent proposals in Britain and the United States that you may have been reading in the news papers. Several detailed proposals are being discussed particularly in the United States, UK and Euro area. It is possible to discern the scope of the proposals and of several common elements being addressed, though there is considerable on-going debate in regard to specific actions to be taken. I propose to make a presentation on the Perspectives of Developing Economies in regard to the broad contours for financial sector reforms under consideration. The first section indicates the context and relevance of the reforms proposals, followed by a more detailed consideration of the proposals for reform in the second section. The third section highlights some of the missing elements in the agenda for reform. The fourth section poses some issues for consideration in particular, in G-20, partly based on the discussions in the previous session of this meeting.

It must be recognized that, in the post colonial 20th century, a broad differentiation between developed and developing countries was the reality. However, in the first decade of the 21st century, it is apparent that different countries have different levels of economic development, institutional development, financial market development and above all, different degrees of integration with the global economy. In addition, the extent of integration of these countries with the rest of the world varies as between trade and finance. The impact of the global financial crisis and, consequently, the corrective actions required in the regulatory regime vary between different countries with a spectrum of levels of financial market development and financial distress, both in developed and developing world. In this background, the perspectives of developing countries described here should be subject to the fact of considerable differences among the countries of the developing world.

1. Context and relevance of proposal for reforms

The context of the financial sector reform could be derived from the excellent note prepared by the UNCTAD secretariat and circulated for this Conference.² Box I.1 of that note, in regard to Stimulus packages, reads as follows: "The major share of public sector interventions has been in the financial sector through rescue packages. According to the International Monetary Fund (IMF), upfront government support to the financial sector averaged 5.8 per cent of GDP in developed countries and 0.3 per cent in developing countries". This clearly shows that the financial sector problems were essentially that of developed economies. To that extent, the compulsions for reforms as a response to the crisis directly relate to the developed countries, and, indirectly, to others.

There may be several reasons why the developing countries were less severely affected by the financial crisis. First, the financial sector was dominated by the banking system and the banks concentrated on retail banking. Second, the financial markets did not have sophisticated instruments. Third, there was inadequate scope for high leverage for households or for financial intermediaries. Fourth, the extent of deregulation of financial sector was not carried forward to the extent it was done in the United States and Britain. In other words, the ideology of market fundamentalism was less prevalent in many, if not all, of developing economies. Finally, though there were sporadic efforts, there was no economy from developing countries, which gave high priority to developing itself as an international financial centre. Hence, there was no incentive for developing countries in general to reduce the rigour of regulation. It may be noted that financial sector is foot loose and, hence, there was often a race to the bottom in the regulation of financial sector in the United States and Britain to be attractive international financial centres. In the absence of appropriate infrastructural facilities for an international centre, developing countries were not compelled to indulge in excessive deregulation.

As the background note of the UNCTAD explains: "The regulatory failure in the new deregulatory environment became manifest during the crisis" (paragraph 47). It logically follows that those countries, which had not excessively deregulated their financial sector, were less affected by the crisis. The reform proposals under consideration are arising essentially out of developed economies and, in any case, are essentially addressing the problems of the financial sector thrown up in these countries. In other words, the reform proposals are addressing the problems of instability introduced due

to excessive deregulation. It is, therefore, necessary for developing countries to recognize that much of the reform is the reaction to what happened in the select developed world and, therefore, its applicability to the developing world will depend on the extent of deregulation that was undertaken. In brief, it may not be appropriate to adopt, without due consideration, all the solutions offered to the problems that do not happen to exist in the developing country concerned. At the same time, it is necessary to identify sound principles behind the solutions offered, if they have universal validity for adoption, as the circumstances warrant.

There is representation for developing countries in the G-20 and Financial Stability Board. Many of the reform proposals are under discussion in these fora, but they are still addressing the problems of financial sector, which essentially arose out of the philosophy and the approach of the developed world to the sector. It is, therefore, necessary for developing countries, particularly in G-20, to avoid automatically universalizing solutions that were substantively contextual in time and in places. In fact, the developing countries in G-20 have a stake in ensuring that the reform agenda before the G-20 is not restricted to financial sector, as the sole cause of the crisis.

It is also interesting that the overhaul of national, international and financial sector regulations now on the policy agenda, comprise, as mentioned in paragraph 51 of the note circulated by UNCTAD, stronger surveillance, clearer mandate for regulators, strengthening the macro prudential framework, strengthening risk mitigation structure, improved data management, stress test, enhancing transparency, improving cross border cooperation, reform of accounting standards, etc. It is implicit that the strengthening and improvement will have to be considered with reference to the current state of affairs in each of the countries. Clearly, therefore, an assessment of the existing policy standards in each of the countries is necessary before considering appropriate strengthening or improving.

One of the proposals in the reform agenda is that the skills of regulators themselves should be improved, to be able to regulate the financial sector better. However, the appropriate broader lesson from the global financial crisis is that there should be synchronization between the regulators' skills and the sophistication in the financial markets. The sophistication in the financial sector should be permitted only to the extent that regulatory skills are able to manage. In other words, it is preferable to restrict the sophistication in financial markets to match the skills of the regulators, recognising that such skills are difficult to build in the developing countries in the short run. It may not

be desirable to allow the sophistication in financial markets in advance of improving the skills on a best effort basis. For example, in India, Reserve Bank of India (RBI) took the view that if RBI could not understand the complex derivatives, all the market participants themselves may not be aware of the risks. This precautionary approach served India well.

Another general observation in the context of the crisis is that the globalization of finance preceded globalization of regulation. Hence, an effort is made to introduce mechanisms for coordination in financial regulation among the countries. Currently, there are severe problems and difficulties in agreeing on appropriate regulatory structures and standards within the countries, such as the United States, Britain and the Euro area. The globalization of regulation may be more complicated, and an agreement, may be essentially very broad to gain acceptance, but too broad to be effective. In any case, there are inadequate global governance arrangements to enforce a global financial regulatory regime. The UNCTAD report in para 52 rightly points out that "it would be a mistake to impose common regulatory standard given there is no single regulatory system that is right for all countries. Countries with different levels of development and regulatory capacity need to adopt different regulatory approaches." If the problems of globalizing financial regulation appear constrained, it is logical to consider recalibration of global finance to match an acceptable system of globalised financial regulation. In other words, having recognized the risks of premature globalization of finance, rollback in globalization of finance similar to rollback in deregulation in financial sector should be on the agenda for reforms.

2. Proposals for reforms

There are wide ranging proposals for reforms in regulation of the financial sector. For analytical purpose, these are discussed in terms of reforms relating to objectives of regulations; scope of regulation; structure of regulatory bodies and regulation of institutions; regulation of instruments and markets; regulation of incentives; and regulatory approaches, including issues relating to cross border regulation and 'too big to fail' institutions.

The basic objectives of regulation in the past were to ensure a level playing field in the market and solvency of individual institutions — in some cases, the protection of depositors. Consumer protection was also provided for either within the framework of the regulator in financial sector, or outside. The objectives of regulation are sought to be redefined now to include financial stability. This includes an element of counter-cyclicality, taking cognizance of asset prices movements and some focus on the interests of the

depositors. From a developing country perspective, expanding the objectives of regulation and orienting them towards stability should be welcome. Indian experience indicates that these proposed changes in the objectives of regulation are appropriate.

The scope of regulation, in some countries, was restricted to commercial banks and the regulatory regimes were somewhat soft on non-banking financial companies such as investment banks. Some entities such as hedge funds were kept outside the scope of regulation. Currently, the proposed reforms intend expanding the scope of regulation to include non-banks. This expanded scope takes into account the importance of deposit taking activity, the capacity to create liquidity, and the criticality of the institution for systemic stability. It is also proposed to link the intensity of regulation with the nature of functions being performed by the institutions in relation to the relevance to stability. From a developing country point of view, this should be welcomed in principle. Indian experience indicates that such an expanded scope of regulation adds to stability and, in particular, it demonstrates the importance of regulating the nature of transactions between banks and non-banks. Indian experience also illustrates the advantage of restricting the exposures to the risky businesses and non-traditional retail lending businesses undertaken by the banks. Further, there may be merit in permitting banks to undertake limited non traditional activities in as much as the banks will be better equipped to efficiently participate in financial markets by gaining knowledge and experience in all financial markets.

The reform proposals in regard to structure of regulation address the issue of giving a mandate and ensuring accountability for financial stability. It should be noted that there is no empirical evidence in the context of current crisis that a particular regulatory structure has contributed to greater stability. There is as yet no agreement on the need for creating a new institutional structure. At the same time, there is no agreement on giving the mandate entirely to the Central Bank. Where new institutional arrangements are proposed, it is not clear whether the Government will play a leading role or the Central Bank will play a leading role. There is, however, a broad agreement that these arrangements (a) should ensure a better focus on financial stability by monetary authority, by the regulators and also by the government; (b) ensure greater degree of coordination among them; (c) strive for greater accountability; and (d) do not dilute the operational autonomy of the regulators concerned. In the developing countries, it is possible to apply these general principles but with a full understanding of the institutional capabilities and the nature of arrangements of governance in public policy. The

Central Banks in developing countries generally command a greater credibility than other newly created institutions for regulation. The Central Banks usually have a command over technical expertise that the other regulators do not have. In view of the importance of traditional commercial banking, the banking regulator will have a critical role. In respect of developing countries, there is, therefore, considerable merit in formalizing a mandate for financial stability to a central bank, which should also be responsible for regulation of banks and payment systems.

It can be argued that a central bank should be a natural choice for according a mandate for financial stability. The central bank as a monetary authority has inevitably the responsibility for liquidity, and also as lender of last resort. Hence, its centrality in maintaining stability is inevitable whether formally stated or not. It is also possible to put in place informal arrangements for exchange of information and coordination, both at the technical level and at the levels of heads of regulators with appropriate role for the government. These arrangements provide for coordination, but the autonomy and accountability of individual institution remain. The Indian experience has been that such informal arrangements have functioned well.

Regulation of instruments and markets has gained significance in view of the experience relating to the financial innovations and over-the-counter trades. As regards financial innovations, there are several contrasting views, viz., (a) that they contribute nothing to economic development or welfare; (b) that they enhance efficiency and stability by diversifying the risks and saving on capital provided the regulators know how to regulate them; and (c) that they may contribute to increased efficiency of use of capital, but they have a tendency to enable appropriation of all gains by the select few while adding to instability. The empirical evidence about the benefits of many of these instruments is not very positive, though the financial market participants in developed countries insist on their beneficial role. There is a reasonable consensus even as the proposals for reform are considered that, the beneficial effects of these innovations should be demonstrable before they are permitted. From the perspective of developing countries, there is merit in strengthening the regulation of such innovations and, in fact, in assessing the benefits over a considerable period before permitting them in their jurisdictions, or by the financial intermediaries regulated by them. Wherever such innovations are considered, the developing countries may assess both the market capabilities and the regulatory capabilities in obtaining benefits from such instruments and avoiding risks. Indian experience of waiting for the benefits of such instruments to be proven and prescribing necessary

safeguards before permitting them, and in any case, constraining the banks to involve themselves excessively in these instruments, has proved to be workable and beneficial.

A related area is the extent to which over-the-counter trading (OTC) should be permitted in respect of financial instruments. There is a general agreement that, over-the-counter, trading is favoured by market participants for promoting innovations but their overall desirability cannot be assessed in advance. Hence, the proposals are two fold, namely (a) restrict the OTC to the extent possible and be made an exception to the general rule of exchange-trading and (b) have safeguard mechanisms such as Products Safety Commissions akin to the pharmaceutical industry. There is merit for developing countries to be more restrictive than developed countries in permitting banks to indulge in over-the-counter activities.

A proposal has also been made for a Financial Products Safety Commission or Authority to avoid 'bad' innovations and permit only 'good' ones. In principle, the regulatory regime should take into account the safety of the financial products for the health of the financial sector, but it is possible to argue that the function of assessing safety could be built into the processes of existing institutions of regulations. It is important to ensure application of the principle of safety of the financial product in the regulatory regime. Whether it is done through a separate agency or through a separate wing in the existing agency or through appropriate formal mechanisms is a matter of detail and context of the country. In view of the institutional capabilities and the scope for such innovations there is merit in incorporating the processes for certifying safety within the existing regulator. Further, for developing countries, tried and tested innovations with abundant safeguards would be consistent with precautionary approach. It may, however, be noted that the work relating to safety in the financial sector may be different from health or environmental standards.

The incentive structures that deter excessive risk-taking, particularly in regard to compensation, are proposed to be introduced through regulations. The industry, however, has been resisting such changes by advancing arguments relating to the adverse effects of such restrictions on competitive efficiency. The developing countries will have an additional reason to take serious note of these developments since the inequalities in income and wealth may be exaggerated with adverse consequences. The Indian experience, so far, has been positive in a system of formal approval of compensation packages for the Chief Executives though the compensations to other functionaries are not yet subject to the approval of the central bank.

The reform proposals include fundamental changes in the approach to regulation and these are really most significant for developing countries. These relate to increasing the quantity and quality of bank capital, increasing the trade book capital, emphasizing counter-cyclical capital buffers, containing liquidity risks and a cross leverage ratio backstop. In terms of fundamental change in approach, these should be welcome to developing countries. However, in terms of details, many of the prescriptions are not relevant to the same extent in the developing countries. The regulatory approach in India in the past has been broadly in the directions under contemplation as part of the reform. It has been generally welcomed now though it was considered to be somewhat excessively conservative or too precautionary in the past. However, the approach in India made a clear distinction between three sets of banks, with some variations in regard to the rigour of regulation. One set was applicable to foreign bank branches in India and Indian banks with cross border presence. The second was applicable to those operating entirely within the country. Third, set of banks were essentially catering to local needs either through corporate structure or through cooperative structure. Further, in many respects greater safeguards and precautionary approaches than global standards were adopted. A more flexible time table was adopted in the pace of implementation to enable adequate preparedness. However, this approach could generate problems of synchronization of regulatory regimes, if the financial sector of a developing country is closely integrated with a developed or global economy.

The approach to cross-border regulation is occupying centre stage. There is increasing emphasis on host country regulation. This would necessitate policy space for the host regulator in relation to the common standards of regulation that are sought to be prescribed. The developing countries have disadvantages in regulating complex products and complex institutions that operate within their jurisdiction. A complex commonly agreed regulatory framework puts the regulators of developing countries at a disadvantage. Perhaps, this is an area where more work has to be done, and the developing countries do have a stake in these issues, in particular, in regard to the activities of the branches or subsidiaries of foreign banks in these jurisdictions.

There is an intense debate on managing institutions, which are considered too big to fail. As experience has shown in India and in some other countries, if I recall, Germany in 2008, a bank may be systemically important without being too big. However, large sized financial institutions are very likely to be systemically important. The major issue is whether an institution

or a bank considers itself to be too big to fail. Once a market participant perceives that it is too big to fail, it has a tendency to take extreme risks. It is doubtful whether prescribing additional capital would be enough of a disincentive from taking such risks. There is, therefore, broadly for developing countries, considerable advantage in prescribing a limit on the extent of the share of an institution in the financial sector. It may also be necessary to consider prescribing a limit on the share of a foreign bank. It is often the case that specific institutions have disproportionate share of specific markets. For instance, in India, few foreign banks account for about half of the forex market and a quarter of the secondary market in government securities. These do indicate some complexities in this regard.

3. Missing agenda for reforms

From a developing country's perspective, stability has to be given great importance because the social security mechanisms are generally absent or weak. A large number of under-privileged will face significant suffering due to instability. Further, the structural transformation and the faith of the people in the economic reform of the real sector will be seriously hampered if there was financial instability. At the same time, it is important to recognize that financial sector should also be an instrument of public policy for facilitating development. In terms of very simple logic, if public intervention is necessary and justified in the interest of correcting market imperfections to assure stability, there is no reason why the public policy should not use regulation for developmental purposes. Further, if regulation is justified for containing possible asset bubbles in a free market atmosphere, there is no reason why the regulation should not be used for asset creation and a more productive assets creation. Some prescriptions in regard to the allocation of credit or pricing of credit should be considered less unfavourably than before.

The proposals under consideration for reforms are yet to analyse the adverse impact of excessive deregulation on both development and growth. Empirical evidence shows that among the developing countries, China and India have been giving developmental orientation to the functioning of the financial sector with demonstrable positive outcomes.

It is essential to recognise the importance of public policy in ensuring that the financial sector, in particular the banking sector, covers a large part of the population. In many of the developed countries, the poor get excluded from organized financial sector by virtue of low personal credit rating or dropping out of the banking system due to defaults, etc. In most of the developing economies, there is significant

exclusion of people from organized banking services. Policy initiatives for financial inclusion appear to be appropriate, and the gains from such inclusions for commercial banking are evident in India. There is merit in incorporating incentives for financial inclusion in the regulatory regimes of developing countries.

A large part of the regulatory reforms proceed on the assumption of efficiency of what may be termed as complete and integrated markets. In other words, there is an assumption of superiority of integrated financial markets reinforcing each other domestically and also globally. Since the developing countries have bank-dominated systems, it is quite possible that a continuance of bank dominated regimes with distinct and special roles for traditional banking would be appropriate. Experience shows that reliance on more advanced institutions and instruments has resulted in risks even in advanced financial markets, and the efficacy of improvements under contemplation is not established. In other words, is it possible to conceive of a regulatory regime, which is more appropriate for bank-dominated systems?

A large part of the discussion on regulatory regime in the past was directed at maintaining a level of playing field as essential for competitive efficiency. Recently, there have been debates about banks, which may be too big to fail and the need for enhanced capital requirements. In some ways, it is an acceptance of the desirability of unlevelled playing field. It is possible to extend the basic logic to unlevelled playing field based in (a) the size (large or small); (b) the nature of financial institutions (commercial banks, investment banks, hedge funds); (c) the complexity of the financial activity or the nature of activity of the institutions; and (d) finally the countries (developed, developing, emerging markets, etc.). Further, the financial markets tend to view developed countries differently from developing countries even when the fundamentals are similar. The public policy of different countries cannot afford to ignore these realities and assume that there is a level playing field in global finance. In the light of observations of the Warwick Commission Report, the scope for and desirability of unlevelled playing field as an instrument of financial sector regulation ought to be explored.

There is some recognition about the problems in the infrastructure relating to financial markets, in particular credit rating agencies and news agencies. Genuine competition in these areas is perhaps conspicuous by its absence. Serious and correctives to this situation as enforceable part of the package of reform of regulations may be warranted, particularly for developing countries. If correctives are not assured, alternative frameworks may be needed.

Imposition of Tobin tax has been brought on the agenda, but the implications of providing the options to levy Tobin tax as part of the regulatory regimes have not been assessed in the reform-agenda. In other words, the proposals for reforms could debate and consider whether Tobin tax should be an option available to the public policy, both with regard to financial transactions within the country and cross border transactions.

4. Issues and role of G-20

It is noteworthy that the agenda for financial sector reform in G-20 and the Financial Stability forum are concentrating on the appropriate reforms in the regulation of financial sector taking account of, essentially, the experience of the United States, Britain and Europe. However, there is a larger dimension to the issue, which has been pointed out by Stiglitz Commission, and to some extent by Warwick Commission. It is also interesting that the experience of countries where the financial sector was less affected, such as Canada and Australia, may have important lessons to offer. Similarly, the recent developments in regard to Greece questioned fundamental assumptions of the advantages of globalizing sovereign debt or utilizing sophisticated instruments in government debt markets. Experience of Asian countries, especially China and India, could be contrasted with some others, particularly in Eastern Europe. While it is true that the reform proposals have to give highest priority to those countries, which are systemically important for global finance, it is wise to derive lessons from the experience of other countries in the global economy while considering regulatory regimes for global finance. There are a few instances of learning of the lessons such as in the recent IMF publications, but they appear to be reluctant modifications to the pre existing ideologies and claim to discovery of new truths rather than acknowledging the lessons of experience in many developing countries. However, UNCTAD has been wisely capturing diverse experiences in its publications.

It is clear that the developing countries, by and large, have not been seriously affected by the policies related to financial sector within the economy, but they have been affected mainly through the linkages that their financial sector had with the developed countries. In other words, the problem for developing countries during the crisis was one of contagion through cross border flows of capital and cross border presence of financial intermediaries. The agenda for reform is proceeding on the assumption that adverse contagion can be reduced and beneficial impact of globalised finance can be enhanced through (a) the proposed regulatory framework for countries to adopt, and (b)

coordination of regulation on a global scale. It is not clear whether these basic assumptions are valid. There has been a welcome change in the attitude to the capital controls or capital account management. It is not very clear whether the proposals for review of financial sector under consideration are taking into account the possible impact of a wider acceptance of capital account management by developing countries. Indian experience shows that the capital account management is more effective when it is supplemented significantly, with prudential prescriptions on financial intermediaries, especially banks. Once the desirability and effectiveness of capital account management is accepted (temporary or not so temporary), the link with regulatory regime may have to be recognized.

The linkage between the macro economic policies and the financial sector regulation is getting greater attention in the discussions on reform of financial sector. There have been instances of countries, which are facing crisis because of serious interaction between macro and financial sector, and these include developed countries like Spain, Iceland and Ireland, and developing economies, which have approached the IMF for relief. A closer examination of the interaction between macro and financial sector may warrant a greater policy space for national authorities in both macro and financial sector in an inter-related fashion. This may warrant entirely new paradigm on the relationship between macro and financial sector on one hand, and national and global financial markets, on the other. The close link between macro policies and financial markets has been recognized in the proposals for regulatory reforms under discussion because of the emphasis on macro prudential regulation and counter-cyclical policies. However, it is quite possible that different countries experience different economic or trade cycles. The policy-makers may find it difficult to harmonise the monetary policy and a financial sector policy that simultaneously addresses the domestic trade cycle and the global economic cycle, if they tend to diverge.

A question arises as to whether in the context of the current crisis, there are serious problems that could arise for developing countries in future. Perhaps the growing public debt in developed economies to manage the crisis could pose serious unprecedented situations, and a set of totally new challenges. The increasing public debt to GDP ratios in developed economies would imply a manifold global increase in the global public debt that has to be financed by the somewhat integrated global financial markets. The public policy incurred huge debit for bail out of large financial institutions, and in future, ironically, the governments would have to rely heavily on, if not be at the mercy of the same financial markets. It is

possible that the resultant crowding out of resources available for private sector may impact developing countries significantly, given the excessive preference for developed economies, accorded by the financial markets. This is illustrated by the history of ratings given in recent past, to India, the Republic of Korea, China, Greece, Ireland, Spain, etc. On the analogy of cooperation on stimulus and exit, developing countries that are members of G-20 should urge consideration of this issue of globalised impact of high public debt in developed countries, particularly when the level of savings of domestic households happens to be low. India and China, along with some other developing countries should take initiatives to convey the perspectives of all developing countries. They could include; first, developing countries that closely followed the models prescribed by the IMF are paying a heavy price and hence the IMF should be held accountable and be subject to scrutiny though there are some signs of rethinking by the IMF; Second, not much of the new regulatory standards appear to be relevant now or in the near future to the developing countries; Third, there could be a case for a separate set or subset of standards of bank regulation, applicable to the needs of developing countries and G-20 should also consider them; Fourth, there are

several areas of differences on the agenda for reform of financial sector between the United States, Britain, and Europe. While these are discussed in various fora including the G-20, the position of important countries of G-20 like China and India is not clear and may go unnoticed or unheard. Finally, countries like India and China should legitimately be among the leaders within the G-20 in championing the concerns and the causes of developing countries as a whole, and should not appear to be only following the lead of others in the G-20.

5. Conclusion

For developing countries, on the way forward, there are three broad policy areas related to the future of financial sector regulation. The first relates to macro economic management on which several lessons have to be drawn, many of them being relevant to financial sector. The second concerns the policy relating to the future of their domestic financial systems on which the recent debates on financial sector reforms aim to provide some guidance. Finally, the third relates to the management of integration of their financial systems into the international financial system, in particular the international regulatory architecture. This is a very complex territory.

II. BASEL II AND BANKING IN EMERGING AND OTHER DEVELOPING ECONOMIES

Andrew Cornford³

1. Introduction

In the words of two former senior British financial regulators, “the objective of the new arrangements [Basel II] is to strengthen the soundness and stability of the international banking system while maintaining sufficient consistency so that capital regulation will not be a significant source of competitive inequality among internationally active banks”.⁴ Basel II sets levels of minimum regulatory capital for three categories of banking risk – credit, market and operational – according to rules which include a multiplicity of different approaches. (See Box II.1.) This multiplicity reflects the objective of the Basel Committee on Banking Supervision (BCBS) to accommodate within these rules banks of very different levels of sophistication as well as points raised by critics during the long process of drafting Basel II. The effects of the rules of Basel II on different dimensions of banking risk have been extensively debated during the long drafting process and during the current financial crisis. However, this debate was primarily concerned with regulation and risk management in general and devoted only limited attention to the likely impact of the introduction of Basel II in emerging and other developing economies. This chapter is an attempt to address this lacuna.

2. The current status of the implementation of Basel II and the difficulties confronting developing countries

Much of the information on implementation concerns the number of countries planning to introduce Basel II. Beyond the raw statistics, however, people are usually also interested in having some kind of assessment of the realism of the plans for introduction and, especially for developing countries, of the pressures on national supervisors, which the introduction of Basel II can be expected to generate. Moreover, it is also possible to characterize in a preliminary way major features of the pattern of introduction worldwide.

Two surveys of the Basel-based Financial Stability Institute in 2004 and 2006 covered the plans of regulators in non-Basel-Committee countries for the introduction of Basel II. If a country announces its intention to introduce the approaches, options, and other rules Basel II, this means that its regulators will make them available to financial firms in their jurisdictions.

Major findings of the 2006 survey were that 82 of the 98 responding countries planned to introduce Basel II. This rises to 95 when the 13 member countries of the Basel Committee on Banking Supervision are added. In comparison with the 2004 survey, the planned schedule for introduction in the 2006 survey was less ambitious in many countries. For most of the regions there were marked increases in the 2006 survey in comparison with the 2004 survey in the proportions of respondents planning to meet the obligations of Pillar 2 (supervisory review) and Pillar 3 (transparency) by 2009. Indeed, the data on meeting the obligations of Pillars 2 and 3 suggest a widespread and understandable tendency among responding countries to give first priority in plans for the introduction of Basel II to strengthening supervisory capacity - Pillar 2 - and disclosure standards - Pillar 3.

During the drafting process for Basel II, there was widespread concern over the difficulties likely to be posed to introduction by limitations on the technical capacity of banks and supervisors. So it is natural to ask the question whether the plans in the replies to the Financial Stability Institute’s survey are realistic. Available information does not permit a definite answer to this question but a number of pertinent points can be raised.

The technical capacity of banks and supervisors in many developing countries, in comparison with their counterparts in industrialised countries, should not be underestimated. Indeed, events during the last decade - and more especially during the last few months - have drawn attention to the sometimes egregious shortcomings of both banks and supervisors in industrial countries.

In comparing the risk management capabilities of the large international banks of industrial countries and of banks of developing countries it is important to remember that the activities of the latter are generally more focussed on traditional commercial banking and less on the new products and services which are proving more difficult to manage, control, and supervise.

Nevertheless, the strains on national supervisory capacity of introducing Basel II in developing countries should not be underestimated. Information bearing on the scale of these strains can be illustrated from the Financial Stability Institute’s 2004 survey which found that non-Basel-Committee countries expected training on Basel II-related topics would be necessary for about 9,400 supervisors or almost 25 per cent of the countries’ supervisory staff.

The tasks in developing countries entailed by the introduction of the Standardised Approach for credit risk in Basel II are considerable but manageable. The

Box II.1. The Basel Capital Accords

Basel II is designed to replace the 1988 Basel Capital Accord (Basel I). Both agreements were drawn up by the BCBS, a body of banking regulators of the countries of the G10 and selected other developed countries, originally established in 1974 and linked geographically and organizationally to the Bank for International Settlements in Basel (an organization which dates from 1930 primarily to serve the functions of bank and meeting-place for national central banks).

Basel I and Basel II are agreements on frameworks for assessing the capital adequacy of banks. The framework sets rules for the allocation of capital to banks' exposures to risks through its lending and other operations. The agreements have two objectives. One is prudential, namely to help to ensure the strength and soundness of banking systems. The other is to help to equalise cross-border competition between banks (provide "a level playing field") by eliminating competitive advantages due to differences among countries in their regimes for capital adequacy (a special concern of United States and European banks vis-à-vis competitors from Japan in the 1980s).

As a measure of the difference between the value of a bank's assets and liabilities capital serves as a buffer against future, unidentified losses. The capital of banks consists of equity and other financial instruments, which have the properties of being available to support an institution in times of crisis.

Financial instruments classified as capital are usually associated with higher rates of return, and are thus a more costly way of financing banks' assets than other liabilities such as deposits. The rate of return on capital is a determinant of banks' pricing of loans and of other transactions involving exposure to risk and as such is a factor in their competitiveness vis-à-vis other banks. (See Box 2 for a more schematic description of the pricing of a bank's transactions).

Capital under the initial version of Basel I agreed in 1988 was to serve as a buffer against credit risk, i.e. that of the failure of borrowers or parties to the other banking transactions to meet their obligations. Under the accord capital was to constitute 8 per cent of banks' risk-weighted assets.

Measurement of these risk-weighted assets was based on the attribution of weights reflecting the credit risk of different classes of counterparty (sovereign, OECD or non-OECD, other public sector, corporate, etc.). Off-balance-sheet exposures (such as guarantees, various contingent liabilities, and interest-rate and exchange-rate derivatives) were converted to their on-balance-sheet equivalents by multiplying them by factors specified for this purpose. The resulting figures were then weighted according to the class of counterparty as for on-balance-sheet exposures. For example, collateralised documentary credits received a credit conversion factor of 20 per cent and the resulting on-balance-sheet equivalent would be multiplied by the risk weight of the counterparty to which the documentary credit was made available.

The attribution of credit risk weights (0, 10, 20, 50 and 100 per cent) followed a scheme which favoured governments and certain other entities from OECD countries over those from non-OECD countries, and banks over other commercial borrowers. Thus a weight of 0 per cent was attributed to claims on OECD governments and central banks, and one of 20 per cent to claims on banks incorporated in OECD countries and to banks incorporated in non-OECD countries with a residual maturity of up to one year. A weight of 100 per cent was attributed to claims on private sector entities not otherwise specified such as non-financial corporations and non-OECD governments.

Through an amendment in 1996 Basel I was extended to cover market risks, i.e. those due to the impact on a bank's portfolio of tradable assets of adverse changes in interest and exchange rates and in the prices of stocks and other financial instruments. The amendment accommodated two alternative ways of setting minimum capital levels for market risk. One involved the use by banks of their own internal risk-management models, and the other a standardized methodology under which capital requirements are estimated separately for different categories of market risk and then summed to give an overall capital charge (as for credit risks).

Basel I was originally designed for internationally active banks. However, by the second half of the 1990s it had become a global standard and had been incorporated into the prudential regimes of more than 100 countries. But for reasons explained in section II Basel I was also the subject of increasingly widespread dissatisfaction so that a decision was taken to initiate what proved to be the lengthy process of drafting a successor agreement. The definitive version of the new accord, Basel II, became available in mid-2006.

Basel II consists of three Pillars. Under Pillar 1 minimum regulatory capital requirements for credit risk are calculated according to two alternative approaches, the Standardized and the Internal Ratings-Based. Under the simpler of the two, the Standardized Approach, the measurement of credit risk is based on ratings provided by external credit assessment institutions. According to the text of the agreement export credit agencies as well as credit rating agencies are indicated for this purpose. However, the expectation of both the BCBS and of national authorities is clearly that the role will most frequently be assumed by credit rating agencies. Owing to perceived shortcomings in the performance of the major credit rating agencies, which are discussed below, this choice has proved controversial.

Box II.1. The Basel Capital Accords (cont.)

Under the Standardized Approach of Basel II entities from OECD countries are no longer favoured over those from non-OECD countries. Both banks and non-financial corporations are now differentiated according to their credit ratings (of which the BCBS uses those of Standard & Poor's for illustrative purposes). Thus non-financial corporate borrowers rated between AAA and AA- are attributed a weight of 20 per cent, those rated between A+ and A- one of 50 per cent, those rated between BBB+ and BB- one of 100 per cent, and those rated below BB- one of 150 per cent. Unrated non-financial corporate borrowers are attributed a weight of 100 per cent.

Under the Internal Ratings-Based approach (IRBA), subject to supervisory approval as to the satisfaction of certain conditions, banks use their own rating systems to measure some or all of the determinants of credit risk, i.e. the probability of default, loss given default, exposure at default and the remaining maturity of the exposure. Under the Foundation version of the Internal Ratings-Based Approach, banks calculate the probability of default on the basis of their own ratings but rely on their supervisors for measures of the other determinants of credit risk. Under the Advanced version of the Internal Ratings-Based Approach, banks also estimate their own measures of all the determinants of credit risk, i.e. the loss to a loan or other exposure given default and the exposure at default as well as the probability of default. (A more technical characterisation of key features of the IRBA is provided in the annex to this paper.) Pillar 1 also contains rules for regulatory capital requirements for market risk which follow those of Basel I. Under the Foundation version of the Internal Ratings-Based Approach, banks calculate the probability of default on the basis of their own ratings but rely on their supervisors for measures of the other determinants of credit risk. Under the Advanced version of the Internal Ratings-Based Approach, banks also estimate their own measures of all the determinants of credit risk, i.e. the loss to a loan or other exposure given default and the exposure at default as well as the probability of default. (A more technical characterisation of key features of the IRBA is provided in the annex to this paper.) Pillar 1 also contains rules for regulatory capital requirements for market risk which follow those of Basel I.

Unlike Basel I, Basel II contains regulatory capital requirements for operational risk which covers losses due to events such as human errors or fraudulent behaviour, computer failures, or disruptions from external events such as earthquakes. Under the Basic Indicator Approach, the simplest of the three options in Basel II, the capital charge for operational risk is a percentage of banks' gross income. Under the Standardized Approach to operational risk the capital charge is the sum of specified percentages of banks' gross income or loans for eight business lines. Under the Advanced Measurement Approach to operational risk, the most sophisticated option of Basel II, subject to the satisfaction of more stringent supervisory criteria, banks estimate the required capital with their own internal measurement systems.

Also unlike Basel I, Basel II contains detailed rules concerning securitisation exposures, i.e. the exposures for a bank after the transfer of the risks of assets on its balance sheet to outside investors, a category of risk which was omitted from Basel I. The rules of Basel II are intended to establish stringent conditions for the recognition of the transfer of risk from banks' balance sheets and to set regulatory capital charges for the risks remaining with banks.

Under Basel II the minimum regulatory capital ratio remains at the 8-per-cent figure of Basel I. The denominator of this ratio consists of estimated exposures for credit, market and operational risk. The numerator consists of capital as in Basel I but after adjustment in certain ways. Conceptually the most important of these adjustments is the exclusion of risks corresponding to several categories of expected losses from the denominator of the ratio and of banks' corresponding loss provisions from capital in the numerator. This exclusion brings Basel 2 more into line with traditional banking practice according to which expected losses are covered by loss provisions, while capital is intended to cover unexpected losses.

Pillars 2 and 3 of Basel II are concerned with supervisory review of capital adequacy and the achievement of discipline in banks' risk management through disclosure to investors. Under the guidelines of Pillar 2 supervisors are to prescribe additional regulatory capital not only for the credit, market and operational risks of Pillar 1 if they judge this to be necessary for supervisory reasons but also for risks not covered under these three headings, such as liquidity risk (which covers banks' ability to obtain funding and the prices at which it can sell assets in financial markets) and interest-rate risks due to changes in the margins between the rates at which banks lend and borrow.

Pillar 3 specifies rules for the disclosure of information concerning banks' capital and risk management. These rules are intended to enable financial market participants as well as supervisors to subject these to scrutiny which will reinforce the effectiveness of Pillars 1 and 2

requirements for introducing the Foundation and Advanced versions of the IRBA as well as the more advanced approaches for operational risk are a potential source of greater difficulties.

These more advanced approaches of Basel II require data covering substantial periods and the meeting of standards for validation. In the absence of internal sources for the data and models required for validation, banks can have recourse to external providers subject to carefully defined conditions.

In developing countries, where key inputs to the Foundation version of the Internal Ratings-Based Approach for credit risk (loss given default and exposure at default) are to be provided not by banks but by supervisors, lack of required data and models may mean that supervisors as well as banks need to have recourse to outside vendors. The danger here is that pressures associated with implementation of the more advanced options of Basel II according to a timetable determined by political rather than supervisory consideration may lead to failures to meet proper validation standards for external data and models.

The global pattern of implementation of Basel II will reflect divergences due not only to choices regarding the multiple options under Pillar 1 for minimum regulatory capital requirements for credit, market and operational risk but also to variation in different countries' timetables for adoption and in other rules for introduction at a national level. For example, under Pillar 2 (supervisory review) of Basel II minimum regulatory capital requirements can vary as a result of the prescription of additional capital by supervisors for risks considered as not covered, or not adequately covered, under Pillar 1 at levels, which need not be uniform for different countries.

As a result of these features of Basel II global regulation of banks' capital after Basel II's introduction will remain something of a patchwork. This compromises the second of Basel II's major objectives, namely the achievement of a reasonable measure of competitive equality – the so-called “level playing field” – by contributing to cross-border consistency in the regulation of banks' capital. However, the patchwork has advantages for developing countries since it entails recognition of countries' need for space in which to adopt policies toward the regulation of banks' capital, which are adapted to national needs.

3. The development dimension and implications of Basel II for investment and growth in developing countries

The 1988 Basel Capital Accord (Basel I), was not designed with economic development in mind.

Its objectives, which Basel II has left unchanged, concerned the stability of the international banking system and competitive equality between banks engaged in international lending.

The institutions originally targeted by Basel I were the internationally active banks of the Basel Committee's member countries. However, by 1999 Basel I had become a global standard as part of the prudential regimes for strictly domestic as well as international banks in more than 100 countries. Basel II likewise will be a global standard and the plans for the introduction of Basel II in a large number of developing countries raise the question of whether Basel II will have a developmental impact.

One question sometimes raised in this connection is whether the rules of Basel II concerning banks' capital requirements and internal controls will not have the effect of throttling categories of developmental financing which require a long-term perspective and willingness to incur considerable risks.

Data bearing on this question includes historical statistics for banks' capital in different countries. These statistics refer to simple leverage, i.e. the ratio of equity to a bank's on-balance-sheet assets (or its inverse) and not to the ratio of capital defined by Basel I and Basel II rules to risk-adjusted assets and off-balance-sheet exposures.

For example, in the United States, the average equity-to-total-assets ratio was about 50 per cent in 1840; about 12 per cent in the late 1920s; and (for the 25 largest banks) 5 per cent in 1989. Richard Dale, a scholar of financial regulation, comments as follows: “These high ratios – as they now seem to us – were the consequence not of any regulatory action but of market forces. That is to say, visibly high equity ratios were necessary to maintain depositors' confidence”.⁵ (Dale, 1992: 170). It should also be noted here that under practices common before the United States Civil War state banks' capital was often of highly doubtful quality, including as it might stock subscriptions which the organizers had borrowed from the very bank being established (Symons and White, 1991: 25).⁶ Data for Asian banks for the first half of the 1990s discussed in more detail in Box II.2 shows that half of the national groupings probably had leverage levels no higher than would have been compatible with the rules of Basel I.

Thus, partial as they are, the information concerning the United States and Asian countries do not point to a strong connection between banks' capital-to-assets ratios and the pace of economic development. Assessment of banks' contribution to development should indeed include the structure and evolution

of their balance sheets. But assessment should not place too much emphasis on leverage or capital ratios at the expense of other indicators such as the scale and sectoral distribution of lending, loans-to-deposits ratios, liquidity, and net interest margins.

Explicit references to development financing in the text of Basel II are difficult to find. None of the less important techniques of development finance can be accommodated under the rules of Basel II for credit risk mitigation, a term which covers loan collateralization, guarantees, and credit derivatives. Guarantees are a standard technique by means of which a public entity can substitute exposure to its credit risk for that of another borrower. The lower credit risk of lending backed by State guarantees is recognized in Basel II.

Other provisions of Basel II, which may be useful in the context of lending for development, are its preferential credit weightings for lending to small and medium-sized enterprises (SMEs). Some of the relevant rules for such weightings are to be found under those for retail exposures.

Nevertheless, there are legitimate concerns as to the developmental implications of Basel II's underlying premises about the nature of a good banking model. Pushed too far, these could prove harmful.

The premises of Basel II about the relationship between a bank and its counterparties are part of the now generally accepted business model for banking in the member countries of the Basel Committee and the rest of the developed world. Nevertheless, they diverge to varying degrees from the premises of banking models in several emerging-market countries.

In Basel II, the assumed relationship is arms-length. This implies that decisions about lending, investment and the provision of other banking services are based on reasoned analysis of the counterparty's capacity to meet interest obligations as well as of other dimensions of creditworthiness as measured by objective rating or scoring systems.

A different model of borrower-lender relations has often prevailed in emerging-market countries. This model involves practices, which go by names such

Box II.2. Leverage ratios for selected Asian countries, 1994

The data below for 1994 from Thomson BankWatch on the relation of banks' capital to their assets for selected Asian countries refer to simple leverage calculated as the ratio of a bank's on-balance-sheet assets to equity, and not to the ratio of capital (including non-equity instruments designated as capital under Basel rules) to risk-adjusted assets and off-balance-sheet exposures, i.e the ratio which is the target of Basel I and Basel II.⁷ The 8-per-cent minimum capital ratio of Basel I corresponds to a leverage (Assets/capital) ratio of approximately 12 only if the banks' loans and other exposures are attributed risk weightings of 100 per cent. In the numerators of the leverage ratios for the Asian countries no allowance is made for the less than 100-per-cent credit weighting attributed under the rules of Basel I to low-risk exposures on banks' balance sheets. Nor generally are off-balance-sheet exposures included in the ratio. Moreover, the denominator generally excludes non-equity capital.⁸ These differences should be borne in mind in comparing historical figures for banks' leverage with a Basel-based benchmark. 1994 s for the leverage ratios of banks in selected Asian countries are as follows:

Taiwan Province of China 5.32 (new banks) and 18.93 (established banks);

Philippines 6.87;

Singapore 7.74;

Hong Kong SAR (excluding HSBC) 8.71;

Republic of Korea 11.01 (old merchant banks), 14.2 (country banks), 22.245 (nationwide banks), and 23.78 (specialized banks);

Pakistan 11.16 (new banks) and 31.46 (established banks);

Indonesia 11.26 (private banks) and 16.17 (State banks),

Thailand 11.69;

Vietnam 12.41;

Macau 12.59;

India 16.82 (commercial banks) and 28.44 (State banks);

Malaysia 15.08; China 17.29 (banks incorporated in Hong Kong SAR) and 25.33 (mainland banks);

Bangladesh 31.11.

Thus at least half of the groupings of banks specified in the Thomson BankWatch data for 1994 probably had leverage ratios no higher than would have been compatible with the rules of Basel I (which many of the countries had adopted or were about to adopt, though implementation of this measure probably would have been at most at a highly preliminary stage).

as policy or directed lending, relationship or name lending, and collateral-based lending. As part of such practices loans are made on the basis of criteria different from those of the underlying premises of Basel II. The assumptions about risk sharing between a bank and its borrowers involve a relationship that is less arms-length and in some cases more like an equity investment.

It is often pointed out by commentators in developed countries that relationship lending can degenerate into “crony capitalism”. This is true but alternative banking models also have their downside. Relationship lending’s opposite, arms-length banking, with its reliance on quantitative criteria derived from supposedly scientific approaches to finance and with its de-emphasis on long-term relations between banks and their customers, pushed to its extreme, led to the financial turbulence engulfing major developed countries since mid-2007.

Where borrower-lender relations different from those assumed by Basel II are deeply rooted in national practices, the risks to economic activity and development from too an abrupt transition to Basel II could be substantial. Especially in Asia but also to varying degrees in many other developing countries a major source of economic growth has been firms, often family-owned or-controlled, which would not necessarily achieve high credit ratings - and thus low weightings for credit risk under Basel II - according to objective, quantitative criteria.

Two PricewaterhouseCoopers authorities on the capital regulation and risk management of banks have posed the following important question concerning Basel II and such firms: “Might the introduction of Basel II lead to a credit crunch, with banks less willing to lend to these companies? As they provide the backbone of the emerging economies, and would find it difficult to turn to the capital markets for alternative sources of funds, what impact might this have on the economic development of these countries? These are issues which supervisors need to consider very carefully before implementing Basel II in many countries across the region [Asia-Pacific]” (Matten and Trout, 2005: 268-269).⁹

As to the question of whether there are discernible implications of Basel II for investment and growth in developing countries, these are still early days. But there is some anecdotal evidence that in some countries banks are treating Basel II as a justification for tightening lending standards in the way warned against above. Authorities in developing countries need to keep such changes under close scrutiny, using policy space available to them to forestall banks’ adoption of potentially damaging lending practices.

4. Issues in introducing of Basel II in developing countries with special emphasis on those related to cyclical effects

Most of the problems of introducing Basel II are common to all countries but some can be more severe in developing countries owing to less adequate supervisory capacity, less developed internal controls within banks themselves, and the shortage of infrastructure such as data on credit risks and credit rating agencies.

The danger that Basel II will aggravate procyclicality has been a major feature of debate on its likely effects. The rules of Basel II are intended to align regulatory capital requirements more closely with economic capital, i.e. the level considered by banks to be appropriate as a buffer against unidentified future losses in abstraction from regulatory rules except to the extent that these rules constitute a floor. Traditional features of banking practice can mitigate procyclicality. Relationship banking, for example, can be the basis for assured access to financing for borrowers during difficult times.

Regulatory approaches to smoothing bank lending over the cycle have included counter-cyclical variations in the ceiling on the permissible loan-to-value (LTV) ratios for mortgage lending, a measure successfully deployed in Hong Kong SAR during the property boom of the 1990s, and dynamic provisioning. The latter has attracted special attention during debates on offsetting the procyclicality of Basel II. The Spanish version, “statistical provisioning”, follows a simple principle: when specific loan loss provisions are small, as in economic booms, statistical provisions are high, thus creating a reserve which can be drawn on when credit losses increase.

A 2002 report of a G10 Contact Group on assets prices found that relatively few developed countries applied the idea of dynamic provisioning largely owing to the unwillingness of the tax authorities to recognize such provisions as a tax-deductible expense.¹⁰ Available information on the introduction of Basel II indicates that this option is at least under consideration in a number of developing countries.

Features of the way in which particular developing countries are approaching some of the problems of introducing Basel II can be illustrated with the cases of India, Pakistan and Sri Lanka.

India¹¹

Basel II, like its predecessor, Basel I, has been introduced in a context of continuous upgrading of India’s system of financial regulation. Some the measures in this upgrading are directed at reducing

the cyclicity of bank lending. In 2002 banks were advised to build up within five years an Investment Fluctuation Reserve amounting to a specified proportion of their financial assets as a countercyclical prudential requirement, which would facilitate their absorption of increases in interest rates.

Credit risk weights for minimum regulatory capital requirements have been varied (mostly in an upward direction) for lending to sectors such as real estate, capital markets, and consumer credit, which are particularly sensitive to the business cycle. Prudential norms for loan loss provisioning have been tightened in response to high credit growth.

A number of other features of the Indian upgrading of regulation related to capital standards and risk management are also worth mentioning here. The minimum regulatory capital requirement is 9 per cent of risk-weighted assets – i.e. higher than the Basel II minimum of 8 per cent, and banks are expected to operate at levels well above this. Conservative guidelines have been issued for minimum regulatory capital requirements for securitization exposures.

Guidelines have also been issued to limit banks' vulnerability to changes in conditions in interbank lending and conditions in the money markets: these take the form of ceilings on banks' interbank liabilities as a proportion of their net worth as well as on banks' access to call money.

In the context of introducing Basel II, India must also confront problems due to the small number (four) of credit rating agencies and to the limitation of the agencies' ratings to financial instruments as opposed to issuing entities.

Pakistan¹²

As in many other developing countries, the introduction of Basel II should be viewed in the context of broader reforms of the financial sector. In her addresses, concerning these reforms, the Governor of the State Bank of Pakistan has spoken at length about the upgrading of corporate governance of banks. Some of the subjects under this heading such as limits on banks' exposures to single borrowers and to groups of related borrowers are an integral component of the prudential regime for banks of which Basel II is also a part.

Recurring subjects of the addresses of the Governor are the small number of credit rating agencies (two) in Pakistan, the danger that Basel II will contribute to procyclicality in banks' lending, and the possibility that Basel II will further restrict access to finance to sectors, firms and individuals already under-served.

On procyclicality, the emphasis of the Governor is on the use of supervisors' discretionary powers under Pillar 2 (supervisory review) in such a way as to offset its effects on lending. Restrictions on access to financing in contradiction with the thrust of the country's development policy are to counter by review of the rating process and scoring mechanisms as they apply to small businesses and the poor.

Sri Lanka¹³

Here too the introduction of Basel II should be viewed as part of a programme of upgrading the corporate governance and risk management of banks, a programme, which the Deputy Governor of the Central Bank denotes with the acronym GRC – Governance, Risk Management and Compliance.

The minimum regulatory capital requirement under both Basel I and Basel II is 10 per cent of risk-weighted assets. To counter cyclicity of bank lending the authorities favour a variant of the dynamic provisioning approach under which banks would be encouraged to build up capital buffers in good times to help stabilize lending during downturns in economic activity. The authorities are also concerned at the danger that Basel II will lead to restrictions on firms with low credit ratings under the Standardized Approach to credit risk. Since they do not want firms weightings to move from rated to unrated status in order to improve their Basel II credit, the authorities are considering flexible application of these weightings.

5. Basel II and the financial turmoil in the United States

Basel II could not play a significant role in preventing or containing the outbreak of financial turmoil in the United States. Only in July 2007 did the four United States banking regulators (the Federal Reserve, the Office of the Comptroller of the Currency, the Office of Thrift Supervision, and the Federal Deposit Insurance Corporation) announce agreement on the implementation of Basel II.

A more serious charge against Basel capital rules is that the absence of a capital charge specifically for securitization exposures under Basel I acted as an incentive to practices, which contributed to the credit crisis.

Large-scale securitization of mortgage loans in the United States antedated Basel I. Only in the 1990s did securitization spread to higher-risk assets such as subprime mortgages. The involvement of European banks in securitization also began to increase rapidly in the second half of the 1990s. There is evidence that as part of regulatory capital arbitrage banks securitized loans requiring relatively high capital

charges for given levels of risk in order to economize on regulatory capital. This evidence is discussed by a working group of the Basel Committee itself in a 1999 report on the effects of Basel I, which attributed a major part of the expansion of the securitization of non-mortgage debt to regulatory capital arbitrage.¹⁴

The lack of internationally agreed rules concerning securitization exposures was regarded by banking regulators as a major weakness of Basel I, and its remedy was a major objective of Basel II. However, the drawn-out character of the Basel II process meant that the Basel Committee's concerns were not reflected during the new millennium in reservations in financial markets about the increasingly unsound structures associated with the "originate-to-distribute" model.

While the omission of rules for securitization exposures from Basel I thus contributed to the practices responsible for recent financial turbulence, its role should not be exaggerated. The expansion of "originate-to-distribute" took place in a period when opinion favoured non-interference in financial markets.¹⁵ As the Governor of the Reserve Bank of India put it in a recent speech, "the balance [between markets and regulation] is right or wrong only ex-post when there is all round prosperity, everyone wants everything to be left to the markets; when things go wrong and there is pain, monetary and regulatory policies are invoked to save the situation."¹⁶

The expansion of "originate-to-distribute" was also an integral feature of the movement towards conglomeration in the financial sector, which followed the Gramm-Leach-Bliley Act in the United States in 1999. In normal times, the involvement of the financial holding companies after this reform in a broad range of different financial services might have served the purpose of risk diversification and lower volatility of earnings. But in conditions such as those witnessed since 2007 the involvement has simply multiplied financial enterprises' exposures to different sources of financial turbulence.

6. Basel II and the future regulatory agenda

The key official document under this heading drafted in response to the financial turbulence is *Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience*.

The recommendations of this Report come under five headings: (1) strengthened prudential oversight of capital, liquidity and risk management; (2) enhancing transparency and valuation; (3) changes in the role and uses of credit ratings; (4) strengthening the authorities' responsiveness to risk; and (5) robust arrangements for dealing with stress in the financial system.

The Financial Stability Forum accords a central role in its proposals to introduction of Basel II. It also draws attention to the importance of further work by the Basel Committee on revised rules for banks' securitization exposures and for countering opportunities for regulatory arbitrage through shifts of items between different parts of banks' portfolios.

In discussion outside the regulatory community, special attention has been given to the issue of the protection afforded by Basel II to the banks and the economy more broadly against systemic financial risk. Here the question is raised whether this important objective of prudential regulation can be satisfactorily addressed through micro-level measures, which address primarily financial firms' internal controls and risk management. Some commentators are advocating a shift away from emphasis on micro-level measures in favour of linking banks' capital to macroprudential indicators such as overall levels of bank lending, fluctuations in which portend financial booms and busts.¹⁷

7. A more developmental Basel III?

The formal initiation of a process for Basel III seems unlikely in the near future. Plans for the introduction of Basel II in the 2006 survey of the Financial Stability Institute already cover a period extending to 2015. Regulators may not have the appetite any time soon for another drawn out process along the lines of Basel II.

But this should not be taken to imply that the current rules and guidelines of Basel II will remain carved in stone. The credit crisis is already leading to revisions and elaboration. Future experience with Basel II, once it is in place, will almost certainly lead to further piecemeal development.

As discussed above, Basel II was not intended to be developmental. It is not self-evident that an international agreement on prudential rules for banks should target developmental objectives. Such targeting would presuppose an international consensus on the relationship between banking models as well as on prudential rules, on the one hand, and development, on the other, which is lacking. What is important, however, is that rules such as those of Basel II should accommodate different national developmental policies. Basel II is not binding on national governments which enjoy flexibility. Governments can and certainly will make use of this flexibility.

Perhaps the most natural part of the agreement for the future inclusion of guidelines designed to accommodate experience of Basel II's interactions with development policies is the supervisory review of

Pillar 2. One can envisage the eventual inclusion under Pillar 2 of references to and explanation of regulatory and supervisory options designed to accommodate certain types of involvement of banks in development policies.

8. An enhanced role for developing countries in future agreements on capital standards

Increasingly, insistent questions are now being raised as to how developing countries can gain a greater voice in the work of the Basel Committee now that its work on *Core Principles for Effective Banking Supervision* and Basel II have clearly established its status of global standard setter and not just standard setter for banks in G10 countries - even though a standard setter lacking any supranational authority.

To address this question, one can start from two arguments often put forward as part of discussion of the Basel Committee's membership which is currently restricted to a group of mainly European developed countries: (1) the need to avoid expansion of the Committee to a size which would be unwieldy and

compromise the Committee's efficiency; and (2) the need to maintain the Committee's credibility with the financial sector.

In favour of extending the Committee's membership to larger emerging-market countries and others representing important constituencies such as offshore centres and Islamic banking, is the argument that such an extension would align the Committee's membership more closely with the newly emergent structure of world banking and financial markets. Arguably, such an extension would enhance rather than diminish the Committee's credibility. Moreover, within an enlarged Committee, it should be possible to agree ways of avoiding unwieldy methods of working.

Nevertheless, extension of the Basel Committee would probably require agreement on a new institutional basis for it. The Committee was originally established by the G10, and it still formally reports to the central bankers and supervisory authorities of the G10. A new basis would involve a measure of formal recognition of the role as the sort of Vatican of banking regulation, which the Basel Committee now plays.

III. BANKING SERVICES IN AFRICA: CONSOLIDATION, PRIVATIZATION, HUMAN RESOURCES AND GOOD GOVERNANCE

Dhafer Saidane¹⁸

1. Introduction

The focus of this paper is on financial liberalization, which is the removal of restrictions or regulations in the financial system. Financial liberalization cannot be separated, in a developing economy, from banking consolidation and privatization, human resources challenges and good governance.

The regulatory and institutional frameworks (RIFs) of financial services and, particularly, of banking services, are the key to the real and financial development of Africa. Africa has committed more than a quarter of a century to the process of financial liberalization. The current crisis has confirmed the need to better control market mechanisms in order not to jeopardize economic growth, human development and risk management.

Financial regulation is vital to ensure sustainable economic development. It seeks systemic stability and a good functioning of the financial system as an engine of real development. This goal can be achieved if some basic micro-economic conditions are met. These conditions concern mainly:

- Consolidation and banking restructuring.
- Banking privatization,
- Upgrading of human resources, and
- Good banking governance.

Financial and banking regulation should not be a simple piece of legislation and remain at the stage of good intentions. It must first be an economic strategy based on a multidimensional gradualism (see diagram below). It can only succeed if some basic conditions are met.

The establishment of financial RIFs is a process whose success depends on the participation of local actors.

All African countries are not at the same stage in terms of banking RIFs. The table below provides and illustration of some of the problems related to banking RIFs by country.

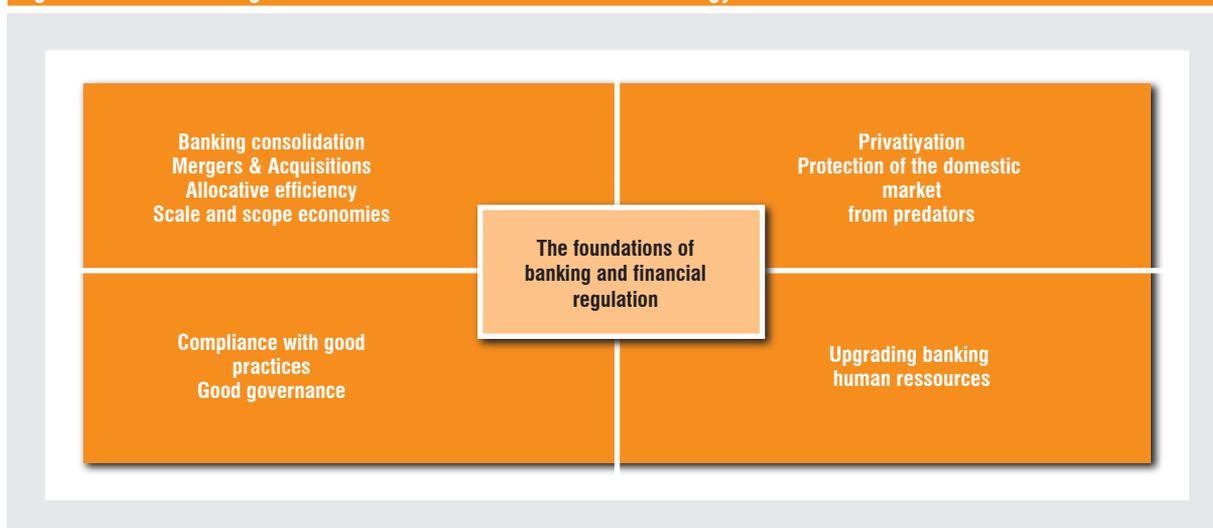
The problems identified in the table above will be expressly examined. The sections that follow will address three aspects.

- The **evolution of banking and financial services in Africa**: issues of financial liberalization as a key basis for real development.
- Analysis of **some national banking and financial experiences**: discussion of a few "success stories" of difficulties faced by some countries in regulating the liberalization process.
- **Lessons from national experiences in regulating banking and finance**: suggestions to local regulators on how to better develop the overall architecture of their domestic financial systems and better prepare themselves for opening their markets in a global context dominated by market volatility.

2. Financial services in Africa: Financial liberalization and real development

During the 1980's and 90's, and with the subprime mortgage crisis, the increase in financial instability

Figure III.1. The banking and financial RIF: a multidimensional strategy



Source: Adapted from author.

Table III.1. Banking Strategy and Financial RIFs

Countries	Major challenges
Tunisia	Status-quo in privatization. Banking governance difficulties.
Morocco	Cross-Border strategy of Mergers & Acquisitions (M&A). Assertiveness of Moroccan banks on the African continent.
Algeria	Privatization blocked. Excesses in the administration of banks.
Libya	The banking and financial liberalization has been more rapid than the upgrading of human resources in financial matters. Urgent needs in terms of bank management.
Togo	The imminent privatization of the banking sector does not specify the banking business model that will be accepted.
Nigeria	Strategy of M&A banking "cross border" source of regional instability. Monetary instability.

Source: the author.

shook up the idyllic vision of financial liberalization. The difficulties concerned mainly the banking sector and they spread out in some countries in form of systemic crises.¹⁹

Financial liberalization aims at the passage from a regulated economy to a liberalized one.²⁰ It reflects the effects of the financial sector on economic growth. Liberalization of the interest rate and the nominal interest rate rise lead to an increase of savings and investment, and finally economic growth. The end of financial repression and the adoption of a real positive interest rate would be favorable to savings. Financial repression makes reference to governmental restrictions established by the regulation of interest rates, the fixing of the obligatory reserve rate at a high level, the administrative orientation of the credit allocation and the limitation of banking competition.

This liberalization aims at structural change, banking integration and more financial deepening. From this point of view, the theory behind financial liberalization considers that governmental restrictions on the banking system reduce the quantity and the quality of investments. Interventions of the State on the financial system would induce a negative effect on the growth rate. Financial liberalization, on the other hand, is considered to encourage the liberalization of national banking sectors and foreign bank penetration aims to increase competition, transfers of know-how and financial operation transparency. This implies also the development of stock markets.

Several studies confirm the existence of a first order positive relationship between financial liberalization and economic growth. (Levine, 1997). They consider that the level of financial development is a good indicator of the future growth rate, capital accumulation and technical change. The financial system, thus, influences technological innovations,

investments, and growth. However, with liberalization, the expansion of the financial sector involves a number of related consequences on growth, which need to be examined.

Characteristics of the African banking and financial services system

African banks remain very small compared to global giants. Total assets of the top 200 African banks should reach about \$1,000 billion. Together, these 200 African banks are placed at 21st rank of major global banks. The largest bank in Africa, Stanbic Bank, is from South Africa and is 24 times smaller than the first bank in the world. Moreover, the African financial systems remain fragmented, heterogeneous though they are changing relatively quickly.

The essential features of African banking and financial services system remain the following:

- A geographical division: 5 main areas that have long remained separated because of the history and language: North Africa, South Africa, Nigeria, the rest of English-speaking Africa, Francophone Africa.
- Low coverage: the traditional banking sector meets only a marginal fraction of needs with maximum 5 per cent rate of access and use of banking services in sub-Saharan Africa, despite some progress in recent years and the willingness of Central Banks to reach 10 per cent by 2010. If one takes into account the penetration of micro-finance institutions (MFIs), however, the access rate is higher.
- An unprecedented effort to modernize the banking and financial services system: in the last 20 years there have been deep changes and most banks today meet the requirements of bank charges and only a few banks face difficulties. These mutations result from modernization efforts pertaining to the

use of information technology, privatization and diversification of ownership. Today there are only very few State banks and those that remain are usually in search of private shareholders.

The obstacles to development are, however, more related to external causes, including *inter alia* problems in energy supply, political instability, insecurity, and bad governance.

Financial liberalization: Lessons from the literature and risks to avoid

The African banking system is currently being liberalized. The literature on financial liberalization should be reminded to avoid errors and risks of opening up too fast. It is important to take into account the social reality and the real economy.

Things suitable for the North are not necessarily so for the South

The success of the financial liberalization depends on local actors' behaviors. These, in turn, depend on informal local usages and practices. One of the main difficulties in the construction of an efficient financial system is the recognition of the role of the time, which is necessary for the local actors' adherence to the new institutions. This time is longer than the time required for the installation of institutional reforms.

Indeed, actors do not adopt instantaneously financial product innovations and institutional change. They need time, which is necessary to evaluate changes through practice. Costs induced by this effort of evaluation are compared to existent benefits resulting from existent informal practices. This is the reason why the formal adoption of new specific institutions from developed countries by developing countries is not an immediate and absolute guarantee of better performance and development. Weaknesses in the theoretical structure of financial liberalization have promoted the appearance and the amplification of financial crises in emerging countries.

3. National experiences in the field of banking and financial liberalization

3.1. Weaknesses in emerging countries revealed by the financial crisis

The optimistic vision of financial liberalization is obscured by the increase in financial instability of these last years. Some difficulties encountered by emerging banking sectors have transformed into systemic crises. It was the case of Chile, in 1981, where banks faced the financial sector liberalization. This experience showed that the benefits of financial liberalization have to be considered and compared to

the increase in costs induced by financial weaknesses. Three main factors have promoted the weakness of emerging economies: the lax attitude of Central Banks, the absence of adequate competences concerning risk management, and effects of risks contagion induced by a too rapid economic opening of capital account.

The Central Bank guarantee as a "lender of last resort": Is it essential?

Institutional imperfection arises with the shift from a closed economy to a liberalized one. It is generated by the implicit deposit guarantee that the Central Bank offers to banks. The opportunist behaviour of commercial banks has promoted excessive risk-taking, which is a source of inefficiency. With the implicit guarantee of a "lender of last resort" and in the absence of a "benign neglect" or a "constructive ambiguity" as for the Central Bank's intervention, banks have multiplied their credits and have committed to very risky activities. This situation of "moral hazard" has changed into a perverse effect that is an excessive banking credit allocation. The "overborrowing syndrome" is an expression of a credit boom. It constitutes a threat to the financial stability of developing countries.

In industrialized economies, the solution, which is commonly adopted to exit a financial crisis, is that the Central Bank plays the role of last resort moneylender and leads an expansive monetary policy. It seems that such a policy in emerging countries has promoted inflation. The depreciation of the national currency then leads to a rise of interest rate with all the consequences that one can imagine on the statements of banks as well as on the accounts of firms and households. The role of the Central Bank as a generous last resort moneylender has therefore to be envisaged more prudently in emerging countries.

The difficulties in managing risks

The liberalization of interest rates increases their volatility. This new situation requires a more elaborate management of risks supported by the portfolio of banks. However, bankers accustomed to a regulated financial system do not necessarily have either the knowledge or the experience to manage these risks. The risk evaluation and demand control competencies were not acquired during all the period where the credit system was regulated by the State. Such competencies are difficult to import from foreign countries. They are acquired gradually through a learning-by-doing process. This learning process must be based on appropriate training needs. It should allow better management of credit risks. Credit must be allocated according to economic

Box III.1 Financial Liberalization and Real Growth: The Order of the Casuality Issue

What is the source? And what is the effect?

Should we consider finance as a motor of economic growth or rather as a consequence of economic performance? Early in economic history, the banking sector was seen as an engine of growth. It remains one the most important inventions ever made. But some skeptics question whether finance really induces an impact on economic activity.

Schumpeter studied this subject matter for the first time in 1911. The author considered that financial services represented an essential element in the promotion of economic growth. The process of production required credit. The idea was that one can become an entrepreneur only by first becoming a debtor. In the capitalistic firm, the entrepreneur first wanted credit that is purchasing power. The banker was considered then as the intermediary contributing to the production of goods and as the pillar of a market economy. Later some empirical studies tried, in the tradition of the IMF, to verify that the more developed a financial system, the more economic growth allowed to develop finance.

Financial liberalization and savings: a weak relationship

Empirical examinations of the relationship between the interest rate and the saving rate in countries with an early liberalized financial system have not led to the determination of a significant positive correlation between the two variables. Financial development did not directly stimulate savings progression.

This conclusion was the result of a "wealth effect" induced by the rise of the interest rate on deposits. This rise did not encourage some very poor agents to save more money. They left the amount of their savings unchanged. Simultaneously they benefitted from the same financial income amount because the interest rate rises. This wealth effect could be observed in most OECD countries despite the interest rate rise during the 80s. The rate of savings decreased on average from 15.2 per cent in 1980 to 10.8 per cent in 1997. For African countries this rate decreased as well. The global internal savings rate in percentage of the GDP rose from 19.3 per cent in 1965-73 to 23.3 per cent between 1974-1980. Nevertheless, the tendency turned inside out because the savings falling to 18.5 per cent during the period 1981-87 and to 16.7 per cent between 1988-1996. Consequently, we may consider the existence of a decreasing function of savings in relation to the real interest rate. Villieu (1997).

Financial liberalization and financial structures: Are financial systems well specified?

The weakness of some empirical results and especially the fragility induced by financial crises in emerging countries lead to thinking that financial systems have been taken into account theoretically and without the right specifications. The consequence has been a superficial connection of the financial intermediation to macroeconomic phenomena. The role of banks does not seem to have been taken into account appropriately and does not appear to be essential. In macro-economic approaches, the financial system is summarized in a simple equation of money demand completed by a negative relationship between the interest rate and the level of investment. Stiglitz (1998).

But the heterogeneity of financial systems is acknowledged today. There are important differences between countries. The traditional classification presents two types of financial systems: based on banks (bank-based) and based on the stock markets (capital-based). The first system is characterized by an important participation of banks in the industry. A small number of banks finance long-term investments. Companies are controlled and managed by a small number of inside shareholders holding the largest number of shares. Banks intervene effectively in firms' affairs and their management and supervision. Firms are therefore linked to banks with credits that they raise rather than bonds that they issue on the stock market. There are very few mergers and changes of control. Therefore, banks directly play a key role in the process of growth. In case of weak performances, the firm's managing team is discharged thus avoiding costs induced by hostile control plugs. Such financial systems can be found in Japan, in Germany (2/3 of banking credits to the industry are long term credits) and in the Republic of Korea.

On the contrary, financial systems based on the stock market - as those of the United Kingdom and the United States - are characterized by a strongly developed stock market. The banking system does not contribute strongly to the resource allocation and to the financial asset acquisition. Stock Market intermediaries mobilize the essentials of the long-term funds. This market appears as the best means for mergers and controls operations. Companies are owned by a large number of shareholders each holding a small number of shares, which therefore implies a strong capital dilution. Companies depend on external control. This strong external control is held by institutional investors such as pension funds and insurance company funds.

Financial liberalization and the traps of the financial sequencing process

The bank-oriented financial system is often considered as an administered system. It is defined as a State-assisted or State-engendered system. On the contrary, the stock market-oriented financial system is defined as a liberalized system. This viewpoint is close to the financial repression thesis, which is often presented in an evolutionist perspective. The financial system would then evolve through a succession of stages moving from banks towards the market. One often refers elsewhere to the sequencing of liberalization. This typology is usually defined with two opposite cases, on one hand, administered or regulated financing and, on the other hand, deregulated or liberalized financing. To simplify matters drastically, this sequential process becomes grotesque and caricatural by comparing banks to administration and stock markets to liberalization.

Box III.1 Financial Liberalization and Real Growth: The Order of the Casuality Issue (cont'd)

This "unilinear" evolutionist vision has to be specified. It is more judicious to claim the heterogeneity of financial systems according to their specificities, which result from the mutual relationship between industry and finance. The emphasis is put on financing sources. Thus the financial system's configuration is determined by more or less important banking credit availability. If firms have easy access to credit then the stock market is not well developed and banks can even control it. The banking debt level then determines the control and supervision degree of firms by banks as well as their level of control by the stock market. A level of high banking debt leads to financial systems in which the role of banks is important and the presence of stock markets is weak. However, in the case of a weak level of banking debt, the sanction and the control of projects come from the financial market.

Table III.2. Financial Liberalization and the gradually updating of Human Resources

Financial Liberalization	
Financial Innovation	Updating Human Ressources to create new financial products
↓	
Market Volatility	
Market Risk	Updating Human Ressources to manage new risks
↓	
Result	
Growth	Updating Human Ressources to create new industrial products

Source: author.

criteria and not on relational criteria. The updating of human resources is therefore essential at all levels of the financial liberalization process. It must allow for technological and financial innovations as sources of value creation.

Financial liberalization has changed in many countries with a diminution of the international capital movement control. The early liberalized financial systems were committed on a new type of risk: the exchange rate risk induced by the raising of funds on international capital markets and their transformation in credit risks drawn in currencies to local agents. This monetary disparity or "currency mismatch" transforms the exchange risk into a credit risk allowed by non-protected debtor agents. It is therefore not surprising that exchange crises precede banking crises and contribute to the early liberalized financial system's vulnerability.

The Tequila Effect: from the currency risk to banking bankruptcies

By a contagion effect the currency risk borne by borrowers transforms into credit risk for banks having granted credits in foreign currencies.²⁶ The choice of

short-term credit in currency allows avoiding the risk induced by inflation. Indeed, emerging countries suffer from high rates of inflation whose evolution is very volatile and uncontrolled. This is the reason why the strong uncertainties on the future value of the national currency imply that an important quantity of the debt is drawn in foreign currencies. It was the case of Chile before the financial crisis of 1982 and of Mexico before the Tequila crisis of 1994. A depreciation (or a national currency devaluation) consecutive to speculative attack leads to a fast increase of debt costs for domestic firms. Their net value falls because of the rise in interest rates. The consecutive devaluation due to the currency crisis in emerging countries leads to an alteration of the exchange pegging rate immediately involving an increase in the anticipated inflation. The consequence is an increase of nominal interest rates and an immediate increase of the cost of the short-term debt involving the reduction in the firms' liquidity whose balance sheets are deteriorated. A currency crisis then transforms into an extensive financial crisis.

Firms having contracted credits in dollars and escaping the risk induced by the inflation of their

Table III.3: Growth rate of GDP

	2006	2007	2008	2009	2010
World	4.0	4.0	2.0	-2.2	2.7
Emerging Countries	3.0	3.0	1.0	-3.3	1.8
Africa	6.0	6.0	5.0	1.1	3.8

Source: World Bank

Box III.2. The global banking crisis: has it affected African banks?

Banks no longer trust. They have lost confidence in the interbank market. Global stock markets continue to decline despite the injection of billions from the Central Banks and States. The questions become: What exit scenarios can be envisaged? How to restore confidence? Some think it will pass by a new Bretton Woods but the world of the twenty-first century is not that of 1944. We are in a globalized world and there are no barriers to capital flows as before.

It is therefore necessary to renew the contract of trust that binds, finance, the business world and the real economy. This requires massive intervention of public powers through nationalization and support. All this implies that the State seeks to leave the credit in the economy. But it must also reconnect with the financial profession and recall certain rules including that "credit is deserved."

In banking major concerns now dominate. The crisis has called into question certain beliefs. Many doubts were expressed about views unanimously accepted a few months ago. For example, the principle of "too big to fail" has been weakened because Lehman Brothers is no more after 158 years of existence. Faced with this changing world where do the African banks stand today? Banks in Africa - and Maghreb in particular - seem protected against "toxic" investments. With weak banking services or rate of bancarization, on average between 6% per cent and 20 per cent across countries, the African banking market is still promising (Le Noir and Saidane (2009 and 2010). How can the large African banks deploy an effective strategy for expansion in the turbulence of globalization? This question is now central to policy makers in African banks.

Source: the author.

national currency suffer from a severe degradation of the balance sheet because the value of their liabilities in foreign currencies increases considerably. Thereby, firms face difficulties in refunding their credits, which translated into a deterioration of the balance of the domestic banks and precipitates their bankruptcies. The erosion of the net value of domestic firms therefore affects the domestic stock market. Because this decline, the net firm value can no longer serve as collateral. Such a situation leads banks and moneylenders to being more reticent to lend to these firms. Thus, we see a contraction of economic activity. This context can lead to a financial crisis and to a strong contraction of economic activity. The stock market faces difficulties and is no longer able to insure efficiently the allocation of resources to most productive projects. The result is the decline of productive investment.

3.2. The situation of financial services in Africa and the challenges of the global financial liberalization

How is the African banking industry facing global financial liberalization today? Africa is indirectly

affected by the crisis, including through: lower exports, lower FDI, and lower support. This view was stated by Dominique Strauss-Kahn in March 2008: "I do not believe in the theory of decoupling. Nobody is immune. I speak rather of lag time ... declining growth prospects in emerging countries ... the transmission of the financial crisis to the real sector starts to be significant".

The GDP of Africa, according to calculations of the World Bank, is declining in 2009.

With global financial liberalization, some African banks appear to have become more dynamic. Those of South Africa are regarded as leaders. Those from Nigeria are characterized by dynamism and remarkable progress. Those of the Maghreb have known exceptional modernization, with Moroccan banks becoming more aggressive outside their national territory. Some banks are already in the strategy of consolidating their market and follow the logic "predator-prey". Such logic may pose risks in future.

A. The situation of financial services in Africa

South Africa: South Africa is home to 6 per cent of African banks, which represent 45 per cent of the total African banking balance sheet and 32 per cent of net African bank revenue. The rate of access and use of banking services is above 50 per cent. This has made the country a leading financial place in Africa with 5 of the 6 largest banks on the continent. It is also a non-negligible player on the world market with the 18th global stock market capitalization. South Africa has a highly concentrated banking system: some 75 institutions representing nearly 40 per cent of the total banking system. Standard Bank is the first bank and it is double of ABSA, the second bank with Islamic banking solutions - subsidiary of Barclays. The profitability of banks draws foreign banks. Since 2007, 20 per cent stake in Standard Bank is owned by the Chinese bank ICBC. Another important partnership agreement is that between Nedbank and Ecobank.

North Africa: 27 per cent of African banks of the Continent are found in North Africa, which represents 32 per cent of the total African banking balance sheet and 32 per cent of net African bank revenue. Banking systems differ by country. Powerful banks have developed in Egypt which is home to 21 banks ranked in the top 50 North African banks and 23 ranked in the top 200 banks of the Continent.

In **Morocco** the banking system is concentrated: there are 16 banks today against 20 in 2000 but these banks now have new ambitions in Sub-Saharan Africa, for example two of them – BMCE and Attijariwafa. They also seek to have a stronger presence in Europe, with for example, the recent creation of MEDICAPITAL, merchant bank of BMCE with headquarters in the City of London. BMCE announced plans to expand in Europe and Africa. Moroccan banks are highly concentrated in three banks: Crédit Populaire, BMCE, and Attijariwafa. The latter is the first with 27 per cent market share and 64 per cent of total assets.

In **Tunisia** there are some 20 banks. The 2 most important are still public. They are fragile because of the importance of bad loans including to a few large companies. However, there are interesting experiments in the field of institutions, specific funding for Small Business (Banque Tunisienne de Solidarité - BTS and BFP-PME), as well as venture capital that is often used as reference on the Continent.

Libyan banks are interested in facilities in sub-Saharan Africa. It is the case of the Libyan Arab Foreign Bank and the BSIC group. The latter wants to settle in 30 African countries of the Community of Sahel-Saharan States (CEN-SAD) by acquiring subsidiaries in Burkina, Niger, Mali, Togo, Mauritania and Chad.

They will modernize the banking sector, including call abroad (BNPParibas, Arab Bank). The excellent performance of the sector - with the doubling of total assets in one year - is noteworthy.

Some banking cross border Mergers & Acquisition are developed between Morocco and Tunisia. For example, the Tunisian Banque du Sud was purchased by Attijariwafabank. The rates of access and use of banking services varies much across countries: 37 per cent in Morocco, 42 per cent in Tunisia, less than 20 per cent in Algeria and higher in the rest of Africa. The number of agencies or branches is higher in North Africa: 1 for 7300 people in Morocco, 1 for 10,000 in Tunisia, 1 for 26,000 in Algeria compared to 1 for 2400 in France and 1 for 99,000 in West African Economic and Monetary Union (UEMOA).

Mauritania presents another special case. Its banking system has been completely restructured since 1990. There are now 11 banks that share the 125,000 accounts. There are many applications for approval to the Central Bank of Mauritania from other North African countries like Tunisia and Morocco as well as from Gulf countries and even Malaysia.

Nigeria: 9 per cent of African banks are found in Nigeria, which represents 11 per cent of the total African banking balance sheet, and 13 per cent of net African bank revenue. Big changes in the banking system occurred in 2004, including considerable revaluation minima on equity (minimum in 2004 multiplied by 125). The result has been a reduction to 25 of the number of banks from 89 before. This strengthens the financial structure and liquidity risks. However, the sector remains strongly dependent of the oil sector and of the State on the credit market. 12 banks among the top world's 1000, the 1st is 355th with 4,000 branches and 15th at the African level: United Bank for Africa - UBA. This bank employs 150,000 employees with 560 branches and has a market share of 17 per cent. 8 Nigerian banks are in the top 50 of the continent. Local ownership remains dominant with a weak opening to foreign capital. The Guaranty Trust Bank was the first African bank listed on the London Stock Exchange. UBA has opened a subsidiary in London investment bank - UBA Capital - which will build a portfolio of investments in Africa. A new Nigerian bank offensive is considered to UEMOA, CEMAC (The Economic Community of Central African States).

The rest of the English-speaking Africa: 13 per cent of the total number of African Banks, 3 per cent of the total balance sheet and 5 per cent of the total banking revenue is found in the rest of English-speaking Africa. A strong presence of British banks as Barclays Bank, which is present in 13 countries and banks from the United States and South Africa but also domestic private capital. Banking systems are very competitive: there exist 45 banks in Kenya, including 22 in the "top 50" in Africa, and 34 banks in the United Republic of Tanzania. These countries generally impose high prudential requirements. The access and use of banking services rates are higher than in the French-speaking area: 11 per cent in the United Republic of Tanzania, 19 per cent in Kenya, 13 per cent in Uganda.

The French-speaking Africa: 17 per cent of African banks, 3 per cent of the total balance sheets and 6 per cent of the total banking revenue are found in French-speaking Africa. The level of access and use of banking services is still insignificant and represents less than 5 per cent of the population. Banks have remained under the influence of former colonial power for long time. Another feature of these countries is that the number of banks have become too important: there are 20 banks in Côte d'Ivoire, 17 in Senegal, 13 in Mali, 12 in Burkina Faso and in Benin (with a population of only 8.4 million). Marked differences remain between the two currency areas: In the WAEMU (UEMOA) the emergence 20 years ago of regional banks as Bank of Africa (BOA) and Ecobank and recently Bank Atlantic leads to an overshooting or overcapacity in banking services with 120 financial institutions and 47 per cent more banks than 5 years ago. The number of French-owned banks has declined considerably with less than 30 per cent of the market today, against 80 per cent 25 years ago. The number of branches increased considerably in the last 2 years to reach about 1000 branches. In the CEMAC zone the number of banks remains the same as five years ago in WAEMU zone (UEMOA): 12 banks in Cameroon (same number as the Benin but with twice the population), 6 in Gabon, and 4 in Congo.

Financial liberalization, banking restructurings and financial services improvement: the maghrebian experience

The weight of the Arabic Maghreb banking system (Egypt, Libya, Tunisia, Algeria, Morocco and Mauritania) in Africa is important. Of the top 50 banks in Africa, in terms of balance sheet in 2009, there are 25 banks from North Africa with an amount of \$350 billion, or 80 per cent of the total²⁷. In this classification, Egypt ranks first with total assets of around \$120 billion (with 22 banks), Morocco is ranked second

with total assets of around \$96 billion (with 7 banks), and Algeria with a total of \$62 billion (with 7 banks), and Libya with a total of \$44 billion (with 4 banks) and finally Tunisia with a total of \$27 billion (with 9 banks).

The North African banking systems have undergone profound changes. Several financial reforms were aimed at the consolidation of banks' capital and strengthening the stability of their activities. Since the 1990s, the central Maghreb countries, Algeria, Morocco and Tunisia, undertook extensive financial reforms to strengthen their banking systems and strengthen their stabilities through mergers between financial institutions. These consolidations meet requirements in terms of capital suggested by the international Basel rules.

The process of nationalization after independence

In Morocco, Bank Al-Maghrib (BAM) has been entrusted by the Dahir No. 1-59-233 of 30 June 1959 to issue of the currency, to ensure its stability and convertibility, and to ensure the proper functioning of the banking system (supplemented by Act of July 6, 1993, regarding the performance of the business of credit). In 1959, Caisse des Dépôts et de Gestion (CDG), the Fonds d'Équipement Communal (FEC), Caisse d'Épargne Nationale (CEN), the Banque Nationale pour le Développement Économique (BNDE) and the Banque Marocaine du Commerce Extérieur (BMCE) were created. In Morocco, the nationalization of the sector was characterized by a reduction in the number of banks, which went from 69 to 26 between 1954 and 1961 and from 26 to 16 between 1961 and 1966, due to mergers and disappearances of some institutions.

Algeria, with the Law No. 62-144 of 13 December 1962 established the statutes of the Central Bank of Algeria. The country has established a national banking system. The first step has allowed the creation of two funds: the Caisse Algérienne de Développement (CAD) and Caisse Nationale d'Épargne et de Prévoyance (PSC). From 1966, Algeria nationalized foreign private banks: Banque Nationale d'Algérie (BNA, 1966), Crédit Populaire d'Algérie (CPA, 1966) and Banque Extérieure d'Algérie (BEA, 1967).

Tunisia by the Law No. 58-90 of 19 September 1958 created and organized the Central Bank of Tunisia (BCT). BCT's overall mission is to preserve price stability. It created the Société Tunisienne des Banques (STB, 1957), Société Nationale d'Investissement (SNI, 1958) and the Banque Nationale Agricole (BNA, 1959). The application of Law No. 2001-65 of July 10, 2001 has ensured a more liberal environment for the exercise of banking business.

Box III.3. Current architecture of the Maghrebian banking system

Morocco

The Moroccan banking system is largely privatized. It is characterized by a high concentration. In 2005, the share of 3 largest banks by assets (Attijariwafa Bank, Credit Populaire of Morocco (CPM) and Moroccan Bank of External Trade (BMCE)) on a total of 16 banks was 64.1 per cent. These banks controlled 66.8 per cent of the deposit market and 54.1 per cent of the credit market. In 2006, besides the 32 financial companies and 6 offshore banks, the banking system in Morocco was composed of 16 banks (Arab Bank Plc, Attijariwafa Bank, Bank Al-Amal, Crédit Populaire du Maroc (CPM),²⁸ Banque Marocaine du Commerce extérieur (BMCE Bank), Banque Marocaine pour le Commerce et l'Industrie (BMCI), Casablanca Finance Markets (CFM), CDG capital, Citibank Maghreb, Crédit Agricole du Maroc (CAM), Crédit du Maroc (CDM), Crédit Immobilier et Hôtelier (CIH), Fond d'Équipement Communale (FEC), MEDIAFINANCE, société générale Marocaine de Banques (SGMB), Union Marocaine de banques (UMB)). The number of establishments has declined since 2001 following the movements of merger and rationalization of the sector.

Algeria

The financial sector in Algeria has been trying to deregulate from 1998. But it remains dominated by public banks, which represent 91.4 per cent of total bank assets in the sector. At the end of 2005, they were collecting deposits of 93.3 per cent and 92.6 per cent of distributed funds. Until June 2006, the Algerian banking system consisted of 19 banks and 7 financial institutions.

- 7 state-owned banks, Banques Extérieure d'Algérie (BEA), Banque Nationale d'Algérie (BNA), Crédit Populaire d'Algérie (CPA), Banque de Développement Local (BDL), Banque de l'agriculture et du développement rural (BADR), Banque algérienne de développement (BAD), Caisse Nationale d'Épargne et de Prévoyance (CNEP).
- 1 Mutual Bank (Caisse Nationale de Mutualité Agricole (CNMA))
- 11 foreign private banks, CitiBank, Arab Banking Corporation (ABC), Natexis Algérie, Société Générale Algérie (SG Algérie), Arab Bank PLC Algérie, BNPParibas El Djazaïr, Trust Bank Algeria, Housing Bank for Trade & Finance-Algeria, Algeria Gulf Bank, Calyon Algérie (filiale du Crédit agricole) et Al Salam Bank, Al Baraka-Algérie.
- 7 financial institutions including three privately owned by Algerians (Sofinance, Société de refinancement hypothécaire (SRH), Salem (société de crédit bail), Financière algéro-européenne de partenariat (Finalep), Arab Leasing Corporation (ALC), Cetelem France et Maghreb Leasing Algérie)

Tunisia

There are 20 banks with 5 national banks and 8 offshore banks.

State banks:

Banque Nationale Agricole (BNA), Société Tunisienne des Banques (STB), Banque de l'Habitat (BH), Banque Tunisienne de Solidarité (BTS), Banque des Financement des Petites et Moyenne Entreprises (BFPME)

Private Banks:

Attijari bank, Banque Internationale Arabe de Tunisie (BIAT), Union Bancaire pour le Commerce et l'Industrie (UBCI), Union Internationale des Banques (UIB), Banque de Tunisie (BT), Arab Tunisian Bank (ATB), Amen Banque (AB), Arab banking Corporation (ABC), Tunsian Qatari Bank (TQB), Banque Tuniso-Koweitienne (BTK), Banque de Tunisie et des Emirates (BTE), Citibank, Banque Tuniso-Libyenne (BTL), STUSID BANK, Banque Franco-Tunisienne (BFT).

Within this system, commercial banks are the dominant players, although the Tunisian banking landscape is changing from a regulated sector to universal banking. The first five banks in terms of assets are: STB, BNA, BIAT, BH and Attijari bank. They control more than 50 per cent market share of deposits and loans, and nearly 45 per cent of net banking sector. The biggest problem which the Tunisian banks face is that of disputed claims (17.9 per cent for private banks, 24.1 per cent for State banks as the international standard is 6 per cent (Source IMF).

Among the regulatory initiatives aimed at finding the optimal size, we can cite the example of the Tunisian Law of 10 July 2001, which provides a new framework for the banking system. It abandons the distinction between deposit banks, development banks, offshore banks and investment banks and adopts the concept of "universal bank". This law opens the way for consolidation and diversification by seeking economies of variety. This was the case in 2000 from the merger STB, BDET and the BNDT.

Source: the author.

The rate of access and use of banking services in the Maghreb

The rate of access and use of banking is measured by the percentage of households having at least one account at a bank. Tunisia has a relatively comprehensive and sophisticated banking system. The rate of bancarization is among the highest in Africa (60 per cent). For comparison, in France the rate is near 99.9 per cent. In Morocco the rate of bancarization is still modest, about 25 per cent, and Algeria the rate is even lower, less than 20 per cent.

The Maghrebian banking market: new horizons to explore

In the Maghreb, Moroccan institutions have been particularly aggressive. After Maghreb Titrisation, which stalled in June 2005 a warrant of arrangement and management of BIAT securitization transactions, Attijariwafa Bank has partnered with its shareholder Banco Santander to buy 53.5 per cent stake in Banque du Sud in October 2005. The investment bank BMCE Capital bought in 2000, 50 per cent stake in Axis, Tunisian company specialized in the business of financial advisory, asset management and financial intermediation. This gave birth to a new Tunisian-Moroccan Investment Bank "AXIS Capital".

The Tunisian side, "Maghreb Leasing Algeria", Offshore leasing company, was established in Algiers by the group "Tunisie Leasing" in partnership with Amen Bank, the third private bank in Tunisia. The new entity will give priority to become a privileged partner of SMEs and corporates in financing their equipment and materials necessary for their activities.

Besides these Maghrebian financial mergers, the creation of a new institution, "Banque Maghrébine d'Investissement et de Commerce Extérieur" (BMIC) is foreseen which will operate across the whole Maghreb Union with the objective of establishing a

newly linked and integrated Maghreb economy.

Traditionally, the historical, geographical and cultural proximity allowed French banks to be more active in the Maghreb. The Maghrebian banking market is a source of growth for the major French banking groups. The rate of access and use of banking services being relatively low the Maghrebian market represents significant potential. The strategies of French banks in the North Africa market can be summarized in two alternatives:

1. Purchase a minority interest in a local bank without takeover (Calyon, Natexis Banque Populaire, Crédit Mutuel-CIC and Caisses d'Épargne), or
2. Purchase a majority in total or an entity acquired or created (BNP Paribas, Societe Generale).

However, it seems that the first alternative is a transitional phase to the second. In the table below, we note the major holdings in the French capital from banks in the Maghreb.

Given the needs of customers in financial services, foreign banks still have a potential to exploit in the Maghreb. In Tunisia and Morocco, not only the legal and regulatory architecture is very rich and very favorable, but these countries have a modern infrastructure for the distribution of banking products through various channels. Foreign banks wishing to invest in these countries and to bring in modern technology could probably find partnership opportunities with local banks.

The program of privatization and modernization of the financial sector in Maghreb provides other sources of growth for foreign banks in financial engineering, the financial arrangements for major projects and advice and assistance in management of treasury and mergers acquisitions.

The induced changes of such activities should lead to greater access and use of financial services

Table III.4. French Participation in Maghrebian Banks

	Morocco	Algeria	Tunisia
BNP Paribas	65,1% of BMCI	100% of BNP Paribas El Djazair	50% UBCI
SG	51,9 % SGMB	61% SGA	52% UIB
Calyon	52,7% CDM	Representative office	Representative office
Natexis Banque Populaire	10 % of « Chaabi Leasing »	100 % of Natexis Algérie	Minority interest in « Assurance BIAT »
CIC-Crédit Mutuel	10 % of BMCE and a representative office	Representative office	20% of BT and Representative office
Caisse nationale des caisses d'épargne	25% de CIH	-	-

Sources : Standard & Poor's, Jeune Afrique – Hors série n°13 (2006)

Box III.4. Tunisia: Financial service modernization programs

Starting in the 90s, Tunisia implemented important reforms and modernization programs in many financial areas, and important progress has been achieved mainly in terms of modernizing of the banking system (IMF, 2000). However, exposure to high credit risks and other important weaknesses persist within this system. For instance, many banks continue to suffer heavily from non-performing loans (NPL), a low level of provisioning, a large volume of non-interest bearing assets, and a high exposure to vulnerable and risky activities, e.g. in tourism. Nevertheless, a more radical liberalization process is considered and it is expected that new actions will be taken in order to prepare the banking system for deeper integration, especially within the EU region. Opening banking services to EU competition may arguably lead to improvement within the Tunisian system and open the way to better and cheaper services. Tunisia (like many neighboring countries) is indeed considering, and arguably willing, to open up gradually its service sector to EU competition; that is to extend to trade of services its Free Trade Agreement with the EU (signed in 1995) so far covering only manufactured goods.

The conclusion of Boughzala and Saidane (2007) is that it is not in the Tunisian interest to maintain the current level of protection of its banking sector. Openness is likely to generate efficiency and welfare gains directly and through the integration of the Tunisian banking system within a much more competitive environment. However, some important reforms have to be implemented before and along the process in order to allow the Tunisian banks to maximize its net gains.

Source: Boughzala and Saidane (2007).

Table III.5. Ownership of Commercial Banks in Maghreb

	Domestic-owned in 2000 (State -owned)		Foreign-owned in 2000	Total in 2000	Foreign-owned in 1995
Algeria	4	2	3	7	0
Morocco	8	1	5	13	2
Tunisia	10	0	4	14	2

Source: Lee (2002) from BankScope Database.

Box III.5. Maghrebian countries and financial liberalization: some events

Since the early 1990s, Morocco has been undertaking a gradual liberalization of its financial system with the aim of putting in place a modern financial market that promotes healthy mobilization of savings and optimal allocation of financial resources. The reforms have mainly focused on modernization of the monetary policy instruments and overhauling the financial system's legal and regulatory framework (Kacemi and Zouhar, 2008). Key elements of the reform process were eliminating quantitative ceilings on credit, liberalizing interest rates, introducing market-based instruments of monetary policy and developing capital markets. As a consequence, the financial sector grew significantly in depth and breadth. The M3/GDP ratio rose from 52 per cent in 1989 to 103.7 per cent in 2005. The stock market started to develop with market capitalization rising from less than 3 per cent of GDP in 1989 to 55 per cent in 2005. In 1993, Morocco achieved current account convertibility and in 1996, a foreign exchange market was established ending the Central Bank's monopoly on holding and managing foreign currencies. More recently in 2001, commercial banks were allowed to make investments abroad. The removal of foreign exchange controls on non-residents and the deregulation of financial markets have substantially changed the environment in which the monetary policy operates.

Tunisia has liberalized interest rates and credit allocation decision by commercial banks. Interest rates were liberalized in 1987 and were allowed to be set freely within a spread of three percentage points of the money. By 1996, deposit and lending rates have been liberalized. Limited controls on some deposit rates remained. A new indirect monetary policy was introduced. Treasury bills were redesigned in order to make them more liquid and attractive to investors. In parallel, the legal framework for new private investments such as certificates of deposit, commercial papers, mutual funds and corporate bonds was reinforced. Although many of these instruments have been scarcely used since 1992, the average lending rate for each bank has been limited to the money market rate (TMM) plus 3 percentage points. Term deposits are remunerated at about 0.5 percent below TMM, and sight deposits at 2 percents. Comfortable interest margins have allowed banks to achieve adequate levels of profitability. In Tunisia, bank governance is well advanced (Law Act in May 2006 and December 2007 on strengthening the policy of transparency and improving the quality of information). However, the country must agree to the new "Business Model" which is the universal bank (Banking Act of July 10, 2001).

Sources: : the author and adapted from Achy (2003), Arestis (2000), Kacemi and Zouhar (2008), Maghyereh (2004) and Nashashibi et al. (2001).

with the modernization of the financial sector. But in Tunisia restructuring is somewhat hampered by the bad loans of some banks and a lack of will to continue modernization. As for Algeria, it still expects to implement some reforms, especially in the modernization of payment methods and the launch of the privatization process (including the CPA would be followed by that of the BDL).

Reform of financial sectors in the 1990s

The reform of financial sectors started only in the 1990s, far later than their comparator countries in East Asia and Latin America, which initiated reforms as early as in the 1970s and 1980s. Before financial sector liberalization, many within-regional countries within

the region, with the exception of Morocco, tended to have State-dominated and excessively regulated domestic financial systems (see the following table).

Over the last two decades, Maghreb countries, like many developing countries, have experienced a wave of liberalization of their financial sectors. Since the mid 1980s, a gradual liberalization of financial system has taken place. Interest rates subsidies to priority sectors have been reduced or eliminated. The monetary authorities started to manage liquidity through a more active use of reserve requirements and a more market-based allocation of refinancing (Achy, 2003). Stock markets legislation has been updated. New banking law increased autonomy of the Central Bank and introduced prudential regulation

Table III.6. The Inefficient Financial Nebula in the Togolese Banking Sector

	Total assets in millions\$	Total Revenue millions\$	Staff	Profit Margin in %	Ratio costs/ Revenue in %	Capital structure	Remarks
Ecobank Transnational Incorporated	8 306	792	6 000	20,5	69,5	Private	27 countries, 640 branches
Banque Togolaise Pour Le Commerce Et L'industrie (Btci)	150	89	251			85,21% CNSS, SOTOCO et 14,71% privés/ Résidents (Etat+ privés togolais) 51,47%, Non résidents (BNP, SFOM) 48,53%	7 guichets/ex-BNP-Paribas/ Associée à BNP-Paris
Ecobank Togo	155	13	292	58,2	56	Private	
Banque Togolaise De Développement (Btd)	103	10	203	42,3	62,9	43,3%; BCEAO : 20%, BOAD : 13,4%, CNSS : 8,5%, AFD : 3,2%, BIA Togo : 1,6%	
Union Togolaise De Banque (Utb)	155	9	257	2,1	84,7	State : 100%	6 branches, ex-Crédit Lyonnais.
Ecowas Bank For Investment And Development	275	7		2,6	137,8	67% State members of CDEAO and 33% institutional	2 branches, See Banque d'investissement et de développement de la CEDEAO
Banque Atlantique Togo	63	5	80	4,2	89,8	cf. Atlantic Financial Group	
Bia Togo Sa - Banque Internationale Pour L'Afrique Au Togo	75	5		5,8	75,4	Belgolaise sold in 2008 its 57.54% stake to the state of Togo.	
Financial Bank Togo	21	0		-55,4	154,3	Private 100%	
Societe Inter Africaine De Banque (Siab)	7		44			Togolese State : 50 % Libyan Arab Foreign Bank : 50 %	1 branch at Lome
Banque Regionale De Solidarite - Togo	3					87% Institutions of l'UEMOA, 12,5% others institutions, 0,5% People share.	One of the 8 banking subsidiary of Holding Groupe BRS.

Sources: Mint Global, Bureau van Dijk Electronic Publishing, September (2009).

Box III.6. Financial Sector and Governance Project

The development objective of the Financial Sector and Governance Project for Togo is to improve financial sector stability by supporting the Government's financial sector reform program. Financial sector restructuring will lead to more efficient resource allocation towards poverty reducing and growth inducing sectors. The project will provide technical assistance to various stakeholders to support the financial sector reform program of the Government of Togo. There are four components to the project. The first component of the project is banking sector restructuring. This component will support the Government's banking restructuring strategy and will provide technical assistance to ensure that the financial and institutional restructuring of 3 public banks (BTCI, BIA, and UTB) is completed. This will involve identifying strategic banking investors for Togolese State owned banks: Banque Togolaise pour le Commerce et l'Industrie (BTCI), Banque Internationale pour l'Afrique (BIA), Union Togolaise de Banque (UTB) as well as Banque Togolaise de Développement (BTD), which is not under restructuring.

The second component of the project is strengthening of microfinance sector. This component will focus on strengthening the stability of the microfinance sector through improved external supervision and strengthened internal controls within microfinance institutions (with a focus on increasing the capacity of network institutions to supervise their member institutions). Microfinance is a huge market, which aims to address lack of banking services. This form of intermediation tries to involve the informal sector and corresponds to the needs of the population, especially the poor. Many players of varying size are active in this sector: small local NGOs to microfinance "multinationals" sometimes exceeding the size of traditional banks. In total, there are 712 microfinance institutions in the WAEMU (UEMOA) with 4240 points of representation and 7.3 million customers. In late 2007 there were 439 MFIs in Cameroon managing 162 billion CFA in credits i.e. 4 times more than in 2001 with 850,000 customers. The number of clients was multiplied by 7 on 6 years but with the volume of resources still marginal compared to banks: less than 7 per cent in 2007, but a rise in bad loans (currently 6.5 per cent while the acceptable limit is 5 per cent).

The third component of the project is reforming the pension sector. This component will focus on reforming the pension arm of the two social security institutions (Caisse de Retraite du Togo (CRT), and Caisse Nationale de Sécurité Sociale (CNSS)) to restore their financial viability.

The fourth component of the project is support to the implementation of reforms in the financial and private sectors. This component will provide technical assistance to the Reform Secretariat and the Economy Directorate within the Ministry of Economy and Finance to strengthen their capacity to formulate policies in the financial and private sectors. This component will also aim at improving public private sector dialogue.

Source: the author and the World Bank, March 2009.

in line with international standards. Finally, measures to increase competition by opening banks' capital to foreign participation have been designed.

B. Liberalization of the banking industry in Togo: the necessary privatization to improve the quality of financial services

Less than thirty years ago, the Togolese banking system could rightly claim to be a true "financial Switzerland" of Africa. A sufficiently comprehensive financial structure was introduced. It allowed funding all economic sectors. Commercial banks were generally sound and enjoyed the challenges of neighboring Benin whose financial system was fully nationalized. All this justified the flattering comparison. In addition Togo had succeeded in stimulating a nucleus of financial sector through the tax system of its free zone which had attracted many groups holding banks and financial institutions: Ecobank, Banque Atlantique, Financial Bank, Banque Ouest Africaine de Développement, de CAURIS Investissement, Fonds GARI, EBID (Banque d'investissement et de développement de la CEDEAO).

The major challenges of modernizing banking services

Unfortunately, with repeated political and social events, the Togolese banking sector has transformed in recent years in a nebula with financial actors with a poor performance (see following table): bad debts by 30 per cent, bad banking practices, overstaffing, overcapacity, conflict of interests with public companies (e.g. SOCOTO). These public banks are currently the financial arms of the State. The result is a big management problem, which has alienated in recent years the flagship of the Togolese banking industry (BTCI, UTB) from the benchmark. Moreover, the French core shareholders (Credit Lyonnais and BNP) have "given up" sometimes brutally, after twenty years.

Togolese banks have serious challenges to face in the next five to ten years: dealing with foreign banks motivated by a shareholder logic value, local resistance to change facing windfall profits, impact on employment, social management of the transition, effective communication and a lot of teaching at all levels of administration.

The restructuring of the banking industry of Togo is among the important projects that a Nation can experience during its existence. This is a strategy of institutional reform for the “heart of the economy”, i.e. banks. The shockwaves of the financial crisis of 2007 confirmed that the causality runs from banks to the real economy. Therefore, the FSGO (Financial Sector and Governance Project) adopted with the World Bank in Togo in April 2009 was historic (see box III.6 below).

It is therefore urgent to develop strategies for effective privatization. It is important to determine the best ownership structure for banks in Togo. In light of the lessons that should be learned from the recent international financial crises, should we not go through a banking domestic consolidation before considering the international dimension? To ensure success, strategies for privatization of banks should take into account the needs and the local entrepreneurial culture.

However, one thing is certain; competition in African banking market will be very high for the next years.

Some Moroccan banks, as Attijariwafa and BMCE are very dynamic. Similarly, some Nigerian banks including United Bank for Africa (UBA) and Diamond Bank already have their plan for potential acquisitions in Togo as for BTCL. Added to those, some Asian banking strategies as that of the Industrial and Commercial Bank of China (ICBC) have identified Africa as a new market. Therefore, it is important for countries to be cautious and avoid the logic of shareholder value and forget the funding of the real economy and development.

Banking business model: which model to choose?

It is urgent to propose a configuration of the banking market and business models for development. Is the model of “universal banking” (UB) desirable? If yes, what specific model of UB in Togo should be defined?

Beyond privatization, what is important is the restructuring of the banking sector in Togo and its upgrading, including through training, to international standards. This change is necessary to give Togolese banks their

Box III.7. Strategy of bank privatization in Togo: some propositions

This strategy is part of the process of disengagement of the State from the Togolese banking sector. It might include the following six points.

Analysis of strengths and weaknesses of the banking system of Togo

The banking sector has experienced through the 1980s, a flourishing condition. It was the major player in financing the national economy. The withdrawal of private partners for the benefit of the State compounded the difficulties due to the increased interference of politicians in the management of banks that found themselves with large bad debts on the State companies. This situation has prompted the State to inject substantial funds to save some banks reached the situation of bankruptcy. The current banking system partially finances the needs of the real economy, especially SMEs, agriculture, and housing.

The architecture of Togolese banking system

Currently because of the lack of adequate legal tools the banks do not have a specific vocation. Therefore, each moves and finances different sectors. It is necessary to define the architecture of the banking sector according to the orientation of the development policy of the Government of Togo. The idea is is not to create new banks, but to reorganize the financial system of Togo in particular taking into account the real needs of the economy in priority some sectors namely, housing, agriculture, SMEs, and trade. In this context, we must consider a financial institution dedicated to SMEs, a bank of social housing, which could be one of the existing banks to privatize and an agricultural bank that would use existing networks of micro-finance

The privatization of the banking sector in Togo

Privatization is a valid option and the process is ongoing in Togo. But: what to privatize? When to privatize? How to privatize? What to privatize? It is not necessary to privatize the four banks involved. When to privatize? The privatization process should be completed in 2010. How to privatize? Privatization should be calling on public savings, and shareholders and households. Regarding the call to foreign shareholders it is important to have special attention to the qualities that should be required: financial solvency, adaptation to cultural and social environment and especially the needs of domestic economy.

Good governance of banks

The privatization of banks is one tool among many for a smooth financing of the economy. Indeed, there are private institutions, which may be in difficulty for lack of good governance. Therefore, an effective privatization of banks in Togo must necessarily be accompanied by the establishment of bodies and texts to create an adequate framework for good governance. It will place special emphasis on the quality of human resources.

Source: the author.

true role as a driver of growth and development.

C. Libya: improving financial services by upgrading human resources

A great economic potential

Libya represents 6 million people. It is engaged in structural reforms in preparation for its accession to the WTO. The steps are part of the prospect of economic liberalization and partial privatization of the public sector. The income per capita is \$13,100 (or slightly higher than that of Argentina or Mexico). The growth rate in 2008 stood at 7.3 per cent. The weight of oil is significant in the economy (75 per cent of budget revenue). Libya is the second largest oil exporter in Africa behind Nigeria, but oil reserves are the largest in the continent (40 per cent of African reserves). It also offers great potential for development of gas reserves not yet developed.

The country has begun negotiations with the European Commission to conclude an EU-Libya framework agreement. The partial privatization of the economy engaged with the participation of sovereign funds (fund economic and social development with 8 billion dollars and Libyan Investment Authority has 70 billion dollars) has contributed to the rise of the Tripoli Stock Exchange created in 2006.

An ongoing financial liberalization

There are 15,000 banking employees. The reform of the banking sector is in its infancy. In 2007 BNP Paribas has taken a 19 per cent stake in Sahara Bank with an option of 51 per cent within 5 years. Arab Bank entered the capital of Wahda Bank. In 2008 the merger was acted between Joumhouriya Bank (6,000 employees) and Umma Bank. The First Gulf Bank recently opened a new commercial bank and Attijariwafa Bank has opened a representative office in the upcoming privatization. In this context, the prospect of closer ties with Tunisia ahead with the establishment of a consortium with Tunisian-Libyan Tunisian side: the BTL, and the NAIB ALUBAF.

Ongoing investment in Libya is driving expansion of banking assets: 36 per cent year-on-year in April 2009. The banking sector is dominated by the Libyan Foreign Bank (LFB) and four State owned or controlled commercial banks (85 per cent of assets). The Banking Law of 2005 established the Central Bank of Libya's (CBL) independence and role as regulator. At present, the CBL is cautiously reforming the banking sector.

Libya's financial services industry remains highly protected. Shares in some of the State banks have been offered to Libyan citizens, and private banks are

permitted, but the banking sector has not been opened to foreign institutions; Islamic finance is largely absent from the market. The most significant reforms in the service sector over the past decade have occurred in banking and finance. Banking Law No.1 of 2005, along with the Anti-Money Laundering Law No.2 of 2005, are aimed at creating a new legal framework for the banking system in Libya. The country's 5 public banks were recapitalized and its four private banks licensed. The Bank of Commerce and Development is the most substantial of the four private banks and has led the way in the modernization of Libya's banking sector by introducing modern services such as ATMs and credit cards. Twenty-one regional banks have been merged, banking supervision reinforced, interest rates and foreign exchange partially liberalized, and the exchange rate unified.

The year 2007 saw the start of a strategy announced by the Central Bank in 2004, to develop and modernize the banking system to meet international standards. Minority stakes of 2 Libyan banks were sold to foreign investors. The first step was to sell off a minority stake in Sahara Bank, the second largest commercial bank with total assets of around \$3.6 billion. BNP Paribas SA won a bid for the privatization of Libya's Sahara Bank with 19 per cent of the shares, for about €145 million with the option to raise their participation up to 51 per cent in three to five years.

The Wahda Bank sale was structured in the same way as the previous deal, with the offer of an initial 19 per cent stake. Liberalization of financial services offers potentially significant economic benefits along with high risks. Significant short term adjustment impacts are likely to be experienced as the domestic industry contracts in response to increased competition, and careful phasing will be needed to minimize these. Strong regulation and supervision will remain essential, to avoid a significant increase in the risk of financial instability and potential for major adverse economic and social impacts.

State-owned and private commercial banks offer a similar product range. Retail services include current and savings accounts, loans and money transfer. Corporate customers are offered trade finance and cash management services. Banks may open l/cs and guarantees for foreign corporates operating in the country.

The CBL has been working with the IMF to create a structured capital market and the first sovereign bond issue is expected in 1-2 years, according to observers. There has been a gradual improvement of banking supervision with centralizing data and improving processes.

Historically, Libya has lacked a credit culture: banks

sat on liquidity and the limited lending activity that existed was to the public sector, and was poorly controlled. In response, the CBL has been working on a central Credit Bureau for the last year. The database has been in operation from April 2009 and 25 per cent of individuals and corporates have been assessed. The Credit Bureau will improve comprehension of lending risks, but also seek to encourage lending; stimulation of economic growth and enhancing banks' profitability. The project is supported by a team of international specialists. A 38 per cent increase in lending is expected in 2009. The CBL has been seeking to upgrade technology supported by international experts. A project currently coming to fruition is the National Payment System; previously, payments were slow and unreliable, sometimes even made through another country.

Order 19 of May 2009 allows local banks to form strategic partnerships. Up to 49 per cent ownership by a foreign entity is permitted. Foreign branches and representative offices are now allowed. In 2008, a number of foreign commercial banks won approval to open their representative offices, including two UAE banks: Abu Dhabi's First Gulf Bank (FBG.AD) partly owned by the Economic and Social Fund of Libya and National Bank of Abu Dhabi (NBAD), one bank from Qatar Masraf al rayan, interested in the strategic geographical location of Libya as well as Egyptian investment bank Beltone Financial, also in partnership with Economic and Social Fund of Libya. In addition, seven other foreign banks currently operate representative

offices in Libya: Bank of Valleta (Malta), UBI (France), Bawag (Austria), BACB (UK), the Housing Bank for Trade and Finance (Jordan), Suez Canal Bank (Egypt) and ABC (Bahrain). In March 2005, a new law allowed the opening of branches of foreign banks for the first time, with minimum capital of \$50 million. Foreign banks have expressed interest and HSBC and Qatar National Bank have opened branches. BACB has started discussions about the acquisition of a stake in the Bank of Commerce and Development. Others reported to be interested are Standard Chartered, Crédit Industriel et Commercial and Citigroup.

Overall, despite progress, the country's banking system remains highly centralized. Libya has looked to a number of sources of foreign advice in pursuing reform. In October 2008, a cooperation agreement was signed between the Libyan Stock Exchange Market and London Stock Exchange, providing for training teams from the Libyan Stock Exchange in Tripoli and London to enable them to run stock market operations. Limited liberalization of the insurance market began in 1999 with the creation of the United Insurance Company as a joint public/private venture, and approval has been given for two private sector insurance companies.

Banking services underdeveloped by the lack of human resources modernization

In this movement to modernize the economy, the problem is the human resources factor. The use of

Box III.8. Institute of Banking and Financial Studies

The Institute of Banking and Financial Studies (IBFS) has created in 2006 under the authority of the Central Bank of Libya. Its board is chaired by the Vice Governor. The aim of the Institute is to focus on the importance of training, education and the upgrading human technical, professional and scientific levels. According to economic decisions, to upgrade economic and financial system which aim economic development of human sources and economic growth. The IBFS, which belong to the Libyan Central Bank (LCB) has been developed to upgrade the education and training. The decision of the LCB n°122 year 2006, starts the creation of the IBFS. This new structure is a financial entity different from the personal entity. It has the task of upgrading the banking and financial sectors in Libya. The Institute is responsible for:

- i) The execution of courses and training programs in the field of financial and banking.
- ii) The execution of seminars, meetings, and conferences, which discusses topics related to financial and banking, locally or internationally.
- iii) The researches and studies that helps to develop the sector of banking and financial it is also acts as a consultant to take the right decisions an policies.
- iv) The issuance of reports and papers in the field of the science of banking and financial.

Important links are established with the Central Bank of Tunisia, Egypt, Jordan, Bahrain and Dubai. The Libyan banking regulation is largely inspired by Tunisian law and the two Central Banks of Tunisia and Libya enjoy excellent relations.

The Institute is well positioned (link Central Bank) but lack of architecture programs allowing banks to offer a structured development of skills of their staff.

Source: *Institute of Banking and Financial Studies, Libya.*

know-how and foreign labor is essential. Investment in human capital represents a major challenge especially as the population is young. In this context, senior executives of different nationalities Maghreb (Morocco, Tunisia) and other Arab countries like Egypt and Jordan are increasingly solicited by the Libyan banking system.

Some key issues and questions that need to be addressed in this context are:

- How to develop bank-training programs in Arabic to meet the training needs of employees of the Libyan banks? What training materials in kit form could be provided in Arabic language teaching?
- What approaches and retention criteria in the selection of priorities? Which priorities should be targetted in the training of trainers for Libyan progressive training and learning support materials to ensure the success of the vocational training system?
- What controls and certification training could issue diplomas recognized by the profession and in line with international standards?
- How to anticipate future developments of the Libyan banking sector and how to prepare teaching materials capable of meeting the skill needs expressed by the Libyan banking sector?

D. Nigerian banking system: fast liberalization but more systemic risk

Nigeria is sub-Saharan Africa's second-biggest economy after South Africa's and the world's eighth largest oil exporter, yet the continent's most populous country (with 140m-plus citizens) has yet to fulfil its economic potential. Nigeria became politically independent in October 1960, agriculture was the dominant sector of the economy, contributing about 70 per cent of the GDP and employing, and accounting for about 90 per cent of foreign earnings and Federal Government revenue. Nigeria is an oil-rich country and yet its people live in poverty.

Banking takes off

Financial liberalization in Nigeria started in 1987 and the associated financial innovations have generated an unprecedented degree of competition in the banking industry. The liberalization initially provides powerful incentives for the expansion of both size and number of banking and non-banking institutions. The consequent phenomenal increase in the number of such institutions led to increased competition amongst various banking institutions, and between banks and non-banking financial intermediaries.

Following consolidation in 2005, the Nigerian banking sector took off very quickly becoming the largest sub-

Saharan African banking sector outside South Africa. Nigerian banks began expanding aggressively, both in Africa and even into developed markets such as the Britain. The Nigerian banking sector is supported by fundamentals – oil wealth, solid growth forecasts and a large population (the biggest in Africa) with minimal access to financial services.

Liberalization, competition, innovation, monetary instability and precarious financial environment for banks

However, given the rapid deterioration of the global economy, notably the collapse in oil, there is a risk that the sector could undergo a series of bankruptcies, bailouts and consolidations over the next two years. Apart from the competition with the range of financial activities, banks have also faced problems associated with a persistent slowdown in economic activities, severe political instability, virulent inflation, worsening economic financial conditions of their corporate borrowers and increasing incidence of fraud and embezzlement of funds.

Another major problem banks have had to contend with is the inconsistency in monetary and regulatory policies. The surveillance and regulatory measures of the Central Bank of Nigeria have unfortunately been unable to keep the pace with the rapid changes in the financial system. All these factors – liberalization, competition, innovation, economic recession, political instability, escalating inflation, and frequent reversal in monetary policy - have combined to create a challenging and precarious financial environment for banks. A consequence of the new financial environment has been the rapidly declining profitability of the traditional banking activities. Thus, in a bid to survive and maintain adequate profit levels in a highly competitive environment, banks have tended to take excessive risks. But, then the increasing tendency for greater risk taking has resulted in insolvency and failure of a large number of the banks.

The continuing deterioration in the financial health of the banks and the increasing incidence of bank failure since liberalization have raised question about the nature of the Nigerian banking sector.

Consolidation and best banking practices: some solutions

Consolidation is simply another way of saying survival of the fittest that is to say a bigger, more efficient, better-capitalized, and more skilled industry. Consolidation is part of the natural evolution of industries. It is primarily driven by business motives and/or market forces (economies of scale and economies of scope, efficiency, etc.) and regulatory interventions (liberalization).

Consolidation is a term used by the Central Bank of Nigeria (CBN) to describe the coming together of some banks within the country to become one bank and be able to meet CBN's requirement for capitalization to a minimum of N25billion, when this happens, it is expected to improve services rendered by the bank.

Perhaps most importantly, Nigerian banks are facing a home-grown credit crunch due to excessive margin lending, whereby investors borrowed from banks to invest in Nigeria's stock market. The dangers this could pose to the wider banking system, in turn, could be exacerbated by large amounts of interbank lending (or the sudden lack thereof). Nigerian banks allegedly borrow large sums on the interbank market to shore up their balance sheets when reporting, a practice which is tenable since banks report at different times through the year. This problem was tacitly acknowledged by the central bank in 2008, when it instituted a requirement that all banks report their end-of-year figures in December, as simultaneous reporting would make it impossible for banks to bolster their balance sheets by borrowing from each other without detection by the authorities.

A high degree of opaque interbank lending means that the insolvency of a small number of banks could pose widespread risks to the banking system as a whole. In such a scenario, an insolvent bank may default on its obligations to other banks, which, in turn face liquidity or even solvency problems of their own.

Some of the problems identified are:

- lack of transparency (the example of UBA which was fined over \$15million by the US banking regulations is cited),
- weak regulations, and
- shady banking practices (banks lending money to investors to buy shares from the banks which result in the rise in their stock prices).

The top 7 Nigerian banks, with a combined market value of almost \$40 billion, are overvalued by as much as 56 per cent, according to a report published in May by JPMorgan. Part of the problem is that banks have used their own money to push up their stock prices by engaging in risky lending to corporations and individuals who invest in the banks' own shares.

A robust banking sector that everyone can have confidence in is essential; the country's reformers and regulators have to examine this important question.

E. The Islamic finance can it improve the financial services?

Several African countries such as Djibouti, Senegal, Niger, Nigeria and Sudan have developed Islamic finance. For example, the evolution of the banking

system of Sudan has led to a banking system consisting of 26 banks of which 7 are purely Islamic. In Sudan, the Islamic bank has grown from 1984 (prohibition of payment and receipt of interest). In 1978 the first Islamic bank, Faisal Islamic Bank, was born in Sudan and has been licensed by a special law. Then, other Islamic banks have begun to settle, as Tadamon Islamic Bank, Sudanese Islamic Bank, Cooperative Islamic Bank of Development and Albaraka. In September 1983, the Islamic Sharia law was applied leading to a program of Islamization of banks. In 1984, the general laws governing banking operations have been amended, particularly Article 110, to prohibit the receipt and payment of interest. However the Sudanese Islamic banks continue to maintain relations with the international banking system. The Sudanese Islamic banks do not include interest received conventional international banks in their accounts. Interest receipts are the subject of donations for social work in the country. Close links also exist with the international Islamic banks, including Bahrain, Malaysia, Jordan and Gulf countries. The banking system of Sudan complies with Islamic banking standards those of Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) and the requirements of Basel I and II.

The weak development of Islamic finance in the Maghreb countries seems, somewhat, surprising, where potential customers exist. In fact, the population is very sensitive to the religious argument on savings and financing. In addition, the population is still under-banked. The rate of access and use of banking services is only 25 per cent in Morocco, 20 per cent in Algeria and about 33 per cent in Tunisia. In Morocco, the concept of Islamic banking is emerging very slowly despite the rule change made by Bank Al Maghrib (Central Bank of Morocco). Bank Al Maghrib after long refusing Islamic banking products, authorized in March 2007 the so-called "alternative products": Ijara (leasing), Murabaha (purchase and resale of a property with a premium), and Mousharaka (equity financing). Moroccan banks have officially able to market these products. Attijari Wafa Bank, BMCE Bank and Banque Populaire have launched banking products that meet the specifications and rules of Shariah. Their success seems modest to date.

In Tunisia and Algeria, Islamic finance is limited to Bank Et-Tamweel Al-Tunisi Al-Saudi (Best Bank) and Zitouna Bank in Tunisia and Al Baraka bank in Algeria. In Algeria, it was in 1991 that the Central Bank authorized the offering of Islamic products to individuals. Thus was born the Al Baraka Bank's main shareholder with a Saudi group. It attracts a clientele that wants to comply with Shariah. The product that works best is the car loan. Since 2001, 47 500 vehicles

were purchased in Algeria with an Islamic finance, including 17 500 in 2006.

Al Salam Bank Algeria began its activity as a second Islamic bank in Algeria in October 2008. The bank is financing companies, individuals and different sectors such as agriculture. The bank has a capital of \$100 million and has two agencies that employ 60 staff including Algerian executives from other banks. Libya also recently started to open up to Islamic finance.

The implementation of Islamic finance in the Maghreb should be very gradual. Its development will be probably very slow and moderate. (Saidane, 2009). The banking authorities will not allow an influx of Islamic banks. They must find a balance between an important social demand for this type of Islamic – Halal services and competition from entrants for uncompetitive local banks. Islamic finance is promising but not yet popular in Africa due to a lack of information.

4. Lessons from national experiences

4.1. A micro-economic reexamination of banking development

In the process of growth, banks are often forgotten for a too large vision of financial intermediation process. (Levine (1997), p. 689) The analytical and theoretical contributions deal with a macro-economic level. Thus the weak integration of the role of banks among the other financial intermediaries leads to an amplification of the financial crisis. Banks were considered as a booster of financial crises. (Mishkin (1999), p. 1525) In developing countries, banks exist while stock markets often are in an embryonic structure. In average and weak income countries the value of bank assets does approximately about 55 per cent of the GDP, the non-banking institutions represent about 14 per cent and the value of financial market transactions is about 5.5 per cent. Must developing countries' financial systems follow an "unilinear" evolutionist process in which they evolve through a succession of stages, leading them to move from banks to the financial market? Has the development of stock markets, including the risks of instability that they induce on fragile countries, been favored? It is indispensable to identify the true role of banks in the financial system. It is also essential to examine their interactions with the productive machinery in the framework of a mutual development process of industry and finance.

The banking approach of the liberalization has to be a bank-based approach

The Schumpeterian bank-based approach of the financial intermediation stipulates that innovative activities cannot find a place without the banks'

collusion that provides to the entrepreneur the necessary financial means. As a rule, first the businessman is debtor beside the bank to become creditor then. First he borrows and after he puts his money in a bank deposit. The function of financing is a prerogative of banks and banking credit plays an essential role. It contributes to the mobilization of the capital, as financial fund to the service of entrepreneurs and the capital is more efficient as it allows an increase of the real product.

Schumpeter notices that the essential [three-quarters] of what one calls commonly "banks" corresponds to institutions that insure the financing by credits by creating *ad hoc* means of payment qualified by the author of "abnormal credit". It proceeds from the creation of an *ex nihilo* purchasing power leading to the creation of goods. The credit creates a new currency allowing the expense to become the motor of the economy. Banks then take the risk to bet on the future. They allow projects to be financed without the *ex post* saving constraint. It means that the projects are not limited by the existing savings quantity in the economy. Schumpeter sets this abnormal credit against the normal credit considering that the normal credit exists at the same time with collateral serving as a counterpart. Furthermore, the monetary velocity does not increase in normal credit case contrarily to abnormal credit.

For Schumpeter, what we commonly call "monetary creation" is only the mobilization of resources already existent. The bank makes more than that. It contributes effectively to the creation of "a purchasing power" before the creation of goods. This credit banking type is essential to finance the innovation. Schumpeter notes that the essential role played by banks in the economic development consists in choosing firms that will be able to benefit from the public savings. The banking sector performs on the economic expansion path through the saving allocation. Hence, the Schumpeterian finance and development approach is an excellent explanation of the banks' economic role and function in the productivity growth and the technological change process. The Schumpeter idea is that the accumulation of the capital is the key of the economic growth. In this framework, banks have to contribute there by the monetary creation as well as by the mobilization and the allocation of the savings.

The banking approach of the liberalization has to integrate a social dimension

The access and use of banking services increase the financial deepening. As Fry (1995, p.453) reminds it is the proximity of the system more than the level of deposit rate that has contributed grandly to the increase of domestic rural ratio savings from 1 to 5 per

cent over a period 20 years in six developing Asian countries. According to Sarr (2000), the behavior of bank price can be influenced by the state of the economic development of a country. In the initial development phase where income levels are weak, savers and depositors are less sensitive to levels of deposit rate. They are more sensitive to the different bank services through the proximity and to the density of branches as well as to the quality of the service of saving management.

A banking micro-economic re-examination of the financial liberalization process is suggested here. It consists of identifying the role of the financial banking intermediate in the financial deepening. The importance of banks in development is not only to achieve a transformation of the existent savings in credits. Banks have to analyze projects and risks that are associated them, to provide them with advice and to finance them by taking the risk to make bets measured on the future. They also manage the appreciation of the influence of the liberalization on their behavior, their statement and their accounts. Thus, the banking industry in developing countries did not require the liberalization imposed by the McKinnon-Shaw,²⁹ financial sequencing. For developing countries, an appropriate regulation of banking industry is necessary. A deregulation of depositor rate, according to McKinnon-Shaw, does not constitute the panacea. The existence of a banking market power on the market of deposits and the maintenance of a regulation of creditor rate are not in contradiction with financial deepening.

The banking regulation is not a homogeneous and compact judicial block. The regulation is indispensable if it is guaranteed a collective wealth in poor people countries. The Liberalization can be useful if it is not dangerous to the social equity.

4.2. The good governance and the institutional corrections

Good governance defines how to establish an efficient institutional framework reducing imperfections of the liberalization.

The governance: some objectives

The problem of governance in developing countries has been pointed out for the first time in the World Bank report of 1993. In substance, governance aims to restore an efficient institutional framework. It means:

- Fight against the corruption and the ineffective bureaucracy,
- Security of depositors and the respect of the shareholders and creditor right,

- Accounting norms allowing a good management of firms,
- Rigorous application of contracts.

The quality of the governance deals at least with three aspects of the financial and economic activity in developing countries.

The efficiency of economic policies and industrial structures

Two countries presenting similar financial systems and committing a similar economic policy can exert a different effect and a different causality between financial development and economic growth. This is due to the difference of the quality of their governance linked to the efficiency of institutions that exert it. As a rule, the industrial dynamism is more important for countries subject to a highest level of financial development, a best judicial shareholder and creditor protection and an efficient mechanism of application of contracts.

The financial system performance

The quality of governance explains differences in the financial systems efficiency. The banking sector stimulates more or less the growth according to the institutional framework. The quality of governance as exogenous component acts on the performance of the banking system, which would exert a significant and positive influence on the growth of GDP, on the accumulation of physical capital and on the growth of productivity.

The probability of banking crisis appearance

The weakness of the institutional environment increases the probability of crises due to the financial liberalization. That is the case in countries where the rule of law is weak, corruption and ineffective bureaucracy are pervasive and the respect of contract is low. In this context, the financial liberalization increases the probability of banking crisis appearance. Weaknesses of the institutional environment can then translate into the two amplification types of risks: the risk of credit and the risk of changes.

The Banking Governance: some recommendations for a strong supervision-regulation

Efficient banking governance requires strong supervision-regulation and can be defined according to Mishkin (1999) with five elements:

- First, the existence of a supervision and banking regulation agency. The structure needs adequate resources to achieve its monitoring mission allowing banks to avoid being committed in risked activities of hazardous manner. Such a structure allows banks to match the risk on the basis of an

expertise and a rigorous control. It leads banks to have sufficient funds with the result that the moral risk of the clientele does not entail to excessive risk commitments,

- The installation of steady procedures based on accounting rules allowing a greatest financial institution transparency. They would offer to the supervisor appropriate information allowing it to detect excessive risk commitments and to control them adequately. These measures guarantee a healthy banking system environment,
- The recourse to rapid corrective actions to the initiative of the banking supervisor allowing to stop undesirable banking activities. Its actions would have not only to end the activities of banks whose net value is insufficient but also to insure that shareholders and managers of these banks are well punished,
- The independence of the banking supervision/regulation agency from the political power. It is not good that the agency is under the tutelage of the central Bank because that risks altering the independence of the agency,
- The transparency of actions of the banking supervision/regulation agency. These actions have to be available to the public, what do guarantee more autonomy from the political power and from some groups of influence.

If financial liberalization is adopted while the supervisory and regulatory frameworks are not installed, then banks will not be efficient and prudent in credit allocation. A credit boom linked to a financial deepening characterized by an increase of financial flows can lead to the weakening of the quality of the banking portfolio.

Liberalization and financial deepening can have a positive effect on the economy in the long-run. However, in the short-run, the credit boom can outstrip necessary information resources for the future stability of the banking system. Banking crises have often followed this boom. It is the case, for example, of Mexican banks whose deterioration of the balance sheet was preceded by an explosion of credits.

4.3. Some lessons to improve efficiency

The consolidation strategy is a prerequisite to restructuring banking systems in Africa. This is a set of conditions necessary to move towards a stronger banking system based on improved governance.

The upgrading of production structures and costs

The consolidation of the African banking system will

require the upgrade of production process, inputs and costs.

Upgrading the production process should come first to clean up the loan portfolio and reduce the cost of bad debts through a consolidation of bank capital. Then there is the modernization of payment system to increase the speed of check cashing and the spread of electronic banking facilities (ATM, images/checks, etc.). The manual processes and numerous checks based on paper documents significantly increase costs and processing times. It is also to fight against over-capacity for better efficiency factor (branches, ATMs, unification of computer systems).

Upgrading methods of managing human resources. Managing human resources according to international standards and adapt knowledge and skills to effective know how. This requires training for a better allocation of human resources and strengthening of business functions (customer relations) and those of risk management (back office and front office).

Upgrading costs by the adoption of rules accounting and transparent methods that highlight the actual productivity of each profit center within the bank. This is fostered by modernization and sharing of information system and development of databases to better track risks.

Discipline and strengthening of bank capital

Banks in the world operate with a set of prudential rules called Cooke ratio. These rules have been adapted to the banking and financial markets. The new rules, called Basel II, allow banks to protect themselves against three types of risk: credit risk (default of the debtor), market risk (market volatility), and operational risks (related to management and economic environment). The African Central Banks are preparing their banks for implementation of Basel II standards. This passage will be essential.

The dynamic of the market by the State

The State should promote a form of healthy competition between banks and their customers. The strategy of the collective optimum or "win-win" can succeed only if the banks out of their status quo. Collusion creates a situation that weakens market forces. Similarly, a significant number of banks can lead to destructive competition and eroding margins. The role of the State is to prevent collusion and destructive competition. The idea is that the State promotes the consolidation that creates value so that the new entities resulting from mergers are more efficient than the previously separate entities.

Towards universal banking

The search for an optimal size for business - retail banking and wholesale banking - aims to improve performance. African banks are still “small shop” compared to American and European “one stop shops”. They are still too small to meet the new challenges of the twenty-first century. These require new bank investments in the following areas: resources and human skills in information systems, communications, marketing and design new products and services. Many economies of scale are still unexploited in the various banking business lines.

4.4. How African countries should react to the crisis?

In the current context, in terms of solutions to the crisis, no expert can be omniscient. The current crisis is systemic and global. It is also very complex because it contains a strong psychological element of both the supply and demand side.

Privatization and banking resilience

African countries should continue their cautious strategy of financial liberalization as was done by the Republic of Korea in the 1980s. The African bank liberalization and privatization should continue. It is not because Europe and America has nationalized certain banks in the recent past (see table below) that Africa must stop its privatization process.

Table III.7. Recapitalization, Massive Aid, Assistance in Capital and Nationalization of Banks (2008 - 2009)

Country	
Belgium	- Fortis (100%)
France	- Dexia (50% France and Belgium) - Caisse d'épargne/Banque populaire/ Natixis (20%)
Germany	- Hypo Real Estate (aide massive aid)
Iceland	- Glitnir - Landsbanki - Kaupthing - Straumur
Netherlands	- ABN Amro/Fortis (100%)
United Kingdom	-Royal Bank of Scotland (70%) -Lloyds Banking Group (43%) -Barclays (ongoing)
United States	- AIG (79%) - Citigroup (36%) - Bank of America (ongoing)

Source: the author.

Therefore, African bank privatization should continue to progress with calm. This is no time for doubts or hesitation. The current crisis should not be a challenge to the capitalist system. It is now too late “to throw out the baby with the bathwater” and to challenge the system. Going back would cost much more.

The winds of liberalism and deregulation breathe since the 1980s. The trend is to go towards more, rather than less, market. This is the direction that history is taking and it is not because some bankers have done their work badly in the United States that the entire global system should be penalized. It is clear that regulation of financial activity should be reinforced and that there should be appropriate rules for monetary creation. Above all, it is necessary to renew the contract of trust that binds finance and the real economy.

However, it is legitimate for the State to intervene when it concerns currency as a public good. Banks that manage the public's money are not like other companies. The State maintains the right to intervene, regulate and impose market discipline.

African banks must continue to contribute to development, growth and the real economy

African banks must continue their mission of financing the real economy. They should not succumb to the lure of excessive industrialization of the production process and continue to servereal growth. One of the mistakes of banks in richer countries in recent years is the outsourcing of an essential function, which is the risk management. In other words, bankers are not like other entrepreneurs. They provide an essential function that has been delegated by the monetary authorities: monetary creation and management. By the principle of “too big to fail” they face a production function, which is not trivial. This production function is both microeconomic and macroeconomic. It is a function that potentially affects the economic system as a whole through a “domino effect”.

These principles need to be reminded to avoid the worst. They must be reminded in restructuring African banking system.



PART TWO:
CASE OF LATIN AMERICA

| 2

V. OVERVIEW OF REGULATORY POLICIES FOR INFRASTRUCTURE SERVICES

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1. Introduction

The objective of this note is to provide an overview of regulatory policies for infrastructure services with special focus on Latin American national experiences in the electricity water and transport sector. Analyzing regulatory experiences in Latin America - including best practices and non successful cases - will assist developing countries, least developed countries and economies in transition in identifying and establishing policies which will contribute to supporting their domestic infrastructure services capacity and efficiency, competitiveness and export capacity and ensure the provision of essential services.

The paper is organized as follows. Section I discusses regulatory policies for infrastructure services. The analysis covers the three main dimensions of infrastructure reform: introduction of competition, private sector participation and the creation of autonomous regulators.

Section II presents six cases studies illustrating Latin American experience with the regulation of infrastructure sectors. The cases cover experiences in transport, water and electricity in a range of small, medium and large Latin American countries.

Finally, Section III presents some recommendations to improve the regulation of infrastructure services sectors in developing, and least developed countries. Also, some concrete actions and research areas for future study are identified.

2. Regulatory policies for infrastructure services

Dimensions of the reform

In the last 20 years or so there has been a deep transformation of infrastructure sectors all over the world. Starting with the deregulation in the United States and the deregulation and privatization in Chile and Great Britain the movement quickly spread to other countries notably in Latin America but also in Africa and Asia.

Infrastructure reform has involved three main dimensions: competition, private sector participation, and separation of regulation from service provision and policy-making. The following graph shows the regional incidence of each of the elements of the electricity sector restructuring international experience.

Not in all cases the three elements of the reform and its frequency were present. The international experience shows all kinds of combinations and sequences, not all of which are successful.

Finally, it is important to note that these reforms were not isolated events but in most cases were part of

Figure IV.1. Dimensions of the reform: International experience (% of countries in each region)



Source: Robert Bacon, "A Scorecard for Energy Reform in Development Countries", World Bank, 1999.

larger economic and political reform processes which included macroeconomic stabilization programs, integration to international goods and financial markets.

Competition

Competitive forces are a key instrument in ensuring an efficient outcome in the market. One of the most distinct elements of the reform was challenging the existing vision that infrastructure sectors were monolithic activities characterized by natural monopoly conditions in which there were no possibilities of competition.

Rather than as single indivisible activity, infrastructure sectors started to be seen as a combination of potentially competitive and monopolistic activities with strong vertical and horizontal interlinks. Value added services in the telecoms sector, production and supply in the energy markets (electricity and gas), air and land transport were identified as potentially competitive activities in which competition in the market was possible.

Introducing competition was in some of these activities a matter of pure deregulation. This was the case in air and land transport and mobile phones. Liberalization of these activities resulted in many cases in strong competition. The increase in the penetration ratio of mobile phones in developing countries is the most striking example. From all the reforms of the 1990s, the benefits of competition, as a key instrument to ensure efficiency, is probably the most accepted lesson.

But this instrument has its limitations. Firstly, it was not always clearly understood that competition is an instrument towards increased efficiency rather than an objective in itself. This resulted in some cases in attempting the creation of competitive markets where this was not possible due to technical or institutional limitations (see Case Study 2). Secondly, in some sectors, introducing competition involved

strong re-regulation rather than pure liberalization. In these cases, the tasks were quite complex and not always successful (particularly in energy). The crisis in the California electricity market³¹ and the difficulties with investments under the New Electricity Trading Arrangements (NETA) in Great Britain are good examples of the difficulties faced by this type of markets.³²

Directly associated to the introduction of competition in some stages of the infrastructure sectors requires sector unbundling to isolate potentially competitive stages from the natural monopolies. Monopolistic stages were not only isolated from competitive activities but also were subject to regulation which include not only price limits but also open access conditions to ensure a level playing field for all competitors in the market.

Unbundling has high economic costs: loss of economies of scope, increase in regulatory complexity, need to design and implement mechanisms to ensure coordination and consistency across stages. The decision to unbundle the sector is efficient only if the benefits associated to competition in the competitive stages outweigh the costs of the restructuring.

Private participation in infrastructure

The second dimension of the reform involved opening infrastructure sectors to private sector participation (PSP). The private sector was expected to contribute to infrastructure sectors in two ways: increasing managerial capacity and providing additional sources of finance.

The relative importance of these two determined the form of PSP adopted. Table IV.1 depicts responsibility allocation under different forms of PSP.

The relative participation – in terms of number of projects and committed investment – for each type of PSP is presented in Table IV.2.

Table IV.1. Forms of Private Sector Participation in Infrastructure

Option	Asset Ownership	Operation & Maintenance	Investment	Commercial risk	Duration
Service Contract	Public	Both	Public	Public	1-2
Management Contract	Public	Private	Public	Public	3-5
Lease / Affermage	Public	Private	Public	Shared	8-15
Concession	Public	Private	Private	Private	25-30
BOT/BOO	Both	Private	Private	Private	20-30
Divestiture	Private	Private	Private	Private	Indefinite

Source: the author.

Table IV.2. Private Participation in Infrastructure by type of Participation 1990-2008. Non OECD Countries (US\$ billions)

Year	Concession		Diverstiture		Green Field		Management	
	# Projects	\$ Investment	# Projects	\$ Investment	# Projects	\$ Investment	# Projects	\$ Investment
1990	20	2,339	7	4,641	28	5,814	3	---
1991	8	422	2	8,964	17	4,297	2	---
1992	10	1,513	28	10,487	41	7,183	4	---
1993	30	9,906	165	8,550	67	14,369	9	3
1994	54	4,395	45	14,085	121	17,643	4	---
1995	49	5,822	36	11,905	146	24,807	7	11
1996	60	10,932	50	20,183	190	36,033	13	47
1997	82	27,766	73	41,292	181	39,893	15	9
1998	83	16,462	70	45,885	134	33,448	6	408
1999	41	9,112	43	29,934	115	29,540	13	33
2000	62	12,073	37	38,202	110	37,322	9	8
2001	39	5,634	32	25,685	128	38,862	16	20
2002	43	3,229	21	14,749	120	33,078	15	71
2003	52	3,257	11	14,349	149	38,882	27	92
2004	58	7,342	14	23,972	119	36,719	16	274
2005	73	7,320	18	28,681	145	57,899	18	3,006
2006	96	17,089	35	34,951	166	68,963	16	1,089
2007	82	16,791	45	51,760	178	84,579	12	1,921
2008	51	19,548	30	45,500	131	89,364	5	369
Total	993	180,950	762	473,818	2286	698,692	210	7,361

Source: World Bank and PPIAF, PPI Project Database. (<http://ppi.worldbank.org>) Date: 12/18/2009.

Although significant, private sector participation in infrastructure has not been as smooth or deep as expected. During the 90s, there was excess of optimism on the role the private sector can play in infrastructure sectors. Available studies find that, in general, PSP has been successful in terms of improving sector management³³ but the results in terms of additional financial resources were not as good as expected.³⁴

One of the outcomes of this is a movement towards different and more flexible forms of PSP such as the Public Private Partnership (PPP) approach adopted in many countries. The emerging consensus now stresses the complementary role of private sector investment in infrastructure sectors rather than it being a substitute for public sector investment.

Autonomous Regulator

The introduction of PSP and the coexistence of competitive and monopolistic stages in infrastructure sectors implied the need of separating the policy making, regulatory and service provision functions

into distinct institutions. While in the past many State-owned enterprises (SOEs) had been - *de jure* or *de facto* - performing all three functions, the reform wave of the 90s stressed the need to separate regulation putting it under an independent body.

The creation of a separate regulatory system was therefore one of the key elements of this reform. Regulatory system can be defined as the combination of institutions, laws, and processes that, taken together, enable a government to exercise formal and informal control over the operating and investment decisions of enterprises that supply infrastructure services. (Brown, Stern and Tenenbaum (2006)).

Regulatory systems do not exist in a vacuum but have to be integrated into the general institutional endowments of the country (constitution, political organization, form of government, legal tradition, etc.) the particularities of the sector or sectors to be regulated (degree of competition, vertical integration, technological change, etc.), and general economic context of the country (level of development, GDP per capita, macroeconomic stability, etc.).

The interaction of all these elements will determine sector performance – the main goal of the reform. These interactions are neither simple nor one way. A schematic representation of these interrelations is presented in Figure IV.2.

These relationships are not unidirectional. The performance of infrastructure sectors is a key element in the general performance of the economy and the development of the country. (Calderón & Servén (2004), Straub (2008)).

The regulatory system involves legal instruments, institutions and processes, which need to be integrated into the general economic and institutional context of each particular country and sector.

Although different approaches to the institutional organization of the regulator exist the autonomous regulator model has been the prevailing paradigm since the early 1990s. The economic rationale for an “independent” regulator is to try to isolate infrastructure sectors from short-term political pressures by entrusting the long-term objectives to a separate body with a clear legal mandate.

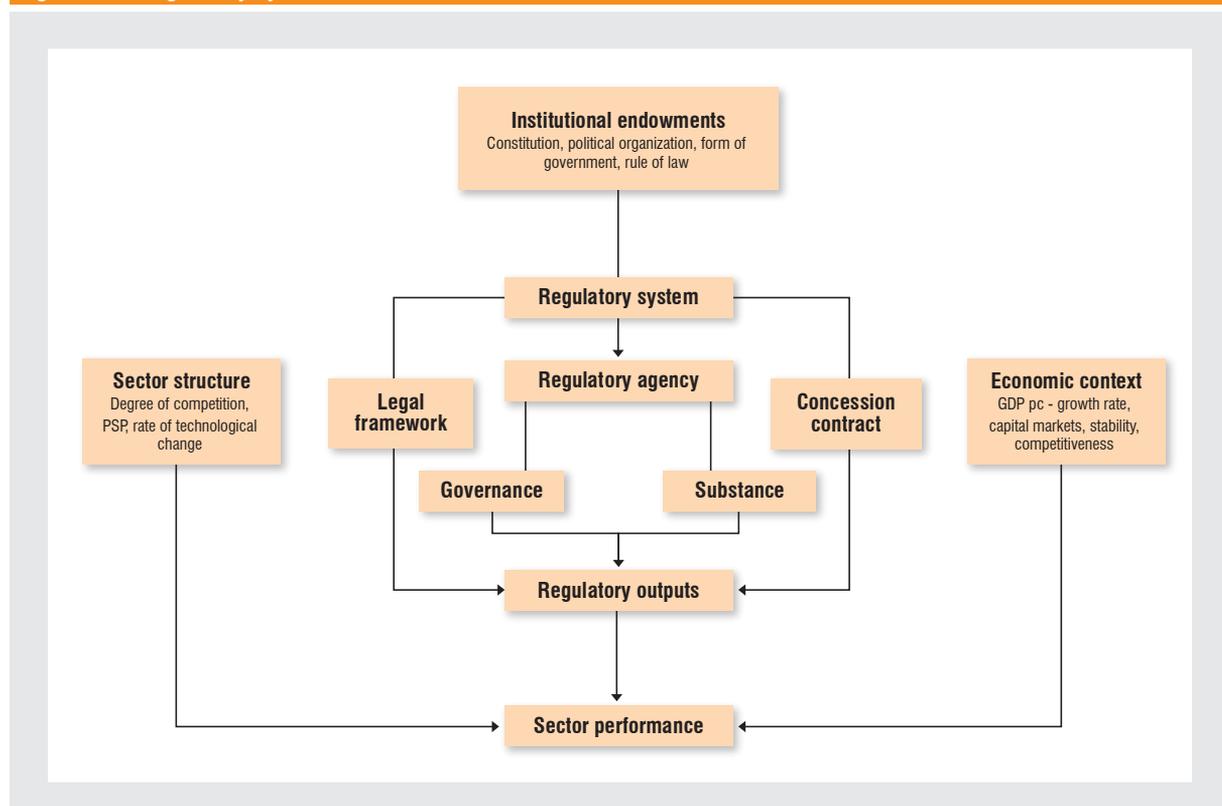
Regulatory systems can be decomposed - for analytical purposes - into two basic dimensions:

- **governance:** refers to the institutional and legal design of the regulatory system and the framework within which decisions are made.
- **substance:** is the content of regulation. It is the actual decisions, whether explicit or implicit, made by the specified regulatory entity or other entities within the government, along with the rationale for the decisions.

Brown et al. (2006) group the main governance elements under three meta principles which must be satisfied by any infrastructure regulatory system for that system to be effective and sustainable:

- **Credibility:** Investors must have confidence that the regulatory system will honor its commitments
- **Legitimacy:** Consumers must be convinced that the regulatory system will protect them from the exercise of monopoly power, whether through high prices, poor service, or both.
- **Transparency:** The regulatory system must operate transparently so that investors and consumers “know the terms of the deal.”

Figure IV.2. Regulatory system interactions



Source: Author elaboration.

These in turn give place to 10 Key Principles (Independence, Accountability, Transparency and Public Participation, Predictability, Clarity of Roles, Completeness and Clarity of Rules, Proportionality, Requisite Powers, Appropriated Institutional Characteristics, and Integrity) specific to particular models of regulatory governance designed to implement the meta-principles in the specific context of the independent regulator governance mode. Autonomy does not imply that the regulator should in any way be in charge of defining sector policy. Clearly creating sector policy belongs with the minister but in many cases the regulator will be the one in charge of the implementation.

Transparency requires that all stakeholders have access to information and that the procedures and decisions adopted by the regulator are publicly known. In OECD countries, particularly in Great Britain, Australia and New Zealand, formal and detailed consultations process were a key element of the functioning of regulatory agencies. Consultation mechanisms are essential so all the parties interested in the regulatory process can actively participate in the decisions to be taken by the regulatory agency.

User participation mechanisms are another important element related to the transparency principle in the design of regulatory agencies.

Here again, in LDCs, the effort was mostly limited to the formal establishment of some form of participation (public hearings or consultation documents following respectively the United States or Great Britain examples). There were few attempts to provide users (who have a clear disadvantage relatively to the firms in terms of technical capabilities and access to information) with tools or instruments that would help them make informed contributions to the debate.

During the last years some improvements have been made in this regards. For example, now it is common to find regulatory agencies conducting regular surveys of consumer satisfaction.

With the benefit of hindsight, it appears that there was too much optimism on the expected functioning of regulatory agencies. The emphasis was mainly on formal requirements – many times included in conditionality conditions by international agencies. But two gaps can be observed: one between the formal elements included in the legislation and the actual functioning of the agencies and other one between the formal aspects of the agencies and the substantive content of the decisions being made by them.

LDCs show a substantial gap between the conditions stated in the legislation and what actually happens

Table IV.3. Formal and Informal Dimensions Gap. Electricity Regulators in Latin America

	Autonomy	Transparency	Accountability
Index Correlation	0.459	0.364	0.365
Rank Correlation	0.409	0.330	0.398

Source: Own calculation based on Andrés et al (2008).

in the real world. An initial measure of this gap can be found in some recent studies aimed at evaluating the performance of regulatory agencies. Andrés et al (2007) construct a Regulatory Governance Index for electricity regulators in Latin America. The index based on extensive questionnaires identifies 6 components: formal autonomy, informal autonomy, formal transparency, informal transparency, formal accountability, informal accountability and tools.

The division of the autonomy, transparency and accountability principles into formal (what is stated in the norms) and informal (what really happens) variables allows to measure the existing gap. A measure of this gap is given by the correlation between the formal and informal variables of each principle (Table IV.3).

If the real world behaved as stated in the norms one would expect a perfect (or at least very high) correlation between the formal and informal measures of the different principles. The evidence in Table IV.4 shows that both the direct correlation between the indexes and the rank correlations are relatively low for the three principles included in the study. This gap reflects to certain extent a mismatch between the regulatory system and the context in which this system had to operate.

Also, the implementation of regulatory system imported from a different legal tradition (particularly Anglo-Saxon models implanted in Latin America and French speaking Africa) creates tensions between the regulatory regime and the rest of the legal system, which in many cases also leads to a gap between the formal and real operation of the system.³⁵

Regulatory objectives

From the substance side, we can identify four main regulatory objectives, namely: sustainability, allocative efficiency, productive efficiency and equity (See Table IV.4).

Sustainability as a goal entails a set of tariffs that generates enough revenue to cover the economic costs of the service.³⁶ This would allow attracting new capital resources to the industry, so as to guarantee the future provision of the service while minimizing potential fiscal contributions.

Table IV.4. Regulatory Objectives

Objective	Definition
Sustainability	Generate enough revenues to cover economic costs of service
Allocative efficiency	Reflect – relative – cost of production serving as signals for consumption and investment
Productive efficiency	Incentives for firms to minimize cost of production
Equity	Universal access to service and affordability for poor strata of population

Source: the author.

Table IV.5. Regulatory Objectives Trade-offs

Objective Tradeoff	Description
Allocative Efficiency vs. Sustainability	Under a natural monopoly, marginal costs are lower than average costs
Allocative Efficiency vs. Productive Efficiency	The leveling of tariffs and costs can reduce incentives to minimize costs
Efficiency vs. Fairness	Price discrimination is efficient but can be unfair
Sustainability vs. Fairness	Social tariffs or subsidies to certain services can challenge service sustainability

Source: the author.

Table IV.6 Regulatory Instruments

Objective	Instrument
Sustainability	Tariff levels and subsidies
Allocative efficiency	Tariff structure
Social equity or Fairness	
Productive efficiency	Regulatory regime

Source: the author.

Allocative efficiency is achieved, in a context of scarce resources and alternative uses for such resources, when tariffs reflect the services' production costs, *i.e.* having tariffs equal marginal costs.³⁷ When tariffs reflect costs at the margin they serve as efficient signals for the allocation of resources in the economy. This promotes efficient consumption on the demand side and efficient signals on investment needs on the supply side.

Productive efficiency has to do with the minimization of costs at a given output level or the maximization of output with a given level of inputs. The regulatory literature and experience have shown that the creation of incentives for companies to be productively efficient is one of the biggest challenges faced by regulators. Laffont and Tirole (1994).

Finally, the tariff system must also provide for certain basic aspects of distributive efficiency or equity. This in turn involves access and affordability. Access has to do with universal service goals, *i.e.*, ensuring that the whole population has access to the service. Affordability has to do with tariffs that are in relation to income, particularly for the poorer strata of the population.³⁸

At the heart of the regulatory problem is the existence of trade-offs among these four objectives (see Table IV.5).

Associated with these objectives are three main instruments: the tariff level, the tariff structure and the tariff regime. There is a close relationship between the various goals and instruments (see Table IV.6).

The economic sustainability of the service provider is driven mainly by the tariff level (*i.e.*, the average tariff). This tariff level should allow an efficient firm to cover its costs and make a reasonable rate of return on the assets employed. If the average tariff does not cover costs, subsidies will be a complementary option. Their design may, however, have an impact on allocative efficiency.

Within regulated activities subject to a sustainability constraint, allocative efficiency is influenced essentially by the tariff structure. Unless the structure is closely (negatively) related to the price elasticity of the various users, allocative efficiency is distorted. Many of the structure designs may however reflect social concerns, revealing a major trade-off between these two regulatory objectives (*i.e.*, equity and allocative efficiency).

Equity, or fairness, is also clearly associated with the design of the tariff structure since, in addition to subsidies, it is the main mechanism used to match prices with ability to pay.

Finally, the incentive to minimize costs is essentially determined by the design of the regulatory regime. Price caps are more likely to achieve productive efficiency but this is done at the expense of increasing the risk faced by the firm.

The source of the main problems in terms of regulatory substance relate to the lack of clear understanding of the objectives and poor choice of instruments to achieve them.

There has been a clear “evolution” in the way we understand regulation of infrastructure sectors and its problem. From the naïve view of the early 1990s a more clear understanding of the nature of the problems and challenges faced has emerged. Some examples of the original and current views are presented in the table below.

Regulatory regime

One example cutting across sectors and countries is the selection of the regulatory regime (price cap), which has not always been compatible with increase coverage and sustainability, which was in most LDCs the overriding objective (see Case Study 6). In this regard there seems to be no clear understanding among regulators in LDCs of what a price cap entails in terms of information requirements.

In LDCs, price cap was the most common form of regulation adopted in the reforms in the 1990s. According to Guasch (database covering 852 concessions in Latin America), 20 per cent had cost of service regulation; 56 per cent had pure price caps and 24 per cent were under hybrid systems (price caps with important elements of costs pass-through).

While economic theory moved towards highlighting the role of information in regulation, regulatory practice in LDCs seemed to move in the opposite direction. The introduction of price-cap regulation in Great Britain with the RPI-X system, was – erroneously – interpreted by many practitioners as a mechanism which freed them from the need of relying on detailed information of regulated companies.

The choice of price caps seems in line with the lack of accounting and auditing capacity in developing countries as analyzed by Laffont (2006).³⁹ The problem in most countries is that little if any efforts were devoted during this stage to developing the needed information allowing them to improve the regulation of the sector by reducing the information rent (see Case Study 3 for a good practice example).

An additional problem associated to price caps is that in general this regulatory regime provides no inducement for energy efficiency as companies have a clear incentive to maximize sales. Tariff regimes are not only central to the creation of productive efficiency incentives but also they have a large impact on the incentives electricity distribution firms face for promoting or supporting energy efficiency measures among their customers.

In general, price caps create not only an incentive for cost minimization but also a perverse incentive for firms to maximize sales as a way of maximizing profits, especially when the share of fixed costs is large as in electricity distribution.⁴⁰

Economic and financial sustainability

It can be argued that economic sustainability is the main objective as no other objective can be achieved if services are not sustainable over time. In general the performance of regulators in this regard is quite poor.

The evidence provided by Sirtaine *et al.* (2005) shows that, in general, the projects in their sample presented returns – measures by the internal rate of return (IRR) – below the opportunity cost of capital. On average, historical returns for the concessions studied in the period were negative. Only upon the inclusion of adjustments to past returns in the analysis in order to factor in expected returns (management fees, future values and adjustment of investments) do the results reveal values that are similar to the projects’ opportunity cost. The values for each sector are provided in Figure IV.3.

Table IV.7. Key Issues Original vs. Current View

	Original View	Current view
Regulatory Regime	Price cap better alternative for all sectors and circumstances	Sustainability and equity objectives might be served better by hybrid regimes
Financial Considerations	Only economic equilibrium relevant for regulatory purposes	Need to explicitly consider financial constraints in the regulatory process
Pro Poor Strategy	Trickling down effect would solve equity concerns	Need for a clear strategy – defined at the policy level – in which the regulator has an important role to play

Source: the author.

The included measures of returns are as follows:

- IRR no TV: IRR without terminal value
- IRR w/fees: IRR and management fees
- IRR with FV: IRR with future value of cash flows
- IRR with fees & Inv: IRR with management fee and investment mark-up adjustments
- IRR with TV: IRR with terminal value
- WACC: the company's (weighted) cost of capita

According to these authors, and contrary to popular belief, the financial returns of private companies in the infrastructure sectors have been modest and, in many cases, below the opportunity cost of capital. On average, the energy and telecom sectors present better returns than the transport and water and sewerage sectors.

In recent years, the situation in this regard in many countries seems to have deteriorated. A wave of anti reform and anti private participation, particularly in the water and energy sectors, has led to regulators not applying tariff increases as required resulting in huge distortions (see Case Study 5).

Another important aspect of tariff setting in LDCs is the lack of properly taking into account financial issues. This is particularly striking when for most LDCs the binding constraint is financial and not economic. One common problem in many regulators in Latin America is that they have little or no understanding of basic financial issues (see Case Study 1).

Financial constraints can affect the capacity to repay existing debts or become evident only as a limitation of the company's capacity to raise additional funding. This distinction becomes particularly important in developing countries, as the financial market limitations that are typical of these economies may cause serious credit rationing affecting the companies in spite of their satisfactory indicators and their timely and adequate fulfillment of existing financial obligations.

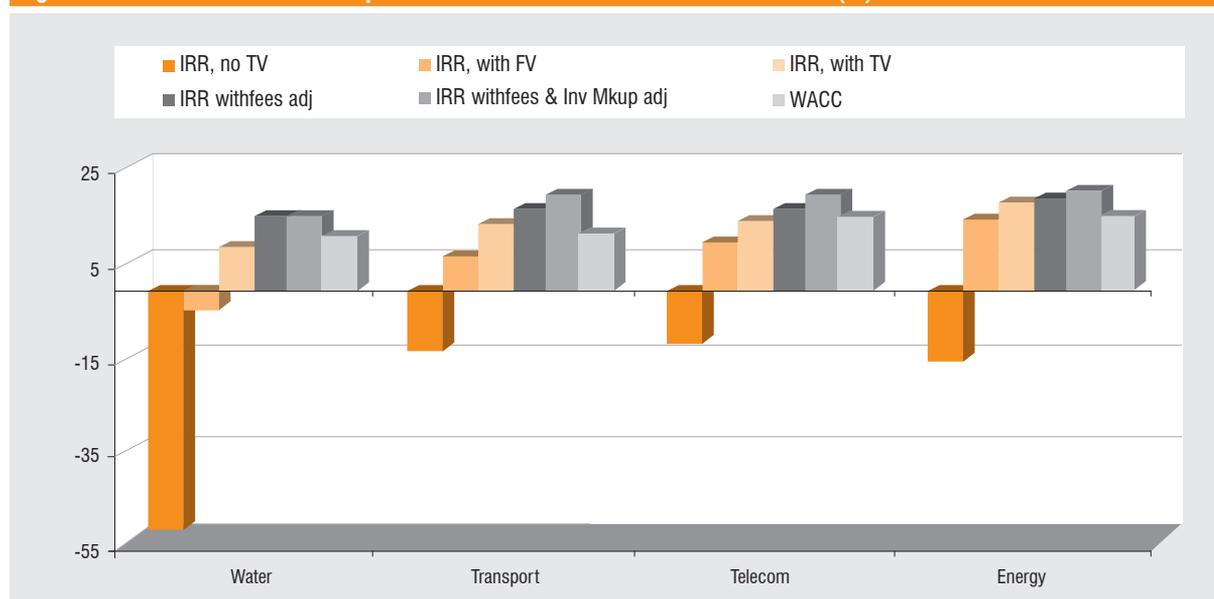
Even though a restriction limiting access to new loans appears to be less serious, it is worth noting that many companies have a medium- and short-term debt structure that is to be periodically refinanced. This is a common occurrence in developing markets ordinarily lacking long-term debt instruments (20 or 30 years). In these situations, the impossibility to access new loans translates into the impossibility to repay existing debt, as the company would have refinanced such debt in normal situations.

Even in developed countries – i.e. Great Britain - financiability is becoming a problem, which has caught the attention of regulators. During the 2004 price review OFWAT set tariffs for some water companies based on financiability constraints and not economic equilibrium.

Equity considerations

In many reform processes in Latin America pro poor strategies were not included in the initial regulatory

Figure IV.3. Returns and cost of capital in infrastructure sectors in Latin America (%)



Source: Sirtaine, Pinglo, Guasch, Foster, 2003.

frameworks. The prevailing view seems to have been that the trickling down effect would suffice to ensure universal service at affordable tariffs. This manifested itself in two ways.

First, by adopting price caps as the regulatory regime. As discussed this mechanism is a powerful tool for creating incentives for productive efficiency but – due to the increase in risk – is not the best approach to induce additional investment.

Second, by adopting an extreme position against cross subsidies. Developing an efficient system to ensure universal access to infrastructure services constitutes one of the key challenges for policy makers and regulators. The development of such a system entails three key tasks: defining which services or users are to be subsidized; determining who is to pay for the subsidies; and ensuring that provision of subsidized services is done at minimum costs. Traditionally cross subsidies were the main source of finance for sector equity objectives. The problem with this approach was that subsidies were decided in a non-transparent way, on an ad-hoc basis and without clear objectives and rules. Nevertheless other alternative financing mechanisms – direct subsidies and specific universal service funds – are not free of problems. Selection of an efficient financing mechanism for ensuring access to the service at affordable tariffs to all the population requires considering the costs⁴¹ and benefits of different alternatives. In this context a well designed and implemented cross subsidy scheme can be the best approach (see Case Study 4).

Third, in many cases there was a very limited capacity – including technical, economic and financial skills - to implement pro poor strategies. The very low levels of disbursements of telecom Universal Service Funds found in most Latin American countries are a clear example of this problem.

3. Case studies

In this section the six case studies illustrate some of the practical problems faced by infrastructure regulators in Latin America.

Case study 1: Inconsistency in cost of capital estimation by gas and electricity regulators in Argentina

Background

Argentina reformed most of its infrastructure sectors in the early 90s as part of a more general economic reform program aimed at liberalization of the economy. As part of this reform, it restructured the energy sectors, which have been previously dominated by vertically integrated SOE.

In the electricity sector, a vertical and horizontal unbundling of the SOE allowing for competition in generation and supply was implemented through Law 24065 (Electricity Regulatory Framework). This law created a sector regulator ENRE (Electricity National Regulatory Entity), whose main function was to regulate the monopolistic stages (distribution and transmission).⁴²

In the gas sector, a similar process was carried out in order to allow competition in gas production and commercialization while regulating the monopolistic stages (distribution and transport). A regulatory framework for the gas sector was passed by Congress - Law 24076 – creating a regulator for the gas sector: ENARGAS (National Gas Regulatory Entity) in charge of regulating gas transport and distribution.⁴³

The regulatory frameworks of both, the gas and electricity sectors in Argentina, are very similar and based in identical economic principles. Both these regulators had as main function defining and approving tariffs for the regulated stages in their sectors.

The nature of the problem

The decision to have two separate regulators in sectors with strong interdependences creates the risk of inconsistencies between the two agencies, which could result in large inefficiencies with important negative impacts on the economy. Consistency – over time but also across sectors - is important because it avoids regulatory opportunism and can help reduce the perceived risk by investors.⁴⁴

Consistency between sectors is even more important for gas and electricity because the close vertical and competitive interactions of these two sectors. From the demand side, gas and electricity are close substitutes particularly for large users, which in fact have a demand for energy rather than for electricity or gas per se. From the supply side there is close substitution in the transport/ transmission stage. Gas can be transported to city gate to install a generator close to demand or alternatively electricity can be produced at the wellhead and brought to the cities through the transmission network. The decision between these two options should be based on the relative efficiency of each alternative. Gas and electricity are also vertically related. In Argentina gas is the main source of primary energy in the production of electricity.

In this context, any inconsistency between the regulatory frameworks, or the way in which they are applied by the respective regulatory agencies has the potential of creating huge distortions in the allocation of resources in the economy. Against this background

Table IV.8. Cost of Capital Principles

GAS – Law 24076 Section 39	ELECTRICITY – Law 24065 Section 41
Tariffs shall allow a reasonable rate of return for the companies operating efficiently. The rate of return shall: a) be consistent with the company's degree of operating efficiency and effectiveness; b) be similar - as the industry's average - to the rate of other industries of similar risk or comparable at the national or international level	For the purpose of allowing a reasonable return to those companies operating efficiently, tariffs applied by carriers and distributors shall consider that: a) the rate of return be similar to those of other activities of similar or comparable risk; b) the rate of return be consistent with the degree of efficiency and satisfaction in the provision of the services.

Source: the author.

Table IV.9. Cost of Capital Estimation. Gas Transport and Electricity Transmission

Sector	Basis	Nominal / Real	Tax Rate	Inflation	Cost of Capital
Electricity	Equity	Nominal	-	-	10.54%
Gas	WACC	Real	30%	1.9% (USA)	11.30%

Source: the author.

Table IV.10. Nicaragua's Installed Capacity 2008

TOTAL	822,3	100 %
CoGeneration	126.8	15.4
Diesel	190.1	23.1
Gas	79	9.6
Geothermal	87.5	10.6
Hydroelectric	104.4	12.7
Fuel Oil	234.5	28.5
Private	524.4	63.8
Public	297.9	36.2

Source: the author.

we analyze the determination of the cost of capital for gas transport by ENARGAS in 1997 and for electricity transmission by ENRE in 1998.

Estimation of the cost of capital

Inconsistencies in regulation can arise from two main sources: the regulatory framework and the way in which it is applied by the agencies. In the case of the cost of capital in the electricity and gas sectors in Argentina the regulatory frameworks are fully consistent and follow exactly the same economic and financial principles. Table IV.8 shows the principles governing the cost of capital estimation in each sector.

Earning comparability (reflecting the economic principle of opportunity cost) and relative efficiency (as a mechanism to ensure incentives for cost minimization) are the cornerstones in both regulatory frameworks.

One could be tempted to consider that there are no big differences between the cost of capital estimated by the Gas Regulator (11.3 per cent) and the value of the electricity regulator (10.5 per cent). On closer analysis, one can see that while the electricity regulator estimates a cost of equity in nominal terms, the gas regulator estimated a WACC in real terms.

The cost of equity in nominal terms estimated by ENARGAS – which is a necessary input into their WACC calculation – was 16.1 per cent, which is 480 basis points more than the one estimated by ENRE⁴⁵. This huge difference is explained neither by the relative risks nor by the efficiency of the companies.

Conclusions

The inconsistency with which the gas and electricity regulators in Argentina applied fairly similar regulatory principles illustrates the problems associated to the separation into two agencies the regulation of two sectors in which they are multiple complementarities and possibilities of substitution. This type of problems partly explains the move towards a single energy regulator rather than separated gas and electricity agencies.⁴⁶

On the technical aspects of the problem, the approach adopted by ENRE represents a good example of how errors, which are compensated for can produce a reasonable result, though creating highly controversial background on the technical quality of the process. First, the Agency determines an extremely low cost of equity (5.55 per cent lower than the cost for gas transportation). Then, the Regulator compensates for this value by considering the company's total asset base.

On this level, poor financial analysis in regulatory decisions can have large costs, particularly in a region where access to finance is the main bidding constraint for infrastructure expansion.

Case Study 2: Competition in generation in Nicaragua

Background

As many other LAC countries Nicaragua reformed its electricity sector in the mid 1990s. The sector was vertically unbundled separating the monopolistic stages (transmission and distribution) from the potentially competitive stages (generation and supply).

A new regulatory framework was established in 1997 by Law 272, which defined the main principles governing the sector. The main institutions in the Nicaraguan electricity sector include:

- INE (Nicaraguan Institute of Energy) is the regulatory agency in charge of price setting
- CNE (National Energy Commission) in charge of sector policy and indicative planning
- CNDC (National Load Dispatch Center) responsible for the operation of the generation wholesale market and the transmission system

The nature of the problem

Competition is one of the most powerful tools to ensure productive efficiency. Nevertheless, it has to be remembered that competition is the instrument and not the objective. If true competition is not feasible market, liberalization might not result in efficiency improvements.

Competition rests on three key conditions: a large number of producers, a large number of customers and free market entry and exit. The first two conditions are directly related to the size of the market vis-à-vis the minimum size of a technical efficient plant.

A large number of producers are key to avoid collusion among them. For various reasons electricity markets are prone to collusive behavior: the perfect homogeneity of the good; the repeated and frequent

interaction (daily trading); the capacity constraint of firms; and the relatively low number of players protected by high cost of entry. Theory predicts, and experience shows, that these conditions allow firms to coordinate their strategies reducing competition through collusive agreements.⁴⁷

In order to accommodate several producers the size of the market has to be large in relation to the optimal plant size. In electricity generation, the plant with lower average cost is in the range between 500 to 700 MW combined cycle gas turbine. For a medium size country – such as for example Peru with 4200 MW of peak demand – there is the possibility of between 6 and 8 plants of this size. For a small country, on the other hand, with peak demand below 1000 MW the possibilities of competition are very limited.

This is the framework used to analyze the possibilities of having an efficient competitive market in Nicaragua.

Nicaragua's wholesale market

Nicaragua has a total installed capacity of just over 820 MW (see Table IV.10). Of these 192 is renewable (hydro and geothermal) and the rest is thermal (diesel, gas and fuel oil) of which 126 MW are co-generation plants.

The public sector owns 300 MW of the capacity, which includes all the hydropower. The effective capacity of the system is 650 MW with a peak demand of approximately 500 MW.

Efficiencies improvements resulting from competition can be divided into two: those affecting existing plants and the incentives for entry of new more efficient plants.

Under competitive pressures, it is to be expected that existing generation plants will improve efficiency in, two main ways: consuming less fuel per unit produced (improved thermal efficiency), and being available for longer periods (improved availability). To assess the degree to which competition in the Nicaraguan electricity market has resulted in improved efficiency we analyze these two dimensions looking at specific consumption and effective capacity.

Table IV.11. Specific Consumption (kWh/unit fuel)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Fuel Oil	15,24	15,23	15,11	15,34	15,36	15,49	15,28	15,33	15,40
Steam	12,12	12,34	13,20	12,30	12,66	13,08	14,40	13,38	13,35
Diesel	90,22	100,25	108,11	121,56	114,86	108,16	100,68	95,60	97,71
Baggasse	241,19	318,02	476,44	427,44	301,89	345,42	328,2	338,21	330,72

Source: Instituto Nacional de Estadística (INE) http://www.ine.gob.ni/DGE/estadisticas/1991_2007/06%20Serie%20Historica%201991%20a%202008%20para%20Web%20Rendim.pdf

Table IV.11 shows the evolution of KWh generated per unit of fuel consumed between 2000 and 2008.

It can be seen from table IV.12, that there have been some improvements in terms of the thermal efficiency of the plants, particularly, in the case of diesel and baggasse.

As to the evolution of effective capacity ratio of thermal plants measured as the ratio between nominal and effective capacity (Table IV.12) Nicaragua there has been little improvements since the reform.

Data shows that during the last five years there has been a significant reduction in the effective capacity ratio, which fell from an average of nearly 96 per cent between 1991 and 1996 (before the reform) to an average of 89 per cent in the last five years (2004-2008).

As it can be seen, the effects of competition on existing plants has been mixed with some improvement in thermal efficiency and some deterioration in the effective capacity ratio.

In terms of entry of new generation the experience of Nicaragua is not entirely successful either. In particular, the additions of new generation during the last couple of years (the Hugo Chavez and Che Guevara plants) has been the result of political decisions rather than the response to competitive forces in the market.

Conclusions

A competitive market is the most powerful tool to ensure productive efficiency in a sector. Nevertheless, competition is not always feasible and system size and sector characteristics have to be taken into account when deciding on this alternative.

In small electricity systems (with less than 1000 MW of demand), there are strong arguments against the real feasibility of developing strong competition in generation. Also, it is important to highlight that with no competition in generation there are no economic

arguments for sector unbundling. Under these conditions, in which competition in the market is not economically feasible, a regulated vertically integrated single provider remains the efficient solution.

Case Study 3. Regulatory accounting in Brazil's transport sector

Background

Created by Law 10.233 in June 2001, ANTT (National Ground Transport Agency) is the Brazilian agency in charge of regulation and supervision of ground transport including: motorway concessions, railway concessions, freight transport, medium and long distance passenger transport, and international transport.

ANTT's main objectives are:

- the Guarantee the free movement of people and goods ensuring efficiency, security, regularity, punctuality and affordability of tariffs; and
- to promote the public interest by harmonizing the interests of users service providers and government policies and by preventing anticompetitive behaviors.

The agency is based in multidisciplinary teams covering all aspects – legal, economic, financial and technical - of the concession contracts.

The nature of the problem

Generation of information is a key element of regulation. Regulatory accounting is an important instrument to help regulators reduce asymmetries of information while at the same time providing private sector participants with clear rules on key aspects of their economic and financial data.

Basic accounting covers a great part of the information required by the regulator, but it is not sufficient for the regulator's purposes. There are two main information

Table IV.12. Nominal and Installed Capacity of Thermal Plants 1991-2008

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999
Nominal Installed Capacity	181.0	181.0	181.0	166.0	172.3	184.3	205.2	227.2	353.4
Efective Installed Capacity	175.0	175.0	175.0	160.0	164.0	172.2	187.2	208.0	309.2
Effective Capacity Ratio	96.7%	96.7%	96.7%	96.4%	95.2%	93.5%	91.2%	91.5%	87.5%
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Nominal Installed Capacity	381.3	381.3	394.3	418.8	481.7	486.7	480.3	546.7	607.9
Efective Installed Capacity	363.6	347.4	366.8	398.1	433.2	445.4	422.7	483.7	522.7
Effective Capacity Ratio	95.4%	91.1%	93.0%	95.0%	89.9%	91.5%	88.0%	88.5%	86.0%

Source: Instituto Nacional de Estadística (INE)

requirements that distinguish regulatory from traditional statutory accounting:

- Regulatory Accounting requires more detailed information;
- Regulatory accounting requires that information be presented in another way.

The main information required by regulators that is not clearly covered traditional statutory accounts refers to the costs of the firm. The main asymmetry faced by the regulator is the one associated with the firm's costs. Costs are usually very difficult to verify and this gives a regulated firm an incentive to State costs that are larger than the real efficient ones, with the objective of convincing the regulator to grant a higher tariff.

A solution to this problem is the development of yardstick competition scheme by the regulator. In this scheme, the regulator uses information on costs of a number of firms to establish which costs will be recognized when setting the tariffs. The firms lose their incentives to overstate their costs. However, setting up yardstick competition implies that the regulator has to standardize the information criteria that the firms have to present. The identification of accounts has to be homogenous in order to facilitate comparison between the firms.

Regulatory accounting also requests information to be separated by regulated and non regulated activities. Firm usually provide a lot of goods to consumers. Not all of the goods are subject to regulation because competition can be achieved. The regulator has only to take into account those activities that are subject to regulation when calculating the financial and economic equilibrium of a firm.

ANTT's regulatory accounting

Since its creation, the ANTT exerted the economic and financial oversight of the firms it regulated. The ANTT decided to unify the regulatory accounting system applicable to the industries it regulated. This decision was made considering the progresses made in the theory and practice of regulation during the previous years. The objective was to improve the regulation of transport in Brazil by adopting international best practices in relation to regulatory accounting.

The process of developing a system of regulatory accounting involved several stages. The first step was to analyze the international experience in regulatory accounting in order to identify international best practices and their applicability to the transport sector in Brazil. This comparative analysis laid the foundations of the reform program. The second stage involved a study of the regulatory and accounting laws used in Brazil so that the international experience

could be adapted to take into consideration the Brazilian environment.

Based on these initial analyses it was decided that the new accounting principles to be established would be based on the following guidelines:

- Standardize the accounting procedures of the Regulated Transport Firms, to facilitate the control of the activities by the ANTT.
- Follow the Brazilian commercial and accounting legislation to properly determine the financial-economic equilibrium of the firms.
- Dictate the norms to be followed in the presentation of Financial Statements.
- Facilitate the integration between the fiscalization systems of the ANTT and the accounting systems of the regulated firms.
- Improve the transparency in regards to the economic and financial results obtained by the regulated firms.

In order to implement these principles, ANTT established a consultation process lasting nearly eight months with the main stakeholders: professional accounting bodies, representatives of the regulated firms, business associations and State regulators. These consultations improved the transparency of ANTT decision making process and made the reform a more consensual change. It was not imposed and this resulted in a better acceptance by the affected parties.

In the different business meetings made with the sectors, ANTT also gathered important information regarding the particularities of each of the sectors (motorway concessions; railway concessions; freight transport; medium and long distance passenger transport; and international transport). This was a key step in the unification process since the differences as much as the similarities have to be taken into account.

The culmination of this process was the establishment by ANTT of a system of regulatory accounting – by Resolutions N° 2507/2007 rails, N° 2492/2007 roads and N° 2491/2007 long distance buses – which defined the formats and contents of financial and accounting information to be provided by all regulated firms.

Conclusions

Reducing asymmetry of information is one of the key challenges faced by Regulators. One of the main tools used by regulators in this regard is the establishment of a system of regulatory accounting, which defines the formats and contents of financial and accounting information, which has to be provided by regulated firms.

A regulatory accounting system is an important source of reliable information for regulators to use to adequately fulfill their duties. Good, accurate, and consistent information provides the basis of effective regulation. Regulatory accounting can help to establish a reasonably defined and stable reporting regime. Even if the case of Brazil is not always representative of the conditions prevailing in smaller economies, the costs of establishing a system of regulatory information is insignificant when compared with the interests at play in even the smallest of infrastructure systems.⁴⁸ As the case of Brazil illustrates, defining a system of regulatory accounting involves several steps. These include governance (the how) and substance (the what) issues, which are equally important. Among the former, a clear and open consultation process with all relevant stakeholders is a key element in ensuring a wide consensus for the implementation of the system.

Case Study 4: Cross subsidies in residential water tariffs

Background

In the early 1990's, the control of the water and sanitation services in Colombia returned to the jurisdiction of the municipalities. This decentralization was part of the reform that Colombian Government, like other LACs, was undertaking to reduce the fiscal deficit and increase private participation in the economy.

As a part of this new perspective governing economic behavior, the Government created the CRA (Drinkable Water and Basic Sanitation Regulatory Commission) through Law 142. The objective of the CRA was to be in charge of regulation in water and sanitation by setting tariffs principles, subsidies and controlling quality of service.

At the same time, the government established free entry of private capital into the utilities sector. It is important to remark that regulation is not to be associated with privatization. These were two separate processes and regulation is also valid in SOEs.

The nature of the problem

Access to infrastructure services at affordable prices has a large positive impact on quality of life and economic opportunities particularly among the poor. It is therefore extremely important that provision is not circumscribed only to those who can afford it. Not only are governments moved to this goal by equity considerations but also by the positive externalities associated with most infrastructure services.

Developing an efficient system to ensure universal access to infrastructure services constitutes one of the

key challenges for policy makers and regulators. The development of such a system entails three key tasks: defining which services or users are to be subsidized; determining who is to pay for the subsidies; and ensuring that provision of subsidized services is done at minimum costs.

Who is to pay for the subsidies can be reduced to two alternatives: tax payers (through direct subsidies) or rate payers (through cross subsidies)? In the first case, treasury funds, originating from numerous taxes spread all over the economy, are used to pay a direct subsidy to low-income users. The second mechanism involves charging higher prices to some users or services in order to subsidize lower prices for other users or services (a cross subsidy).

Both systems create a certain degree of allocative inefficiencies. All taxes are distortive since they alter the decisions of individuals creating a dead-weight loss,⁴⁹ the government has to solve one problem by creating another. Allegedly, as the tax base is larger than the rate base, the distortion associated to direct subsidies would be less than the one associated to cross-subsidies.

There are also additional problems associated to cross subsidies such as lack of transparency and poor targeting. Traditionally, cross subsidies have been decided in a non-transparent way, on an ad-hoc basis without clear objectives and rules. Poor targeting generates large exclusion (people deserving the subsidy who are not receiving it) and inclusion (people not in need receiving the subsidy) errors. This is particularly the case when a certain amount of consumption is subsidized independently of the income level of the users.

For these reasons many reforms in the 90s took a strong view against cross subsidies. Nevertheless, as in any policy option, to evaluate the relative merit of cross subsidies vis-à-vis direct subsidies it is necessary to consider the costs and benefits of this alternative rather than discard it based on theoretical grounds.

The mechanism in Colombia

The government of Colombia through Law 142 - issued in 1994 - established a cross subsidy mechanism by which the population in each municipality would be divided into six different geographically delimited strata according to the socio-economic characteristics. Demographic studies were conducted by the municipalities for this purpose following the criteria set by the DNP (National Planning Department). Even though the classification is essentially geographically based a particular dwelling does not necessarily has to have the same classification as its neighbourhood.⁵⁰

This is a key issue since although neighborhoods are very homogeneous there are always special cases.

The Law also allowed a considerable amount of flexibility for each municipality to set their subsidies. The Law only set a cap to the subsidies that could be granted: 15 per cent of the average cost for the third stratum, 40 per cent for the second stratum and 50 per cent for the first stratum. These subsidies were to be covered by surcharges to the two higher strata. The surcharges also had caps set in the value of 20 per cent of the average cost.

In practice, these caps were not always respected by the municipalities. The subsidies and surcharges for Bogota in 2008 are presented in Table IV.13.

Population in the first three strata is larger than in the last two but the amount to be paid by the users is smaller. However, this subsidy scheme is not self-sufficient and the government has to provide further resources.

Conclusions

Colombia has managed to set up a nation wide subsidy mechanism to reduce the costs faced by lower income households when consuming water and sanitation services. Even though on purely theoretical grounds it has been argued that a more comprehensive direct subsidy scheme is preferred in this type of cases, there is evidence that the Colombian program has successfully reached the target population under a formal and transparent cross subsidy regime.

In Gómez-Lobo & Contreras (2003)⁵¹ the authors compare the Colombian mechanism with the one implemented in Chile, which is based on individual means and funded on its entirety with funds from the Treasury. The conclusion is that both mechanisms are effective in achieving their goals.

The mechanism in Colombia is simpler to apply and therefore requires a less complex institutional framework. This leads one to suppose that it is less

efficient than its Chilean counterpart, but this is not the case. The Colombian subsidy scheme has the advantage of discriminating between three categories of beneficiaries while in Chile there is only one category. This fact compensates for the simplicity of the adjudication mechanism and renders both programs similarly effective.

Case Study 5: Tariff structure changes in the electricity sector in Argentina

Background

Argentina underwent a major reform in the infrastructure sectors in the early 1990's as part of a more general economic reform aimed at the liberalization of the economy. Electricity distribution before the reform was handled by one vertically integrated SOE. After the reform, this SOE was separated in three sectors: Generation, Transportation and Distribution. Because of the market conditions prevailing in these sectors only in Generation was competition allowed.

Electricity distribution is a natural monopoly. This means that competition is not an economically efficient choice. Nonetheless, the State decided not to have one unique company managing the distribution services nation wide. The companies were divided geographically and subject to regulation by the State. Each province was in charge of the regulation of the distribution companies in their territory with the exception of Buenos Aires where three of the distribution companies (Edenor, Edesur and Edelap) fell under control of the Federal Government through the ENRE (National Entity of Electricity Regulation).

Distribution companies under federal regulation had a concession contract establishing that tariff were denominated in dollars, a price cap regime with pass through of wholesale electricity prices, annual indexation and a periodic review every five years. The tariff structure was a decreasing block with a fixed

Table IV.13. Subsidies and Surcharges – Bogota 2008 (%)

Residential Sector	Water		Sewage	
	Fix Charge	Variable Charge	Fix Charge	Variable Charge
Strata 1	-70	-70	-70%	-70%
Strata 2	-40	-40	-40%	-40%
Strata 3	-12	-12	-12%	-12%
Strata 4	0	0	0%	0%
Strata 5	124	50	149%	50%
Strata 6	174	60	246%	60%

Source: the author.

charge and two variable charges. This regulatory regime also included minimum quality standards including quality of technical service (duration and frequency of interruptions) quality of technical product (voltage variations) and quality of commercial service (complaints, billing, time for new connections, etc).

In the beginning of the year 2002, after years of slow growth and a balance of payments crisis, the fixed exchange rate system (established in the 1990's reform) was abandoned. The country defaulted in its sovereign debt and an emergency law was passed which, among other measures, established the renegotiation of all concession contracts, suspended all types of indexations and eliminated all dollar denominated tariffs by converting them to pesos at the pre devaluation exchange rate.

By 2009, concessions contracts have not been renegotiated and, in practice, these measures resulted in a tariff freeze which lasted over seven years.

The nature of the problem

From an economic perspective, utility regulation seeks to secure four basic objectives: sustainability, allocative efficiency, productive efficiency and equity. In order to secure these objectives, regulators have three basic instruments: tariff level, tariff structure and tariff regime.⁵²

Given the trade-off among objectives and the interdependence among instruments, the challenge for regulators is to use the proper instrument for each problem faced.

Changes in tariff structure

Residential consumers in Buenos Aires are divided into two groups according to their consumption. Those who consume 300 kWh or less, per bimonthly period (Kwh/bim), fall into the "R1" and the rest in the "R2" category. The resulting tariff structure is one of decreasing blocks with a fixed charge, a first block of 300 Kwh/bim with a high variable charge and a second block (above 300 kWh/bim) with a lower variable charge.

Given the political restriction not to affect the tariffs of the residential consumers, the government changed the tariff structure. The first measure was done through a program called the PUREE (Program of Rational Use of Electric Energy) of 2004. The second measure, taken in 2008, was to change the decreasing blocks and incorporate increasing blocks in which the variable charge increases from one block to the next one.

The PUREE was first launched in 2004 and affected the consumers of the ENRE regulated

distribution companies. In 2005 it was modified and it has not changed since. Basically the program provided discounts to consumers that reduced their consumption while it imposed a surcharge on consumers, which increased their consumption over a predefined baseline. To be eligible for a discount a Residential consumer had to cut down on its consumption in more than 10 per cent with respect to the same two months of the previous year. Consumers in the R2 category, which were not able to reduce their consumption paid for all the "excess" consumption with a surcharge.

Formally this can be seen as a form of increasing block tariff in which the size of the block is determined by past consumption of each user. In other words a stock of "cheap" energy is allocated between users based on their individual past consumption. This mechanism has a number of problems.

First, there is a targeting problem. In typical electricity system a number of users will vary their consumption from one year to the other for totally exogenous causes.⁵³ This indicates that, to base, tariff reductions or penalties, based in past consumption, is prone to a large targeting error. This problem will be compound by exogenous variables affecting average consumption of the whole system (as for example temperature).

Second, the administrative costs of the implementation of this kind of program can be very high. Normally, utilities billing systems are not prepared for this tariff structure and the time and costs to adapt can be substantial.

Third, this rule has negative distributive effects. By allocating "cheap" energy on the basis of past consumption the rule privileges users, which had higher consumptions in the previous periods. This can be very regressive in the context of a middle or low-income fast growing economy (as was the case of Argentina during these years). Also this system penalizes users which had taken energy saving measures – such as using compact fluorescent lights (CFLs) - in the past as their past consumption would be lower and they would have less possibilities of further savings.

At the core of all this problems is the allocation of a quota for each individual user. With an increasing block tariff changing the price or the size of the blocks - in other words changing the tariff level - can generate the same type of incentives while avoiding the discussed draw backs. This is illustrated using the tariff structure of Edenor in Table IV.14.

Column 2 in the table shows the initial situation. Average consumption is 470 kWh/bim and there is a decreasing block tariff with a fixed charge of 4.44

Table IV.14. Individual Quotas and Equivalent Block Prices

Limit	90%			0,0
Surcharge	100%			
	T	T+1		
Average Consumption period t	470	423	470	470
Block Limit	300	300	300	300
Fixed Charge (US\$)	4.44	4.44	4.44	4,44
Variable charge block 1	0.080	0.080	0.080	0,080
Variable charge block 2	0.041	0.041	0.041	0,052
Bill	35.4	33.5	37.3	37,3
		-5.4%	5.4%	5,4%

Source: The author's calculation.

Table IV.15. Tariff Structure: Residential Users Edenor 2002 2008

Tariff	Tranche	January 2002	June 2008	Change
T1-R1	Fixed Charge	4.86	4.46	-8.23%
	Variable Charge	0.068	0.081	19.12%
T1-R2	Fixed Charge	17.6	16.29	-7.44%
	Variable Charge	0.026	0.042	61.54%

Source: the author.

Table IV.16. Tariff Structure: Residential Users Edenor 2009

Consumption kWh/bim	0-300	301-650	651-800	801-900	901-1000	1001-1200	1201-1400
Fixed Charge	4.46	16.29	18.96	20.07	21.57	23.00	24.88
Variable Charge	0.081	0.042	0.045	0.047	0.048	0.05	0.052

Source: the author.

\$/bim and two blocks: less than 300 kWh with a variable charge of 0.080 \$/kWh and a second block for consumption over 300 kWh with a variable charge of 0.041 \$/kWh. This results in a monthly bill of \$ 35.4.

Column 3 shows the effect on the monthly bill of a 10 per cent reduction in consumption (from 470 to 423 kWh) under the current tariff (with no incentives). Given the decreasing block structure a 10 per cent drop in consumption generates savings of \$ 2 (-5.4 per cent) in the monthly bill (which goes from \$35,4 to \$33.5).

The fourth column shows a tariff including a 100 per cent surcharge on the second block for all consumption exceeding 90 per cent of the consumption in the previous period. For a consumer failing to adjust its consumption at all (consumption stays at 470

kWh), the monthly bill goes up by \$2 (+5,4 per cent) (from \$35,4 to \$37,3 as shown in the "Bill" row). The following column shows the increase in the price of the second block, which results in the same monthly bill for a constant consumption. This is achieved by increasing the tariff of the second block from 0.041 to 0.052 \$/kWh (+27 per cent).

As this exercise shows, a change in block prices can produce the same economic effect than the allocation of quotas based on past consumption. This avoids the implementation and equity problems discussed while at the same time produces the economic signal to induce the desired savings. By working with a homogeneous consumption block, rather than the individual one implicit in the quota system, this alternative is more progressive as higher consumption are penalized with higher increases in the monthly bill.

The second modification made by the government affected the tariff in a more direct way, without having the need of establishing a parallel program. The following table shows the tariff structure for Edenor in the first month of 2002 and in June of 2008 (the month before the structure of the tariffs was changed).

The fixed charges of these tariffs were actually reduced while the variable charges increased. Accumulated inflation (measured by the consumer price index - CPI) in the period was 112 per cent. This means that variable charges in the tariffs in real terms were reduced by 93 per cent for R1 and 50 per cent for R2.

In July the tariff structure was changed by resolution 356. The Table below shows the new structure for Edenor:

Clearly, the government distorted the structure by adding new tranches to increase the amount consumers paid for electricity. The tariff for R1 consumers remained the same and so did the tariff for the R2 consumers with lower consumption. According to official estimates, only 24 per cent of the households were affected by these measures.

The increase in the number of blocks has two different effects. On the one hand, it implies an increase in the tariff level for consumers falling in the new higher blocks. On the other hand, it results in an increase in the complexity of the structure with a segmentation, which has no economic basis (there is no rationale for separating consumers in tranches of 100 kWh).

Conclusions

Sound policy dictates that instruments should be used according to the problem faced. In Argentina, the government faced an inflationary context and a tariff freeze, which resulted in a non-sustainable service requiring large subsidies from the government. The situation called for an update of the tariff levels, which had fallen in real terms after the crisis of 2002.

Tariff structure is a valid regulatory instrument for dealing with allocative efficiency and equity issues. However, the error lies in the fact the changes were brought about to solve sustainability problems that to a large extent were unrelated to structure but depended almost entirely on the tariff level.

The PUREE program is inefficient due to the poor targeting, high administrative costs and its regressive nature. The increase in the number of blocks – which to some extent implied an increase in the tariff level at least for some users – creates an unnecessarily complex tariff structure which faced strong public opposition. Varying the charges for the different blocks or changing the size of each block would have resulted in the same economic incentive with less administrative costs and lower allocative distortions.

Case Study 6.

Rate of return regulation in the electricity sector in Costa Rica

Background

Costa Rica has the oldest autonomous regulatory system in Latin America. In the late 1920s the National Electric Service was created with the function of regulating the electricity sector. Established by law in 1928 and significantly amended in 1941, it was the only active regulatory agency for the electricity sector in Central America/South America until the 1980s. Transformed in 1996 into a multi sector regulator, ARESEP (Agencia Reguladora de los Servicios Públicos) this agency has responsibility for tariff setting in the electricity, water, transport and telecom sectors.

Electricity provision is in hands of ICE – Instituto Costarricense de Electricidad - a vertically integrated State owned company. Apart from participating in all the commercial activities in the industry, ICE is also in charge of sector planning and operation. Sector Policy is in the hands of the Ministry of Natural Resources and the Environment and Energy (MINAE). Compañía Nacional de Fuerza y Luz (CNFL) – part of the ICE group - distributes electricity in the capital San Jose, which is the largest market.

The nature of the problem

During the 90s, in Latin America reform, processes price cap was the most common regulatory regime adopted. According to Guasch (2004), 20 per cent of the concessions had cost of service regulation; 56 per cent had pure price caps and 24 per cent were under hybrid systems (price caps with important elements of costs pass-through).

This choice was not always in line with the main objectives of the reform but reflected OECD priorities. The main objective in most OECD countries reforms was to improve productive efficiency in a context of high coverage and financial sustainability of the firms thus the adoption of a high power incentive regulatory regime. In Latin America, the overriding objective was to expand coverage and bring tariffs up to cost reflective levels. The higher risks associated to price cap make it a second best in terms of these objectives.

Despite the observed preponderance of adopting high power regulatory regimes during the reform of the 1990s, there is no generalized agreement on a price cap as being the optimal regulatory regime for LDCs. For example, Kirkpatrick and Parker (2004) take the view that “the case for the use of a price cap in the context of developing economies is much reduced. This is because of its information requirements,

need for regulatory expertise, and the institutional endowment found in many low- and middle-income countries. From a theoretical perspective Laffont (2006) proposes a non-linear relationship between regulatory regime and degree of development, which requires moving from price caps to cost of service and back to price caps.

In summary, from a theoretical and practical point of view, there strong are arguments pointing towards the need of carefully analyzing the institutional endowments of the country together with the sector objectives when choosing a regulatory system.

Rate of return regulation in Costa Rica

Unlike most other reforming countries in the 90s, Costa Rica, through the ARESEP Law (1996), adopted a regulatory regime based on actual costs-of-service for setting all tariffs and charges in public service areas, with rates issued by decree.

The general tariff methodology is based in the determination of the average accounting cost of the firm to which a rate of return is added.⁵⁴ In economic terms, the tariff systems seeks to equate total revenue with total economic costs of providing the service. Costs include operation and maintenance costs, depreciation (at current values), administrative and commercial costs and any other reasonable cost directly attributable to the service. These economic costs also include a reasonable return on invested capital (assets plus working capital).

There are two types of tariff determinations: ordinary and extraordinary. Ordinary tariff reviews are performed at least once a year contemplating observed investments and costs and they require a Public Hearing as part of the process. Extraordinary reviews are carried out as the result of substantial changes in the economic environment and generally are requested by the firm.

Cost plus regulation seems to be working well, ICE is recognized as a well-run State owned enterprise. Electricity coverage was 98.6 per cent in 2007 based mainly on renewable-based generation. Electricity tariffs traditionally have been the lowest in Central America, and ICE has been able to finance most of its expansion plans supported on its balance sheet.

Table IV.17 shows some of performance indicators for ICE and the rest of the Central America countries.

As we can see from the table Costa Rica has outperformed its neighbors in terms of coverage (with almost universal access to electricity). Also Costa Rica shows the lowest level of losses among all the Central American countries.

Comparing tariffs in the Central American countries (Table IV.18), Costa Rica has the third lowest tariff (higher than El Salvador and Honduras) in the region.

In part, the low residential tariff in Costa Rica is due to a tariff structure with a cross subsidy element going from commercial and industrial to residential users. Between 1998 and 2004 residential tariff increased in real terms by 19 per cent while commercial and industrial tariffs fell by 12 per cent in real terms.

Conclusions

During the 90s there was a view that price cap was the best regulatory system for all sectors, countries and circumstances. Theoretical developments and practical experiences show that this is not always the case and that cost plus regulation can be an efficient regime in some circumstances.

Costa Rica provides a good example of a country with a long history of autonomous regulation based on a traditional rate of return tariff mechanism, which shows a relatively good performance of its electricity sector. It is clear that this performance of the electricity sector in Costa Rica is not entirely explained by its regulatory regime but also the result, among other things, of the strong institutional setting of the country.

Table IV.17. Coverage and Losses in Central American Countries (%)

	Costa Rica	Guatemala	Honduras	Nicaragua	Panama	El Salvador
Coverage	98.6	83.2	69.2	54.1	85.7	82.3
Losses	9.7	18.2	23.3	29.3	15.8	12.7

Source: the author's calculation.

Table IV.18. Residential Tariffs (240 Kwh/month) Central American Countries (%)

	Costa Rica	Guatemala	Honduras	Nicaragua	Panama	El Salvador
Tariff (US\$)	31,5	44,6	27,2	41,7	47,3	25,3

Source: the author's calculation.

4. Conclusions and best practices for building RIFs and human capital

Available information suggests that regulation has played a positive role in the context of the reforms of infrastructure sectors in the last 20 years. Nevertheless this role seems to be far from some of the most optimistic expectations that were voiced during the initial phases of the reform efforts.

Regulation faces strong challenges in the immediate future to increase its role as a key element in delivering efficient infrastructure service and more importantly in helping increase the rate of investment in these sectors.

Governance and institutional issues

In institutional terms, too much emphasis has been put in creating agencies rather than in building institutions. Most countries have gone through the motions of passing laws and establishing a regulatory agency but there are huge gaps between the formally established rules and the way these operate in the real world.

Building autonomous, efficient and transparent regulators is a long-term task, which requires a sustained effort over time. Regulatory institutions need to be adapted to work with different forms of ownership including new forms of private sector participation (such as PPPs), SOEs and hybrid models of PSP.⁵⁵

In many cases, the failure of PSP finds its origin in the adoption of rules or institutions, which are incompatible with local legal and cultural traditions. In this regard, regulators should play an active role in designing PSP mechanisms, which adapt to local conditions.

For large economies, it is important to ensure the efficient coordination between regulation and competition policy. Introduction of competition in network industries creates the need to coordinate regulatory and competition functions with limits, which are dynamic and not always clear.

Substance issues

Improve in information systems:

- Information systems are crucial in ensuring an effective and efficient regulatory system. For most LDCs lack of information is the main problem faced by regulators. Developing such systems should be the clear priority for regulatory agencies in LDCs.
- There are strong economies of scope in developing rules and methodologies for gathering and controlling information. This opens the opportunity for international organizations to play a key role in providing technical support in this area.
- Furthermore, homogeneous systems of information across countries would provide a valuable input for

developing international benchmarking. This would be of great value particularly for small economies in which the existence of a single company prevents the use of this tool.

- Training and research
- Training should not be limited to regulator's and firm's staff but also focus on consumer associations. This is crucial to ensure that there is a minimum technical content in the discussion of regulatory issues and that consumer participation achieves its full potential in ensuring regulatory objectives.
- Lack of understanding of basic financial topics is the most serious shortcoming in most regulatory agencies. This is an area in which there is a need to concentrate training efforts.
- Dealing with crises
- One important aspect in which more work is needed is in devising regulatory mechanisms to deal with distress situations in the regulated firms or sectors. The possibility of economic, financial or operative distress has received little attention in most frameworks.
- This is particularly important in LDCs which are by nature much more prone to periodic financial, economic and political crises. There is a need to envisage mechanisms, which can prevent that each crisis becomes a full reversal of the existing model.
- Supranational dimension
- Economic integration is other element affecting regulation. The development of supranational organizations can help regulation by providing a more stable external framework and stronger commitment mechanisms. The experience of a common central bank in West Africa is an interesting experience to take into account.
- In small countries economies of scale and scope in infrastructure result in some cases in cross border projects. Coupled with the economies of scale in regulatory agencies, discussed above, this leads to the emergence of regional and international regulators.
- Many countries in LA have adopted bilateral investment protection treaties, which provide for international arbitration - through for example ICSID in the World Bank - as a conflict resolution mechanism. It is not clear that these tribunals have the technical expertise to deal with the complexities of infrastructure sector and the rules governing these procedures do not always provide good incentives for efficient solutions. A review of these mechanisms and ways in which they can be improved could be an important contribution of international institutions.

REFERENCES

- Andrés L, Foster V., Guasch J.L (2008), The impact of private sector participation in infrastructure: lights, shadows, and the road ahead. World Bank 2008
- Barrantes & al. (2002). Política y Metodologías Tarifarias del Sector Energía.
<http://www.aresp.go.cr/docs/POLITICA%20Y%20METODOLOGIA%20TARIFARIA.pdf>
- Bastos, C.M. & Abdala, M.A. (1993). Transformación del sector eléctrico argentino. Santiago de Chile: Editorial Antártica.
- Brown, Ashley C., Jon Stern, & Bernard Tenenbaum (2006), Handbook for Evaluating Infrastructure Regulatory Systems, The World Bank, Washington D.C.
- César Calderón & Luis Servén, 2004. "Trends in Infrastructure in Latin America, 1980-2001," Working Papers Central Bank of Chile 269, Central Bank of Chile.
- Eberhard A. (2006). Infrastructure Regulation in Developing Countries: An Exploration of Hybrid and Transitional Models – PPIAF Working Paper No 4
- Estache, A. Foster, V. & Wodon, Q. (2002). Accounting for Poverty in Infrastructure Reform: Learning from Latin America's Experience. Washington, D.C.: World Bank.
- Gassner K., et al (2009). Does Private Sector Participation Improve Performance in Electricity and Water Distribution? Washington, D.C.: Public-Private Infrastructure Advisory Facility (PPIAF)
- Green, R.J. & Newbery, D.M. (1992). Competition in the British Electricity Spot Market. *Journal of Political Economy*, Vol. 100, No. 5 pp 929-953.
- Gómez-Lobo, A. & Contreras, D. (2008). Water Subsidy Policies: A Comparison of the Chilean and Colombian Schemes. *The World Bank Economic Review*, Vol 17, No 3. pp. 391-407.
- Guasch, J.L.(2004). Renegotiation of Concessions in Latin America. Washington, D.C.: World Bank
- Kirkpatrick C., Parker, D. (2005). Regulating prices and profits in utility industries in low-income economies: Rate of return, price cap or sliding-scale regulation? *International Journal of Public Sector Management*. Volume: 18, Issue: 3, pp. 241–255.
- Kirkpatrick, C. & Parker, D. & Zhang, Y. (2004). Competition, Regulation and Privatisation of Electricity Generation in Developing Countries: Does the Sequencing of the Reforms Matter? Centre on Regulation and Competition (CRC) Working papers 30599, University of Manchester, Institute for Development Policy and Management (IDPM)
- Laffont, J.J. (2006). Regulation and Development. Cambridge: Cambridge University Press.
- Laffont, J.J. & Tirole, J. (1994). A Theory of Incentives in Procurement and Regulation. MIT Press, Cambridge, MA.
- OECD/IEA (2005) Saving Electricity in a Hurry, Paris, OECD
- Rodríguez Pardina, M. & Schlirfh Rapti, R. & Groom, E. (2008). Accounting for infrastructure regulation: an introduction.
- Roques, F. & Newbery, D.M. & Nuttall, W.J. (2004). Generation Adequacy and Investment Incentives in Britain: from the Pool to NETA. Cambridge Working Papers in Economics 0459, Faculty of Economics, University of Cambridge.
- Schlirf Rapti, R. (2005). The privatization of EDM S.A. in Mali: Doomed by design – mimeo. Washington, D.C.: World Bank
- Sharkey, W. (1982). The Theory of Natural Monopoly. Cambridge: Cambridge University Press.
- Sirtaine, S., M.E. Pinglo, V. Foster and J.L. Guasch (2005), "How profitable are private infrastructure concessions in Latin America? Empirical evidence and regulatory implications", *Quarterly Review of Economics and Finance*, 45, pp.380-402
- Straub, Stephane, 2008. "Infrastructure and growth in developing countries : recent advances and research challenges," Policy Research Working Paper Series 4460, The World Bank
- Visintini A. (1996). The Privatization of Gas del Estado in Argentina Privatization Program A Review Of Five Cases .Shaikh, H. Washington, D.C.: World Bank
- Weare, C. (2003). The California Electricity Crisis: Causes and Policy Options. San Francisco, CA: Public Policy Institute of California.



PART THREE:
ELECTRICITY SECTOR IN SOUTH AFRICA

3

V. REFORM OF THE ELECTRICITY SECTOR IN SOUTH AFRICA

Ria Govender⁵⁶

1. Introduction

This paper focuses on the experiences of South Africa in reforming its electricity sector, with particular attention being paid to the Electricity Distribution Industry (EDI) restructuring.

The overall objective of the paper is to assist developing and least developed countries and economies in transition in identifying options for supporting their domestic infrastructure services capacity and efficiency, competitiveness and export capacity and ensure provision of essential service.”

The paper is arranged as follows:

Section 2 examines the challenges and opportunities associated with the provision of electricity in developing countries. Further it explores in detail the particular challenges faced by South Africa’s EDI, that motivated reform.

Section 3 considers the tools that can be used for reform and regulation of the electricity sector. Significantly, it elucidates South Africa’s EDI reform model, and examines the progress made. In addition, it looks at the plans for ESI reform, within the context of the country’s recent power supply crisis.

Section 4 deliberates upon some conclusions and recommendations for developing and least developed countries, in this regard. It also highlights the importance of meaningful stakeholder engagement, through the establishment of engagement platforms.

2. Challenges and opportunities associated with the provision of electricity in developing countries

2.1. Challenges associated with the provision of electricity in developing countries

Various challenges exist in developing countries is so far as the provision of electricity goes. Challenges relate mainly to achieving timeously the developmental agenda objectives of such economies.

In South Africa, for example, EDI reform objectives included the following:

- To position the EDI to meet the basic needs of electricity consumers in South Africa i.e. to ensure universal access and to ensure acceptable levels of supply security and quality regardless of geographical location of consumers.

- To establish sound administration and financial arrangements to achieve Government’s electrification targets.
- To ensure that proper arrangements are put in place to provide sustainable electricity supply to low-income consumers. This includes ensuring the security of supply at affordable prices, regardless of location.
- To ensure that the future REDs are financially viable and operate in an efficient and effective manner by distributing reliable electricity at affordable prices while at the same time ensuring that adequate investment is made in infrastructure.
- To ensure that the future REDs are able to provide employment security and develop and retain skills within the sector.
- To ensure that the reform process is well planned and managed, through the establishment of a national holding company to implement the restructuring.
- To ensure that the restructuring is guided by a comprehensive human resources strategy and an agreed social plan, so as to ensure that the interests of all affected by the reform are understood and protected.

In developing countries, sustainable electricity provision is an important consideration. Wilde-Ramsing (2009) suggests that the critical issues for sustainable electricity provision in developing countries may be grouped into 3 main categories, with a forth cross-cutting category:

1. Social issues: displacement, affordability, public health and safety, labour issues, access to electricity and gender equality, etc.
2. Economic issues: local economic development; reliability of supply, corruption, demand-side initiatives and competition, etc.
3. Environmental issues: natural resource depletion; renewable sources of energy for electricity, waste and pollution and climate change and Greenhouse gas emissions, etc.
4. The sustainable development balance: cross-cutting issues: poverty reduction and meeting basic needs, respect for human rights, stakeholder engagement and public participation in decision making, etc.

These issues present a challenge to the provision of electricity in developing countries. Jamasb et al. (2005) identified further challenges in this regard. These include:

- the proximity and topographical location of rural areas to connection to the grid and the costs associated with grid connection in these circumstances,

- the high technical and non-technical energy losses in the transmission and distribution networks,
- the negative impact on the financial health of the sector as a result of a culture of non-payment,
- tangible economic loss as a result of capacity shortages and inefficient use of existing capacity, and
- poor institutional capacity including weak and inexperienced regulators.

Utility inefficiencies in developing countries may be attributed to the following factors:

- inability to meet the demands placed by growth and economic development,
- funding constraints that impact on investment in new infrastructure and maintenance and refurbishment of old infrastructure,
- energy losses as a result of technical and non-technical factors. In some poverty ridden countries, electricity theft is a common occurrence with its associated danger to public health,
- the technical (quality of service and supply standards) regulatory demands placed that has an impact on scarce capacity and skills,
- skills shortage within the sector, given the specialised skills required,
- culture of non-payment that impacts on revenue streams and cash flow, and
- weak administration on the part of governments and regulators.

As a result of these challenges, reform of the sector is considered prudent in order to eradicate the adverse consequences and derive the benefits associated with a strong and reliable electricity sector that can service the needs of the people and the economy.

2.2. Opportunities and developmental benefits of well-functioning electricity sectors in developing countries

Approximately, 1.6 billion people in the world do not have access to electricity. 706 million reside in South Asia and 554 million in Africa. In developing countries, the challenge lies in providing access to these basic services while at the same time equipping it with deriving the many benefits associated with service extension. A key challenge in this regard lies in ensuring that adequate investment is made by governments in basic services. Instruments to ensure that appropriate investments are made on basic services include regulatory and legislative tools that prescribe targets and timeframes for achievement of those targets. Strong institutional capacity is critical to monitor and ensure that investments are made, and

that penalties are imposed for lack of achievement of targets. In addition, pricing and tariff regulatory methodologies (as determined by the Regulator) must as a minimum ensure full-cost recovery for investment in basic services, so as to encourage and incentivise investment. The positive derivatives of extending access to electricity, impacts on the achievement of the Millennium Development Goals (MDGs). For instance, the provision of electricity empowers women by saving them time and effort to focus on more important things than looking for fire wood and carrying fire wood to their homes. Employment opportunities are also created particularly if utilities set up operations in areas of close proximity that provide paid work. This in turn empowers women and children by creating the means for childcare facilities and access to basic education.

The Department of Energy, South Africa, undertakes an annual national electrification socio-economic impact study (contained in a report entitled *Electrification Statistics, 2009*). The results of this year's study, closely aligns with the MDG. For instance, 87 per cent of those surveyed said that electrification has benefited their households by amongst others "making life easy"; "saving time"; "saving money" and enabling the operation of small businesses. 62 per cent of those surveyed indicated that electrification had benefited their communities by improving safety and security in their communities; enabling them to make use of schools, halls and similar places and very significantly, creating employment opportunities.

Kessides et al. (2004) assert that in developing countries, as in others, reliable electricity provision is essential also since households and businesses rely on electronic technology to perform various functions. Therefore, secure and appropriately priced electricity is vital for modernization, domestic growth and competitiveness on a global scale.

2.3. Description of the specific challenges faced by South Africa's EDI before reforms were introduced

Prior to examining the challenges faced by South Africa that necessitated reform of the sector, it is useful to briefly look at the country's Electricity Industry profile. South Africa has a total of 24 power stations with a total net maximum capacity of 36 208MW. The table below gives more detail in this regard.

The 3 largest electricity consuming sectors are industry, transport and residential. Electricity sectoral usage is depicted in the following diagram.

The EDI profile is as follows:

The rationale for the reform of the EDI in South Africa

Table V.1. Electricity Industry Profile

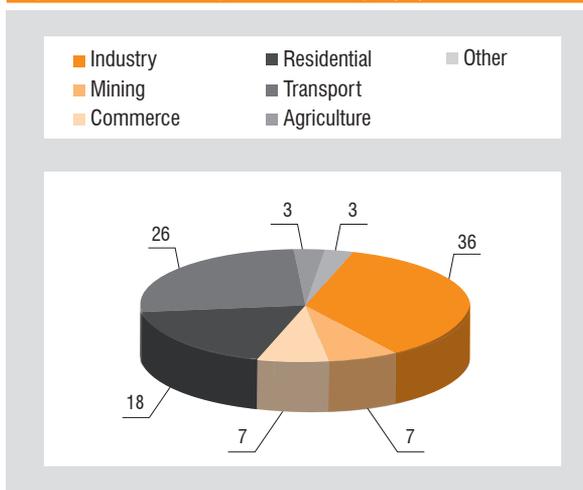
TYPE	STATIONS	NET MAXIMUM CAPACITY
Coal fired	13 stations	32 066 MW
Gas turbine	2 stations	342 MW
Hydro-electric	6 stations	600 MW
Pumped storage	2 stations	1400 MW
Nuclear	1 station	1800 MW
TOTAL	24 stations	36 208MW

Source: *Electricity Statistics Report, 2009, Department of Energy, South Africa.*

Table V.2. EDI Profile

Revenue	R40 bn
Customers	~9.2 m
Staff	~31 000
Replacement Asset Value (2008)	~R260 bn
Energy Purchases	~224 TWh
Distribution Lines	>400 000 km
Distribution Cables	>210 000 km
Average Age of Asset Base	45 yrs

Source: *Presentation made by Dr Willie de Beer, COO of EDI Holdings at the AMEU Conference, South Africa, September 2009*

Figure V.1. Electricity sectoral usage (%)

Source: *Sirtaine, Pinglo, Guasch, Foster, 2003.*

is best articulated in the White Paper on Energy Policy for the Republic of South Africa, December 1998 (the White Paper) and the Reform of the EDI in South Africa Strategy and Blueprint Report, February 2001 (the Blueprint Report).

Electricity distribution in South Africa is carried out by the national utility Eskom and 187 licensed municipal distributors. Eskom distributes electricity to approximately 40 per cent of consumers by number, which amounts to approximately 60 per cent of sales by volume. Local Government in turn sells to about 60 per cent of consumers by number, which amounts to about 40 per cent of sales by volume.⁵⁷

The South African Government recognised that the EDI is a critical element of the economy and has a central role to play in the country's economic and social development agenda. It identified the following four main objectives for the EDI:

1. The provision of low cost electricity to all consumers, with equitable tariffs for each customer segment;
2. The provision of a reliable and high quality supply and service to all customers, in support of Government's economic and social development priorities;
3. The achievement of the country's electrification targets in the most effective and efficient manner and ensuring that electrification is contributing to social and economic development;
4. The conducting of operations in a financially sound and efficient manner, in order to provide a reliable and sustainable future for consumers and employees within the sector.⁵⁸

Government appreciated that if the EDI is to meet the above objectives, there was a dire need to reform the Industry so as to address the following challenges plaguing the Industry⁵⁹:

1. **Lack of (or limited) financial viability of the distributors:** Many municipal distributors are experiencing severe financial viability problems, resulting in, amongst others, lack of an ability to pay Eskom for generation purchases. Other serious consequences include inadequate or no investment at all in the maintenance and refurbishment of existing distribution networks or new networks to ensure security of supply and meet the demands of growth; the inability to meet targets of the electrification programme; the threat to the viability of the entire Electricity Supply Industry (ESI) value chain as a result of the inability of the municipal distributors to pay Eskom for their generation purchases; and as a result of these problems, the unattractiveness of the Industry to human resources and therefore the loss of key skills in the sector.

2. ***Inequitable treatment of consumers:*** As a result of history and legacy, customers face significantly varying levels of tariffs, standards of service and supply reliability across the country. This inequity of customer treatment was a cause of great concern to the Government, especially within the context of social and economic development objectives. In particular, the Government wished to address the stark disparities in the tariff structures caused by the fragmented Industry structure; the reliability of service and supply to low income households; the unfair discrepancies between Eskom distribution tariffs and municipal distribution tariffs especially in so far as it related to domestic and low income consumers; the uneven distribution of electrification needs across the country, with some of the poorest regions having the greatest needs; the looming threat of financial collapse of municipal distributors in certain critical low income, rural, urban and industrialised areas.
3. ***Inefficiencies:*** Due to the fragmented Industry structure (about 188 licensed distributors), the benefits to be realised from economies of scale are lost. The Administration and technical operations are duplicated within close geographical areas, resulting in amongst others unnecessarily high costs associated with distribution of electricity and therefore unnecessarily high tariffs.
4. ***Ineffective regulation:*** Another very significant challenge that the South African EDI faced was ineffective regulation due to amongst others, the fragmented nature of the sector. At the time the Blueprint Report was written, the National Energy Regulator of South Africa (legal successor to the then National Electricity Regulator) regulated the Industry in terms of the Electricity Act, 1987⁶⁰ (this Act has since been repealed by the Electricity Regulation Act, 2006⁶¹) by issuing distribution licences and approving tariffs. However, the role of the Regulator in municipal distribution has been the subject of much controversy and in fact legal dispute, given the constitutionally entrenched role of Local Government in so far as electricity reticulation goes. In terms of the Constitution, 1996⁶², executive and legislative authority for electricity reticulation is allocated to Local Government⁶³. This means that a municipality has the right to decide how electricity reticulation should take place in its geographical area. This includes decisions such as who should supply electricity to consumers, the conditions on which electricity will be supplied and the circumstances in which the supply of electricity will be limited or discontinued. Municipalities also have the power to impose user charges in respect of electricity (section 156(5) provides that a municipality “has

the right to exercise any power concerning a matter reasonably necessary for, or incidental to, the effective performance of its functions”). The power to impose user charges may be regarded as one that is “reasonably necessary for, or incidental to” the exercise of executive power in respect of electricity reticulation. Further, in terms of section 229(1) of the Constitution, municipalities may impose surcharges on fees for services provided by or on behalf of the municipality. Local Government’s constitutionally entrenched rights in relation to electricity reticulation resulted in a dual regulatory framework with the national Regulator deriving powers from national legislation on the one hand and Local Government deriving certain rights on the other, in terms of the Constitution. By restructuring the EDI through rationalization and consolidation, there was opportunity to ensure effective regulation, through a single, independent, national Regulator.

After much analysis and the requisite financial modeling, Government resolved to achieve the stated objectives for EDI reform, by establishing six Regional Electricity Distributors (REDs) according to carefully constructed geographical boundaries that considered various criteria of viability. The REDs were to be formed as a result of a merger of the current electricity distribution businesses (including assets and people) of both Eskom and Local Government. The REDs model will be further elucidated in section 3 of this paper.

As mentioned in section 2.1 above, in summary, the overall objectives for the EDI reform are as follows:

- To position the EDI to meet the basic needs of electricity consumers in South Africa i.e. to ensure universal access and to ensure acceptable levels of supply security and quality regardless of geographical location of consumers.
- To establish sound administration and financial arrangements to achieve Government’s electrification targets.
- To ensure that proper arrangements are put in place to provide sustainable electricity supply to low-income consumers. This includes ensuring the security of supply at affordable prices, regardless of location.
- To ensure that the future REDs are financially viable and operate in an efficient and effective manner by distributing reliable electricity at affordable prices while at the same time ensuring that adequate investment is made in infrastructure.
- To ensure that the future REDs are able to provide employment security and develop and retain skills within the sector.

- To ensure that the reform process is well planned and managed, through the establishment of a national holding company to implement the restructuring.
- To ensure that the restructuring is guided by a comprehensive human resources strategy and an agreed social plan, so as to ensure that the interests of all affected by the reform are understood and protected.

3. Reform and regulation of South Africa's electricity sector

3.1. Tools for the reform and regulation of the electricity sector

The Electricity Industry is structured according to 3 main components: generation; transmission and distribution, depicted in the diagram below:

The actual electricity value chain is an integrated system of networks and distribution and transmission stations. Below is an illustration of a typical electricity supply chain:

Traditionally, the electricity Industry has been structured on the basis of a vertically integrated monopoly with a single entity performing all three components. While the transmission part of the industry can be regarded as a natural monopoly, scope for reform exists in both the generation and distribution sectors. In South Africa for instance, implementation of EDI reform is currently underway by merging the electricity distribution business of the national utility (Eskom) with 187 municipal distributors to form 6 REDs. In addition, legislation has recently been enacted to facilitate the opening up of a co-generation and independent power producer (IPP) market. In respect of the EDI reform model (more fully discussed in paragraph 3.2), sale of business agreements are envisaged between the current asset owners (Eskom and municipal distributors) and the newly formed REDs. Preceding the conclusion of these agreements, it is

necessary that all current distributors undertake a ring-fencing exercise that properly identifies assets to be transferred to the REDs and the value thereof, so that compensation is accurately determined. This also presupposes a due diligence exercise. The transition from the status quo to the end state of 6 operational REDs, does not envisage any disruptions in the quality of service and supply. Details of the transaction are currently being finalised, however, as a matter of principle financial impact on current asset owners will not be adverse. Furthermore, the financial viability and sustainability of the REDs going forward is intended to be carefully considered and protected.

Various options exist for reforming the sector. Kirkpatrick et al. (2004) elucidate that one such option is the introduction of competition in order to improve efficiencies and drive down prices. Unbundling through restructuring is another such option. Unbundling can take the form of breaking up the appropriate components of a single entity. Usually these components would be the generation and distribution parts. Another option is the introduction of private sector participation in those unbundled portions of the Industry. Such a move will ensure much need injections of private sector funding and shared risk and will eventually enhance efficiencies. Regulatory reform including adoption of incentive regulation may also be considered as an option.

Jamasb et al. (2005) suggest further elements of reform: "corporatization of State-owned entities; enactment of electricity reform law; provision of third party access to networks; establishment of an independent regulator; liberalization of the retail supply market and definition of rules concerning consumer protection, allocation of energy subsidies and stranded costs."

A significant benefit of the implementation of electricity reform should be environmental considerations. Since electricity generation and supply have a large

Figure V.2. Depiction of Electricity Industry

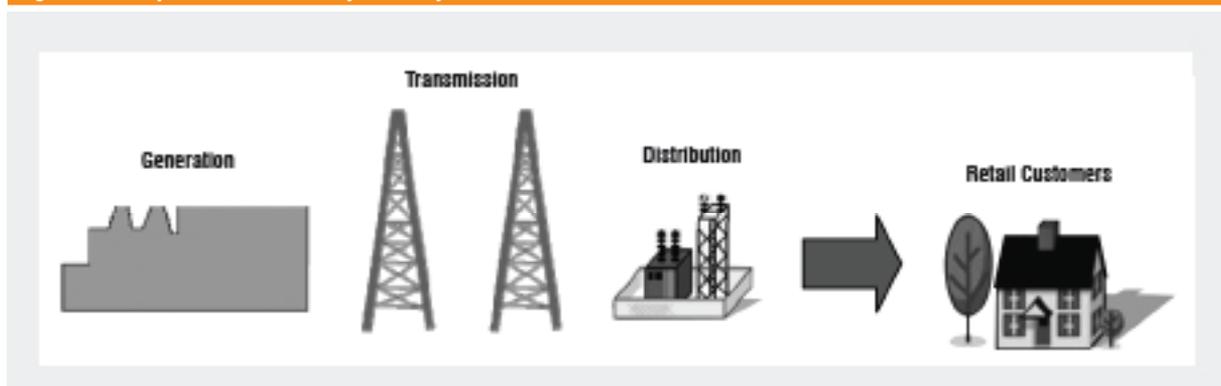


Figure V.3: Electricity Value Chain

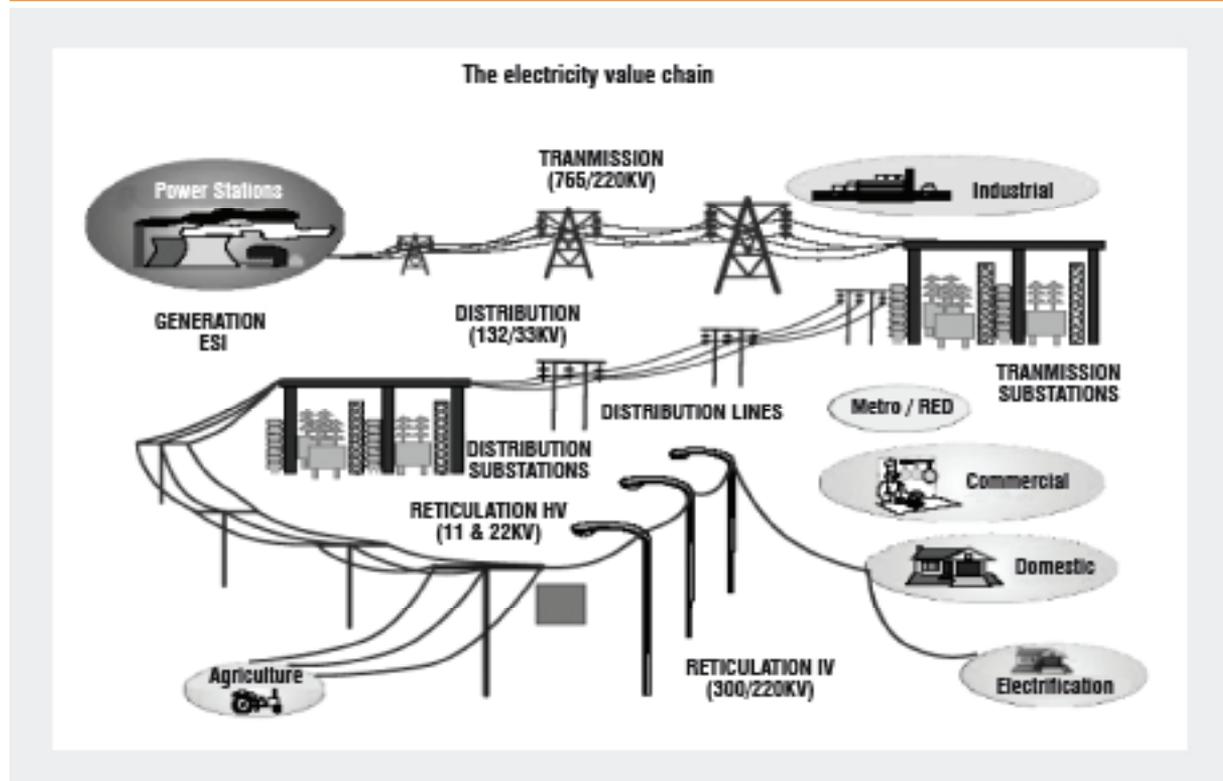
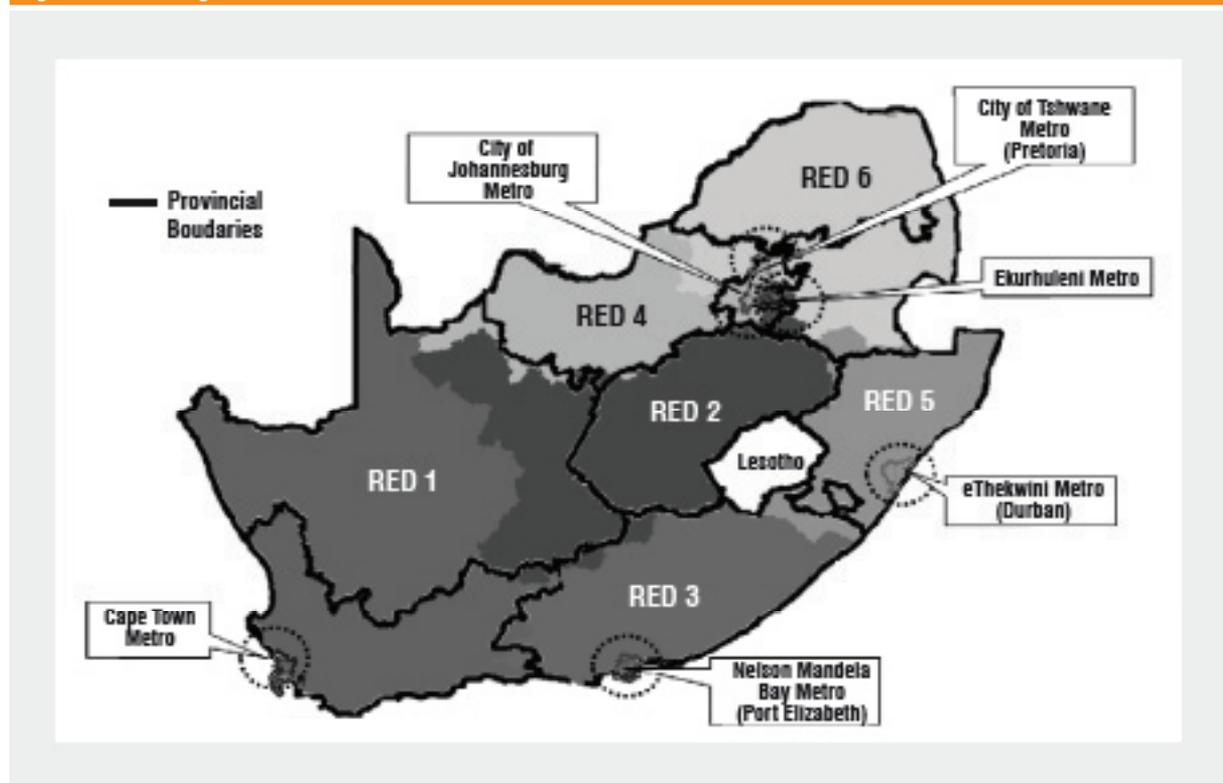


Figure V.4. Envisaged RED Boundaries



environmental footprint, environmental sustainability must be seriously considered in the reform approaches adopted. In the generation sector for instance, alternative sources to energy (than coal based technologies) must be implemented preferably through legislation. Renewable energy technologies that have less harmful impacts on the environment must be legislated on the basis of targets to be achieved. Regulating this via licence conditions is also useful.

3.2. South Africa's EDI reform model

Section 2 of the paper explained the objectives behind South Africa's EDI reform process. This part of the paper looks at the actual EDI reform model. In addition, it also considers South Africa's plans for ESI reform, in particular the introduction of IPPs and the establishment of an independent systems operator (ISO).

As mentioned previously, South Africa's EDI reform model is captured as a matter of public policy in the White Paper and the Blueprint Report. The Government is currently finalising the EDI restructuring legislation, which includes an amendment to the Constitution and a specific REDs Establishment Bill, together with supplementary regulations. More comment on the draft legislation will be made later in the paper.

The EDI reform model includes the following salient features:

A. Number and boundaries of REDs

Six REDs are to be established with the boundaries as depicted in the map below. Various factors and criteria were considered in determining the number of and boundaries for the REDs. These include:

Size - the REDs must be of an adequate size so as to be able to leverage economies of scale.

Balance - in so far as they compare with each other, the REDs must be balanced in relation to urban/rural customer mix; rural electrification; customer numbers; load mix; asset base; load density and income per household.

Implementation costs - RED boundaries should align with existing electrical networks and any significant reconfiguration costs associated with implementation should be avoided.

The financial analysis conducted had, as its main criteria, the independent financial viability of each of the REDs⁶⁴. The six RED model appeared to offer strong financially capable REDs, into the future, with very little or no cross-subsidization required between the REDs.

B. Legal status, ownership and governance of the REDs

REDs will be owned by both the national and local Government⁶⁵ and will be established as companies in terms of the Companies Act, 1973.⁶⁶ Further REDs will be established as public entities⁶⁷ in terms of the Public Finance Management Act, 1999.⁶⁸

REDs will be made up of the electricity distribution assets and liabilities contributed by Eskom and Local Government. All asset contributors to the REDs will be compensated mainly in the form of ordinary shares, with the exception of some smaller distributors who may be compensated through cash. The Blueprint Report also proposed that the national Government hold a golden share⁶⁹ in each RED, empowering it with certain additional rights. The national Government was meant to hold shares in respect of Eskom's contribution to the REDs, provided that this had no adverse impact on Eskom's credit rating.

Each RED would be controlled by a board of directors with the necessary competence and skills. Directors would be appointed by shareholders. RED decision-making would be through normal majority voting.

C. Asset valuation and transfer of current electricity distribution businesses to the REDs

The Blueprint Report provided that assets to be transferred to the REDs should be valued on the basis of relative depreciated replacement costs (DRC) or discounted cash flow (DCF) methodologies.

Proxy methods are to be used to value those businesses without good asset registers. For proper valuation purposes all business are to be ring-fenced and audited prior to transfer to the REDs.

Recognising that the businesses to be transferred would also be burdened with debt, approaches to dealing with debt transfer include full transfer of debt; back-to-back arrangements whereby actual loans are not transferred but identical debt instruments are issued by the RED to the municipality or Eskom as the case may be and refinancing new debt whereby the existing debt is redeemed rather than transferred to the RED. It was acknowledged that the preferred option to handling debt would be determined by the considerations of investors.

Transfer of the distribution businesses to the REDs would take place in terms of national legislation that spelt out the details of the transaction rather than on the basis of an individual contractual approach.

D. Commercial and regulatory arrangements

The Blueprint Report recommended that prior to the establishment of the wholesale electricity

market, municipalities and REDs should purchase energy and transmission via a regulated Wholesale Electricity Pricing System (WEPS). After the market was established, it was envisaged that REDs would purchase energy from the market.

The introduction of retail competition was favoured with the initial tranche open to only those customers with an annual consumption exceeding 100GWh at a single site.

As far as the regulatory framework goes, the National Energy Regulator of South Africa would issue appropriate distribution licences to the RED. In addition, in terms of municipal legislation,⁷⁰ each municipality would enter into a service delivery agreement (SDA) with its respective service provider RED. In terms of South African law, a SDA is essentially a regulatory instrument that the service authority (in this case the municipality) uses to manage the performance of its service provider, in this case the RED. This arrangement becomes applicable as a result of the constitutional powers and functions conferred upon Local Government in respect of electricity reticulation, as discussed in Section 2 of this paper.

It is envisaged that the licence issued by the Regulator would impose conditions on the licensee RED to ensure amongst others that the following restructuring objectives are met:

- Universal service of connection and electricity supply to all users in its geographical area.
- Obligation to implement appropriate tariffs for low-income households within its designated area.
- Obligation to provide supply and service quality at appropriate standards, supported by financial penalties for non-compliance.⁷¹

E. Tariffs and levies

Cognisant of Government's rationale for EDI reform, the principles guiding the setting of tariffs and levies include cost reflectivity; affordability and transparency.

The Blueprint Report also stated that Local Government's income from electricity (levy) should continue at current audited levels. Within the South African context, revenue from electricity represents a significant source of cash for the funding of other Local Government services. Government believed that this practice should continue post EDI restructuring. However, the view was that this practice should not continue indefinitely. The proposal contained in the Blueprint Report was that the income derived by Local Government from the levy should be capped at current audited levels for the first 5 years of operation of the REDs, and any further levy from electricity sales should be reviewed after this period.

In 2007, the Municipal Fiscal Powers and Functions Act, 2007⁷² was passed in terms of section 229⁷³ of the Constitution. In terms of this Act, municipalities are authorised to impose a municipal tax on electricity sales within their areas of jurisdiction. In practical terms, this means that when the REDs are established, the Minister of Finance may pass compulsory norms and standards to be contained in Regulations pursuant to the Municipal Fiscal Powers and Functions Act, 2007, which details the municipal surcharge that may be imposed by Local Government in respect of electricity.

Currently, the Regulator determines Eskom's allowed revenue on a multi-year basis and has completed a methodology in this regard (called the Multi-Year Price Determination). This methodology also incorporates the prescriptions of the Electricity Pricing Policy developed by the Department of Energy.

Section 15 (1) of the Electricity Regulation Act, 2006 states that a licence condition relating to approval of tariffs must enable an efficient licensee to recover the full cost of its licensed activities, including a reasonable margin or return and also provide for or prescribe incentives for continued improvement of technical and economic efficiency with which services are to be provided. So, the Act provides comfort to regulated entities.

The Multi-Year Price Determination is basically a Rate of Return methodology but also contains some incentive based principles in order to incentivise efficient performance.

A different process is followed regarding tariff structures and it is in this process that the debate regarding cross-subsidization and the drive towards cost-reflectivity (while keeping in mind affordability) prevail.

The Regulator uses a benchmark and comparison approach to approve municipal tariffs. In many cases, the information received from municipalities is not reliable. The on an annual basis determines an appropriate tariff guideline increase which is then sent through to municipal electricity distributors as a guide in determining their annual electricity tariff increases.

The existing benchmarks are based on approximately five assumed tariff/customer categories and average consumption levels for these categories. It should be noted that these are average consumption levels and that there may also be other tariff classes at various municipalities, which will cater for other customer classes or consumption levels that are very different from the ones that are assumed. Where such anomalies exist, the applications are treated on a case-by-case basis.

For the purposes of benchmarking the following customer classes are assumed:

- Domestic low tariff – An average consumption level of 100kWh per month;
- Domestic high single phase tariff – An average consumption level of 800kWh per month;
- Commercial (small business) single phase tariff – An average consumption level of 2000kWh per month;
- Commercial Prepaid – An average consumption level of 2000kWh per month;
- Industrial / Large user tariff - A 30 per cent load factor (LF) and a maximum demand (MD) of 200kVA, which would give an average consumption level of 43 800kWh.

The Regulator is currently busy with the development of a Rate of Return methodology for tariffs for Metropolitan municipalities.

F. RED financial viability

The Blueprint Report listed the following criteria to assess RED financial viability:

- the RED should be able to generate sufficient cash to meet operating costs,
- the RED should be able to undertake appropriate capital expansion to meet load growth and maintain and refurbish existing assets,
- the RED should be able to meet all its debt and tax obligations,
- the RED should be able to yield a return on equity invested corresponding with the risks in the business, and
- the RED should be able to maintain gearing at levels acceptable to lenders and maintain an acceptable interest cover ratio.

G. RED human resources planning

The Blueprint Report recognised that the reform of the EDI must take place within the framework of a comprehensive human resources strategy including the consideration of such aspects as the organizational structure for the REDs; the basis on which staff from both Local Government and Eskom will be transferred to the REDs; the development of solutions for terms and conditions of employment and training; development and skills shortages; a communication and change management programme and the creation of a comprehensive Social Plan.

H. Business systems and process for the REDs

The Blueprint Report proposed that upon RED creation, REDs should operate using current processes and systems used by the Industry, subject to the proviso that there is sufficient integration of

business processes and systems to enable the REDs to operate efficiently and comply with legal requirements. Going forward, attention could be paid on modernising systems and processes through the creation of shared service centers, etc.

I. The establishment of a transitional project management company to implement the reform

The Blueprint Report recommended the establishment of EDI Holdings to control and direct the operations of the EDI, for a transitional period with the objective of undertaking the following specific task:

- To plan the establishment of the REDs;
- To control the phased implementation of the REDs;
- To plan and co-ordinate the national electrification programme;
- To manage the provision of short term support to critically weak distribution businesses prior to RED creation;
- To lead the development of arrangements for support of low-income households; and
- To prepare an Industry-wide Social Plan.

EDI Holdings has since been established in July 2003, primarily as an interim programme and project management company with the key mandate of creating the 6 REDs.

3.3. South Africa's ESI reform model

The South African Government's vision for the ESI is articulated in the White Paper. The White Paper recognised that the main drivers for reform are economic efficiency benefits and technological advancement. Any Industry structure must be able to achieve adequate, reliable and low cost electricity to service the needs of business and the people of the country. While Government had a plan to rationalise the EDI by consolidating the number of distributors to 6, it also had a plan for what transmission and generation should look like.

The White Paper provided that the objectives of the ESI are:

- To improve social equity by addressing the needs of the poor;
- To enhance the competitiveness of the South African economy by providing low-cost and reliable quality energy to the industrial, mining and other sectors of business; and
- To ensure environmental sustainability.

Government realized that the following factors would need to be considered in order to ensure the long-term success of the ESI:

- Customers having the right to choose their electricity supplier;

- The introduction of competition in the generation sector;
- Permitting open, non-discriminatory access to the transmission system;
- The introduction of private sector participation in the Industry.

A. Generation sector reform

Eskom, being the supplier of last resort operates as a vertically integrated monopoly, for the provision of generation capacity. Government policy is to steadily create and increase competition in the generation sector in order to improve efficiencies and reduce electricity prices. In this regard, Government identified the need to recommission the moth-balled power stations, provide an enabling environment for non-utility generation and potentially providing for/increasing the import of electricity. In respect of non-utility generation, policy stipulates that the entry of multiple players into the generation market will be encouraged. While striving to develop a competitive power market, Government was also conscious of the need to develop renewable and environmentally sound electricity generation technologies. The competitive power market also envisaged the participation of IPPs.

Government articulated a clear vision that included the unbundling of Eskom's generation and transmission businesses, the further development of the Southern African Power Pool (SAPP), increased non-utility generation, research into whether or not competition would be suitable in the South African context and enhancing of the ability of the National Regulator to regulate effectively.

The White Paper expressed that in the long term, Eskom would have to be restructured into separate generation and transmission companies. In order to facilitate the introduction of competition in electricity generation, Government intended to separate Eskom's power stations into a number of individual companies. Such a step would also achieve some of Government's other broader objectives e.g. private sector investment and Black Economic Empowerment (BEE) opportunities.

B. Transmission sector reform

It was acknowledged that in order to move to a competitive market, open access to the transmission lines, will be a prerequisite. Therefore, the White Paper provides as a matter of policy that Government will legislate for transmission lines to provide for non-discriminatory open access to uncommitted capacity, transparency of tariffs and disclosure of cost and pricing to the National Regulator.

3.4. Results achieved in the reform of the electricity sector in South Africa

Subsequent to the policy pronouncements in the White Paper and the Blueprint Report, Cabinet in September 2005, adopted a substantially different Industry structure model to the original 6 RED model approved by Cabinet in 2001. This new model proposed the establishment of 6 Metro REDs and a National RED for all non-metropolitan municipalities. The shift in the model happened as a result of stakeholder preferences rather than as a result of financial analysis. The implementation of this Cabinet decision however, was conditional upon a feasibility study to determine the financial viability of the proposed National RED. Needless to say, this shift in Government policy resulted in unforeseen delays in the restructuring exercise. As a result of the findings and recommendations of the feasibility study, in October 2006, Cabinet resolved to revert to the original 6 RED model, with all REDs being established as national public entities.

Since the establishment of EDI Holdings in July 2003, dedicated resources have been attached to EDI restructuring. EDI Holdings was established as a programme/project management, national public entity (with the national Government holding 100 per cent shareholding), reporting to the then Department of Minerals and Energy,⁷⁴ with the sole mandate of restructuring the EDI by creating 6 REDs.

After almost 10 years of credible effort, and as a result of various challenges, it arguable as to whether tangible progress has been made towards RED creation. To date, no RED has been established. The closest progress made towards RED creation took place in 2005 when the pilot RED1 was established in the Western Cape.⁷⁵ Established in the absence of an enabling legislative environment and on the basis of voluntary management and operating agreements, RED1 was dissolved in 2006, as a result of failure to meet the suspensive conditions stipulated in the agreements between RED1 and Eskom and the City of Cape Town respectively⁷⁶. In addition the National Regulator withdrew RED1's distribution licence, since the agreements lapsed. The applicable suspensive conditions related to the transfer of the relevant electricity distribution businesses from Eskom and the City of Cape Town to RED1. The transfer of assets from the City of Cape Town in particular, was meant to take place in terms of law,⁷⁷ which prescribed that any transfer of assets from Local Government must take place in accordance with an asset transfer framework promulgated by the Minister of Finance. At the time, no such framework existed and the transfer of assets could not be effected. Subsequent to this though, the

asset transfer framework was promulgated in August 2008.

The challenges that the reform initiative was met with and that has stymied its advancement could be attributed to the following:

- At times uncertain and inconsistent policies, that resulted in delays and stakeholder confusion within the sector.
- The somewhat slow progress with the enactment of enabling legislation based on a mandatory restructuring model. To date, all efforts to reform the sector have taken place in the absence of enabling legislation and on the basis of voluntary participation by Industry. In the case of Local Government's participation, the matter is further complicated by the constitutional powers they derive in terms of the Constitution, in respect of electricity reticulation. Such derived powers, make it unconstitutional to compel the participation of municipalities in the REDs. The only way to overcome this, is to amend the Constitution.
- The lack of continuity in the executive political sponsorship of the programme. For example, since EDI Holdings was established in 2003 to present, four different political heads held office at the Department of Energy.
- The pace in the development of the technical detail, for example the compensation package (the deal) that would be offered to Industry in exchange for the

transfer of their electricity distribution businesses to the REDs.

- Ambivalent stakeholder support and buy-in. Support and buy-in has proven to be arduous in such a stakeholder driven and diverse environment. Progress with many key-enabling instruments such as the proposed draft RED Establishment Bill was delayed as a result of meeting the strong demands of stakeholder consultations and the achievement of a fair degree of consensus.
- Securing the appropriate skills and budget, which is critical in the reform of such a complex, extensive Industry.

Despite these challenges though, and despite the fact that no RED has been established yet, over the past three years, noteworthy progress has been made in respect of the development of the enabling legal and regulatory instruments to effect the reform. Progress made includes the following:

- Government's intention to affect the restructuring on the basis of a mandatory model by amending the Constitution was evident when the Constitution Seventeenth Amendment Bill of 2009 was published for comment in the Government Gazette on 17 June 2009. In April 2008, Cabinet took the decision to amend the Constitution to enable EDI restructuring. The published Bill seeks to vest National Government with new powers of intervention at Local Government level when it is necessary to achieve regional efficiencies and economies of scale. This

Table V.3. 23 Deal Issues identified by EDI Holdings

Protection of energy trading surpluses and surcharges of municipalities	Service delivery agreements/service level agreements (municipalities)
Mechanism to deal with stranded assets	Continuity of service delivery
Compensation for businesses transferred by current asset owners	Provision of support for delivery of Integrated Development Plans (IDP) of municipalities
Control over customer interface (metros and secondary municipalities)	Board and governance representation
Switch-off capability/credit control tools by municipalities	Transfer of assets and liabilities to the REDs
Tariff consistency in area of jurisdiction (municipalities)	Retention of debtors book (metros and secondary municipalities)
Credit rating guarantees to legacy business	Return of assets in case of failure of the REDs
Continued street lighting capability (municipalities)	Roll out of social development plan (municipalities)
Access to fibre optic cables for communication (municipalities)	Right to determine tariffs (municipalities)
Demand side management (DSM) support through the RED (Eskom)	Treatment and ownership of key industrial customers (KICs)
Eskom to divest from REDs after transitional period	Establishment and governance of a shared service centre
Harmonisation of employee conditions of service	

Source: *The Transformer Newsletter by EDI Holdings, September/October 2008.*

is sought to be achieved by the insertion of a new subsection (1A) in section 156 of the Constitution. The proposed new section is designed not only to facilitate EDI reform, but also the regionalization of other municipal functions, when necessary. The Bill is currently in parliamentary process.⁷⁸ In parallel, the development of the proposed draft RED Establishment Bill and supplementary regulations on the deal are under development as a matter of priority.

- Other key legislative instruments that have since been enacted to ensure the smooth participation of in particular Local Government, include the Municipal Fiscal Powers and Functions Act, 2007 (which regulates the right of Local Government to levy surcharges on municipal services including electricity) and the Asset Transfer Framework for Local Government (which stipulates the terms and conditions for the transfer of assets out of Local Government).
- Advancing of Industry state of readiness for participation in the REDs. This includes having secured funding for ringfencing and the section 78⁷⁹ processes. Funding has been secured for 103 municipalities, out of a total of 187. 56 of these municipalities have commenced with ringfencing.⁸⁰ In addition, Eskom has completed the ringfencing of its operating units in preparation for RED formation.
- Progress with the identification of the components of the deal that will form the subject of negotiations with Industry, in exchange for transfer of electricity distribution businesses to the REDs.

While the details relating to the 23 Deal issues have only recently been articulated as such, knowledge of the broad framework and aspects relating to the Deal existed since the reform process began. Ideally

resolution of the Deal with Industry and encapsulation of the Deal (to the extent necessary) in enabling legislation should have preceded the implementation of the actual establishment of the REDs. This clearly serves as a valuable lesson to countries considering the implementation of reforms of this nature. Such a transparent and clear approach certainly lends credibility to the process (from an investors perspective also) and avoids unnecessary and costly delays going forward.

The benefits intended to be achieved from EDI reform, have obviously not been realised, since the vehicles to actualise these have not yet been established. This has not necessarily hindered the mobilization of other initiatives to ensure the commencement (at least) of that benefit realization. However, it is significant to point out, that the absence of an enabling legislative and regulatory framework underpinning the reform agenda undermined its pace and therefore the swift realization of its intended benefits.

One such benefit though, that has at least commenced is the Approach to Distribution Asset Management (ADAM) project. Since one of the core drivers for the reform was to ensure adequate investment in infrastructure so as to guarantee the safe and reliable supply of electricity, the ADAM project was conceived with the aim of identifying and developing strategies to address maintenance, refurbishment and funding gaps. The project is set up with various phases and is currently in Phase 1 execution. In Phase 1, it intends to define the challenges and solutions; develop and define baseline/benchmarks and performance improvement targets, and identify and set up structures for Phase 2, which will develop business plans for future projects and required resources.

Table V.4. Electrification Statistics

Province	Total Number of Households	Backlog	Households not electrified (%)	Number of electrified households	Electrified households (%)
Western Cape	1,333,886	191,366	14	1,142,520	86
Northern Cape	272,958	50,405	18	222,553	82
North West	914,070	196,605	22	717,465	78
Gauteng	3,127,991	740,569	24	2,387,422	76
Free State	823,972	210,919	25	622,053	75
Mpumalanga	879,082	231,485	26	647,587	74
Limpopo	1,250,716	329,440	26	921,267	74
Kwa Zulu-Natal	2,405,165	818,708	34	1,586,457	66
Eastern Cape	1,667,435	669,421	40	998,014	60
Total	12,675,275	3,429,918	25	9,245,357	75

Source: Department of Energy, South Africa, *Electrification Statistics Report*, 2009.

The Department of Energy's mandate over and above ensuring access to basic electricity services is also to drive the socio-economic development of historically disadvantaged individuals. As far as electrification goes, in terms of the Department of Energy's Electrification Statistics Report, 2009, over the past 15 years, the Integrated National Electrification Programme (INEP) has connected 4.9 million households and to date about 75 per cent of all households in South Africa have access to electricity (9,245,357 households).

Post 1994, priority has been given to servicing the poor and rural areas as well as historically disadvantaged groups. The table below depicts the latest electrification statistics. As can be gleaned from the table, electrification is progressing at a steady pace.

When the White Paper was drafted in December 1998, reform of the ESI (generation and transmission sectors) was not considered a priority. EDI reform took immediate precedence due to the challenges facing that sector. Consequently, little focus was given to generation sector reform until December 2003. At this time, Cabinet approved the participation of the private sector in electricity generation and decided that future power generation capacity will be divided between Eskom (70 per cent) and IPPs (30 per cent). The Department of Energy was mandated with the task of ensuring private sector participation in power generation through a competitive bidding process and ensuring that diversified primary energy sources be developed within the electricity sector without hindrance. A power generation investment plan was drawn up to take into account this decision.⁸¹

Impetus to the introduction of IPPs in South Africa was given in early 2008, when the country was faced with an electricity supply crisis that resulted in the power utility Eskom, implementing power cuts and massive load shedding (amongst others) initiatives.

The primary cause of the crisis is attributed to the lack of sufficient quantity and reliability of electrical generation, articulated better as a "constrained generating reserve margin over demand". Cameron and Naude (2008) state that "in sum, the causes of South Africa's electricity crisis are, as in other emerging economies, due to a combination of growing demand, under-investment and a poor (regulatory) institutional environment". It is reported that the crisis was foreseen by Eskom, in a report submitted to Government in 1998, warning of an energy crisis within 10 years.⁸²

To address this crisis that plunged the country into an economic disaster, and to mitigate some of the adverse consequences, Government established a

National Energy Response Team (NERT) made up of stakeholders from Government and business to co-ordinate and facilitate all activities and deliverables to restore the integrity of the ESI.⁸³

Needless to say, the power crisis has had an adverse impact on the economy. While the overall losses to the economy may be much larger, estimates on the direct losses sustained as a result of load shedding during the period November 2007 to January 2008 amount to \$6.6 billion. The projected growth for the economy was 5 per cent for 2008, but, as a result of the crisis, the growth dropped to less than 4 per cent. The mining sector bore the brunt of the electricity emergency, as many mining companies including AngloGold, Harmony and Goldfields, suspended operations for safety reasons – power cuts could have trapped workers underground. In addition, Eskom requested the mining companies to reduce their electricity consumption by 60 per cent a month, impacting directly on production and therefore revenue. The crisis also impacted on the export revenues of South Africa. Energy intensive sectors like mining and manufacturing account for 85 per cent of the total exports. Due to the production impact on these sectors, export volumes decreased. Investor confidence in the country diminished as a result of the emergency, which caused the Johannesburg Stock Exchange (JSE) to drop and the rand depreciated. The crisis also had a regional impact as far as the supply of power to some participants in the Southern African Power Pool (SAPP). SAPP, which is made up of 11 Southern African countries was established in 1995 to create a regional market for power. Eskom supplies 85 per cent of electricity to SAPP. The emergency meant that Eskom was unable to meet this demand, and as a result, countries that relied on this power, also faced blackouts.⁸⁴

NERT's strategy was essentially 2 pronged: on the one hand looking at the supply side and how to increase reliability and capacity including exploring strategies to exploit the co-generation and IPP market; and on the other hand examining the demand side by investigating tools to improve efficiencies.

As part of the initiatives of NERT, the Department of Energy has begun drafting legislation for the establishment of an Independent Systems Operator (ISO). This follows on the Electricity Regulations on New Generation Capacity promulgated on 05 August 2009⁸⁵, in terms of the Electricity Regulation Act, 2006. The main objective of these Regulations is to enable the creation of the co-generation and IPP market, in order to augment and diversify generation capacity.

An ISO is intended to be established as a separate legal institution appropriately constituted and mandated.

Currently, system operations are performed by Eskom. In order to enable the IPP and co-generation market (amongst other important factors), there should be a considerable degree of independence between system operations and the rest of the vertically integrated functions of Eskom. The intention is to transfer this function to a separate legal entity that can execute the role and responsibilities unbiased.

The Regulations provide for the following functions of the ISO: development of an integrated resource plan; undertaking of feasibility studies to determine whether the procurement of generation should be undertaken by Eskom, another utility or an IPP and responsibilities for activities related to procurement under the IPP bid programme.

Transmission of electricity is still undertaken by Eskom, operating the function as a ringfenced division within the company.

The power crisis that has gripped the country since early 2008 has had a profound impact on consumer tariffs. As a result of Eskom's capital expansion programme (R385 billion over a 5 year period – 2009/2013) and its increasing operating and primary energy costs, in June 2008, the Regulator announced a further 13.3 per cent increase in the price of electricity (in December 2007 the Regulator awarded an increase of 14.2 per cent for 2008/9). This resulted in an average annual increase of 27.5 per cent.

For the 2009/10 year, Eskom applied for an interim price increase of 34 per cent. On 25 June 2009, the Regulator approved an average price increase of 31.3 per cent for Eskom for 9 months from 01 July 2009 to 31 March 2010. Included in the price is the 2c/kWh environmental levy payable to Government.⁸⁶

Needless to say, the power crisis in the country has had a negative impact on the Government's objective of providing affordable electricity to its people. Until new generation capacity is sourced either through Eskom's new build programme or through co-generation sources and IPPs, tariffs will remain at such levels.

Some industry commentators hold the view that a significant reason for both the slow pace of reforms within the sector, as well as the energy crisis of 2008, is deficiencies inherent in the regulatory and institutional set up of the sector. The National Electricity Regulator used to be the dedicated regulator of the electricity sector, until a Cabinet decision taken in 2002 expanded the mandate of the Regulator to become the National Energy Regulator of South Africa, now also regulating the piped gas and petroleum pipeline industries. Established in terms of the National Energy Regulator Act, 2004 (Act

No. 40 of 2004), the Regulator derives its mandate to regulate the electricity Industry from the Electricity Regulation Act, 2006. The Regulator essentially performs economic regulation (by determining prices and tariffs) and technical regulation (by regulating the quality of service and supply) of the sector. A detail explanation of the pricing and tariff methodology that the Regulator currently uses is provided in paragraph 3.2 above. The regulatory instrument used to regulate by amongst others imposing certain conditions that a licensee must comply with, its licences. The current capacity of the Regulator to monitor compliance of licensing conditions and thereafter enforce non-compliance could be seen to be deficient, thereby undermining the power and effectiveness of the Regulator. Over and above this, the very nature of the conditions that the Regulator may impose on a licensee may be considered to be constrained. For example, when the power crisis began in 2008, the role the Regulator could have played in averting the crisis was raised. Why did the Regulator not ensure that Eskom built new power stations were amongst many of the questions raised in respect of the Regulator's authority? One recommendation coming out of the many debates that ensued following the crisis was that maybe it was time to review the role of the Regulator and strengthen its legislative powers to better and more meaningfully regulate the sector.

Another key challenge facing all institutions within the sector is the dearth of key skills that has a direct impact on capacity. With the Regulator for instance, a significant challenge has been its ability to retain key skills. The vacancy rate at the Regulator currently is significant, impacting on its ability to execute its functions. Given the scarcity of regulatory skills, this can have dire consequences.

A further weakness that is peculiar to the South African context is the fragmented institutional jurisdiction over the sector. Eskom operating as a State owned enterprise reports to the Department of Public Enterprises, its shareholder on behalf of Government. The Department of Energy, on the other hand sets the policy and legislative framework for the sector, which Eskom must comply with. National Treasury is the recipient of the dividends paid by Eskom, while the National Regulator determines the prices that Eskom may charge. This fragmented and collective accountability often can lead to a situation of no accountability.

The Centre for Development and Enterprise, South Africa, held a Round Table discussion in July 2008, on the energy crisis. Several Industry role-players participated in the frank discussion, about what went wrong. One of the recommendations made was that accountability for the Industry should fall under a single

STAKEHOLDER	INTEREST
Government	Implement the reform so as to realise the stated benefits: poverty eradication, provision of universal access; provision of affordable and reliable electricity, ensuring a financially viable and sustainable ESI
Regulators	Compliance with technical regulation standards; implementation of properly structured electricity tariffs; financially and technically sound Industry in operation
Consumers/customers	Low electricity prices and reliable quality of service and supply
Employees/organised labour	Low electricity prices; employment security and opportunities for growth and development
Industry	Protection of monopoly status; no adverse impact on credit rating; continued ownership and control stake in the reformed Industry
Investors, financiers, rating agencies	Sound policy, regulation and law and no/little risk to investment Low electricity prices; limited adverse impact on the environment and sustainable development

Source: the author.

Ministry or Office with a senior politician at the helm. The apex priority of this individual/office should be to restore the health of the sector and ensure that the Industry was attractive to investors, going forward. A medium term priority should also be consideration of an overhaul of the governance of the sector, including a redesign of the Industry regulator.⁸⁷

3.5. The importance of stakeholder engagement

Meaningful, consistent engagement with the entire stakeholder base is critical to the success of any reform programme. With the electricity sector in particular, the stakeholder range is vast and varied and each stakeholder constituency has strong interests to promote and protect. These interests are often in conflict and polarised. The only way to overcome this is to create sufficient stakeholder engagement fora that encourage open dialogue, through transparent

information sharing. This open dialogue should be sustained by regular interactions and meetings and communication.

The socio-economic objectives that drive reform agendas in developing countries also means that local communities and business are directly impacted by reform. Therefore, special community engagement platforms should be created by Governments to ensure their participation in the formulation of policies and to the extent necessary, the development of implementation plans. Governments in turn must demonstrate their good faith by ensuring that policies and plans reflect that concerns of the local community have been taken into account.

The role/interest of the different stakeholders in a reform process is suggested in the table above:

4. Conclusion and recommendations

In light of the discussions above, the following conclusions and recommendations are made in respect of the implementation of electricity sector reform in developing countries. While some of the challenges to implementing reforms of this nature may be peculiar to the South African context, most apply to all developing countries and should be kept in mind by such countries so as to ensure that the reform is implemented effectively and efficiently:

1. Given that reform of the sector is largely driven by achieving developmental goals in such countries, it is imperative that there is cogent, unified, solid and consistent political and Government support for the reform. Very often, the various departments within a Government fail to make steady progress because of conflicting interests. Safeguards must be put in place to minimise this. Such safeguards include the promulgation of legislation and regulations.
2. Reforms of this scope and scale have no chance of success unless there is sound and consistent enabling policy, legislation and regulations. Attempting to restructure an electricity Industry in the absence of such instruments, draws out the efforts resulting in unpredictable outcomes/results and exorbitant costs. With the EDI reform in South Africa, in particular, and with the benefit of hindsight, an important lesson learnt is that the regulatory and legislative framework should have been put in place first, and then the implementation vehicle should have been set up to focus solely on implementation.
3. Over and above the requirement that legislation must lay the basis for the reform, the reform must also transpire on a mandatory restructuring mode. Voluntary participation by Industry in the new institutions to be formed creates all sorts of bottlenecks, which thwarts progress. Enabling legislation must therefore compel the participation of Industry.
4. The importance of meaningful stakeholder engagement cannot be over emphasised. Stakeholders, given their strong interest in the outcomes, especially financial interests, need to feel that they are a part of the decision-making affecting their interests. Credible stakeholder engagement fora must be established and communication must be regular, open and transparent.
5. Reforms of this magnitude and complexity demand the best resources. Resources refer to the appropriate skills; adequate funding and effective management and leadership of the process.
6. The role of the Regulator in the reform process and going forward is also critical. An independent; credible and experienced Regulator can assist the process by developing appropriate regulatory instruments. Poverty reduction is a key motivator behind electricity sector reforms in developing countries. The caliber of regulation can have direct and indirect impacts on poverty reduction. Direct impacts take the form of addressing affordability of electricity and increasing access to electricity. Indirect effects of regulation refer to transparent and effective governance and administration, which attracts investment in the country, and which in turn, leads to job creation and economic growth. Addressing the affordability factor could include consideration of the introduction of a "social tariff" or a lower electricity price for households using minimal electricity. Other considerations include Government subsidising electrification in rural areas.⁸⁸

REFERENCES

- AMEU Conference, South Africa, September 2009, Presentation made by the COO of EDI Holdings, Dr Willie de Beer, available at www.ameu.co.za
- Cameron, M. Naude, W., (2008). "Electricity Supply Shocks and Economic Development: The impact and policy implications of South Africa's Power outages", *Journal of Economic Literature*, available on <http://ideas.repec.org>, accessed on 04 February 2010
- Centre for Development and Enterprise, Round Table, July 2008, South Africa's Electricity Crisis: How did we get there? And how do we put things right, available at www.cde.org.za/article, accessed on 04 February 2010
- Dubash, N., (2003). "The public benefits agenda in electricity reform", presented at a World Bank Group Evaluation Workshop, Electricity sector reform and private participation: experiences, lessons and outlook, available at www.worldbank.org
- EDI Holdings Annual Report, 2009, available at www.ediholdings.co.za
- Electricity Distribution Industry Blueprint Report, Compiled by the Department of Minerals and Energy, 2001
- Electrification Statistics, 2009, by the Department of Energy, South Africa, available at www.dme.gov.za
- EngineerIT Online, Journals, Interview with CEO of EDI Holdings, Ms Phindile Nzimande, available at www.eepublishers.co.za
- Eskom Annual Report, 2009, available at www.eskomholdings.co.za
- Jamasb, T., Newbery, D., and Pollit, M., (2005). "Core indicators for determinants and performance of the electricity sector in developing countries", World Bank Policy Research Working Paper 3599, May 2005, available at <http://ideas.repec.org>
- Jamasb, T., Mota, R., Newbery, D., Pollitt, M., (2005). "Electricity sector reform in developing countries: a survey of empirical evidence on determinants and performance", World Bank Policy Research Working Paper 3549, March 2005, available at <http://books.google.co.za>
- Kessides I. N. (2004). *Reforming Infrastructure: Privatisation, Regulation and Competition*. World Bank and Oxford Press, Washington D.C.
- Kirkpatrick, C., Parker, D., (2004). "Utility regulation in developing countries: the electricity and water sectors", Discussion paper No. 6, Asian Development Bank Institute, available at www.abdi.org/discussion-paper
- Krupp, C., (2007). "Electrifying rural areas: extending electricity infrastructure and services in developing countries", Soka University of America, Aliso Viejo, California, available at www.pbrc.soka.edu
- Parker, D., Kirkpatrick, C., Figueira-Theodorakopoulou, C., (2005). "Infrastructure regulation and poverty reduction in developing countries: a review of the evidence and a research agenda", Centre on Regulation and Competition, Institute for Development Policy and Management, University of Manchester, UK and Cranfield Centre for Competition and Regulation Research, School of Management, Cranfield University, UK, available at <http://ideas.repec.org>
- Philpott, J., Clark, A., (2002). "South Africa – Electricity reform with a human face", available at <http://pdf.wri.org>
- Presentation made by Dr Willie de Beer, COO of EDI Holdings at iGLM Meeting, South Africa, September 2009, available at www.ediholdings.co.za
- Rabobank Economic Research Department, Special Report 2008/4 – Energy Crisis: The case of South Africa, available at www.rabobankgroep.nl/kennisbank, accessed on 03 February 2010
- Reform of the EDI in South Africa, Strategy and Blueprint Report, February 2001, available at www.ediholdings.co.za
- The Transformer Newsletter, published by EDI Holdings, September/October 2008, available at www.ediholdings.co.za
- United Nations., Millennium Development Goals Report, 2009, available at www.un.org/millenniumgoals
- WaterWiki.net., "Equitable access to basic utilities: Public vs private provision and beyond", available at <http://waterwiki.net>
- White Paper on Energy Policy for the Republic of South Africa, December 1998, available at www.dme.gov.za
- Wilde – Ramsing, J. (2009). "Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries", available at www.sintef.no



PART FOUR:
WATER SECTOR IN THE LAO PEOPLE'S
DEMOCRATIC REPUBLIC

4

VI. URBAN WATER SECTOR REGULATION IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC: REFORM, KEY MEASURES, SUCCESSES AND CHALLENGES

Somvan Mongphachan⁸⁹

1. Introduction

The Lao People's Democratic Republic's urban population of 1.52 million (27 per cent of the total population) lives in 145 officially designated urban centers in 139 districts, according to the 2005 census. The five largest towns include Vientiane Capital and the four secondary towns of Savannakhet, Pakse, Thakhek, and Luang Prabang. About 42 per cent of the urban population lives in 140 small towns with populations ranging from 2,000 to 20,000.

The GoL's (Government of the Lao People's Democratic Republic) National Growth and Poverty Eradication Strategy (NGPES) identifies the health sector, including water supply and sanitation, as one of four priority sectors for development to achieve its economic growth and poverty eradication objectives. Accordingly, the GoL gives high priority to improving water supply and sanitation throughout the country, setting an overall goal of 80 per cent coverage of piped water supply for urban communities by 2020.⁹⁰

2. Urban water sector policy

2.1 Responsibilities and general targets

The responsibility of the urban water sector is born by the Ministry of Public Works and Transport (MPWT), whereas rural areas are under the scope of the Ministry of Public Health.

According to the GoL's 1999 policy statement (Prime Minister Decision No. 37 on Management and Development of Water Supply and Wastewater Sector), the sector target is to provide 24-hour access to safe drinking water for 80 per cent of the urban population by 2020. To achieve this goal, the

GoL has progressively developed water supplies in Vientiane and the provincial centers, and, since 1999, has given increasing focus to development of piped water supplies in the small district towns to support economic development, geographical balance, and equity.

The 2005 census reported that overall access to safe water supply in urban areas was about 67 per cent, with 43 per cent of urban households having piped water. However, these figures mask significant differences between the five largest towns with combined 70 per cent piped water supply coverage and the 140 small towns with 21 per cent coverage (2006 WASA indicators).

2.2. Urban water sector investment plan

A sector investment plan, attached to the 1999 policy statement listed all urban center water supply systems in order of priority for rehabilitation, expansion, or development. The 1999 plan was updated in 2004 to reflect the GoL's growing emphasis on equitable development by improving the small towns, particularly in the poorest districts. Investment needs for 2005–2020 were estimated at \$267 million, including \$103 million for small towns. A summary is presented in the table here below:

The urban water supply investment plan sets specific targets for 2010, 2015 and 2020. Here below are presented these targets for 2020:

2.3. Developing a specific small town policy

Small towns function as administrative and economic centers, and act as economic links between the rural areas and national and international markets. Inadequate water and poor environmental conditions in small towns deter socioeconomic development. In 2004, MPWT led participative activities to build consensus for small town water supply. Investment and management models were discussed, with special consideration for PPP options and appropriate technical standards.

Table VI.1: Water Supply Investment Needs

No	Province/Town/Project	Investment \$million	Target Population	Funding Source
I	Vientiane Capital	129	672,000	JICA (35)
II	Secondary Towns	20.7	311,000	Not Yet Identified
III	Provincial Capitals	14.6	262,000	Not Yet Identified
IV	Small Town Water Supply Systems	102.5	564,000	ADB & Other (54.5)
	Total - Urban water supply sector	266.8	1,953,000	

Table VI.2: Water Supply Investment Targets (2020)

2020 Targets	Vientiane Capital Secondary Towns	Provincial Capitals	District Towns	Other Small Towns
Service coverage Unit consumption	90% coverage 145 L per capita per day	85% coverage 100 Lpcd	75% coverage 85 Lpcd	70% coverage 100 Lpcd
Service quality	Provide reliable, 24 hour supply with 10m min. residual head for 100% of service area			
Water Quality	Comply fully with Water Quality Regulations			
Unaccounted For Water	<200 L/connection/day	<170 L/conn./day	<140 L/conn./day	<140 L/conn./day
Master plan	Update 20-year water supply master plan			

3. Decentralization and emergence of regulation bodies

3.1. Provincial water supply State-owned enterprises (PNPs)

The 1999 policy statement and the 2005 Enterprise Law provide the legal and regulatory framework for the water supply utilities (PNPs). The 1999 policy statement established the institutional framework and policy for the urban water supply and sanitation from the central to the provincial government; (i) devolved responsibility for urban water supply and sanitation from the central to the provincial government; (ii) established the Water Supply Authority (WASA) and made provisions for a Water Supply Authority Board, under MPWT; and (iii) established PNPs to manage the urban water supply services in each province. Nam Papa Lao, which had previously been responsible for managing water supply systems throughout the country, was broken up into Nam Papa Nakhonluang (Vientiane) and 16 PNPs. PNPs, as State-owned enterprises (SOEs), became responsible for (i) managing and operating all water supply and wastewater systems in urban and rural areas in their provinces; and (ii) ensuring sanitary facilities comply with sanitation regulations.

The 1999 policy statement also made PNPs responsible for setting tariffs to generate sufficient revenue to recover recurrent costs and a proportion of depreciation or debt servicing. In practice, the PNPs seek provincial governors' approval for tariff adjustments, and submit annual budgets and requests for tariff adjustment to their boards. Each PNP is governed by an administrative board (or PNP board), reporting to the provincial governor.

Capital investments in the urban water supply sector are funded primarily through external assistance, with the GoL allocations averaging about \$9.9 million annually from 2001 to 2004. The urban water sector

investment plan provides the framework for funding and investment.

From 2002 to 2006, the PNPs' financial statements show that they generated total operating revenues of \$19.1 million from water tariffs and \$8.3 million from other user charges. However, these revenues have been insufficient to carry out adequate levels of O&M. The combined losses incurred by PNPs in 2006 were more than \$3 million, greater than the government's health budget over the same period. All PNPs lost money and relied on government financial support or simply allow their assets to deteriorate.

3.2. The progressive affirmation of a regulatory agency: from WASA to WaSRO

The 1999 policy statement and a 2005 prime ministerial decree (Prime Ministerial Decree No. 191/PM/2005) provide the legal basis for WASA (Water Supply Authority) to perform as the sector regulator and make the Department of Housing and Urban Planning (DHUP) of the MPWT responsible for urban water sector strategies and plans, technical standards, and the long-term capital investment program. The Water Supply Division (WSD) of the DHUP is responsible for developing sector policies, strategies and investment plans; mobilizing funding; developing and supervising investment projects; preparing and implementing standards and guidelines; and developing human resources of water sector institutions (DHUP Decision 8027/200).

Since 1999, WASA has prepared key financial, management, technical and regulatory guidelines, facilitated private sector water supply initiatives, carried out tariff reviews in 2004 and 2007, and published annual performance reports on PNPs. The 2005 prime minister decree confirmed WASA's role in: (i) issuing licenses to suppliers; (ii) ensuring they operate

according to their licenses and in accordance with legislation and regulations; (iii) protecting standards of service; (iv) encouraging suppliers to become more efficient; and (v) stimulating competition where appropriate. It also set out the roles and responsibilities of the Water Supply Regulatory Committee (WSRC), the regulatory obligations of urban water supply service providers, and the rights of consumers.

At the end of 2008, WSRC mandate is reconfirmed in MPWT Decision 13265, whereas WASA becomes WaSRO (Water Supply Regulatory Office) by MPWT Decision 13266. WSRC acts as the board of the regulatory agency, under the MPWT. It meets at least quarterly and counts 10 members standing as representatives of urban water supply sector stakeholders: representatives of concerned ministries (MPWT, Finance, Public Health); director of the Business Promotion Office in the Prime Minister's Office; a representative of the Chamber of Commerce and Industry; a representative of water supply operators; a representative of Central Women's Union on behalf of Consumers; and the director of WaSRO as director of the Secretariat.

WSRC responds directly to the Minister. Its main responsibilities are the following:

- To define policy and direct overall regulatory activities;
- To consider and endorse regulatory planning established by WaSRO, before submitting to MPWT Minister for approval;
- To approve guidelines, regulations, benchmarks and performance indicators related to water supply operation regulatory activities established by WaSRO;
- To direct, monitor and supervise the water supply regulatory activities of WaSRO.
- From the end of 2008, WaSRO mandate is strictly the same as the one of WASA, but the position of the regulator agency changed. WaSRO is no more situated within DHUP of the MPWT but acts as the secretariat of WSRC. The aim of this move is to enable a more independent and effective regulatory system. WaSRO main duties are the following:
- To draft regulations, techno-economical specifications and different guidelines as references for monitoring and control of business and customer services;
- To study the promotion on the participation of all economic sectors and the use of models and forms of the sustainable water supply operations economically, financially and environmentally;
- To monitor, control and evaluate the capacity in organizing the management of business,

accounting, finance and customer services of the water supply operators to encourage the improvement;

- To promote innovation and introduction of technique advances and appropriate technology to the improvement and upgrading of the capacity in organizing management of various aspects of the water supply operators periodically;
- To create a mechanism and favorable conditions for the water supply operators in the competition for operations and customer services;
- To collect and manage data and statistics on water supply operations along with the preparation and publication of the annual reports on performances of the operators.

3.3. The new water supply law

The water supply law, approved by the National Assembly and President of the Lao People's Democratic Republic since July 2009, aims to consolidate the water supply legislation and strengthen the legal basis for the provision of sanitation services. The GoL also intends to clarify the regulatory environment for water supply; enable greater private sector participation and stronger community management of water supply; clarify responsibilities and establish the right of access to basic water supply, sanitation and wastewater services; and ensure that future supporting legislation reflects customary tribal and ethnic law through extensive national field research. A significant part of the text is dealing with private investment and its classification as eligible for exemption or reduction of many taxes (land tax, profit tax, etc.).

4. Introducing local PPP for small towns

4.1. Crafting the first water supply PPPs in the Lao People's Democratic Republic

As reconfirmed by the new water law, the GoL's strategy is to encourage greater private participation in urban infrastructure and services by raising utility tariffs to cost recovery levels, reducing budget subsidies, improving business performance, and increasing private participation and investment. There are still few public-private partnerships (PPP) in the Lao water supply sector largely because of pre-existing weak legal and regulatory framework.

However, since 2004, WASA and DHUP have successfully introduced pilot PPP with the support from various development partners, including GRET (a French professional NGO) and the French water utility for Paris Region, SEDIF. The pilot phase of MIREP Programme (Mini-Réseaux d'Eau Potable i.e. Small Scale Water Supply) resulted in two official private water supply concessions by 2006 in Feuang

district town and one small town of Vang Vieng district (Vientiane province). MIREP Programme is now under the implementation of a phase II, targeting 6 additional small towns for the period 2006-2010 in two provinces. Service is already operational for three of these sites; the concessionaires have already selected for the three remaining sites and construction works are currently under progress.

The new water law and the 2005 Enterprise Law are important steps in improving the business and investment climate, because they set water activities in a business background, which provide a sound and secure framework for investment and business management.

4.2. Financing water supply PPP

Considering the shortage of investment funds on the public side, PPP based on private investment seem more adapted to the Lao context. Concession contracts have been set up by MIREP Programme and show some potential for water supply extension in the Lao People's Democratic Republic.

These initiatives have been supported by the development of two financing mechanisms. Output Based Aid subsidies (grant provided by international donors) are disbursed via Provincial Investment Funds dedicated to Water and Sanitation. Besides, an enhanced credit scheme (based on a guarantee agreement) has been developed in collaboration with a State Owned Commercial Bank to enhance access to medium-term loans for small operators. The subsidy generally amounts to 25 per cent of the total investment costs, whereas the private equity represents the remaining part. Typically, for a 5,000 inhabitant small town, the total investment cost is around \$150,000; the investor brings directly \$90,000 and gets a loan for \$25,000, which represents a total of about \$115,000 private equity.

4.3. Regulatory activities regarding PPP

First, regulation is implemented at local level between the two parties of the concession contract, namely the District represented by a management committee (owner) and the Concessionaire. The key local regulation tool is the contract together with the whole process of 'contractualization', which brings the two parties to have confidence in each other and sign.

The existing water concessions in the Lao People's Democratic Republic are 25-year contracts delegating some part of the investment to the private sector, the operation, maintenance, expansion and upgrading of the facilities, and service management throughout the life of the contract. When the contract expires, the facilities are to be given back to the granting

authority. During the concession, the public authority remains owner of the facilities. The contracts specify all conditions for extension of the water resource and distribution network, tariff setting and revision, connection fee, rights and duties of all parties (even users), concession fees, contract cancellation, etc. The concessionaire collects the water bills during the whole duration of the contract and ensures permanent service management; meanwhile the district authority controls the quality of the water service provided for the users.

Second, WaSRO undertakes similar monitoring of technical and financial activities of privately managed schemes as for PNPs. Yet, these data are not clearly presented and highlighted but they shall be in the future. Furthermore, WaSRO assists in setting the tariff and shall assess the future demands for increase. Currently, the role of the regulator regarding the private water supply providers is more to support them and ease their operation within a business context still paved with taxes and registration hindrances. The primary objective is to help them to achieve financial sustainability rather than to control any potentially undue profit or abuse of power.

5. Key regulatory measures put in place

5.1. Tariff policy

Most infrastructure and services in the Lao People's Democratic Republic are provided by SOEs. Despite significant recent adjustments, tariffs lagged behind inflation and remain below full cost-recovery levels. Low and complex tariff structures have led to inefficient energy and water use, and reduced the resources available for further investment. Major arrears are owed to utilities, including from the GoL budget, and now the utilities themselves have fallen behind on servicing their debts to the GoL. Cognizant of the need to reduce budgetary subsidies and tap into the private financing, the GoL has been moving to more appropriate tariffs and prices. Water supply utility tariffs are moving up from a very low base compared to other utility sectors.

The Water Supply Tariff Policy was officially established by MPWT Decision 5336 on 26 April 2004. It aims to best meet the needs of the major stakeholders, namely: Customers, Operators, the Environment, National and local treasuries, Society. Three main objectives are developed: social fairness, the environment and cost recovery.

5.2. Economic regulation: WaSRO recommendations in the water tariff reviews

Economic regulation in the current environment involves undertaking periodic tariff reviews. These

reviews are advisory only with the approval of tariffs vested in the respective provincial governor. The findings of the recent tariff review have now been accepted and adopted by all PNPs (although subject to minor variations) and can be regarded as a success. Between 2007 and 2008, there has been an overall average increase of about 60 per cent in the domestic tariff.

The tariff review was based upon a simplified unit cost approach that took past historical financial information, which was projected forward with allowances for efficiency expectations. Ideally, tariffs based should be determined upon sound business plans that project future sales, costs, investments etc. together with details as to how efficiency could be improved. This later approach is the one already used for setting the tariffs of the PPP water services.

5.3. Comparative competition through the annual performance reports

The WSRC, via WaSRO, produces annual performance

reports, which are intended to inform all stakeholders of the performance of the water suppliers currently falling under the regulatory remit of WSRC. Information provided compares the performances of the suppliers with each other and how they have improved or worsened since 2007 (benchmarking). The managers of the suppliers, and their customers, can observe clearly how they are performing against competing operations elsewhere in the country.

Reports' analyses include:

- Technical and social performance: water quality, security of supply, levels of service and efficiency;
- Financial analysis: profitability, income, costs and cash flow; and
- Overall performance: combining the technical and financial performance into a single overall performance measure.

It is expected in the future that the introduction of indicators regarding private suppliers' performance will induce an incentive for better PNPs performance.

Table VI.3: Change in water tariff for households from 2007 to 2008 (Kip/m³)

Province	0 - 10 m ³			11 - 20 m ³			21-30 m ³			> 30 m ³		
	2007	2008	% change	2007	2008	% change	2007	2008	% change	2007	2008	% change
Attapeu	860	2950	243	860	2950	243	860	2950	243	860	2950	243
Bokeo	1292	2880	123	1292	2880	123	1292	2880	123	1292	2880	123
Borikhamxay	1450	2550	76	1450	2550	76	1450	2550	76	1450	2550	76
Champasack	927	3000	224									
Huaphanh	1487	2116	42	1487	2116	42	1487	2116	42	1487	2116	42
Khammuane	1100	2300	109	1100	2300	109	1100	2300	109	1100	2300	109
Luangnamtha	700	900	29	700	900	29	700	900	29	700	900	29
Luangprabang	750	1000	33	850	1100	29	850	1100	29	1000	1250	25
Oudomxay	1600	1494	-7	1600	1808	13	1600	1808	13	1600	2121	33
Phongsaly	1800	3500	109	2067	3500	77	2400	3500	64	2500	3500	51
Saravane	1500	1500	0	1700	2500	47	1800	3000	67	1800	3000	67
Savanakhet	1183	1400	44	1233	1700	62	1267	2200	102	1433	3000	142
Sekong	1500	1900	27	1500	2650	77	2500	3500	40	3900	3500	-10
Vientiane	420	420	0	685	685	0	685	685	0	1060	1060	0
Capital City Vientiane Province	1261	2050	63	1261	2700	114	1261	2700	114	1261	3000	138
Sayabury	1600	2500	56	1600	2500	56	1600	2500	56	1600	2500	56
Sieng Khouang	850	1400	65									
Average	966	1612	59	1066	1819	60	1166	1978	61	1289	2070	60

6. Bilateral, regional and international cooperative mechanism

6.1. Regional integration

The Lao water supply policy is now fully integrated within the regional context. The GoL recently signed along with East Asia partners the Manila declaration, which is the declaration of the second East Asia ministerial conference on sanitation and hygiene. It reaffirms the commitment to achieve the Millennium Development Goals (MDG) and the will of stronger regional cooperation.

The GoL is also embarked within the SAWAP programme (Sanitation and Water Partnership for the Mekong) supported by the Water and Sanitation Program (WSP) of the World Bank. This program seeks to support governments in the Mekong region and China's Guangxi and Yunnan province to facilitate cross-learning and sharing of experience. SAWAP was launched by mid-2007. SAWAP Core Teams were established in each country, representing key stakeholder groups. In addition to linked country-level work, the countries have agreed on six specific cross-boundary projects: 1) rural household water quality improvement 2) support to improving the knowledge research and application cycle 3) communications for reform 4) development of a sustainable management model on rural sanitation 5) mobilizing the domestic private sector for water supply and sanitation and 6) development of sustainable management models for urban sanitation (including small towns).

6.2. Bilateral and multilateral cooperation

For the past years, a number of bilateral and multilateral agencies have been supporting the GoL in its efforts to increase access to water and sanitation in the urban areas: the Asian Development Bank (ADB), the Japan International Cooperation Agency (JICA), the French Development Agency (AFD), United Nations-Habitat, the Korean International Cooperation Agency (KOICA), the Water and Sanitation Program (WSP), etc.

As regards regulatory activities, support has been provided, mainly by ADB and NORAD (Norwegian Agency for Aid Cooperation). NORAD used to fund technical assistance for Annual Performance Report and Tariff Reviews. Within the starting Small Town Water Supply and Sanitation Project (2010-2015) mainly funded by ADB, a 'corporatization' component is planned for the PNPs. Moreover, the Water and Sanitation Program (WSP) provided some support for the preparation of the water law.

7. Successes and challenges

7.1. Progressing towards the Millennium Development Goals (MDGs)

The Lao People's Democratic Republic has made significant progress towards the MDG in the recent years. The number of urban centers with a water supply utility increased from about 3 per cent in 1994 to nearly 60 per cent today (about 46 per cent of urban centers have a constructed water supply system and about 14 per cent of the remaining urban centers with agreed financing). This is partly due to ADB's continuing assistance as well as the introduction of local PPP models.

7.2. Building on the successful introduction of local PPP: potential up-scaling

MIREP Programme in the Lao People's Democratic Republic is already rich of high achievements, which are already acknowledged by the international community (such as during the 5th World Water Forum in Istanbul in March 2009). Quick implementation and reduced investment costs are the main strengths.

So far, local PPP proved to be an effective alternative to provide water services for small towns. The approach developed to date is rather cost-efficient, even though transaction costs are still high in the pilot stage for dissemination of procedures to provinces and districts. Nevertheless, relying on local partnerships helps solving local issues as well as saving money and time during the implementation.

These pioneer PPP schemes have been set according to usual bidding procedures for such infrastructures service and they now attract an increasing number of bidders. The primary challenge to attract new comers in this new "business opportunity" has been achieved. It is now the time for considering potential upscale of the model. International support is still need to provide subsidies for the investments and the technical assistance (including facilitation).

7.3. Weak financing and capacity building of regulatory bodies

A major stumbling block over the years has been the sources of funding for the regulator. To date, WSRC and WaSRO have been financed by government subsidy and donor support through projects. Good regulatory practice is that the costs of regulation should be met by the regulated entities rather than direct government subsidy.

One financing option is that a simple regulatory charge of circa Kip 20 per m³ would be sufficient to finance the needs of WaSRO. This small charge equates to less than 2 per cent of industry turnover and should

not materially impact on tariffs. It is intended to seek government approval for the adoption of an appropriate charging mechanism that will allow regulatory bodies to carry out their duties more effectively than under the present system of government subvention.

The WaSRO is also constrained by limited human resources capacity resulting in a heavy dependency on consulting support. There is a need to address the weaknesses by seeking to recruit highly qualified staff suited to the needs of the organization.

7.4. Continuing on the path for more sustainable PNPs

The 1999 policy statement requires the PNPs to operate on commercial principles in accordance with 3-year rolling corporate plans. In practice, they operate under DPWT's supervision (Provincial Department of Public Works and Transport), receive government budgetary allocations following the Budget Law, and do not have corporate plans. With little experience in business or financial management, a PNP is similar to a line department of the provincial administration. Although PNPs set their own salary levels, these

are submitted to the board for approval. PNP staff remuneration remains too low to attract and retain skilled staff, especially in remote areas.

Though, high increases have been recently validated by Provinces, tariffs still need to be pushed up. But this trend shall face political interference as it already happens in Vientiane Capital. Water tariffs are indeed a political and social concern.

7.5. Challenge to collect accurate and reliable data

A problem faced by WSRC is that the data submitted by the PNPs or available from the private providers is still not comprehensive and reliable. Accounting systems prove to be very weak and inadequate to manage the businesses properly and for the purposes of regulation. Furthermore, there is limited or no opportunity for audit and verification.

In 2009, WaSRO has prepared an enhanced reporting format that is simpler to understand and use, and also prepared in such a manner that the results shall be immediately available to the management.



PART FIVE:
TELECOMMUNICATIONS SECTOR

| 5

VII. MARKET AND REGULATORY TRENDS IN TELECOMMUNICATIONS⁹¹

ITU

1. Introduction

A vibrant ICT sector faces tough economic times

The year 2008 saw growth in mobile networks and subscribers rise to an all-time high, reaching an estimated 4 billion mobile subscribers worldwide.⁹² A growing array of broadband wireless systems are now available, opening the way for users in developing countries to access the Internet on mobile phones and other handheld devices. At the same time, more developing countries were deploying national fibre backbones and backhaul networks to transport their growing data-rich traffic. In addition, several new international submarine cable networks were set to connect developing countries to the global network of Internet backbones – just as a group of high-tech entrepreneurs were working to revive plans for a constellation of broadband satellites for the developing world.

Then came September 2008, and with it the exploding global financial and credit crisis. The dramatic events of autumn called into question whether the necessary financing would remain available to ensure that the positive trends in the ICT sector would continue. Indeed, financing network growth may have just become a lot tougher. As could be expected, the bad financial news in September and October sparked a handful of announcements that planned network upgrades would be postponed.

Analysts' predictions on the impact of the financial crisis on the telecommunication sector ranged from the optimistic – predicting only a slight impact through 2009 – to a decline of nearly 30 per cent in capital expenditures in the year ahead. But even the most dour prognosticators noted that everything depended on the severity of the financial crisis, which was still unfolding in late 2008.⁹³

Fixed-line service holds steady; Mobile service grows rapidly

Fixed-line market penetration remains comparatively low in most developing countries, at an average of 13 per cent by end of 2007 even though the developing world accounted for 58 per cent of the world's 1.3 billion fixed phones lines in 2007. In fact, this segment of the market showed a decline in developed countries and just a slight increase in some developing countries. Overall, it is fair to say that fixed-line penetration worldwide stagnated in 2007.

Mobile penetration, however, continued to show high growth rates – enough to reach an estimated 61 per cent of the world's population (some 4 billion subscribers) by the end of 2008. Moreover, by the beginning of the year, more than 70 per cent of the world's mobile subscribers were in developing countries. Five years earlier, in 2002, those subscribers had been less than 50 per cent of the world total. Africa remains the region with the highest growth rate (32 per cent between 2006 and 2007).

High-speed, broadband access trends upward

ITU's Internet and broadband data suggest that more and more countries are going high-speed. By the end of 2007, more than 50 per cent of all Internet subscribers had a high-speed connection. Dial-up is being replaced by broadband across developed and developing countries alike. In developing countries such as Chile, Senegal, and Turkey, broadband subscribers represent over 90 per cent of all Internet subscribers.

At the same time, major differences in broadband penetration levels remain, and the number of broadband subscribers per 100 inhabitants varies significantly between regions. While fixed broadband penetration stood at less than 1 per cent in Africa, it had reached much higher levels in Europe (16 per cent) and the Americas region (10 per cent) by the end of 2007.

The difference in the uptake of broadband is also reflected by the regional distribution of total broadband subscribers. Despite significant broadband uptake in developed countries, a vast majority of developing countries still lag behind, especially those with low-income economies.

The shift to all-IP environments

Probably the best example of the "all-IP" move is the rise of Voice-over-Internet-Protocol ("VoIP") services. In the last few years, VoIP services have continued to grow strongly. Even if they were not as "disruptive" to traditional telephony as had been predicted, VoIP offerings have proved to be some of the most successful Internet applications. Over the past two years, the market presence of VoIP has surged forward, although at a slower growth rate than in 2005. More importantly, it is steadily replacing traditional public switched telephone network (PSTN) lines in many developed and some developing countries.

Both in France⁹⁴ and Japan⁹⁵, about one-third of all fixed lines were VoIP lines at the end of 2007. According to some market analysts, the global number of VoIP subscribers reached 80 million in 2008.⁹⁶ It is worth noting that business users constitute an increasing

share of the total number of subscribers worldwide. Of course, the regional distribution of those subscribers varies, depending on the cost of traditional fixed-line communications as well as the regulatory treatment of VoIP and of the international gateway for PSTN long-distance calls.

Mobile broadband markets grow in importance

Today, a number of mobile markets, both in developed and developing economies, are saturated or close to saturation, whereas broadband penetration rates are still relatively low in many countries. The combination of these two factors has given a major push to the rise of mobile broadband offerings over the last year. The number of mobile broadband subscribers reached 167 million at the end of 2007, driven by 18 per cent growth since 2006.⁹⁷ The market is being stoked by robust competition among new and emerging technologies, such as the 2.5G and 3G, as well as the emerging “3.5 G” or 4G families of technologies: high-speed packet access (HSPA), WiMAX, and long-term evolution (LTE).

Changes in regulatory practices

The first wave of sector reforms in developing countries, starting in the late 1990s, attempted to create more transparent and stable legal and regulatory frameworks, with an emphasis on establishing national regulatory authorities and opening certain market segments, such as mobile voice, to competition. The goal was to attract investment and make progress toward universal access to basic telecommunication services. Drastic changes in the sector have since flowed from technological innovation, convergence of services, and growing competition. These changes may now require a further regulatory shift to open more market segments to competition and update licensing and spectrum management practices in order to foster growth in broadband networks and converged services. A rise in competition and new service providers will also require an enhanced focus on dispute resolution.

As of October 2008, 152 countries had created a national regulatory authority for their ICT and telecommunication sectors. Africa now has the highest percentage of countries with a separate sector regulator (93 per cent) followed by the Americas (89 per cent) and Europe (80 per cent). The Arab States and Asia-Pacific number 66 per cent and 62 per cent, respectively. Since 2007, two new ICT regulators had been created: the Regulatory Authority for Posts and Telecommunications in Guinea and the Vanuatu Independent Telecommunications Regulator. Two additional agencies were being established in the Arab States and at least one more was planned in Africa.

Private ownership and competition trends

By mid-2008, 125 ITU member countries had a privately-owned, or partially privatized, national fixed-line incumbent. The regions with the highest percentage of private ownership are Europe (78 per cent), the Americas (74 per cent), and Asia-Pacific (53 per cent). Although a majority of countries in Africa and in the Arab States still have State-owned incumbents (53 per cent and 52 per cent, respectively), a number of countries in these regions have embarked on the privatization path.

Algeria, Guinea and Mali have announced plans to privatize their incumbent operators in the coming year. Will these privatizations suffer from the current global economic and financial crisis? While it is hard to predict the long-term impact this crisis will have on the ICT sector, there is certainly the possibility that it will affect the flow of capital into privatizations in developing countries.

Markets steadily continue to open to competition. Mobile (2G as well as 3G and beyond) and Internet services continue to be the most competitive markets, while fixed-line services are increasingly becoming competitive, as well. Only 40 countries had authorized competition in the provision of basic telecommunication services in 1997, but a decade later the number had risen to about 110 countries.

Encouraging effective competition has proved to be the best way to promote ICT sector development and consumer accessibility. Liberalization of access to international facilities is another trend taking place in developing countries, especially in Africa. Countries that have liberalized international gateways have seen prices fall and quality of service improve. Liberalization includes licensing or authorization of multiple players for the provision of international gateway services and opening up cable landing stations to competition.

Looking at ensuring competitive access to essential facilities, one of the recent developments in policy-making is the concept of “equivalence of inputs”, which holds that all market players should enjoy the same access to essential facilities.⁹⁸ Remedies such as accounting separation appear inadequate, in some cases, to ensure non-discriminatory access to incumbents’ networks. The European Commission, for example, is searching for more effective measures – including functional separation as a last-resort remedy.

2. Exploring options for sharing: Why sharing, why now?

The single biggest reason to adopt sharing is to lower the cost of deploying broadband networks to

achieve widespread and affordable access to ICTs. Developing countries can leverage the technological, market and regulatory developments that have led to an unprecedented uptake in mobile voice services to promote widespread and affordable access to wireless broadband services and IP-based national fibre backbones, as well.

Promoting widespread broadband access costs real money. Deploying mobile base stations or fibre backbone networks to reach rural areas may be uneconomical if each service provider must build its own network. Likewise, laying fibre to every home, building or street cabinet – the goal of many developed countries – may be unattainable if operators act alone. Companies can, however, share some infrastructure but compete in providing services. With an effective legal and regulatory framework and the right incentives, the critical factor in creating new, affordable broadband access and backbone networks will be government willpower.

Sharing does not mean abandoning market liberalization or universal access practices. On the contrary, further market liberalization is required, for example, in international gateway markets, and to allow a new range of market players to meet the pent-up demand for broadband services. Universal access practices also can be refined and improved. All sharing practices – and infrastructure sharing, in particular – are integral parts of a competitive regulatory framework. Infrastructure-sharing regulations, whether mandatory or optional, are usually included in a country's interconnection framework, although they are occasionally contained in operators' licensing agreements.

Passive and active infrastructure sharing

Infrastructure sharing takes two main forms: passive and active. Passive infrastructure sharing allows operators to share the non-electrical, civil engineering elements of telecommunication networks. This might include rights of way or easements, ducts, pylons, masts, trenches, towers, poles, equipment rooms and related power supplies, air conditioning, and security systems.

These facilities and systems all vary, of course, depending on the kind of network. Mobile networks require tower sites, while fibre backhaul and backbone networks require rights of way for deploying cables, either on poles or in trenches. International gateway facilities, such as submarine cable landing stations, can be opened for collocation and connection services, allowing operators to directly compete with each other in the international services market.

Access to physical ducts, masts/poles (in the case of power transmission lines), and rights of way are key potential passive network elements for encouraging the rollout of national fibre infrastructure through sharing. This has two aspects, one relating to cost and the other affecting speed of action. National governments, municipalities and State-owned enterprises frequently charge considerable sums of money for rights of way that allow operators to carry out physical trenching of ducts.

Active infrastructure sharing involves sharing the active electronic network elements – the intelligence in the network – embodied in base stations and other equipment for mobile networks and access node switches and management systems for fibre networks. Sharing active infrastructure is a much more contested issue, as it goes to the heart of the value-producing elements of a business. Many countries have restricted active infrastructure sharing out of concern that it could enable anti-competitive conduct, such as collusion on prices or service offerings.

These concerns remain valid, but they have to be weighed against advances in technology and applications that enable service providers to differentiate their offerings in the market. In addition, for some remote and less accessible areas, the risks of active infrastructure sharing have to be balanced against the alternative of having no services at all. Regulators may at least allow active infrastructure sharing for a limited time, until demand for ICT services grows to support multiple network operators.

Regulators and policy-makers may elect to adopt only one kind of infrastructure sharing, or they can implement many options simultaneously. Some regulatory frameworks today may authorize passive infrastructure sharing, for example, while prohibiting active infrastructure sharing. Some regulators simply have not addressed the issue – neither explicitly authorizing nor prohibiting infrastructure sharing.

3. Extending access to fibre backbones

Complementing efforts to improve local access

A critical aspect of promoting wider broadband use is ensuring that national fibre infrastructure is affordable. While competition at the international level has often driven down the price of bandwidth, national bandwidth prices in developing countries are set by one or two providers and, as a result, often remain high.

Increasingly, the sharing of infrastructure by telecommunication operators, based on a model of open access, is one option attracting greater policy attention. While liberalized markets already have

numerous models of infrastructure sharing, such as collocation, national roaming and local loop unbundling, other forms of sharing are also starting to emerge that involve sharing both the “passive” and “active” elements of the network. However, effective enabling regulation and policy are critical to facilitate such arrangements.

Infrastructure-sharing regulation and policy must address two broad issues that are often viewed as the stumbling blocks to speedy roll-out of national telecommunication infrastructure: i) opening up access to “bottleneck” or “essential” facilities, where a single dominant infrastructure operator provides or leases facilities; and ii) promoting market investment in deploying high-capacity infrastructure to unserved or underserved areas.

Broadband services and the infrastructure on which they depend have become recognized as an essential input to business, education, health care and participation in the information economy. A developed broadband infrastructure is a pre-requisite for increased investment in any community.

In economic terms, access to a national broadband fibre network is as important a priority as building an effective national transportation network. Given the central role that ICTs play in the information economy, many argue that broadband access is a “public good” similar to roads and railways. Without broadband access, developing countries run the risk of enlarging the “digital divide” and becoming second- or third-class nations within the global order. Having competitively priced national broadband access has become an important criterion of global competitiveness.

The role of government

Government has a key role to play in facilitating the most effective use of infrastructure assets, identifying parts of the country where there are gaps, and getting coverage extended to them. Moreover, governments, together with regulators, can establish effective regulatory frameworks and regimes that promote effective use and sharing of networks. Designing a regulatory framework may depend on whether the national backbone provider competes with other service providers for end users (and therefore has every incentive to block competitors) or whether the backbone provider does not serve end users (and therefore has every incentive to sell as much capacity as possible to those who do). In the former case, the regulatory response could be to treat the backbone network as an essential facility, including regulating prices for access as well as establishing uniform collocation and connection terms for all

market players seeking access to the backbone. In the latter, it may be sufficient to revise licensing frameworks to authorize one or more new entrants to enter the backbone market and to work with local government officials to secure rights of way to lay the fibre backbone network. Local governments could be encouraged to provide rights of way, for example, in exchange for connecting schools and hospitals to the high-speed backbone network.

4. Mobile network sharing

Rolling out mobile networks involves intensive investment and sunk costs, potentially leading to high mobile-service prices. Mobile infrastructure sharing is one alternative for lowering the cost of network deployment, especially in rural, less populated or economically marginalized areas. Mobile infrastructure sharing may also stimulate the migration to new technologies and the deployment of mobile broadband networks, which are increasingly seen as the best way to make broadband Internet access available to the majority of the world’s population. Mobile sharing may also enhance competition among operators and service providers.

Passive mobile sharing

For mobile sharing, the passive elements are defined as the physical network components that do not necessarily have to be owned or managed by each operator. Instead, these components can be shared among several operators. The provider of the infrastructure can either be one of the operators or a separate entity set up to build and operate it, such as a tower company. The passive infrastructure in a mobile network is composed mainly of: i) electrical or fibre optic cables; ii) masts and pylons; iii) physical space on the ground, towers, roof tops and other premises; and iv) shelter and support cabinets, electrical power supply, air conditioning, alarm systems and other equipment.

A collection of passive network equipment in one structure for mobile telecommunications is generally called a “site.” Therefore, when one or more operators agree to put their equipment on (or in) the same site, it is called “site sharing” or “collocation.”

Active mobile sharing

In addition to sharing passive infrastructure, operators may also share active elements of their wireless networks. The “active elements” of a wireless network are those that can be managed by operators, such as antennas, antenna systems, transmission systems and channel elements. Operators may share those elements and keep using different parts of the spectrum assigned to them. Although

active infrastructure sharing is more complex, it is technically possible. Equipment manufacturers can supply packages that have expressly been designed for active mobile sharing.

It is clear that network-sharing agreements may benefit operators and the general public. They help operators avoid costs for building or upgrading redundant network sites and allow them to gain additional revenue streams from leasing access. Operators also can achieve considerable savings in rent, maintenance and transmission costs. They may also achieve economies of scale by combining operating and maintenance activities.

Network sharing may further help operators to attain better coverage, since they may choose to use only those sites that provide deeper and better coverage, decommissioning sites with poor coverage possibilities. Network-sharing agreements may also bring substantial environmental benefits, by reducing the number of sites and improving the landscape.

There are obstacles to be overcome, of course, when dealing with network-sharing agreements. From an economic and practical point of view, network sharing is a complex process that requires substantial managerial resources. Therefore, regulators should analyse the potential benefits to be generated by network sharing on a case-by-case basis, taking into account the specific characteristics of each market involved.

5. Spectrum sharing

Spectrum sharing encompasses several techniques – some administrative, some technical and some market-based. Spectrum can be shared in several dimensions: time, space and geography. Limiting transmission power is also a way to permit sharing among low-power devices operating in the spectrum “commons” – as with dynamic spectrum access, which takes advantage of power and interference reduction techniques. Sharing can also be accomplished through licensing and/or commercial arrangements involving spectrum leasing and trading.

As the demand for spectrum increases and available frequency bands become more congested, especially in densely populated urban centres, spectrum managers are exploring diverse paths to sharing frequencies: i) using administrative methods, including in-band sharing; ii) creating new, secondary market mechanisms, such as spectrum leasing and spectrum trading; iii) adopting unlicensed or spectrum “commons” approaches; and iv) encouraging use of low-power radios or advanced radio technologies, such as ultra-wideband or multi-modal radios.

Increasingly, spectrum managers will have to resort to new techniques and technologies to allow spectrum sharing. In theory, all bands can be shared, using combinations of administrative means (setting geographic separation buffers and channelization plans) and technical solutions (SDR and cognitive radio, as well as smart antennas). Power limits and more robust receivers are also key factors.

Interference, however, cannot be eliminated and so must be managed. Identifying interference management models that support spectrum sharing under either administrative, market-based or spectrum “commons” approaches will remain an ongoing requirement and challenge for spectrum managers. Their goal is to develop an appropriate regime that protects user rights and finds the right balance for flexibility and innovation, along with service neutrality. Finding that balance and structuring the appropriate response will continue to be debated. Spectrum managers and regulators can successfully implement spectrum sharing by combining vision, commitment and careful planning, altering their spectrum allocation and assignment policies to permit greater flexibility and access to spectrum resources.

6. International gateway liberalization

The importance of international gateway (IGW) liberalization

Broadband Internet access has become commonplace and increasingly affordable in many areas of the world, but that is not yet the reality for most residents of developing countries. Broadband services are either unavailable, or they are almost prohibitively expensive, constituting a barrier to meaningful entry into the global information economy. Yet, without greater demand, the market for broadband services in many developing countries will remain stunted, crippling the broad-based social and economic growth that comes from joining the information society.

High prices for broadband access are tied to a lack of access to international network capacity. One way that countries can cut through the capacity conundrum is through liberalization of IGW facilities. The international cable and satellite systems that link multiple countries reach choke points as they are “landed” within each destination. These choke points are the facilities that aggregate and distribute international traffic to and from each country. In some countries the IGW is controlled by a fixed-line incumbent that charges monopoly prices for all international traffic, including Internet traffic, making services too expensive for end users and stifling demand.

Liberalizing access to these gateway facilities through infrastructure sharing can lower infrastructure costs

while multiplying the amount of international capacity available to operators. The result can be a rapid ramp-up of international traffic, coupled with lower prices for international communications. More affordable services, in turn, can generate greater demand, resulting in more consumers on the network.

7. Functional separation

Functional separation is one of the most drastic and potent regulatory remedies in a regulator's arsenal. There are enormous implications, not just for the incumbent but also for the regulatory agency in charge of its implementation and enforcement.

Functional separation is a recent response by regulators and governments to the serious problem of anti-competitive, discriminatory behaviour by incumbents. It has arisen from a concern that existing rules and remedies are inadequate to deal with the problem. In particular, the focus of concern is often the incumbent's ownership of bottleneck network infrastructure and its abuse of that control to harm competitors' ability to provide broadband services.

Functional separation is sometimes also known as operational separation. The term applies to the fixed-line business of incumbent operators, and it entails:⁹⁹ i) establishing a new business division, which is kept separate from the incumbent's other business operations; ii) capitalizing and empowering this new, separate business division to provide wholesale access to the incumbent's non-replicable (or bottleneck) assets, which competitors need in order to compete with the incumbent in downstream retail markets; and iii) requiring the separate wholesale division to supply network access (and support services) to competitors, along with the incumbent's own, remaining retail divisions, on a non-discriminatory basis.

Often, the incumbent sets up not just a network operations division, but also a wholesale services division, which then can purchase access to the bottleneck assets and resell them to retail operators. The bottom line is that wholesale access and services are made available to the competitors and the incumbent's retail operations on an equal basis.

So far, implementation of function separation has been limited mainly to a small number of developed countries, although it appears to be gaining currency in several other countries.

8. International mobile roaming

International mobile roaming services allow customers of one mobile network operator to use mobile services when travelling abroad. These services are enabled

by a direct or indirect (either through a broker or aggregator) relationship between the "home" and "visited" operators. In effect, international roaming is a form of sharing. Operators can multiply the range of their service offerings around the world by essentially borrowing access to operators' networks in other countries. They can then give their customers seamless service wherever they travel – at a price, of course.

International mobile roaming revenues now constitute a significant portion of mobile operators' revenues and profits. Telecommunication analysts¹⁰⁰ estimate that international mobile roaming generates approximately 5-10 per cent of operators' revenues globally¹⁰¹ (in some cases up to 15 per cent¹⁰²), and constitute an even bigger slice of their profits. Because customers lack any viable alternative to international mobile roaming services (especially those who must make mobile international calls, such as business users), customers continue to use these services even in the face of high tariffs. Therefore, the subject of international mobile roaming charges is now of great interest to many governmental organizations.

After analysing international mobile roaming costs and actual prices charged, regulators might choose one of the following strategies: i) no direct regulation of any international mobile roaming tariffs; ii) regulating wholesale international mobile roaming rates only; iii) regulating retail international mobile roaming charges only; and iv) regulating both wholesale and retail international mobile roaming rates.

9. IPTV and mobile TV

Convergence: Sharing broadband technologies

For countries struggling with the appropriate means and incentives to foster broadband development, the introduction of video services by fixed telecommunication providers may prove to be a key facilitator for such deployment. Traditional telecommunication operators are upgrading their facilities to obtain more bandwidth capacity in order to offer video services and acquire a new revenue stream. These new video offerings are positively affecting the roll-out of new broadband networks. As a result, the provision of IPTV services has the potential to not only increase competition in the video marketplace, but also to advance the broadband access goals of many countries.

Mobile television (mobile TV) is also being introduced in a number of countries. Unlike most video services offered by 3G mobile operators, mobile TV allows a user to view live television channels, not just downloads. For mobile providers looking for ways

to maintain and increase growth, mobile TV is a new avenue to increase their average revenue per user (ARPU) through added content and services.

What is IPTV?

IPTV is defined as the provision of video services (for example, live television channels, near video-on-demand (VoD) or pay-per-view) through an IP platform. However, some define IPTV services to encompass all the possible functionalities that can be provided over an IP platform. For example, some equate IPTV services with multimedia services, a category that can include television, video, audio, text, graphics, and data.¹⁰³ This encompasses not only one-way video broadcasting services but also ancillary interactive video and data services, such as VoD, web browsing, advanced e-mail, and messaging services.

What is mobile TV?

Mobile TV is the wireless transmission and reception of television content – video and voice – to platforms that are either moving or capable of moving. Mobile TV allows viewers to enjoy personalized, interactive television with content specifically adapted to the mobile medium. The features of mobility and personalized consumption distinguish mobile TV from traditional television services. The experience of viewing TV over mobile platforms differs in a variety of ways from traditional television viewing, most notably in the size of the viewing screen.

There are currently two main ways of delivering mobile TV. The first is via a two-way cellular network, and the second is through a one-way, dedicated broadcast network. Each approach has its own advantages and disadvantages.

Regulatory issues with IPTV and mobile TV

The introduction of IPTV and mobile TV services presents regulatory issues-linked to convergence of the ICT and broadcasting sectors. IPTV and mobile TV provide new platforms and devices to distribute digital television and multimedia offerings. Nevertheless, regulators are often uncertain whether the new offerings should be considered broadcasting, telecommunication, or information services – or whether they should be exempt from regulation altogether.

Operators of IPTV and mobile TV services, however, need a clear set of rules that will create the adequate environment for investment and deployment of their networks and services. Regulatory classifications will have a direct impact on issues such as market entry, licensing, content regulation, ownership requirements, geographic coverage (nationwide, regional or local

licences), regulatory fees, and other obligations.

10. End-user sharing

Sharing ICT technologies is a common behaviour among people around the planet. People share for a variety of reasons ranging from economic to pedagogical concerns. When they do it intentionally, as part of the usual or normal operation of a service or application, we call this end-user sharing. To be sure, this kind of sharing is commonly a by-product of lower income levels, weak infrastructures, scarcity, or want. But this does not hide the fact that technologies are programmed for sharing.

End-user telephone sharing has been the most common form of two-way communication sharing among end users – at least in the form of public payphones. Until recently, public phone es were common in low- and high-income contexts alike. But today, in many countries, mobile phones have increasingly been replacing public payphones although public phone facilities remain common in many low- and middle-income settings. End users in most African countries are likely, in the foreseeable future, to continue obtaining telephony access primarily through public access facilities – whether they are booths managed by telecommunication operators or privately-managed tele-shops.¹⁰⁴

Some analysts argue that sharing mobile phones can act “as an infrastructure service; a financial sector service (virtual currency, electronic accounts or banking); a market, weather and health information exchange mechanism; and an investment sector service.”¹⁰⁵ Basic text messaging is perhaps the simplest and most common value-added phone service. Today, tens of billions of SMS text messages are sent every month.

A promising area for mobile end-user sharing is financial and banking services, often referred to as “m-commerce”. Basic mobile financial services could include access to secure savings accounts, non-interest credit opportunities, currency management, fund transfers and cash delivery. M commerce has the potential of removing the biggest obstacle for commercial banks to serve low-income communities: the high transaction costs associated with very modest-sized accounts. Mobile banking (and digital banking, more broadly) has been shown to significantly lower transaction costs compared with brick-and-mortar banking.

End-user computer sharing

Many aspects of computer system design discourage end-user sharing. Indeed, the term personal computer illustrates how hostile to sharing these technologies

may be. But some researchers are attempting to turn the personal computer into something that can be more easily shared by communities of users.¹⁰⁶

Advanced content sharing

Moving beyond the sharing of physical hardware, there is a world of computer-mediated, Internet-enabled websites and applications. These are virtual “places” where end users share content and build cybercommunities on popular, so-called social network sites. End users have come to share personal narratives,¹⁰⁷ World-Wide-Web bookmarks and other online content,¹⁰⁸ pictures,¹⁰⁹ movies,¹¹⁰ online encyclopedias,¹¹¹ and, really, anything and everything about themselves.¹¹² Additionally, many of these technologies are also available on mobile platforms. But the worldwide reach of each of the major social network players is hardly uniform. Here again, regulators have a critical role to play in the development of robust end-user sharing experiences.

11. Conclusion

The forward-looking exploration of sharing mechanisms may serve the global ICT sector well, especially in the face of the potential broad economic downturn. Sharing offers numerous potential business strategies and regulatory approaches designed precisely to make more economically efficient use of network assets.

At its best, an approach based on the Six Degrees of Sharing will lower market-entry barriers and reduce and share network build-out and maintenance costs

for investment in ICT networks and services. The idea is to move toward a second wave of sector reform in developing countries. There is a growing recognition among regulators – reflected in the discussions of sharing – that the rise of viable competition, and the extension of universal access – will depend on a savvy application of new rules and mechanisms based on the real-world circumstances found in each market. This would be true in any economic scenario – but it is even more crucial in the current economic environment.

Initially, developed as a set of strategies to extend broadband network access in developing markets, Six Degrees of Sharing may now have even broader appeal if, as it appears possible, the sources of capital for network investment suffer a temporary drought. Indeed, it may become increasingly necessary for policy-makers and regulators to adopt sharing strategies to make their markets that much more amenable to the shrinking pool of investment dollars. The first wave of sector reform has demonstrated that huge pent-up demand exists for telecommunications and ICT services, and that consumers are willing to pay for these services no matter how small their income. This demand continues to grow for new ICT services made possible by technological and commercial innovation. What has changed is that potential investors will no doubt have to work harder to attract financing. Cutting costs, by adopting the sharing strategies explored in the 2008 edition of *Trends in Telecommunication Reform*, promises to help make limited financing resources go further to make the dream of an “information society” a reality.



PART SIX:
TRANSPORT SECTOR

| 6

VIII. BILATERAL SWISS–EC TRANSPORT AGREEMENTS

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1. Introduction

There is no doubt that on the market place the regulatory framework is as relevant as trade measures. Trade measures are encapsulated in the notions of market access, non-discrimination and the most-favored-nation treatment. The regulatory framework is about measures such as technical standards, authorizations and licensing requirements.

Switzerland and the European Community do not have a comprehensive “trade agreement” on services. However, they are bound by an array of sectoral agreements, many of which cover parts of the services sector. Among those sectoral agreements the ones that matter here are the Agreement on Land Transport and the Agreement on Air Transport. Both of them were negotiated between 1994 and 1999, signed on 21 June 1999, and entered into force on 1 June 2002.

2. The bilateral agreement on land transport (road)

It is interesting to recall how Switzerland and the Community decided to negotiate the Agreement on Land Transport. It all started because of the request of the European Community that Switzerland should replace its weight limit for heavy vehicles of 28 tons with the EC weight limit of 40 tons.

The main element that motivated the negotiation was thus a typical regulatory norm. However, very quickly it turned out that other elements had to be taken on board and finally the agreement covers almost all aspects of road transport regulation and policy, namely:

- Technical harmonization;
- Trade liberalization (market access, national treatment, recognition);
- Coordination of transport policy; and
- Fiscal matters (tax on heavy traffic).

In this respect, Article 1 of the Agreement is telling. It describes the three general principles and objectives of the Agreement as follows:

1. This Agreement between the Community and Switzerland is aimed, on the one hand, at liberalising access by the Contracting Parties to each other’s transport market for the carriage of passengers and goods by road and rail in such a way as to ensure the more efficient management of traffic using routes which, from a technical,

geographical and economic viewpoint, are most suitable for all the modes of transport covered by the Agreement and, on the other, at laying the basis for a coordinated transport policy.

2. The provisions of the Agreement and their application are based on the principles of reciprocity and free choice of mode of transport.
3. The Contracting Parties undertake not to take discriminatory measures when applying this Agreement.

As said, one major provision of the Agreement is the harmonization of the weight limits provided for by paragraph 3 of Article 7. Under that provision, Switzerland accepted to “make its legislation on the maximum weights limits ... equivalent to that in force in the Community ...”. The fact is that in the context of North-South trans-European transport the Swiss weight limit caused a diversion of heavy traffic around Switzerland, in particular on Austrian transit roads.

The fact that a technical services standard was the main motive for negotiating the Agreement needs to be underscored given the very topic of this meeting. The weight limit is typically akin to “domestic regulation” as defined under Article VI of the GATS. The domestic measure at hand had some trade impact to the extent that 40 ton vehicles had – in those days – to unload part of their cargo in order to enter the Swiss territory. Needless to be said that the same hurdle equally affected Swiss transport companies performing export carriage, but the other way round. Expressed in terms of Article XVII GATS, the treatment was “formally identical”, *i.e.* the measure was *de jure* non-discriminatory.

But more generally, under the Agreement, all Swiss technical standards on road transport were harmonized to those of the Community. Paragraph 1 of Article 7 states that “Switzerland shall adopt ... arrangements that are equivalent to Community legislation on the technical conditions governing road transport.”

The GATS concept of “domestic regulation” under Article VI goes beyond technical standards. One example of Swiss domestic regulation is the ban on night driving for road carriage. In this respect the Agreement sets out a non-discrimination obligation, namely in its Article 15(2) (“Exemptions from the ban on night driving shall be granted on a non-discriminatory manner”). The same provision establishes a one-stop-shop for granting the exemptions from the ban on night driving upon application by carriers. It also defines the exact times of night driving.

The Agreement provides for the deregulation of some types of international transports. Firstly, in

respect of goods transit, Article 10 provides that “[t]he international carriage of goods ... in transit across the territory of the Contracting Parties shall be deregulated.”. Second, in respect of goods transport between Community Member States, transport by Swiss carriers is deregulated under Article 12. This type of operation is referred to as “*grand cabotage*” in EC jargon. However, cabotage inside individual EC Member States, as well as cabotage inside Switzerland, remain “not authorised” for carriers of the Parties, as stated in Article 14.

In terms of licensing and recognition the Agreement represents a milestone. Article 9 enshrines the use of the “Community authorization for Community carriers” and of “a similar Swiss authorization for Swiss carriers” in the carriage of goods between the Parties. In the same vein, transport of goods in transit is carried out under each Party’s licence (Article 10), and transport of goods between EC Member States (“*grand cabotage*”) is “carried out under the Swiss licence” (Article 12). This amounts to a mutual recognition as defined in Article VII of the GATS. On top of that, Annex 4 to the Agreement sets out a few transport operations (e.g. mail transport as a public service) to be “exempt from any carriage authorization and any system of licences”. The provisions of the Agreement on licensing requirements for goods transport are thus very liberal and trade supportive.

The mutual recognition of authorizations and licences makes it possible for natural and juridical persons that have been admitted to exercise a transport activity in a Party to exercise that activity in the other Party, in the context of international transport operations. This is commonly referred to as “access to the profession.”

International transport of *passengers* (both regular and occasional) was equally liberalized. Paragraph 1 of Article 17 provides that such transport shall be “permitted ... without discrimination as to nationality or place of establishment”, while paragraph 3 of that Article provides for the recognition of the Community licence and the Swiss licence by the respective Parties. Occasional as well as “special regular” transport services do not require authorization by virtue of Article 18(1) and (2). Cabotage is not authorized for transport of passengers, but Article 20(2) contains a grand-fathering clause in that regard.

In GATS terms, Mode 1 is thus to a large extent liberalized under the bilateral Agreement on Land Transport. (The four modes of delivery are defined in Article I:2 of the GATS).

An important part of the Agreement is its Title VI on “*coordinated transport policy*”, in particular its chapter C on “road transport charging systems”. Title IV is based on such principles as “no discrimination,

whether direct or indirect, on the ground of the nationality of the carrier, the place of registration of the vehicle, or the origin and/or destination of the transport operation”, “free choice of the mode of transport”, “no unilateral quantitative restrictions”, “proportionality”, “transparency” and “reciprocity” (see Article 32).

The main measure provided for under this Title is the introduction by Switzerland of new regulation for a “non-discriminatory tax on vehicles” in accordance with Article 40. The Agreement sets out in great details the parameters of the Swiss tax. That provision was, for Switzerland, the counterpart for eliminating its maximum weight limit. It was felt necessary to accompany the profound liberalization steps in respect of technical and trade norms by a rebalancing measure in the fiscal area, in order to continue the effective implementation of national policy objectives. The Agreement provided for the gradual introduction of the new tax by incremental steps over a few years from entry into force.

The second pillar of policy coordination is the establishment of a rail and combined transport capability in accordance with Article 33. This too was seen by Switzerland as an indispensable counterpart to the deregulation of transit carriage across its territory, in particular in view of the sensitive case of transit through the Alps.

Of course, after almost seven years of implementation, you will be interested to know the effects of the above provisions. In short, the Agreement brought substantial benefits for both Parties.

Thanks to the combined effect to the aforementioned measures, the number of vehicles could be reduced by 10 per cent between 2000 and 2007 while the transport volume increased by 60 per cent. Between 2000 and 2006 the number of kilometers driven diminished by 3 per cent while the tkm (tons-kilometers) increased by 20.5 per cent. This is due to the fact that the average load of trucks increased from 6.7 tons to 8.9 tons as a result of the elimination of the 28 ton weight limit (productivity gains). The fact is that a 40-ton vehicle can contain twice as much freight as a 28 ton vehicle.

The main economic sectors that benefited from the liberalization of the weight limit are those relying on bulk transport, such as the chemical industry, the oil sector, the concrete industry or the production of foodstuff. Retail trade however could not take benefits from the higher weight limit while it was hurt by the newly introduced tax.

The combined effect of a higher weight limit and higher taxation led to a higher rate of load of trucks, including a lower number of “unladen” journeys.

Due to its comprehensive nature and far-reaching provisions, the Agreement between Switzerland and the Community considerably achieved both to facilitate trade in road transport services and to implement other policy objectives in a regional context. This example shows how domestic regulation goes hand in hand with trade liberalization. Surely, the benefits of the trade measures alone (market access) would not have fully developed their effects without an appropriate reshaping of domestic regulation – in particular the lifting of the weight limit as demanded by the EC – and without appropriate steps being taken for mutual recognition of authorizations and licences.

3. The bilateral agreement on land transport (rail)

Though the rail part of the Agreement on Land Transport is also very comprehensive in its kind, it does not contain as many rules as the road transport part. The main provision regarding rail transport is straight as it provides for access rights and transit rights for rail operators of the Parties (Article 24). This so-called “free access” is granted between the Parties on the same basis as provided for among Community Member States by virtue of relevant Community legislation (the relevant Community acts are listed in Section 4 of Annex 4 to the Agreement).

Article 25(4) provides for the mutual recognition of rail transport licences, thus reinforcing the liberalization introduced under Article 24.

Incidentally, the liberalization of trade under Article 24 made it necessary for the Parties to enhance regulation. Specific rules as well as an institutional setting had to be put in place to regulate the market of, and to allocate, so-called “train paths” by one company on the infrastructure of another company on a “fair and non-discriminatory basis” (Articles 27 to 29). Such rules are necessary given that rail capacity is a scarce infrastructure. Obviously, in the old world of State monopolies that sort of regulation had no *raison d’être*.

Concretely, Articles 27 to 29 contain provisions regarding the designation of bodies for capacity allocation, their management, collection of user fees, procedures for application including deadlines, priorities in capacity allocation and special rights, transparency of allocation rules including publication, right of appeal. In the GATS, rights of appeal are covered by paragraph 2 of the Article on Domestic Regulation while procedures for application are dealt with in paragraph 3 of that Article.

The provisions on liberalization and organization of the free access to railway infrastructures have been implemented smoothly. In Switzerland the body in

charge of the allocation of rail capacity initially rested with the incumbent rail operators and subsequently was turned into a separate independent body. All the institutions, rules and procedures for permitting a market-based trade in rail capacity are in place.

Another “reregulation” accompanying the liberalization undertaken under the Agreement pertains to the requirement to submit safety certificates – yet another type of domestic regulation – provided for under Article 26 of the Agreement. For obvious safety reasons companies of one Party using the infrastructure of the other Party are required to undergo such certification procedure under the applicable requirements of that other Party.

4. The bilateral agreement on air transport

The two main pillars of the Swiss-EC Agreement on Air Transport are competition rules (Chapter 2 of the Agreement) and granting of traffic rights (Chapter 3). Competition rules pertain to issues such as abuse of dominant position, undertakings, State aid and anti-competitive practices. Such provisions are of the same nature as the competitive provisions contained in the “Reference paper” on telecommunication negotiated under the GATS. By virtue of Article 11 of the Agreement the competition provisions “shall be applied and concentrations shall be controlled by the Community institutions in accordance with Community legislation”. That major transfer of powers is the counterpart to the equally major opening of the Community air space established under Chapter 3.

Chapter 3 of the Agreement starts by providing that “any discrimination on ground of nationality shall be prohibited” in the context of civil aviation between the Parties (Article 3). This general obligation is complemented by Article 4, which provides that “there shall be no restrictions on the freedom of establishment” of nationals of the Parties, including the “setting up of agencies, branches and subsidiaries” by nationals of the Parties. In GATS terms, this amounts to a full liberalization of Mode 3 (commercial presence).

The granting of traffic rights is governed, in particular, by Article 15 of Chapter 3. Paragraph 1 of Article 15 provides for the granting of “traffic rights between any point in Switzerland and any point in the Community”, *i.e.* the third and fourth freedoms. The same provision grants to Switzerland “traffic rights between points in different EC Member States”, *i.e.* the so-called fifth, sixth and seventh freedoms (in EC jargon).

Paragraph 3 of Article 15 provides that Parties shall negotiate the liberalization of cabotage (eighth freedom). Such negotiation has started.

The Agreement provides that any previously concluded bilateral air transport agreement between Switzerland and an individual EC Member State is superseded. Grand-fathering is maintained, provided that there is no discrimination and that competition is not distorted.

In addition to and separate from the issue of traffic rights, ground-handling is liberalized between the Parties on the same terms as provided for in the relevant EC legislation, which is taken over by Switzerland.

On the institutional side, after entry into force of the Agreement Switzerland was admitted to participate to the European Air Safety Agency (EASA) and to the Single European Space (SES).

In sum, the bilateral Agreement on Air Transport is very comprehensive in scope, it liberalizes most traffic rights and fully allows commercial presence for civil aviation (Mode 3). Furthermore, liberalization extends to auxiliary air transport services such as ground-handling services.

Not surprisingly the Agreement led to a more open and competitive air transport sector, the establishment of more business by Community carriers in Switzerland, and air transport fares have diminished.

5. Conclusion

The agreements on land and air transport are exemplary in showing the relation between trade liberalization and domestic regulation. Both agreements contain far-reaching market-access and non-discrimination provisions. At the same time, both contain a host of other provisions.

In terms of paragraph 4 of the Domestic Regulation Article of the GATS, the bilateral transport agreements

address all measures covered by that paragraph, *i.e.* technical standards (e.g. the 28 ton weigh limit), licencing requirements (e.g. for road transport), and qualification requirements (e.g. licences for natural persons for access to profession in international road transport). The universe of domestic regulation, respectively Article VI of the GATS, is of course broader than, and such other domestic measures are dealt with in the agreements too (e.g. procedures and requirements related to the Swiss ban on night driving; procedures and requirements for the allocation of rail paths in relation to access to railway capacity).

Going beyond domestic regulation as understood in Article VI GATS, the agreements address such issues as recognition (corresponding to Article VII of the GATS) and transparency (covered by Article III of the GATS).

The bilateral transport agreements provide for the mutual recognition of an array of authorizations and licences for natural and juridical persons (international goods transport; international passengers transport; rails licences).

Institutional arrangements are another important component of the agreements, and in this respect the structures of the arrangements are varied.

In certain cases, liberalization was accompanied by the introduction of new regulation (e.g. the Swiss tax on heavy traffic; allocation rules for trade in rail paths; competition disciplines in air transport). In relation to the question of “sequencing”, it is worth noting that those new regulations were introduced in parallel to the liberalization process (and to some extent progressively), and not in anticipation of it.

ENDNOTES

1. Former Governor, Reserve Bank of India and Member of the Commission of Experts of the President of the United Nations General Assembly on Reforms of the International Monetary and Financial System.
2. UNCTAD (2010), Services, development and trade: the regulatory and institutional dimension, TD/B/C.I/MEM.3/5.
3. Observatoire de la Finance, Geneva
4. H.Davies and D.Green, *Global Financial Regulation The Essential Guide* (Cambridge, U.K.: Polity Press, 2008), p.43.
5. Dale R (1992), *International Banking Deregulation: The Great Banking Experiment*, Oxford, etc., Blackwell Publishers.
6. Symons EL and White JJ (1991), *Banking Law Teaching Materials*, third edition (St. Paul, Minn.: West Publishing.
7. The data are reproduced in Delhaise (1998): Appendix 4. [Delhaise PF (1998), *Asia in Crisis The Implosion of the Banking and Finance Systems*, Singapore, etc.: John Wiley and Sons (Asia)]
8. Rules of thumb sometimes applied here are that leverage of 12 corresponds to a Basel I capital-to-assets ratio of 11 per cent rather than 8 per cent, and leverage of 20 to a Basel I capital-to-assets ratio of 6.5 per cent.
9. Matten C and Trout P (2006), "Application and Implementation in Asia-Pacific" in Tattersall J and Smith R (ed.), *A Practitioner's Guide to the Basel Accord*, Old Woking, United Kingdom: City & Financial Publishing.
10. Contact Group on Asset Prices, *Turbulence in Asset Market Markets: the Role of Micro Policies* (September 2002), pp. 20-21.
11. Information is taken from senior officials' addresses, extensive use being made of V.Leeladhar, "Basel II and credit risk management", inaugural address at the programme on Basel II and Credit Risk Management organised by the Centre for Advanced Financial Learning for the whole-time directors of commercial banks, Goa, 15 September 2007; and Y.V.Reddy, "Global financial turbulence and the financial sector in India – a practitioner's perspective", address at the Meeting of the Task Force on Financial Markets Regulation, organised by the Initiative for policy Dialogue, Manchester, United Kingdom, 1 July 2008.
12. S.Akhtar, "Basel II implementation issues, challenges and implications", speech at the 56th Annual General Meeting of the Institute of Bankers Pakistan, Karachi, 12 September 2006 (4/2007 twice and 33/2008) ; id., "Demystifying Basel II, keynote address at the FICCI-IBA Conference on "Global Banking : Paradigm Shift" Mumbai, 26 September 2006 ; and id., "Corporate governance for banks", speech at the IBP Convocation, Lahore, 13 March 2008.
13. R.Jayamaha, "Glimpse of current financial regulations", Inaugural speech at the Client Seminar on International Trade, organised by Hatton National Bank, Colombo, 13 November 2006; id. "Basel II – a roadmap for Sri Lankan banking system with international comparisons", opening remarks at an event of lecture series, organised by the Association of Professional Bankers, Colombo, 18 December 2006 ; and id., "Governance, risk management and compliance", keynote address at the Seminar on "Governance, risk management and compliance and the Roadmap for Financial Services Industry", Colombo, 7 February 2008.
14. See *Capital Requirements and Bank Behaviour: the Impact of the Basle Accord*, Basle Committee on Banking Supervision Working Paper No.1 (Basel: Bank for International Settlements, April 1999), pp. 3-4.
15. In the "originate-to-distribute" model debts generated or originated by one institution are pooled and transferred to a special purpose vehicle. The assets in this vehicle serve as the backing for securities sold to investors, often in tranches carrying returns that vary according to their different degrees of risk..
16. Y.V.Reddy, "Monetary and regulatory policies – how to get the balance with markets right", remarks at the Annual General Meeting Panel of the Bank for International Settlements, Basel, 29 June 2008.
17. See, for example, C.Goodhart and A.Persaud, "A party pooper's guide to financial stability", *Financial Times*, 5 June 2008.
18. Independent Energy Consultant, Electricity Distribution Industry (EDI), South Africa.
19. Arestis and Demetriades (1997 b), specify that since 1980, more than a hundred developing countries have been affected by banking crises having as consequence the insolvency of banks and the loss of depositor confidence. The direct cost of these crises has been supported by the taxpayer. It represents a substantial amount: 50 per cent of the GNP for Kuwait, 30 per cent for Chile, 20 per cent for Venezuela and more of 10 per cent of GNP for Mexico, the Czech Republic and Hungary.
20. It has become common to attribute the paternity of financial liberalization to McKinnon (1973) and Shaw (1973) even if that can go back to A. Smith (1776).

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- ²¹ It is the case of Robinson (1952) even if his contribution in 1979 is clear and less hesitant concerning the creation of purchasing power by banking. Note that the second President of United States, John Adams, went as far as accusing banks of causing harm to the morality, the tranquility and even the wealth of nations.
- ²² See recent works of Demirgüç-Kunt and Detragiache (1998) and Beck, Levine, and Loayza (2000).
- ²³ Average savings rate of households as a percentage of the available income calculated from 6 countries: the United States, Japan, Germany, France, Italy, the United Kingdom and Canada.
- ²⁴ Involving a group of 50 countries according to UNCTAD and World Investment Transfer, 1997.
- ²⁵ This distinction would date back to Gerschenkron (1962) quoted by several authors whose Goux (1993, p.210), Arestis and Demetriades (1997 a, p.4).
- ²⁶ Mishkin (1999) note that the exchange crisis that has undergone the United Kingdom in September 1992 has not induced the devastating effects that Mexico experienced during the depreciation of its currency in 1994-1995, the rise of interest rates not having had the same effects on growth.
- ²⁷ Jeune Afrique – Hors série n°22 (2009)
- ²⁸ The CMP includes the Banque Centrale Populaire and 11 regional banks.
- ²⁹ The McKinnon and Shaw framework sought to relate capital-market developments to long-term economic growth in developing countries.
- ³⁰ Chief Economist, MacroConsulting, Argentina.
- ³¹ Christopher Weare - The California Electricity Crisis: Causes and Policy Options - Public Policy Instit. of CA, 2003
- ³² Roques, F. & Newbery, D.M. & Nuttall, W.J., 2004."Generation Adequacy and Investment Incentives in Britain: from the Pool to NETA," Cambridge Working Papers in Economics 0459, Faculty of Economics, University of Cambridge.
- ³³ Gassner K., et al. (2009) finds robust evidence in the global sample that PSP has a strong positive effect on several measures of performance
- ³⁴ Andrès et al. (2008) find that for Latin America private investment in electricity, telecom and water had a positive effect on labor productivity, efficiency and quality while they find no difference between private and public firms in terms of coverage.
- ³⁵ See, for example, Schlirf Rapti (2005).
- ³⁶ Economic costs include a reasonable return on invested capital.
- ³⁷ In natural monopolies, this condition would violate the sustainability objective, as marginal costs are below average costs (see Sharkey, 1982).
- ³⁸ See Estache, Foster & Wodon (2002) for an analysis of the relationship between infrastructure reform and poverty in Latin America.
- ³⁹ There is no generalized agreement on a price cap as being the optimal regulatory regime for LDCs. For example, Kirkpatrick and Parker (2005) take the view that "the case for the use of a price cap in the context of developing economies is much reduced. This is because of its information requirements, need for regulatory expertise, and the institutional endowment found in many low- and middle-income countries."
- ⁴⁰ In theory, this problem is not present under traditional cost of service (or rate of return) regulation although in the practical application some disincentives exist.
- ⁴¹ This requires considering inclusion and exclusion errors as well as the administrative costs of implementing and running the system.
- ⁴² For a detailed account of the reform of the electricity sector in Argentina see *Transformación del sector eléctrico argentino*; Carlos Manuel Bastos y Manuel Angel Abdala. Santiago de Chile, Editorial Antártica, 1993
- ⁴³ The reform of the gas sector in Argentina is discussed in Visintini A. (1996).
- ⁴⁴ For example, during the 1990s in the UK decisions by the sector regulators could be appealed to the Mergers and Monopolies Commission (MMC) whose decisions were binding. The main criteria for the determination of the cost of capital across industries were set by MMC decisions.
- ⁴⁵ ENRE in part compensated their very low cost of equity by applying it to total capital rather than to equity. In this way they disregarded the tax shield savings associated to the debt of the company.
- ⁴⁶ Spain and UK are two examples of large OECD economies, which started with separate gas and electricity agencies but latter merged them into a single energy regulator. Other countries such as Colombia and Peru established energy regulators rather than separated gas and electricity regulators from the beginning.
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- 47 Newbery and Green mention 5 as the minimum number of players in the electricity market to ensure efficient competition. Richard J. Green and David M. Newbery (1992).
- 48 The costs of establishing a basic regulatory information system is a couple hundred thousands dollars which represents less than 0,1 per cent of the energy revenues and less than 3 per cent of the regulator's budget in a small economy such as Nicaragua.
- 49 Lump sum and Pigouvian taxes are two exceptions since the first does not change any decision and the second alters decision in a way that increases the welfare of the economic agents.
- 50 Key variables considered in the stratification include: size of the front garden, roof material, front size, type of street, coverage of public services, etc.
- 51 Gómez-Lobo, Andrés & Dante Contreras. 2008. Water Subsidy Policies: A Comparison of the Chilean and Colombian Schemes. *The World Bank Economic Review*, Vol 17, No 3. pp. 391-407.
- 52 See section I for a discussion of regulatory objectives, their trade-offs and instruments.
- 53 According to OECD/IEA 2005, natural variation in energy use – due to changes in weather or in the conditions of each household (for example birth of new child, family moving to other house, etc) ensures that about 20 per cent of the customers will use 20 per cent less energy than the previous year.
- 54 For a general description of the tariff regime, see Barrantes et al. (2002).
<http://www.aresp.go.cr/docs/POLITICA%20Y%20METODOLOGIA%20TARIFARIA.pdf>
- 55 See Eberhart A (2007) on hybrid models of PSP in developing countries.
- 56 Independent Energy Consultant, Electricity Distribution Industry (EDI), South Africa.
- 57 The Blueprint Report, February 2001. Eskom being a player in the distribution sector is as a result of legacy. Prior to 1994, Eskom was given a mandate to electrify rural areas which led to Eskom distributing in those areas. Further, the performance of some of the municipal distributors resulted in Eskom being instructed via Cabinet to perform distribution in certain municipal jurisdictions.
- 58 The Blueprint Report, February 2001
- 59 The Blueprint Report, February 2001
- 60 The Electricity Act, 1987 (Act No. 41 of 1987)
- 61 The Electricity Regulation Act, 2006 (Act No. 4 of 2006)
- 62 The Constitution of the Republic of South Africa, 1996
- 63 Section 156(1)(a), read with part B of schedule 4
- 64 Presentation made by Dr Willie de Beer, Chief Operating Officer of EDI Holdings at iGLM Meeting, South Africa, September 2009
- 65 The Blueprint makes no mention of partial or full privatization of the REDs. Indeed any form of privatization of REDs was not envisaged. It is assumed that this is in keeping with Government's preference for retaining the provision of basic and strategic services within state ownership and control.
- 66 Companies Act, 1973 (Act No. 61 of 1973)
- 67 In terms of South African law, entities in the public sector may be established either as public entities or municipal entities. With public entities, the majority of shares in the company are held by National Government and the majority of the members of the board are appointed by national government. With municipal entities, the converse applies.
- 68 The Public Finance Management Act, 1999 (Act No. 1 of 1999).
- 69 The Blueprint Report proposed that the golden share be in place for five years and give National Government amongst others, the right of veto over the sale or disposal of shares by any shareholder.
- 70 Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000) and the Local Government: Municipal Finance Management Act, 2003 (Act No. 56 of 2003)
- 71 Appropriate licence conditions may also be imposed on the generation and transmission components of the business of the licensee, to ensure that objectives for restructuring are met.
- 72 Municipal Fiscal Powers and Functions Act, 2007 (Act No. 12 of 2007)
- 73 Section 229 of the Constitution inter alia provides that a municipality may impose rates on property and surcharges on fees for services provided by or on behalf of a municipality; and if authorised by national legislation, other taxes, levies and duties appropriate to local government.
- 74 Since April 2009, the Department is called the Department of Energy

- ⁷⁵ RED1 is situated in the Western Cape of South Africa, and is anchored by Eskom in the area and the City of Cape Town Metropolitan Municipality
- ⁷⁶ Interview with Phindile Nzimande, CEO of EDI Holdings, Journals EngineerIT Online, www.eepublishers.co.za, accessed on 12 December 2009
- ⁷⁷ The Local Government: Municipal Finance Management Act, 2003 (Act No. 56 of 2003), section 14
- ⁷⁸ The passage of the Bill through the parliamentary processes is targeted for the first 2 quarters of 2010.
- ⁷⁹ Section 78 of the Local Government Municipal Systems Act, 2000 (Act No. 32 of 2000) requires Local Government to undertake a cost benefit analysis and community consultations prior to appointing an external service provider for provision of a municipal service.
- ⁸⁰ EDI Holdings Annual Report, 2009
- ⁸¹ www.dme.gov.za, Department of Energy, South Africa website, accessed on 13 December 2009
- ⁸² www.smh.com.au, accessed on 04 February 2010
- ⁸³ www.schneider-electric.co.za, accessed on 13 December 2009
- ⁸⁴ Special Report 2008/04: Energy crisis – The case of South Africa, August 2008, Rabobank Economic Research Department, www.rabobankgroep.nl/kennisbank, accessed on 03 February 2010
- ⁸⁵ www.dme.gov.za, Department of Energy, South Africa website, accessed on 13 December 2009
- ⁸⁶ Eskom Annual Report, 2009
- ⁸⁷ Centre for Development and Enterprise, Round Table, July 2008, South Africa's Electricity Crisis: How did we get there? And how do we put things right?, available on www.cde.org.za/article, accessed on 04 February 2010
- ⁸⁸ The author is not aware of any assessment that has been done in respect of the effectiveness of the Energy Regulator in South Africa, in relation to its legislative mandate to perform economic and technical regulation of the sector. The author is aware that assessments relating to corporate governance matters have been conducted by the Regulator Board itself, however, the results of these assessments are not for public consumption.⁸⁹ Chief Economist, MacroConsulting, Argentina.
- ⁹⁰ This goal also supports MDG Target No 8: "halve by 2015 the number of people without access to safe drinking water."
- ⁹¹ Chief Economist, MacroConsulting, Argentina.
- ⁹² According to ITU projections.
- ⁹³ Telcos Planning Ahead for an Economically Troubled 2009, 9 October 2008, at: www.cellular-news.com/story/34060.php.
- ⁹⁴ iLocus, 5 August 2008, at: www.ilocus.com/2008/08/64_voip_subscribers_in_france.html.
- ⁹⁵ Ovum, VoIP becoming mainstream in the Republic of Korea and Japan, 21 January 2008, at: www.ovum.com/go/content/c,377,73689.
- ⁹⁶ Infonetics Research, through VoIP News, 1 March 2008, at: www.voip-news.co.uk/2008/03/01/80-million-worldwide-voip-subscribers-in-2007/.
- ⁹⁷ ITU World Telecommunication/ICT Indicators Database, at: www.itu.int/icteye.
- ⁹⁸ Taylor, J. (2006), Openreach – an open network for all. Dream or reality? www.pts.se/Archive/Documents/SE/061129_Presentation_Joanna_Taylor_9.pdf.
- ⁹⁹ The expression "incumbent operators" is used here non-incumbent operators with significant market power may also be considered candidates for functional separation.
- ¹⁰⁰ The Economist (3rd May, 2007), "When in Roam: Regulation is not the only thing driving down the cost of making calls abroad".
- ¹⁰¹ Data for international mobile roaming revenues, costs and traffic are not often made publicly available by operators or provided to regulators.
- ¹⁰² INTUG submission to ERG, "The wholesale national market for international roaming; possible remedies", May 2003, at: www.intug.net/submissions/ERG_roaming.html
- ¹⁰³ See ITU-T IPTV Focus Group definition.
- ¹⁰⁴ McKemey, K., Scott, N., Souter, D., Afullo, T., Kibombo, R., & Sakyi-Dawson, O. (2003), Innovative Demand Models for Telecommunications Services, London, UK: Gamos, Ltd.
- ¹⁰⁵ Davis, K., and Ochieng, C. (2006), "ICTs as Appropriate Technologies for African Development". In IFC / FT (Ed.), Business & Development: The Private Path to Prosperity.

¹⁰⁶ In particular, we note the work of Microsoft Research in India.

¹⁰⁷ E.g. www.blogger.com or www.twitter.com.

¹⁰⁸ E.g. www.digg.com or del.icio.us.

¹⁰⁹ E.g. www.flickr.com.

¹¹⁰ E.g. www.youtube.com.

¹¹¹ E.g. www.wikipedia.com.

¹¹² E.g. www.myspace.com.

¹¹³ State Secretariat for Economic Affairs, Berne, Switzerland.
