

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

# COMPENDIUM ON DEBT SUSTAINABILITY AND DEVELOPMENT



UNITED NATIONS

**United Nations Conference on Trade and Development**

**COMPENDIUM ON  
DEBT SUSTAINABILITY  
AND DEVELOPMENT**



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# **OVERVIEW: DEBT SUSTAINABILITY IN THEORY AND PRACTICE**

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## **A. Introduction**

Debt sustainability, which concerns the feasibility for a country of meeting its debt-related financial obligations during a period beginning with the present, has proved an elusive concept. This is not surprising in view of its dependence on an intrinsically uncertain future. Interest in the conditions for debt sustainability builds on an earlier tradition of work on debt management where the focus was on country risk and on the likelihood and consequences of debt default.

The shift in focus from country risk to debt sustainability reflects the search of national and international policymakers for rules for external debt management which have a good theoretical justification and a reasonable track record of application. The problems of debt management have traditionally also been closely related to consideration of several other issues involving external debt. The recent shift in focus is much less evident in the way in which these issues are approached. This is true, for example, of consideration of external debt policy as an important element of global regimes for international finance and trade. In spite of the lack of a direct link to debt sustainability some features of these regimes are taken up in the papers in this collection owing to their importance to the framework of international rules within which external debt management is carried out.

Traditional country risk analysis had two dimensions, political risk and transfer risk.<sup>1</sup> The first refers to the determinants of the political will and the second to the economic capacity to meet obligations on debts incurred through sovereign borrowing as well as through the cross-border liabilities of private institutions operating within the country's frontiers. The two dimensions are not completely distinct since economic capacity depends partly on a country's willingness to take the policy measures required to meet debt

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<sup>1</sup> Good overviews of the traditional analysis of country risk are Friedman (1983) and Kraysenbuehl (1988)

obligations, and this willingness in turn reflects a balancing of political costs and benefits. Nevertheless analysis under the two headings covers largely different subjects.

The subjects taken up under political risk comprise a country's constitutional and political environment, the quality of Government and the level of corruption, inequalities of incomes and wealth, literacy rates, demographic structures, and ethnic and religious differences. Transfer risk concerns subjects not necessarily less complex but mostly more easily quantifiable. Some of these factors can be classified as having a substantially domestic origin such as fiscal and monetary policy, the exchange-rate regime, access to natural resources, the use of funds acquired through foreign borrowing, the tax system, and exchange controls for current and capital transactions. Other factors are external. These include trade barriers to a country's exports, commodity prices, interest rates and other conditions in international financial markets, shipping costs, the availability of concessional financing, and natural disasters.

Transfer risk varies with the availability and terms of external financing and with changes in the other determinants of access to foreign exchange. In the assessment of transfer risk a major role is played by quantitative indicators such as the following:

- The debt service ratio: interest and principal with a maturity of at least one year divided by receipts of foreign revenue during a period T;
- The debt/GNP ratio: external public and private debt (normally excluding that with a maturity of less than one year) divided by GNP;
- The interest service ratio: interest payments (normally excluding those on debt with a maturity of less than one year) divided by exports of goods and services during a period T, which, if subtracted from the debt service ratio, indicates the percentage of foreign exchange receipts required to service principal;
- The reserves/imports ratio: officially published reserves divided by imports during a period T;
- The liquidity gap ratio: a numerator consisting of debt with a maturity of up to one year minus the balance on current account divided by the sum of export receipts and unilateral transfers. The ratio indicates the liquidity gap which needs to be covered by short-term borrowing;
- Current-account balance/GNP;
- The compressibility ratio: non-essential imports as a percentage of total imports, an indicator which in principle depends on classifying part of imports as basic needs (energy, food, essential inputs and investment goods) on the basis of knowledge of the economy's requirements but which in practice is often based on a rule of thumb such as 25 per cent of imports.

Until the late 1970s analysts tended to focus primarily on medium-term indicators of transfer risk. However, owing to countries' greater use of international financial markets to meet their external financing needs and experience of the debt crisis of the 1980s, they increasingly devoted greater attention to indicators bearing on liquidity (for example, the reserves/imports ratio, the liquidity gap ratio, and the compressibility ratio).

However, actual experience of countries' debt problems has indicated limits to the usefulness of the commonly used indicators. These limits are partly due to lack of information concerning aspects of countries' positions with an important bearing on their capacity to meet their external obligations. During the Asian crisis of 1997-1998, for example, statistics for official reserves did not include the authorities' commitments in the forward exchange markets or to private sector financial institutions which in both cases reduced the foreign exchange available to meet external debt service. Moreover, the traditional indicators of country risk are designed for the assessment of risk and are much less well suited to be tools for debt management.

To meet the needs of the latter attempts began to be made to give a more precise meaning to the concept of debt sustainability. These were designed to provide a concept capable of contributing to policy under each of the three major headings of debt management, namely avoidance of financial crises, debt management once a debt crisis appears imminent or is under way, and post-default policy and rescheduling. At the same time, partly in response to the growing complexity of many countries' external commitments and to the greater availability of instruments for managing them, attention has increasingly been devoted to countries' overall external balance sheets, and to the problems and opportunities which they present for policymakers.

Work on sustainability accompanied parallel attempts to investigate the theoretical underpinnings of conditions for the enforcement of cross-border debt contracts, and has likewise been marked by interest in developing a more rigorous conceptual framework to replace its more ad hoc predecessor.<sup>2</sup> However, the papers in this collection point to the probably insoluble difficulties confronting the attempt to develop a concept of debt sustainability capable of serving as a philosopher's stone for policymakers.

## **B. Definition and Dimensions of Debt Sustainability**

In Chapter II, Wyplosz provides an extensive review of the key concepts involved in different definitions of debt sustainability. These are as follows:

- Threshold level of debt/GDP ratio;
- Solvency, i.e. the condition that future surpluses on current account are sufficient to cover interest obligations and repayments of principal;
- Debt serviceability, i.e. solvency plus the additional condition of no illiquidity, which denotes inability to service debts at particular moments in time;
- Solvency plus avoidance of the need for a major correction in the form of large cuts in public expenditure or large increases in taxation required for debt service;
- Net worth, i.e. the condition that the present value of current-account surpluses less current debt is not decreasing over time;
- Debt stationarity, i.e. the condition that the debt/GDP ratio does not increase without bounds.

Wyplosz points out that owing to the dependence of each of these concepts on an inherently uncertain future they cannot be used to construct universally applicable rules for debt sustainability, an attempt which he characterizes as "mission impossible". Thus rules using the concepts as a base for policy prescriptions will necessarily be arbitrary and imprecise. Wyplosz elaborates the implications of this impossibility through an examination of procedures for Debt Sustainability Assessment (DSA) designed by the IMF and the World Bank's International Development Association (IDA) to formalize the notion of prudent debt strategies receptive to a country's development needs.

The starting-point for the IMF's DSA is a baseline five-year forecast combined with stress testing for adverse shocks. To allow for the dependence of the probability of debt distress on country-specific economic and political conditions this technical exercise is combined with a Country Policy and Institutional Assessment (CPIA) developed by the World Bank. The CPIA generates an index of governance quality based on 20 component indicators, and countries are classified into three groups according to their CPIA index, those with indexes of higher quality being permitted higher debt/GDP thresholds.

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<sup>2</sup> For a concise account of the development of the new conceptual framework for the analysis of cross-border debt see Sturzenegger and Zettelmeyer (2006: chapter 2).



As Wyplosz notes, this procedure includes a number of arbitrary choices regarding scenarios and does not allow for mutually reinforcing effects due to correlations among shocks or for alternative policy responses to shocks. Moreover, it is not designed to take account of the potential of borrowing for actually accelerating economic growth, except indirectly to the extent that a good CPIA index is likely to be associated with an increase in this potential. Thus, perhaps unsurprisingly, the IMF's DSA has been at the centre of discussions on debt policy between the Fund and national Governments.

In view of the intractable nature of DSA, Wyplosz proposes limiting the exercise to less ambitious objectives. For this purpose he prefers a focus on the evolution of debt levels and on the requirements of avoiding debt distress (concerns which were at the centre of the traditional approach to country risk described in section I, though this is not mentioned by Wyplosz). In the case of countries with access to international financial markets important indicators for DSA are the risk premiums in the terms of their borrowing. Moreover Wyplosz stresses that any procedure for DSA be open, and that it should include experts other than those of the multilateral financial institutions themselves. DSA should also accommodate the fact that debt accumulation can be a legitimate part of development policy. Wyplosz acknowledges that his proposal can only lead to avoidance of debt distress under plausible, normal conditions. The possibility of debt distress in response to exceptional events is simply to be accepted as a fact of life, and one whose consequences are to be dealt with as and when it occurs.

Wyplosz is not suggesting that the elements of the IMF approach to DSA have no value. But they should be part of the framework for policy discussion and not a mechanical guide to policy conclusions, as the IMF itself increasingly recognizes.

The analytics of the IMF approach and of other schematic approaches to debt sustainability are more fully developed in Chapter III and IV by Tran-Nguyen and Tola (henceforth Tran-Nguyen) and Fitzgerald (Fitzgerald). Tran-Nguyen's results include "templates" for debt sustainability based on alternative national accounting identities as points of departure as well as conclusions concerning the long-run stability – and thus feasibility – of time paths for debt. The paper also develops simple frameworks for analyzing the relation between debt and growth. In a similar spirit Fitzgerald also explores the use of national accounting identities to derive simple "golden" rules for debt sustainability as well as constraints on fiscal policy which take account of access to external financing.

Fitzgerald provides a critical review of "financing gap" models which were long widely used as an analytical framework for discussion of debt sustainability. These models place economic growth at the centre of the exercise. The objective of the planning authority is to maximize GDP growth subject to constraints imposed by domestic savings, import capacity, and the fiscal ceiling determined by tax revenue and access to sovereign borrowing.

The shortcomings of these models are their dependence on stable and exogenously given relationships. An alternative approach explored by Fitzgerald, which draws on assumptions now common in macroeconomics, involves taking investment to be determined by intertemporal maximization subject to relationships between GDP, the capital stock divided between that which is domestically and that which is externally financed, depreciation, the cost of new investment, national income defined as the difference between output and interest costs, and external constraints according to which imports are determined by national income and exports by the productivity of the export sector. This approach can generate an expression for the optimal debt level as a function of the allocation of financing to different major categories of investment.

Tran-Nguyen reviews recent literature on early-warning indicators of currency and debt crises. This literature is a natural development of the earlier approach to country risk discussed above. However, to a greater extent than earlier work, the more recent literature makes use of econometric analysis. Moreover

it also includes new indicators suggested by recent experience of financial crises such as indicators of the fragility of the financial sector.

A major conclusion of Tran-Nguyen is that the approaches surveyed suffer from the shortcoming that the concept of debt sustainability is not integrated into a framework which also includes a country's development strategy and the implied growth trajectory. Although Tran-Nguyen's suggestions as to such integration are limited to simple debt and growth analytics, the subject would be natural candidate for inclusion in the more open, less rule-bound procedures to analysis of debt sustainability proposed by Wyplosz.

## **C. Country Studies**

Of the five case studies included in this collection of papers three, Uganda, Kenya and Bolivia, were of low-income countries whose external debt was largely the result of public bilateral and multilateral financing, while the remaining two, Argentina and the Republic of Korea, were countries whose debt crises reflected a breakdown in their access to international financial markets.

### **1. Low-Income Countries**

The experiences of Uganda, Kenya and Bolivia share key common features in the form of failure to generate sustainable growth and poverty reduction and continuing vulnerability to the impact of higher interest rates and of lower prices on their commodity exports. All three countries undertook reform programs consisting of tighter macroeconomic policy and price liberalization. But the programs did not address major weaknesses. For example, they did not include a broadening of the tax base, and the tariff reductions adopted actually harmed progress towards this objective. The Governments of Uganda and Kenya are still heavily dependent on foreign aid for the financing of their expenditures. Moreover substantial proportions of economic activity and exports in all three countries remain concentrated in a limited number of unprocessed primary commodities.

There were also important differences between the three countries' experiences.

Uganda and Bolivia, which (unlike Kenya) are both HIPC countries, illustrate both general weaknesses of this initiative and flaws more specifically applicable to the situations of the two countries. The first set of weaknesses included inadequate analytical bases, which reflected dependence on unrealistic country scenarios and failure to take proper account of vulnerability to exogenous shocks. The second included too narrow a definition of debt sustainability, failure to allow for the way in which post-HIPC borrowing could speedily reverse gains in a country's debt position, and the inappropriateness of loans as opposed to grants for the financing of programs of poverty alleviation.

During the period covered by the case studies Uganda and Bolivia achieved an adequate technical capacity for debt management. Kenya on the other hand still lacks an adequate system for this purpose.

### **2. Low-Income Countries**

The main focus of the studies of the Republic of Korea and Argentina are their recent currency-cum-banking crises, for the former in 1997-1998 and for the latter in 2000-2001. For the Republic of Korea, there is also a review of an earlier debt crisis in 1979-1980 which the Government succeeded in riding out without recourse to the deflationary measures usually characteristic of policy responses in such cases.

The recent crises for both countries were dominated by developments affecting the capital account after periods in which the liberalization of capital transactions led to greater integration into international financial markets. In both cases there were large fluctuations of capital flows – large inflows prior to the crises followed by large outflows. In both cases the IMF’s policy prescriptions were ill suited to dealing with the crises.

The origin of the Republic of Korea crisis was an unfavorable shift in its export markets beginning in 1995. This led to inventory accumulation and losses amongst the country’s large industrial groups that in turn provoked a reassessment of these groups’ prospects amongst the foreign investors and lenders on which the groups were increasingly coming to depend. As a result of bankruptcies accompanied by revelations concerning poor corporate governance and corruption, during 1997 foreigners’ flight from the country’s stock market accelerated and its banks faced increasing difficulties in rolling over short-term interbank loans. The initial financing package agreed late in the year between the Government and the IMF, which included a wide range of conditions including macroeconomic stringency and liberalization of financial and labor markets, failed to stem the crisis as interest rates reached 40 per cent and the currency continued to depreciate.

A second package was accompanied by an agreement with creditor banks to loan extension and to a lengthening of maturities in return for government guarantees on private debt. This sufficed to turn around market sentiment, and a sharp recovery in economic growth followed in 1999. This experience of the Republic of Korea has led commentators to query the appropriateness of the deflationary fiscal and monetary conditions of the first package as a response to what was principally a capital-account crisis rather one characterized by macroeconomic imbalances.

The paper on Argentina locates the source of its crisis in the exchange-rate regime and the impact on external-debt dynamics of interest rates required to manage the country’s capital account. This interpretation is at variance with the view of the country’s Governments during the pre-default period whereby problems were seen to be due to fiscal mismanagement, which called for a policy response consisting of a series of packages of fiscal tightening.

As Argentina’s crisis got under way, there were marked disagreements between the new Government and the IMF as to appropriate policy measures. The IMF’s recommendations included allowing the exchange rate to float freely and an approach to the banking crisis which would have entailed bank liquidations. The Government’s policies, which accompanied the beginning of an economic recovery from the first half of 2002, included exchange controls and restrictions on capital outflows as part of a policy of managing the exchange rate, export taxes designed to capture for the Government some of the profits due to devaluation, and a flexible monetary policy aimed at assisting the recovery of the banking sector. The Government also resisted pressure from foreign Governments and the IMF to improve the terms of its offer on debt restructuring to its external creditors.

Owing to the lack of the required data it is not possible to conduct a controlled experiment to test the validity of the now increasingly widely held belief as to inappropriateness of standard features of policy programs associated with IMF policy packages. However, the Republic of Korea’s debt crisis of 1979-1980 does provide a case study of the successful application of a different policy approach.

The crisis began in 1979 after years of rapid growth powered by an investment boom. Major features of the crisis were a sharp increase in the current-account deficit, a severe recession, and a rise in inflation of consumer prices to an annual rate of almost 30 per cent. In such circumstances the standard IMF policy prescription would probably have involved macroeconomic stabilization through fiscal and monetary tightening and allowing the exchange rate to float. The view of the Republic of Korea Government, however, was that accelerating inflation was the source of deteriorating income distribution, labor unrest, and declining export competitiveness. The policies adopted included a one-off devaluation followed by a

managed float under which the Won was tied to a basket of major international currencies, macroeconomic policies giving priority to stopping the economic downturn, and continued recourse to external financing of a declining current-account deficit despite an already high level of external debt.

The economic recovery which followed is likely to have reflected the effects of an improvement in the external economic environment as well the policies pursued. Commentators also attribute a significant role to capital controls which prevented capital flight. Conditions associated with different countries' currency-cum-debt crises are of course never the same. Nonetheless, the Republic of Korea experience of the early 1980s deserves a place in the template of the menu of policy measures for debt crisis management.

## **D. Institutional Framework for Debt Management**

Whatever the approach adopted by a developing country to debt sustainability, properly developed institutions for debt management are required. The tasks of these institutions as set out in Chapter VII by Jaime Delgado Cortez (Delgado) include the following:

- The production of reliable debt data;
- Development of the domestic financial market;
- Ensuring adequate financing for developmental and social needs;
- Ensuring compliance with debt-service obligations;
- Controlling contingent liabilities;
- Meeting the requirements of negotiations with creditors;
- Performing cost/risk analysis;
- Designing strategies for debt sustainability.

For this purpose design of the institutional framework for debt management has to focus on the following:

- Governance;
- Clarity of the roles of the different institutions dealing with debt management;
- Specification of the objectives;
- Coordination of public debt management with other public policies;
- The organizational structure of the principal body responsible for debt management, the Debt Management Office (DMO);
- Transparency and accountability.

Delgado discusses and exemplifies different options under these two headings for this institutional framework.

The network of relations described by Delgado of which the DMO is the centre include the ministry of finance, the central bank, the national/planning or development office, creditors, international organizations (which may themselves be among the country's creditors), the public and private entities which are a source of guarantees and insurance for trade finance, etc., and major participants in domestic financial markets.

The institutional framework for debt management can be expected to evolve in response to the changing profile of a country's external liabilities and its level of financial development as well as to the increasingly comprehensive approach to management of a country's external assets and liabilities which is now receiving greater attention (see below). Inter alia, this approach may entail closer working relations between the DMO as described by Delgado and those responsible for the regulation of financial

institutions and thus for oversight of the currency and maturity risks associated with these institutions' balance sheets.

## E. Credit Rating Agencies

The ratings industry has its origins in firms which were established in mid-nineteenth-century United States to provide merchants with information on the creditworthiness of their customers. Ratings originally referred to the capacity of an obligor to meet payments due on a particular financial obligation after taking into consideration the creditworthiness of guarantors, insurers, and other forms of credit enhancement. But ratings may now refer to issuers, including countries, as well as issues.

Assessment of developing countries' creditworthiness long relied on financial institutions' own systems for this purpose, guidance from their regulators, services providing information on country risks, and rankings of country credit risk provided by publications such as institutional Investor and Euromoney. The growth in the importance of credit rating agencies in recent years reflects the requirements of the growth of international capital markets which has led to increasingly widespread need for creditworthiness assessments: borrowers are seeking ready recognition from investors; investors require an accessible vehicle for assessing the quality of securities; and banks find ratings a useful marketing tool for selling paper to customers (Fight, 2004: 46).

Since the mid-1990s the performance of the agencies has been criticized on several grounds, as discussed in Chapter VIII by Elkhoury: their slowness to react to changes in creditworthiness and then their tendency on occasion to over-react; their use of untransparent rating methods; their privileged regulatory position; their lack of accountability; and the vulnerability of their operations to conflicts of interest.

- Critics viewed the agencies' response to the Asian financial crisis of 1997-1998 as characteristic of their tendency to slowness to react followed by over-reaction.
- Although the agencies make known the factors taken into account as inputs to their ratings, their assignment of weights to these factors is opaque.
- The agencies' privileged regulatory position is due to institutional investors' need for a rating of investment grade by an officially recognized agency for the securities in which they are permitted to invest as well as to other regulatory exemptions accorded to such securities. In the United States such recognition is reserved for Nationally Recognized Statistical Rating Organizations (NRSROs), a designation conferred on only a limited number of agencies including the major three, Moody's, Standard & Poor's and Fitch.
- The agencies are not accountable for their mistakes or their abuse of power.
- Conflicts of interest may arise owing to the agencies' involvement in the structuring of instruments they rate, their provision of consultancy services to issuers, the potential for pressure to purchase agencies' consultancy services in return for an improved rating, and the use of aggressive sales tactics to induce an issuer to "solicit" and thus pay for a rating which it had not initially requested (an "unsolicited" rating).

Elkhoury reviews some recent official initiatives to deal with these criticisms. These include the Credit Rating Agency Reform Act passed by the United States Congress in September 2006, which tightens the procedural requirements for NRSRO registration and certification, and strengthens the authority of the Securities Exchange Commission over NRSROs; and a Code of Conduct issued in December 2004 by the International Organization of Securities Commissions (IOSCO), whose objectives include ensuring the integrity of the rating process and achieving greater transparency regarding ratings methodology.

However, these steps are unlikely to satisfy the credit agencies' growing band of critics. The agencies' operations have returned to the spotlight in connection with ratings accorded to tranches of securitized assets during the credit crisis which began in the summer of 2007. Again special attention is focused on the opacity of the methods underlying their ratings, their lack of accountability, and the potential for conflicts of interest arising from their role as providers of "ex ante opinions" and "structuring advice" as well as ratings in the case of structured financing.<sup>3</sup>

The consequences may be more stringent rules for agency certification, minimum standards for the training and qualifications of agencies' analysts, and increased transparency regarding their operations. If one looks further into the future, a large increase in the number of credit rating agencies worldwide seems quite likely. Inter alia, such an increase would be a natural consequence of the role accorded to credit rating agencies in determining weights for credit risk in the determination of banks' minimum regulatory capital under Basel 2, which more than 100 countries are now planning to introduce.

## F. Global Rules for International Finance and Trade

Discussion of global rules in connection with external debt typically focuses mainly on arrangements capable of making debt crises less likely and of facilitating their management and resolution. Subjects include bankruptcy mechanisms for sovereign, and sometimes also private, cross-border debt, improvements in terms and funding for IMF crisis lending, and pre-crisis intervention in the markets for international debt.<sup>4</sup> But the framework within which countries manage their external debt is also affected by developments elsewhere affecting rules for trade and trade finance, balance-of-payments measures and foreign investment.

The importance of the latter set of rules was recognized in the Declaration on the Contribution of the World Trade Organization to Achieving Greater Coherence in Global Economic Policy Making adopted at the time of the establishment of the WTO. This Declaration acknowledged the links between economic policies as follows: "Successful cooperation in each area of economic policy contributes to progress in other areas. Greater exchange rate stability...should contribute towards the expansion of trade, sustainable growth and development, and the correction of external imbalances. There is also a need for an adequate and timely flow of concessional and non-concessional financial and real investment resources to developing countries and for further efforts to address debt problems, to help ensure economic growth and development." Such coherence in global policymaking requires that "the international institutions in each of these areas follow consistent and mutually supportive policies".

Two papers in this collection take up some specific international rules affecting national policies in areas characterized by interfaces between trade, investment and external financing. Chapter IX by Howse discusses the applicability of WTO rules to exchange restrictions and to measures directed at exports, imports and the balance of payments from the point of view of their compatibility with notions of fairness and equity. In Chapter X, Caliri examines the risks to national autonomy regarding debt policy which could result from provisions concerning investment in recent trade and investment treaties.

### 1. Trade and Balance-of Payments Measures under WTO Rules

Howse takes as his starting-point the commitment of United Nations Member States in the Millennium Declaration to "an open, equitable, rule-based, predictable and non-discriminatory multilateral trading and financial system". Whilst acknowledging that the concept of equity in international trade and in

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<sup>3</sup> Differences between credit rating agencies' role with respect to structured finance, on the one hand, and bond issues, on the other, are described in Committee on the Global Financial System (2005).

<sup>4</sup> For a survey of such proposals see Sturzenegger and Zettelmeyer (2006: chapter 12).

financial rules and institutions lacks a generally accepted definition, Howse shows that international rules (including those of the WTO and the IMF Articles of Agreement) incorporate fairness, a concept closely related to equity. Moreover one important ingredient of equity in international instruments concerning trade, finance and development is the notion that rules should be adjusted to the development needs of countries' different situations. Another ingredient is that of people's right to "voice and participation", i.e. their right not to have a vision of development forced on them or decided by others. The Millennium Declaration also contains a distributional component since the concept of global solidarity requires that "global challenges must be managed in a way that distributes the costs and burdens fairly in accordance with basic principles of equity and social justice".

Concerning exchange restrictions Howse notes the generally accepted view of the intent of GATT/WTO provisions for goods trade that, regardless of the effect of the restrictions on trade transactions, they do not impose disciplines going beyond those of the IMF. However, such rulings are permissible for exchange restrictions not endorsed by the IMF, a scope which Howse believes has been used by the GATT and the WTO as the basis for excessively narrow interpretation of countries' right of recourse to trade measures. More generally Howse questions the apparent presumption of GATT/WTO case law that exchange restrictions not endorsed by the IMF entail violation of GATT/WTO rules.

The GATT/WTO provisions for goods trade leave no scope for rulings on exchange controls applying to capital as opposed to current transactions. However, the corresponding provisions for balance-of-payments restrictions in the case of services trade under the General Agreement on Trade in Service (GATS) could lead to challenges to capital controls on the ground that they are inconsistent with a country's specific commitments interpreted in combination with general GATS obligations. Howse believes that guidelines should be drawn up for such cases by institutions with a mandate to take account of equity in the trade and financial systems.

Howse also discusses two other recent WTO rulings suggesting a shift to more restrictive interpretation of provisions with a bearing on the compatibility of WTO rules with the principles of equity, voice and participation.

The first ruling involved a case in which the United States challenged India's continuing use of trade restrictions for balance-of-payments reasons in pursuit of development policies under GATT Article XVIII. Here the WTO Appellate Body ruled that removal by India of its balance-of-payments restrictions would not require a change in its development policies since the objectives of these policies could equally be achieved by macroeconomic measures. Howse takes the view that this ruling is not in accord with the self-declaratory character of GATT Article XVIII.

In the second ruling the Appellate Body decided against Brazil's use of official support for the financing of aircraft exports on the basis of arguments which included use of the benchmarks of the OECD Export Credit Arrangement. As Howse points out, this Arrangement is an agreement reached through negotiations involving the organization's restricted membership which takes no account of structural differences between the financial markets of developing and developed countries.

## **2. Debt and Bilateral Trade and Investment Treaties**

Caliari draws attention to the risks for policy towards external debt which are involved in the extension of the definition of investment to include debt instruments observed in some recent bilateral trade and investment agreements (such as the United States-Chile Free Trade Agreement and the Central America Free Trade Agreement). These risks result from the association of investment in such treaties with the obligations of National and Most-Favoured-Nation (MFN) Treatment. National Treatment guarantees non-discriminatory treatment of domestic and foreign firms. Under MFN Treatment each party to the

agreement binds itself to extend to the all others the same concessions as those accorded to the most favored party.

Extended to sovereign debt, National and MFN Treatment could restrict a Government's flexibility regarding post-crisis measures such as those involving the distribution of losses between domestic and foreign creditors and support to domestic as opposed to foreign banks as part of the restructuring of the financial sector. They could also reduce the leverage of the debtor country during negotiations on the restructuring of its external debt. In extreme cases they might even make it difficult to prioritize the servicing of domestic debt incurred to meet the Government's wages, salaries and pensions obligations. Moreover application of MFN Treatment to external debt might have the anomalous and almost certainly unacceptable effect of according seniority in meeting debt obligations to the parties covered by the agreement as compared those to parties not so covered.

The risks described cover in the first instance only countries covered by treaties whose definition of investment includes debt. However, precedents based on bilateral trade and investment treaties are also often included among demands submitted by participants and as part of proposed frameworks agreements during much broader negotiations on trade and finance.

## **G. Conclusions and Future Tasks**

The principal focus of the papers in this compendium is the need for a concept of debt sustainability more systematic than the piecemeal indicators of country risk previously used for external debt assessment. Problems related to debt sustainability are examined through the prism of a series of country studies. The papers also discuss the institutional framework at national level for debt assessment and management and the role of credit rating agencies as well as important features of global rules bearing on developing countries' autonomy regarding policies for the external sector. The concluding remarks which follow are limited to selected features of the conceptual framework for assessing debt sustainability and of policies designed to contribute to the achievement of such sustainability. They include suggestions as to some possible directions for future work.

### **1. Macroeconomic Policy**

Like other case studies of external debt management, those in this collection highlight the importance of appropriate macroeconomic policy to successful debt management. The contents of such policy necessarily vary among countries owing to differences in both economic conditions and Governments' objectives. Thus the experiences of Argentina and the Republic of Korea reviewed in the case studies illustrate that successful macroeconomic policies in a context of debt crisis do not follow a general model but rather consist of measures geared to country-specific circumstances and based on country-specific balancing of the benefits and costs of alternative options.

The case studies also draw attention to the special vulnerability of low-income countries to external shocks. This is due to their less diversified structures of production, in particular the concentration of their exports in a limited number of primary commodities. The problems caused by such concentration are a staple feature of the literature of development economics. The studies in this collection emphasize the threat posed by this vulnerability to the achievement of debt sustainability.

One lesson drawn is the need for the policies towards external debt which accommodate the investment required for diversifying a country's productive base. This lesson concerns not only the debt management of borrowing countries but also the terms and conditions of financing agreed with official creditors. Future



work on policies in this area might also include different techniques available for hedging commodity export receipts and a reexamination of price stabilization at the national level through marketing boards.

In this context it may also be worth revisiting issues classified by an earlier literature under the heading of central banking principles for an export economy. This literature, to which a major contributor was Raul Prebisch, first Secretary-General of UNCTAD, on the basis of his experience as manager of the Argentine Central Bank from 1935 to 1943, concerned the implications for appropriate monetary, and more generally macroeconomic, policy of frequently observed differences between the external and internal balance of commodity-dependent countries, on the one hand, and of industrial countries, on the other.<sup>5</sup>

In the former group of countries a macroeconomic upswing tended to be associated with a more positive balance of trade and external payments, and thus a rise in reserves of foreign exchange; and conversely recession or depression tended to accompany a negative external balance and a contraction of foreign reserves. By contrast the external balance of industrial countries tended to deteriorate during economic upswings and to improve during downswings. The monetary policy proposed for commodity-dependent countries in response to their circumstances involved restriction during the upswing with the aim of accumulating reserves, which would permit a more expansionary policy and the financing of contracyclical measures such as public works during the downswing. The underlying ideas of this literature could well have continuing relevance for the macroeconomic framework for policy towards external debt in commodity-dependent countries.

## **2. Towards a More Inclusive Approach to Debt Sustainability**

This collection of papers has achieved greater conceptual clarity concerning debt sustainability but cannot provide definitive, comprehensive guidelines for assessment and policymaking. The papers point to the need for more flexible approaches to the subject which also take account of essential connections between the management of external debt and development strategy. Conclusions which can be drawn from the collection include the following.

- Assessment of debt sustainability will continue to require quantitative indicators as well as analysis of qualitative factors traditionally included in the assessment of country risk.
- A more inclusive view of debt sustainability will suggest new indicators of country risk and debt sustainability in addition to the traditional ones surveyed.
- Assessment and policymaking should include discussion between the different parties – debtor countries, creditors and international organizations - to resolve legitimate differences between views as to what constitute sustainable debt levels for a country.

A developmental perspective should be an integral part of the approach to debt sustainability. This implies that consideration of debt sustainability should not be abstracted from the requirements of development strategy. Such an approach to debt sustainability requires the involvement not only of those with responsibility for external financing and debt management but also of other policymakers who are responsible for decisions regarding development strategy.

These conclusions as to an appropriate framework for assessment of debt sustainability would be consistent with treatment of the subject as part of a comprehensive approach to monitoring and management of a country's external assets and liabilities outlined below.

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<sup>5</sup> The argument is explained in more detail in Wallich (1950: chapter XV).

### **3. National Balance Sheets and External Debt**

At the centre of the conceptual approaches to debt sustainability reviewed in this collection of papers are current and future receipts and outflows which determine the funds available for debt service. Such a focus on “earning power” (to use terminology common among accountants and financial analysts) could be usefully supplemented by information contained in the balance sheets of a country’s Government and firms, especially their external liabilities. A profile of national external liabilities serves as the analogue at this level to a corporation’s capital structure which provides not only a guide to the institution’s funding but also enables it to index and control different financial risks.<sup>6</sup>

A focus on external liabilities and assets would be a natural extension to debt sustainability of recommendations in the Report of the Working Group on Capital Flows of the Financial Stability Forum of April 2000 (Financial Stability Forum, 2000). These recommendations responded to terms of reference which included evaluation of prudential policies, regulations and risk management that might help to reduce systemic risks associated with the build-up of external indebtedness.

The Report was one of many international initiatives undertaken in the aftermath of the financial crises of the 1990s which involved mainly emerging-market (i.e. middle-income) developing and transition economies. Nevertheless, many of the recommendations concerning data collection and analysis and the management of risks could apply equally to low-income developing countries. The recommendations of the Report are directed at the public sector, the banking sector, and the non-bank financial and corporate sectors. For low-income countries the recommendations of greatest immediate interest are those directed at the public sector (though the other recommendations can be expected to assume greater importance with the development of their institutional infrastructure). This is partly due to the greater relative importance of sovereign borrowing in such countries’ external liabilities. But it also reflects the likelihood of less developed access in low-income countries to information concerning assets and liabilities of entities in the private sector.

The Report argues that detailed profiles of external balance sheets can make a major contribution to monitoring and managing a country’s exposure to different financial risks. Sectoral data are not only part of this profile (though a part, as just explained, whose importance varies for different sectors according to a country’s level of development) but help to identify linkages capable of facilitating transfers of risk exposure between different sectors.

For the public sector the recommendations are designed to transcend the narrower focus of public debt management still found in many countries. The aim of the profile of assets and liabilities should be to enable the formulation of a strategy balancing expected costs and risks contained in the public sector’s external assets and liabilities. This process can benefit from the development of new vulnerability indicators (for which, though the Report does not discuss this, accounting indicators used as part of the analysis of the financial statements of firms can often provide useful models).

The importance of extending the profiles of external assets and liabilities to the banking sector reflects its strategic economic role and the danger that in the event of a financial crisis its problems are capable of inflicting economy-wide damage. The development of profiles for this sector will often benefit from the fact that even in developing countries financial reporting by banks to regulators and shareholders is of a relatively high quality, though progress may still be required regarding the information necessary for assessment of liquidity and foreign-currency risk – two risks which assume special significance in crises. Extension of the profiles of external assets and liabilities to the non-bank financial sector results in coverage of institutions often more loosely supervised than banks or not supervised at all which were none the less a major source of vulnerability in some countries in the Asian financial crisis.

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<sup>6</sup> For an illuminating discussion of the role capital structure for both countries and corporations see Pettis (2001: chapter 6).

No more than the other techniques discussed in this collection of papers can national balance sheets provide all the information required for the analysis of debt sustainability and the prevention and containment of debt crises. They can, however, provide a framework for the further development of concepts clarifying debt sustainability as well as for the management of the risks associated with external debt.

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# **DEBT SUSTAINABILITY ASSESSMENT: THE IMF APPROACH AND ALTERNATIVES**

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## **A. Introduction**

Debt sustainability is a vexing issue. Its importance is immediately obvious but the concept escapes any easy definition. This situation is not unheard of in economics; price stability and full employment are examples of other crucially important policy objectives that cannot be simply defined. Yet, while price stability or full employment can both be measured with a reasonable degree of precision, debt sustainability cannot even be measured directly.

Every country, therefore, must grapple as best it can with the issue of debt sustainability. Private borrowers are in the same situation as Governments – for public debts – and states – for external debts – with one big difference: a private default is promptly sanctioned according to precise legislation under the control of courts, while public and external debt defaults are followed by litigation and negotiations within fuzzy legal rules and uncertain enforcement mechanisms. Uncertainty about the consequence of public and external debt defaults is a source of perverse incentives to default (formally called moral hazard) reflecting unwillingness as opposed to inability to pay.<sup>8</sup>

Official lenders cannot avoid dealing with the debt sustainability issue. The multilateral organizations and the Paris Club have long dealt with the issue on a case by case basis. Their stated rule of procedure was to encourage borrowing countries to adopt prudent strategies, while being receptive to their development needs. “Prudent” and “receptive” are subjective attributes, however, which inevitably lead to

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<sup>7</sup> I am indebted to Anh-Nga Tran-Nguyen for suggesting the topic and providing me with much knowledge about debt sustainability analysis. Many useful comments were provided at the UNCTAD Expert Meeting Debt Sustainability and Development Strategies on October 26-28, 2005. All the views expressed here are mine, as are the errors.

<sup>8</sup> This distinction is introduced in Bulow and Rogoff (1989).

controversies. It is natural to try and escape such controversies by designing systematic and therefore universally applicable procedures. Indeed, the World Bank's International Development Association (IDA) and the IMF have recently started to formalize their debt sustainability assessment (DSA) procedures. IDA lending is now informed by a battery of criteria developed within the Country Policy and Institutional Assessment (CPIA) approach, while the IMF and the World Bank have put in place a standardized DSA procedure designed to be routinely used as part of its surveillance and lending operations.

This paper examines the DSA procedure. The next section explains why it is mission impossible. Noting that sustainability is a forward-looking concept, it argues that any practical definition is arbitrary, and that any sustainability indicator will be both arbitrary and too imprecise to serve as a tool for policy prescription. Section C then examines the IMF's procedure, intended to deal with this impossibility principle by being both simple and transparent. Because of the "mission impossible" nature of the exercise, however, the procedure seems to be evolving towards more complexity. Indeed simplicity may come at the expense of precision, which calls for increasing complexity. In addition, given the IMF's own definition of sustainability, the procedure requires adopting, formally or informally, the CPIA approach developed by the IDA, a source of opacity. The section also reviews other DSA approaches, some which emphasize simplicity at the cost of precision, while others go further in the direction of complexity at the cost of transparency. Arguing that simplicity and transparency indeed are essential to make the procedure acceptable, Section D develops a series of principles that lead to a simpler, less ambitious and less systematic procedure that seeks to replace arbitrary judgments with a framework for dialogue between the official lenders and the recipient countries.

## **B. What is Debt Sustainability?**

### **1. Definitions**

Debt sustainability is accepted that aims at answering a deceptively simple question: when does a country's debt become so big that it will not be fully serviced? The question can be applied to the external debt or to the public debt. The analytics are identical once it is noted that the external debt is linked to the evolution of the primary current account balance in the same way as the public debt is linked to the primary budget balance. This distinction will be blurred in the present section by referring to "debt" and "primary balance", without specifying whether it applies to public or external debts and balances.

The IMF's own definition of sustainability is: a debt "is sustainable if it satisfies the solvency condition without a major correction [...] given the costs of financing" (IMF, 2002, p.5). Solvency, in turn, needs to be defined. Debt solvency is achieved when future primary surpluses are large enough to pay back the debt, principal and interest. More technically, solvency requires that the current debt plus the present discounted value of all expenditures does not exceed the present discounted value of all revenues (or, equivalently, that the current debt not exceed the present discounted value of future revenues net of non-interest expenditures).

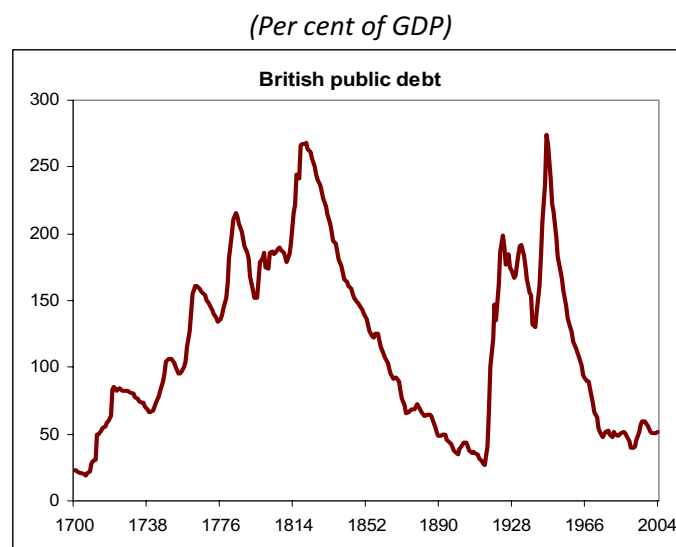
The solvency definition is clear cut and has long been formalized, but raises many implementation difficulties. The sustainability definition, as stated, is vague.

#### *Solvency Issues*

Solvency, and sustainability as a concept that builds upon solvency, is entirely forward-looking. It is future balances that matter, not the past and not just the current debt level. Huge debts can be paid back, and small debts may not be sustainable. The outcome depends on what the primary balance will look like in the future, including the very distant future. In fact, most Governments are indebted forever and many external debts remain high for decades. For instance, Figure II.1. shows the evolution of the British public

debt, measured in percent of GDP. During the last 300 years, it never dropped below 20 per cent, reaching 270 per cent on two occasions and averaging 117 per cent. This debt was always sustained in the sense that the British Government never defaulted. We return to this example below. For now we just note that dealing with the issue of debt solvency – and therefore sustainability – requires passing judgment on events that have not happened yet, that may cover a very long horizon, measured in decades, and that are largely unpredictable.

**Figure II.1. The British Public Debt – 1700-2004**



Source: Burda and Wyplosz (2005).

The next difficulty is that the debt must be scaled somehow to country size. The most popular approach is to relate the debt to the GDP, as in Figure II.1., but the choice is not straightforward. It depends what is the source of revenues. Public debts are serviced out of government revenues, so what matters is the taxing ability of the Government, now and in the future.

If the debt is external or public but partly owed to the rest of the world and/or in foreign currency, it will be serviced by the amount of revenues in foreign currency that the Government can collect. There is little relationship between GDP and the adequacy of collectible revenues. So another scaling factor is required and it is customary to use exports. But this assumes that a constant fraction of exports can be used to service the debt. The scaling factor – GDP, exports or any other measure – must be forecast over the relevant horizon so that it is not just the debt itself that must be guessed. There can be no pretense of precision.

A further difficulty is that debts are rolled over. Even long-term bonds are not long-term enough to cover quasi-permanent debts.<sup>9</sup> As the debt is refinanced, borrowing costs change and must therefore be guessed as well. This requires making assumptions on the future course of domestic interest rates for the part of the debt that is issued in domestic currency, and assumptions regarding future foreign interest rates and country risk premia for that part issued in foreign currency. Interest rates can change because of external conditions – including sometimes contagion from far-away events – which affect in unpredictable ways the solvency condition.

<sup>9</sup> This is not entirely correct historically. The British government has issued perpetuities called consols, bonds lacking a maturity. Once a large proportion of the public debt, consols are now an oddity unlikely to be feasible for developing countries.



In extreme, but not rare, situations, it may prove temporarily impossible to refinance the maturing debt, much less to issue new debt. This does not necessarily mean that the debt is unsustainable; it is a case of illiquidity. Illiquidity may none the less force a debt default, even though the debt is sustainable, as previously defined.

#### *Definition of Sustainability*

Two qualifications of the IMF definition imply that sustainability is a more demanding requirement than solvency. The first qualification is to rule out a “major correction” in the primary balance. This probably refers to severe expenditure cuts or large revenue increases achieved through taxation or pricing of goods and services supplied by the public sector. The definition therefore covers liquidity constraints – a drying-up of financing, either domestic or external – that require drastic adjustments. The second qualification refers to the “cost of financing”. Financing costs are bound to change over time and are therefore unpredictable. In particular, they may increase as the debt rises, creating a vicious circle of the type discussed further below. As a consequence, a debt may be sustainable today and unsustainable tomorrow, or conversely. Thus the definition can be unstable. Finally, note that “major” is a matter of judgment, which means that the IMF definition is uncomfortably vague.

The IMF’s definition is at variance with the sustainability concept proposed by Arrow et al. (2004) in a very different context (the environment). Applied to the debt issue, their definition could be interpreted as suggesting that sustainability requires that the net worth of an entity (the Government or the country), defined as the present discounted value of net revenues less the current debt, be on a non-decreasing trend. This definition differs from the IMF’s in two important ways. First, it does not require solvency. Solvency is achieved only if net worth is non-negative. The alternative sustainability definition does not rule out that, initially, net worth be negative as long as it is rising and eventually becomes non-negative, thus meeting the solvency condition.<sup>10</sup> Second, and importantly for what follows, it does not imply any specific threshold for the debt.

#### *Making definitions operational*

Thus there are many competing definitions of external or public debt sustainability. The Box below summarizes and interprets these various concepts. One theoretically-pure concept is solvency. The other theoretically-clear concept, proposed by Arrow et al. (2004), is that the net worth (of the country for the external debt or the Government for public debt) be increasing, or at any rate non-decreasing. The second concept is less strict than the first one since solvency requires that net worth be always positive. These concepts cannot be implemented as such because they require knowledge of the future evolution of the debt.

IMF (2002) adds to solvency the requirement that solvency be always maintained without any major adjustment. Both because it relies on solvency and because it rests on an unspecified limit to “major adjustment”, this definition cannot be implemented as such. As explained below, the definition is made operational by requiring that the debt does not exceed a threshold, to be further discussed. It should be noted that, if the threshold is conservatively set, the resulting definition is more demanding than the previous one (if the threshold is not binding, the definition is empty).

The Arrow et al. (2004) concept can be made operational by ignoring the unobservable present value of primary balances and requiring that the debt-to-GDP ratio be stationary. Since stationarity is difficult to assess in practice, the definition can be implemented by requiring that the debt ratio be on a declining trend, which does not rule out occasional but temporary increases.

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<sup>10</sup> This point is formally stated in the Appendix.

### Box II.1. Theoretical and Operational Definitions of Debt Sustainability

Let  $b_t$  be the debt-to-GDP ratio at time  $t$ . Simplifying somewhat, the various definitions in the text can be summarized as follows.

- DSA definition:  $b_t \leq \bar{b}$ , where  $\bar{b}$  is a threshold discussed in section 3.1 below.
- Solvency: the present value of  $b_t$  becomes negligible for long horizons ( $\lim_{t \rightarrow \infty} b_t / (1+r)^t = 0$  as  $t \rightarrow \infty$ ), where  $r$  is the real interest rate. An equivalent definition is that the present value of primary balances  $\geq b_t$ . (See the appendix for a formalization.)
- Debt serviceability: solvency plus no illiquidity. Illiquidity arises when the debt cannot be serviced at a particular point in time.
- IMF (2002) definition: solvency plus no need for major correction.
- Arrow et al. (2004): net worth, i.e. the present value of primary balances less current debt, is not decreasing over time.
- Debt stationarity:  $b_t$  does not grow without bounds. An alternative is that  $b_t$  be (weakly) declining.

## 2. An Impossibility Principle and Its Implications

Because debt sustainability is a forward-looking concept, it cannot be assessed with certainty. In this rigorous sense debt sustainability assessment (DSA) is impossible. At best, following procedures such as those presented in Section 3 below, educated guesses may be possible but it is important to recognize at the outset that these are just guesses, no matter how sophisticated they may be. The implications of this impossibility principle are far-reaching.

Given the large number of guesses that are required to reach any conclusion, the best that can be hoped for are statements of the type: “there is a probability of  $x$  per cent that the debt is sustainable at a particular horizon”. Two aspects of this statement need to be highlighted at this stage. First, DSA can only provide probabilities. In some extreme cases, these may be 0 or 100 per cent,<sup>11</sup> but generally they will be somewhere between these values but not easily defined. Put differently, DSA is rarely black-and-white and therefore an imprecise guide to policy.

Second, the probability that a debt is sustainable in the IMF sense is bound to change over time. For example, a highly indebted Government that runs a sizeable primary surplus will see its probability of debt sustainability rise over time. This is in accord with definition of Arrow et al (2004). Conversely a Government that starts with a low debt but systematically runs large primary deficits will have a declining probability of debt sustainability.

These two possibilities imply that any statement on sustainability is valid only for a particular horizon. What should that horizon be? In theory, it should be infinite but, in practice, it is determined by the availability of reliable forecasts: if forecasts of primary balances, interest rates, GDP, etc. are extended to 10 years, the DSA will provide an answer at the 10 year horizon, i.e. a much shorter horizon than the

<sup>11</sup> The collapse of the LTCM hedge fund is a useful lesson. In Section C, we will point out the similarity between DSA and portfolio assessment, and will indeed discuss value at risk, a sophisticated technique directly borrowed from fund management. Resorting to the most advanced techniques available, LTCM managers – which included Nobel Prize-winner Robert Merton – had concluded that their investment was near 100 per cent sure. As it turned out, an extremely rare conjunction of events occurred and LTCM, arguably the most prestigious fund, went bankrupt.

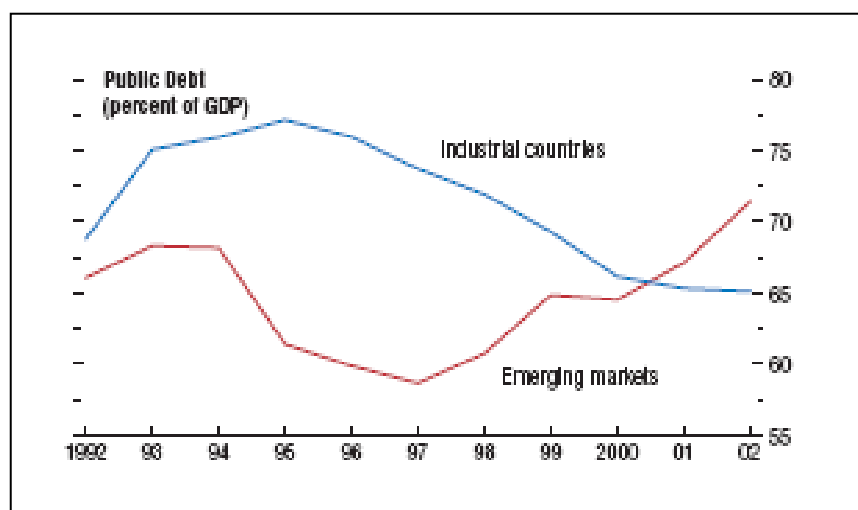
infinite one logically required. However, since even 10-year forecasts are totally unreliable, the horizon is bound in practice to be much shorter. But this undermines the conceptual basis of this approach.

As discussed below, a common way of circumventing the horizon problem is to assume “everything constant” and extend past trends to an infinite horizon. This is convenient but has unlikely consequences, i.e. the probability of the assumed path is close to 0 per cent. Such exercises describe paths that cannot be taken at face value, in particular for the purposes of policies with serious consequences for the livelihoods of many people.

Another aspect of the impossibility principle is that sustainability as defined by the IMF requires a judgment of when debt is too large. Figure II.1 reminds us that debt can be very big and yet sustained. Recent work has pointed out that “big” is a relative concept.<sup>12</sup> It is generally considered that the developing countries cannot sustain large debts. Figure II.2. shows that, indeed, the peak in the mid-1990s for emerging markets was followed by a wave of crises. Will the recent rise for these countries, now above the previous peak, usher a new wave of crises? No one knows. Yet, framing the debt sustainability definition as the IMF does makes unavoidable the addition of a new concept, namely a debt ceiling. There is no precise way of defining this ceiling. It must be based on the maximum amount of resources required to service the debt, and thus on assumptions about economic costs and political acceptability. This way of putting the question leads to another impossibility, that of assessing a debt ceiling.

Finally, rising interest rates increase the debt burden and reduce the probability of debt sustainability. A disturbing aspect of this linkage is that interest rates on public debts, whether in domestic or foreign currency, include a risk premium. The risk itself is related to the probability of default, i.e. to sustainability. The result is the possibility of a vicious circle that goes from the fear of debt non-sustainability to higher interest rates and thus to a higher probability of non-sustainability.<sup>13</sup> In other words the mere fear of non-sustainability makes it more likely. Debt distress can thus be self-fulfilling. This may mean that improper or incorrectly interpreted DSA can have a deleterious effect on debt sustainability.

**Figure II.2. Public Debts in Industrial and Emerging Market Countries – 1992-2002**



Source: IMF (2003a).

<sup>12</sup> For a recent assessment, including many references, see Cordella et al. (2005).

<sup>13</sup> This process is studied in Blanchard (2005).

### **3. Debts and Inflation**

Inflation is a further complication that is often ignored in DSA. Even for external debt, inflation matters because interest and exchange rates do not always reflect actual inflation. For example, if the exchange rate depreciates faster than prices, foreign currency debt becomes more expensive in domestic currency. The same happens when the interest rate on domestic currency debt increases by more than the inflation rate. Debt service becomes heavier. Conversely, when interest and exchange rates fail to fully reflect expected inflation and the debt is not indexed and is denominated in domestic currency, rising inflation temporarily reduces the cost of borrowing.<sup>14</sup>

DSA should recognize these various possibilities but does not incorporate standard procedures for this purpose. One reason is technical difficulties. Not only would it be necessary to forecast inflation but also expected inflation and non-neutralities, i.e. the extent to which the exchange rate and the interest rate fail to reflect expected inflation. While it is possible to forecast inflation over a relatively short horizon, say two to three years, forecasts beyond that horizon depend on policy actions that are yet to be taken. It may also be that international institutions, that typically do not condone inflation, are unwilling to speculate on what it could be and how it could be used to alleviate the debt burden.<sup>15</sup>

### **4. Link with Early Warning Indicators**

A large literature has been devoted to early warning indicators which try to identify irregularities that eventually result in a financial and/or currency crisis. Like DSA, early warning indicators must be forward looking. Crises, and therefore early warning indicators, are beyond the scope of the present paper. The only directly related question is whether a high debt level is a cause of financial crises, among the many potential ones. According to the extensive survey in Hemming et al. (2003), the answer is maybe. Formal statistical analyses provide conflicting results on this point. A problem is that they use current fiscal indicators, the budget balance or the debt level, as potential pointers of impending crisis. So far, DSA indicators have not been used, to the best of my knowledge, in early warning indicator estimates. To do so would provide a good gauge of their empirical relevance.

## **C. Approaches to Assessing Debt Sustainability: A Critical Review**

The impossibility principle developed in Section B.2 represents a formidable hurdle. All approaches to DSA have to rely on assumptions about the future evolution of budget balances, GDP, interest rates, etc. The usefulness of the conclusions is directly related to the validity of these assumptions, which by definition are neither safe nor testable. This section starts with a critical description of the approach chosen by the IMF. It then presents and evaluates some alternative approaches.

### **1. The IMF Standardized Approach**

The IMF has decided to systematically attach a standardized DSA to program design and to Article IV consultations. These DSAs examine both the public and external debts. The stated intention is to provide a simple, fully transparent and standardized tool that can be readily applied to all countries.<sup>16</sup> The World

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<sup>14</sup> Buiter (1985) has shown that the great reduction of the British public debt over 1946-1970 has mostly been achieved through the inflation tax. A full account of this process includes regulated interest rates, i.e. some degree of financial repression. In countries with full capital mobility, this will not be possible. A wider discussion of the role of financial repression is beyond the scope of this paper. A well-known defense of some degree of financial repression is Rodrik (1998).

<sup>15</sup> Abiad and Ostry (2005) provide evidence that inflation raises the primary budget surplus.

<sup>16</sup> In fact there are two different but related procedures, one designed for countries with market access and another one designed for low-income countries which rely mostly on public financing. The main differences are the following . 1) In the case of countries

Bank has adopted a similar procedure. Unfortunately, the impossibility principle is in contradiction with these intentions. Simplicity is achieved at the cost of improbable assumptions; these assumptions are transparent, but they are less innocuous than they are made to appear because the underlying complexity is concealed.

Focusing here on the external debt part of the exercise, the IMF approach includes the following four steps:<sup>17</sup>

- (i) A five-year central forecast, or baseline, of the variables that affect the evolution of the external debt: the primary current account, GDP, interest and exchange rates, and inflation.
- (ii) The resulting evolution of the debt, as a share of GDP, over the next five years. This evolution is uncontroversial as it follows from the following accounting identity:  
$$b_t - b_{t-1} = (r - g)b_{t-1} - \text{primary balance}_t$$
Where  $b$  is the debt-to-GDP ratio,  $r$  is the real interest rate and  $g$  is the GDP growth rate.
- (iii) Several stress tests that look at the effect on debt of adverse shocks affecting the variables forecasted in step (i). The shocks are as follows: first, each of three variables (the interest rate, real GDP growth and the primary current account) is changed one by one-half standard deviation over the same five-year horizon; then all the variables are simultaneously shocked by one quarter standard deviation each over five years; finally the exchange rate is assumed to be depreciated once by 30 per cent at the beginning of the simulation period.
- (iv) The DSA concludes with a judgment on whether the debt levels implied by any or all of the stress tests are too high for the debt to be considered sustainable.

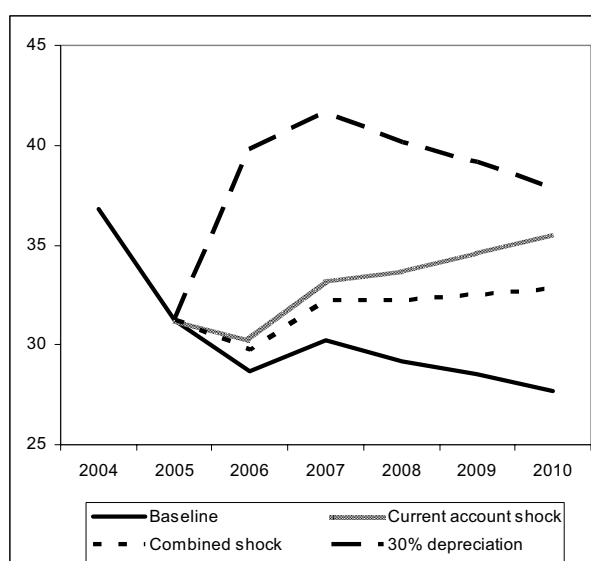
The result is a figure like Figure II.3., which is based on the November 2005 review of the stand-by agreement with Colombia, see IMF (2005b).<sup>18</sup> The figure displays various simulated paths of the external debt over the five-year period 2006-10: the baseline obtained in step ((ii)) and the effects of three of the shocks described in step ((iii)). These shocks are: a one-half standard deviation current-account shock and the combined shock, both assumed to last the whole simulation period 2006-2010; and a 30-per-cent exchange depreciation occurring in 2006.

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with market access, the analysis concerns both the external debt and the public debt and, in the case of the external debt, it deals with its level while, in the case of low-income countries, it concerns only the external debt, which is measured in net present discounted value terms. 2) For low- income countries, the DSA uses an explicit procedure to establish debt thresholds, while the threshold is left open to discussion in the case of the market access countries. IMF (2003b) proposes to use the same standard procedure to both groups of countries. The present analysis ignores these differences.

<sup>17</sup> This description follows the recent changes as described in IMF (2005a).

<sup>18</sup> This seems to be the first, and so far only, country review that applies the changes as described in IMF(2005a).

**Figure II.3. Example of DSA: Simulated Paths of the Debt-to-GDP Ratio**

Source: IMF (2005b).

What can this information be used for? Obviously, the baseline is no cause for concern. The stress tests, on the other hand, are less benign. The one-time depreciation raises the debt-to-GDP ratio by about 30 per cent, presumably because the external debt is in foreign currency. This is not a threat to sustainability, however, because the debt starts declining in the third year, most likely because domestic prices catch up with the rate of depreciation. More worrisome are the effects of a worsening of the current account and of the combined shock since in both cases the debt keeps on rising.

The unavoidable question is whether these simulations are sufficient to warrant a policy reaction. Undoubtedly, were the debt ratio to keep on growing, the debt must eventually become unsustainable, but when? In addition, since the shocks are expected to last for five years, the debt should presumably decline beyond the horizon. In order to be able to draw any conclusion from this exercise, therefore, one must be able to conclude that the debt level reached at some point in Figure II.3. is too high to be sustainable. This, in turn, requires establishing a debt threshold level beyond which danger is looming. Danger means debt distress, i.e. financing difficulties or, worse, partial or total default. In view of empirical results that show that the risk of debt distress rises with the size of debt, it seems logical to establish a debt threshold beyond which the risks can be deemed unacceptable. This is the rationale of step ((iv)).

Should there be a single threshold for all countries? Here again, empirical research shows that the probability of debt distress depends not just on the debt level itself, but also on a variety of factors, including the prevailing macroeconomic situation and, importantly, the quality of economic and political institutions. A unique common threshold, therefore, is bound either to be too restrictive or too lax, depending upon the country characteristics. This is why the IMF has begun to use as part of step ((iv)) an additional procedure called Country Policy and Institutional Assessment (CPIA). Developed by the World Bank, CPIA produces an index of governance quality for each country produced by the World Bank.<sup>19</sup>

This index, which ranges from 1 (lowest quality) to 6 (highest quality), is based on 20 indicators. It is updated annually, following a formal and elaborate process that involves the Bank's country teams and central departments. Found to perform well in statistical tests, the index is used to classify countries into

<sup>19</sup> This procedure so far only applies to the low-income countries, presumably because it is in use at IDA. The Fund is considering applying it to countries with market access.

three groups: countries with a low CPIA index are ascribed a debt threshold of 30 per cent of GDP, raised to 45 per cent for the intermediate group of countries, and to 60 per cent for the countries in the highest CPIA index group. These thresholds are chosen such that the probability of debt distress is 25 per cent when they are reached. Following an expert review, the World Bank reduced the number of criteria from 20 to 16 and have made individual ratings publicly available for IDA countries in 2005.

## **2. Discussion of the IMF Approach**

Steps ((i)) and ((ii)) are mechanical implications of the IMF's forecasts. If the forecasts are accurate, the implied debt level is a reasonably safe provision. The Fund reports on its own studies that show that the forecasts tend to err on the optimistic side, with equally optimistic debt predictions (IMF, 2005c).

### *Probability of Worst Case Scenarios*

This possibility of forecasting error explains why, "in order to impose discipline" on the discussion, step ((iii)) looks at some worst-case scenarios. Since "worst" can be virtually anything, the procedure attempts to be reasonable and transparent. To that effect, the shocks are precisely calibrated. But how likely are 0.5 standard deviation shocks? The IMF argues that the probability of the debt exceeding the worst case on the fifth year is between 15 and 30 per cent, "which seems a reasonable balance between capturing the medium-term risks to debt dynamics without being so extreme as to be irrelevant for policy discussions" (IMF, 2005a; p.3). The emphasis is rightly put on policy implications but the argument raises the general question of what can be learnt from stress tests.

There is nothing wrong with stress-testing. Indeed, it is a common approach to portfolio management and widely used in the financial industry, as explained in Section C.3. Yet, the implications profoundly differ between economic policy and portfolio management. In the finance industry, when stress tests report a danger zone, even a highly unlikely one, portfolio managers may decide to change the asset composition of their portfolios. The adjustment does not come for free since it implies lower expected returns, but this is the usual price to be paid for lower risk. Its acceptability depends on investor preference: if investors are unhappy with their portfolio managers, they can change them.

In the case of DSA, when stress tests signal a risky situation, the required adjustment is to improve the primary current account. Inevitably, this calls for contractionary macroeconomic policies designed to compress demand. The costs take the form of falling incomes and rising unemployment. The costs are borne by the population. Admittedly citizens can vote their Governments out of office – when the regime is democratic – but only ex post. A Government's decision to react to events that may occur with a probability of 15-30 per cent is considerably more sensitive than that of portfolio managers.

### *Characterization of the Worst Case Scenarios*

The stress tests involve changes in one variable at a time except in the case where all of them are varied together in a "bad" direction for five years. How likely are such changes? It is unclear how the 15-30 per cent estimate is constructed. Why does it assume that each shock is expected to be maintained over consecutive 5 years? Does it take into account the fact that some of these shocks may be correlated? Letting the shocks last the whole five years assumes a 100 per cent auto-correlation. The one-at-a-time shock assumes a zero correlation, while the three-variable shock assumes a correlation of 100 per cent. The information provided in IMF (2005a) does not shed light on this important question, suggesting that correlations are ignored.

What can be done about these problems? Here, as with the threshold question, the proper technical response is to jack up the level of complexity, at the cost of reducing the intended transparency. Faced with the criticism that changes in just one of the variables that drive the debt process have historically

typically affected the others as well, the normal tendency is to acknowledge the point and take up the challenge. This means using econometric techniques to estimate how, in the past, these variables have been responding to each other's shocks.<sup>20</sup>

The procedure is well established but has many drawbacks. To start with, the estimates would have to be conducted country by country, an enormous task that would face serious data availability and comparability problems. Next, the quality of the estimates is likely to be poor in many cases,<sup>21</sup> thus injecting a further dose of uncertainty regarding the meaning of the debt threshold and thus undermining its usefulness. In addition, the procedure would turn a simple and transparent procedure into a highly technical and completely opaque exercise, with little assurance that the tests are plausible.

The challenge is formidable, possibly insurmountable.<sup>22</sup> It would be a mistake to go in the direction of added complexity, using the abundant paraphernalia of econometric instruments. Resorting to simple but less extreme stress tests (shocks with reasonable overall probability) would be an alternative, but the results could well be too mundane to be worth considering. The lack of a satisfactory solution is nothing more than an implication of the impossibility principle presented in Section II.C.

### *Borrowing and Growth*

Missing from the DSA framework is the possible growth-enhancing effect of external borrowing. In theory, a country with low levels of human and physical capital stands to benefit from external borrowing. If the borrowing is wisely invested, the returns should more than cover the costs. The benefits come in terms of accelerated growth and catching-up.<sup>23</sup>

This linkage is explicitly ignored in the stress tests. This may look surprising given that multilateral lending is ultimately justified by its growth-enhancing effect. One possible explanation is that the horizon is too short for the growth effects to materialize. The proper response to this argument is to lengthen the horizon, not to ignore the link. If debt distress occurs along the way, the expected growth bonus from external borrowing would be dissipated but this does not justify ignoring the link.

Another possible explanation is that borrowed resources do not systematically deliver any growth bonus. There is much evidence that the quality of policies and of political governance matter crucially in this respect (Cordella et al. (2005)). This aspect is partly taken into account by CPIA as the quality of policies and institutions are used to determine debt thresholds.

Given the overwhelming importance of growth a more comprehensive framework is needed. By limiting the role of policy and institution quality to the determination debt thresholds, DSA puts all the emphasis on the risks of over borrowing. Ignoring the conditions under which external borrowing can harm or boost growth amounts to posing the question inadequately. If external borrowing is growth enhancing, the risk of over borrowing is small, possibly non-existent. If, instead, external borrowing does not exert any favorable growth effect and possibly stunts growth, the relevance of DSA is moot. Countries in this

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<sup>20</sup> Some papers have started to explore this issue, see Garcia and Rigobon (2004), Abiad and Ostry (2005) and Celasun et al. (2005).

<sup>21</sup> The degree of precision of such estimates is generally quite limited but in most developing countries data availability and quality problems are likely to be more serious.

<sup>22</sup> IMF (2003b) suggests using the technique to derive fan charts, i.e. charts that depict the evolution of the debt following a shock by indicating the most likely path along with a range of possibilities. Fan charts have been popularized by the Bank of England as part of its inflation targeting strategy. This is how the Bank presents its inflation forecasts. Importantly, however, the fan charts are designed by the Bank of England's Monetary Policy Committee. They are not the result of a complex econometric procedure but a snapshot representation of what policymakers believe. Fan charts are a great communication tool, which reflect the considerations that go into policy decisions but not outside experts' estimations of what is likely to happen.

<sup>23</sup> In terms of the formula presented in Footnote 29, the gap between the interest cost and the growth rate declines, and the debt accumulation becomes less destabilizing, or the gap becomes negative and the debt is spontaneously on a declining trend.



situation should only borrow in distress situations and promptly pay back the debt before the burden becomes crippling.

### *Policy Responses*

The stress tests also assume that the Government does not react to the shocks. This is in contradiction with much evidence that shows that the primary budget reacts to a rising public debt, which should presumably also have a dampening impact on the external debt.<sup>24</sup> Thus the worst-case scenarios must be seen as a prediction that assumes that Governments do not do what in fact they usually do. This further reduces the plausibility of the tests.

### *Country Policy and Institutional Assessment (CPIA)*

The inclusion in IMF definition of debt sustainability the condition that debt levels not be “too large” leads to the need to establish thresholds. The observation that reasonable thresholds are likely to vary from one country to another then requires an explanation of why some countries are more likely to suffer from debt distress than others. This explanation involves a large number of economic and political considerations and requires value judgments, a very uncomfortable undertaking.

The IMF-IDA solution has been to look for statistical links between various causes of debt distress and the debt level. The two acknowledged background studies are Kraay and Nehru (2003) at the World Bank and an unpublished IMF paper. In line with the literature on the role of governance,<sup>25</sup> the resulting CPIA index, which is reasonably precisely estimated, is found to exert a significant effect on the probability of external debt distress. On this basis it would be possible to assert that an improvement in the CPIA index reduces the probability of distress and even to compute by how much. This is not how CPIA is used in DSA, however.

The procedure instead uses the estimation to answer a different question: what debt level implies a 25-per-cent probability of debt distress? The answer cannot be based on the partial effect of the CPIA index only but also involves estimates of the effect of other economic variables. If the resulting overall estimation does a good job of explaining debt distress episodes, it would be a good candidate to establish a threshold for each country. Unfortunately, while the effect of each of the three variables selected - debt, CPIA index and real GDP growth - is precisely estimated, together they explain only 23.4 per cent of the probability of debt distress. In a study that seeks to explain 163 episodes of debt distress all over the world, this is a good performance - among the best in the literature - and unlikely to be much improved upon. Yet, the fact that the analysis explains so little of the phenomenon of debt distress implies that the answer is highly imprecise. Subsequent tests provided by Kraay and Nehru (2003) candidly confirm this.

A further problem is that the CPIA index is not applied country by country. Instead, the countries are classified in three groups depending on their own CPIA index. The effect of governance is applied group by group, which implies that the effect is either exaggerated or underestimated for the countries whose CPIA indices do not lie in the middle of the range. This distortion rises with the distance from group means.

This procedure is surprising. On the basis of the estimation, it is possible to compute individual debt thresholds. Why is it not done? One reason is simplicity. Three thresholds are easier to deal with than country-specific thresholds. But this is a weak justification for introducing serious distortions which imply that the threshold cannot be taken seriously. Another reason is the political sensitivity of the CPIA index for individual countries. This is understandable, but the result is that the DSA thresholds are too coarse to lead to firm policy conclusions.

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<sup>24</sup> A good survey can be found Chapter 3 of IMF (2003a).

<sup>25</sup> A good reference is Manasse et al. (2003).

### *Sustainability Measure*

It can be argued that the debt level, suitably scaled, is arguably the correct measure for sustainability analysis.<sup>26</sup> When tracking its evolution over time, however, a problem arises. Whenever the interest rate exceeds the economy's growth rate, the debt accumulation process is intrinsically unstable. This is precisely why sustainability is an important issue.<sup>27</sup> Two difficulties follow. First, relatively small changes in the real interest rate and in trend growth can tilt the debt path from stability to instability. Second, when the real interest and growth rates are close, small shocks can have dramatically powerful effects on the debt path.

The strength of this effect can be seen in Figure II.4. The figure displays the baseline debt to GDP ratio and the effect of the DSA standard combined stress-test, both already shown in Figure II.3. The third case adds to the combined test the effect of an external interest rate set 3 per cent higher than assumed by the IMF. Thus increasing the interest rate produces a sizeable effect. Comparing the combined shock effects with the lower and higher interest rates, we see that not only is the debt rising faster but, more importantly, that the debt ratio is not stabilized, possibly suggesting non-sustainability under any definition.

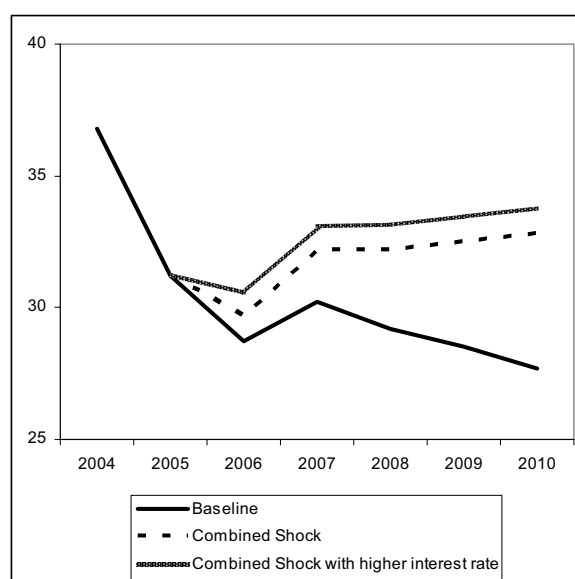
This example illustrates the point that debt accumulation effects can be eye-catching and, in this instance, may raise considerable alarm since the debt-accumulation process is unstable. In reality, primary balances will be adjusted as the result of policy moves and of equilibrating reactions within the economy with the result that debt instability is usually taken care of. Of course there have been episodes of exploding debts, largely because small slippages can have dramatic effects as the result of the unstable nature of the process. This is why putative debt paths of the sort produced by the IMF as part of its DSA procedure can be so misleading.<sup>28</sup>

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<sup>26</sup> As noted in footnote 16, for low-income countries this procedure uses the net present value of the debt. While, in principle, this is a superior measure, its computation raises a number of delicate questions, which are not considered here. When we refer to debt levels, we do not distinguish between the debt and its net present value.

<sup>27</sup> When the interest rate is lower than the growth rate, the debt to GDP ratio is stable and sustainability is assured. In the long-run, this is an unrealistic case because growth in excess of the real interest rate is a catch-up phenomenon (a country that displays a steady-state real interest rate lower than the growth rate is on the 'wrong' side of the golden rule in the sense that it saves and invests 'too much', suboptimally repressing consumption). But in the short run this condition allows countries to run down the debt to GDP ratio. The interest rate may be lower than the growth rate during a period of fast growth (as in China or Ireland over the last decade) or during a period of accelerating inflation (as during some periods for the UK shown in **Figure II.1**).

<sup>28</sup> A related concern applies to the DSA for low-income countries. The chosen measure, the net present value (NPV) of the debt, is very sensitive to interest changes. This measure is compared to the NPV of the debt ceiling. Should the ceiling itself also be adjusted? The IMF does not do this, arguing that there are offsetting effects in terms of expected productivity adjustments. This is likely to be true, even though the timing and sign of these effects is not known. But it is also true that the same effects will affect the path of the debt in the same way. It is inconsistent to adjust one measure and not the other.

**Figure II.4. Effect on the Debt to GDP Ratio of a Higher Interest Rate on the Combined Shock**

Source: Author's calculation based on IMF (2005b).

### Implementation

The IMF has examined the short experience with the implementation of DSA. It emerges that the DSA has not been as successful as its promoters intended: “with some exceptions, sustainability assessments have generally not been at the center of policy discussions between staff and national authorities. This may be because the sensitivity tests are considered too extreme to be realistic or, even if realistic, too extreme to warrant a policy response. Conversely, there remain concerns that the assumed shocks are too benign. Finally, from a presentational standpoint, debt sustainability assessments would have greater impact if they were integrated in the body of the staff report instead of being relegated to an annex.” (p.15)

This situation reflects reservations about DSA as currently practiced, which leads to reluctance to raise the topic with national authorities. The intended transparency of the shocks used for the stress testing is marred by their low probability of occurrence. Another factor is the “black box” nature of the exercise, especially the assumptions about the economy’s response to the shocks. (In fact, it is assumed that there is no response, which is unrealistic as noted above.) More importantly, Staff may be embarrassed by the question: “so what?”. This question immediately brings to the fore the need to decide whether a temporary bulge in the debt is threatening. The answer is meant to be provided by the CPIA. The CPIA, however, is another “black box” with a large degree of uncertainty. This uncertainty reduces the usefulness of the CPIA thresholds as a reliable guide for policy. Being unable to answer the “so what?” question, IMF Staff downplay the DSA exercise.

### 3. Other Approaches

Until recently, due to the impossibility principle, there have been few other attempts to design implementable approaches to Debt Sustainability. The early ones acknowledged the concept’s sensitivity to unavoidable assumptions by stressing simplicity and transparency. Simplicity is justified by the need to make heroic assumptions which imply that the conclusions will always be fragile. Transparency is necessary to allow users to understand what lies behind the result. More recently, DSA has moved towards more elaborate procedures, driven by the hope that empirical regularities can generate more reasonable assumptions and facilitate assessment of their plausibility. A commentary on other approaches to the problems raised above follows.

### The Debt-Stabilizing Primary Balance

The classic approach to sustainability asks what is the primary balance required to stabilize the debt (Blanchard et al., 1991; Buitier, 1985). The objective can be to stabilize the debt either at its current level or at any other level deemed more desirable. This approach is simple, transparent and easily implementable because it requires few assumptions. In its simplest form, it looks at the current debt to GDP ratio and computes the primary balance which would permanently keep this ratio unchanged. It requires two assumptions: what will be the evolution of the real interest rate and what is the potential growth rate? Typically, past trends are assumed to remain stable over the indefinite future but shocks can be factored in, just as in the IMF's DSA.

Ultimately IMF debt-path projections and the computation of debt-stabilizing primary accounts are based on the same reasoning and assumptions. Both rest on the debt accumulation identity  $b_t - b_{t-1} = (r - g)b_{t-1} - \text{primary balance}_t$ . Yet, there is an important difference. Debt-path projections either indicate that the debt is stable or declining, in which case there should not be any sustainability issue, or that it is rising, indicating eventual unsustainability. The debt-stabilizing primary account approach stops there. The IMF's DSA goes one step further by exploring adverse shocks. When these shocks imply a rising debt, new questions arise. Since the shocks are, by construction, temporary, a rising debt path does not mean unsustainability unless the debt becomes too large. This then raises a host of new issues, which have already been discussed in Section B.1. The virtue of the debt-stabilizing primary account approach is to avoid these issues or, more precisely, to prevent them from becoming prominent.

Of course, the question of what is an appropriate debt level cannot be altogether avoided. Looking at the primary account that stabilizes the current debt assumes that the current debt is appropriate. But alternative targets for the debt level can easily be looked at. The question is vexing because the theory does not provide an answer. The World Bank's CPIA is one attempt to provide a practical answer but is subject to the problems described in section C.2.

How could the alternative concept of the debt-stabilizing primary account be applied to the example of a major shock like the exchange-rate depreciation presented in Figure II.3.? In the baseline case under the IMF DSA the debt/GDP ratio is assumed to decline. Thus a debt-stabilizing primary balance would consist of a deficit.<sup>29</sup> This would provide an answer to the question of what is the balance on current account needed to keep the debt level unchanged as a percentage of GDP, ignoring capital inflows? The alternative approach could also be used to answer the question of what would be the balance on current account required to bring the debt level down to a particular level by, say 2010, if the debt level is perceived to be too high? This would be a straightforward calculation.

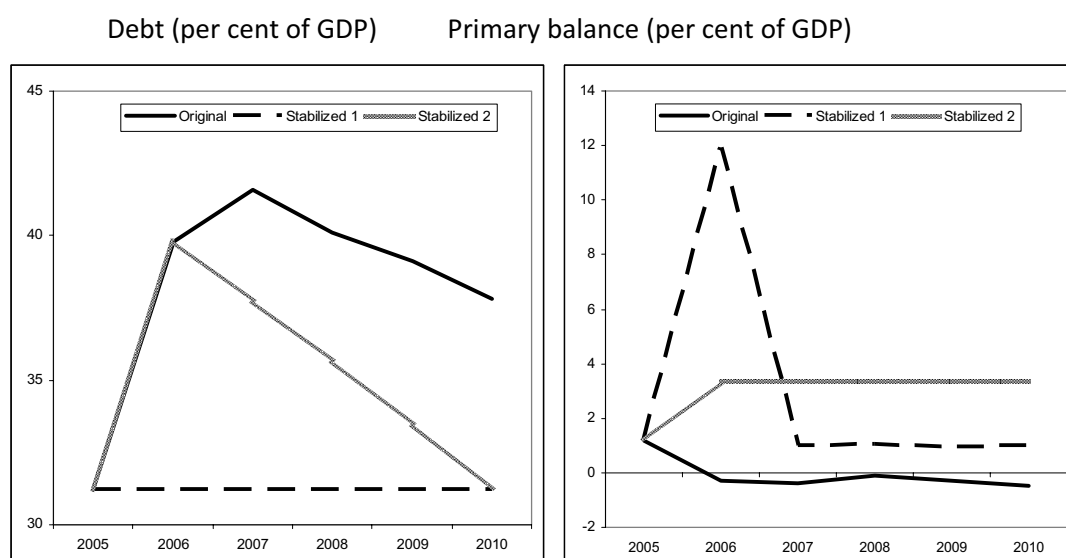
As noted, the concept of the debt-stabilizing primary account is formally identical to the IMF DSA, but interpretation is different, as illustrated in Figure II.5. Here the debt is assumed in the baseline scenario to decline, and the figures show the effects of the combined shock. The corresponding paths for external debt and the primary account are denoted as "original". The primary account remains in small deficit as the debt must be reduced. If it is assumed that the authorities can control the primary account, the question is how they would pursue the policy goal of stabilizing the debt.

One possibility would be to fix the debt at its pre-shock level of 2005. This requires a large primary surplus, one that completely offsets the effect of the shock. This surplus is shown as "Stabilized 1" in the left panel of Figure II.5. The right panel shows that this policy requires a huge improvement in the primary account in response to the sudden increase in the domestic currency value of the external debt due to the depreciation. The policy response is relaxed when the price increases catch up with the depreciation so that the debt is stabilized in domestic as well as foreign currency.

<sup>29</sup> The formula, it will be recalled, is primary balance = (interest rate – growth rate) x debt.

Another possibility is to let the debt rise initially but to aim at returning it to its 2005 level by the end of the planning period, here 2010. The least disruptive way of doing this is to achieve a primary surplus that remains constant over the planning the period. This is shown in Figure II.5. as “Stabilized 2”. The primary balance now increases moderately, even though the shock is unusually violent. The downside is a bulge in the debt level until 2006.

**Figure II.5. Debt Stabilizing Primary Balance**



Source: Author’s calculation based on IMF (2005b).

Looking at the debt-stabilizing primary balance, not just at the effect on the debt path, provides a different perspective on stress testing. First, it de-dramatizes the shock effects. It shows that sustained but moderate primary balance corrections can eventually ensure sustainability – here defined as debt stabilization – in the face of even unusual shocks. Both experiments shown in Figure II.5. quickly return the debt to its pre-shock level, immediately in the “Stabilized 1” case and after five years in the “Stabilized 2” case. Given the low probability of the shock, it would make sense to allow the slower return. Lengthening the horizon would clearly allow for smaller primary- account corrections. It should also be noted that adverse shocks are likely to be compensated sooner or later by favorable shocks.

Second, this approach also de-dramatizes the inherent instability of the debt accumulation process illustrated in Figure II.4. Time permitting, even very large debt shocks can be dealt with through moderate primary-account corrections. The reason is that a moderate sustained primary-account correction eventually produces as a large cumulative effect as the shock itself.

Third, this approach brings to the fore important policy implications. Obviously, “Stabilized 2” is more palatable, economically and politically since it avoids a massive spending contraction bound to result in a severe recession. It is a good general principle that temporary shocks should be met with smoothing policies, i.e. policies that spread over time the adjustment costs.<sup>30</sup> Merely looking at the original debt path in the left-hand side panel in Figure II.5. may convey a sense of urgency that is not necessarily warranted. Of course, the “Stabilized 2” path assumes that the external debt bulge can be financed, which may not be the case for a number of countries. But the answer is that the IMF was created precisely to provide emergency financing in the face of a temporary shock.

<sup>30</sup> Permanent shocks, on the other hand, need to be met by a permanent offsetting policy as soon as possible. This does not rule out a gradual implementation if the required policy involves adjustment costs, which are best spread over time.

Fourth, the issue of access to temporary external financing draws attention to the all-important credibility issue. The downside of the “Stabilized 2” response is that the debt increase will be temporary only if the authorities can commit to a sustained primary account surplus. Absent credibility, the adjustment must be front-loaded, as in the “Stabilized 1” case.

Credibility is also part of the IMF DSA since it lies at the heart of the procedure of threshold determination carried out under CPIA. Yet, Figure II.5 points to a shortcoming of this approach which fails to distinguish between cases where an increase in the debt level is merely the temporary consequence of a temporary shock, on the one hand, and those where it results from endemic policy indiscipline.<sup>31</sup> This is why it is essential that IMF lending be accompanied by credibility-enhancing conditionality.

This example illustrates the point made above: the IMF DSA procedure imagines shocks which may result in sizeable debt build-ups because the authorities are assumed not to react. We see that, if given time, relatively moderate primary account improvements can stabilize the debt (this is “Stabilized 2”). There should be no implication that the shock must be dealt with immediately as with “Stabilized 1”.

#### *Value-at-risk stress tests*

Financial institutions have developed procedures to explore the risks associated with portfolios in the form of the value-at-risk (VAR) approach. For financial firms, the objective is the avoidance of insolvency. At the heart of this approach are two main ideas: that history allows the evaluation of the probability of various events or combinations of events, and that reactions should take into account both the possible severity of each event and its likelihood.

The techniques used to measure the plausibility of various risks can also be applied to the debt sustainability question. The IMF’s approach takes a partial step in this direction when it sets levels for some variables in stress testing on the basis of their previous behavior. But, as noted above, it ignores how these variables react to each other. In principle, one could go much further in this direction but only at the cost of adding considerable complexity and opacity.

The issue has been studied by Garcia and Rigobon (2005) and Celasun et al. (2005), so that it is possible to give a sense of what should and can be done. Rather than specifying shocks on the basis of the historical evolution of individual variables, properly constructed stress tests should take into account the historical interdependence among these variables. For example, in the cases displayed in Figure II.3. the combined shock involves a simultaneous deterioration in the current account, the interest rate and GDP growth. This combination may be more or less likely than each of its components. For instance, if GDP growth systematically worsens when the interest rate increases, the combination is as likely as each of its components. Allowing for such correlations enables better appraisal of the probability of the shocks that are considered.

This is the first step of the VAR approach which assumes that historical correlations are likely to be relevant in the future – a reasonable but not necessarily correct assumption. The next step then is to take into account all the possible combinations of shocks based on estimated correlations. The procedure can be automated to randomly generate a very large number of shocks both small and big, in isolation and in combination. Each shock is associated with a probability of occurrence.<sup>32</sup> The last step is to associate with each shock the corresponding evolution of the debt, much as in the IMF’s DSA, except that each debt path now comes with a specified probability of occurrence.

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<sup>31</sup> The same failure may help to explain why the estimates of Kraay and Nehru (2003) explain only a small part of episodes of debt distress.

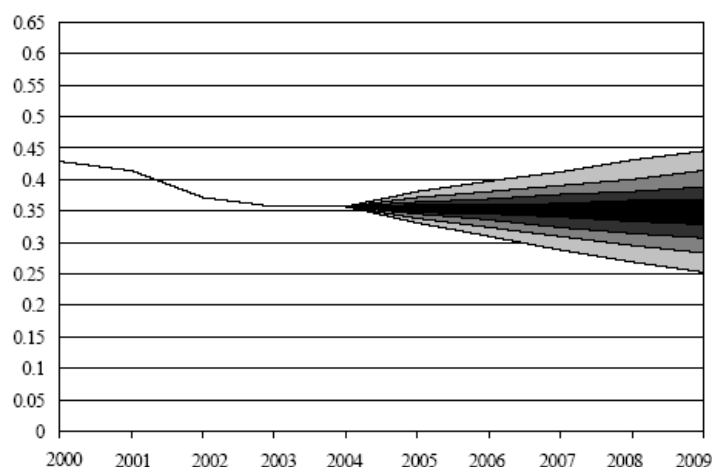
<sup>32</sup> Technically, this is called Monte-Carlo simulations.

One can then ask the following question: at, for example, the three-year horizon what is the probability that the debt be between a high and a low level? The different combinations of high and low levels, with associated probabilities can then be presented in a “fan chart” like the one shown in Figure II.6. In this figure differently shaded ranges identify alternative probabilities for public debt of South Africa over the 2005-2009 horizon.<sup>33</sup> The darkest range corresponds to an estimated probability of 80 per cent, with each lighter range reducing the likelihood by 20 per cent. The figure shows that, the further out we look, the greater the uncertainty.

This presentation resembles the debt paths shown in Figure II.3. but with important differences. In contrast to Figure II.3., the shocks are not identified. This is a step forward since the shocks under consideration in Figure II.3. are arbitrary and therefore unlikely to be well suited to any particular country. The large number of randomly generated shocks underlying the VAR exercise of Figure II.6. avoid this criticism. Standardization of the IMF DSA is the consequence of simplicity, but its cost is arbitrariness and therefore limited credibility. Moreover the VAR approach enables one to judge at a glance how likely some of the dramatic scenarios are.

**Figure II.6. Value-at-Risk Analysis: The Fan Chart for South Africa’s Public Debt**

(External debt as a proportion of GDP)



Source: IMF (2005d).

However there are costs associated with the VAR procedure. To start with, it is complex. Few developing countries are equipped to carry out such estimations and it would stretch even the staff of any multinational institution to deal with a large number of countries. In order to provide reasonably reliable estimates, the procedure requires good data, possibly going far back in the past, and few developing countries have such data.

Complex fan chart exercises may also provide an illusory impression that uncertainty is well understood. While fan charts do provide useful information, their precision is unknown. It depends on the quality of the data, on the performance of the underlying econometric analysis, and on the relevance of history for the future. Importantly, perhaps, its “black box” nature goes against the goal of transparency and may deter policy action. Thus the unavoidable complexity and opaqueness may not be worth the effort.<sup>34</sup>

<sup>33</sup> The chart displays the public, not the external debt.

<sup>34</sup> It may be ironic that the most advanced countries, which can and often carry out similar exercises, pay limited attention to them at decision-making time, while IMF (2003b) and IMF and IDA (2004) call for prioritizing DSA implications in the case of the less advanced countries.

### *Reaction Functions*

A key message from Figure II.5. is that policies do matter. Adequate policy reactions can deal with shocks, and these reactions need not be drastic, given time and commitment. This observation leads to the idea that debt sustainability can be achieved through the adequacy of policy reactions to shocks.

Viewed this way, debt sustainability can be assessed by observing how a country's authorities behave. This leads to the estimation of policy reaction functions. In the area of monetary policy, such functions are known as Taylor reaction functions and have become routine. The approach has started to be applied to public debt, but apparently not yet to external debt.

The key question here is whether the primary surplus is systematically raised when the debt level rises. It is possible to estimate the strength of this reaction and to determine a threshold beyond which the debt accumulation process is stable, and which thus provides an alternative definition of sustainability. IMF (2003a) presents an overview of the emerging results on public debt reaction functions. While this work is still preliminary, it seems that many countries do pass the sustainability test. This is generally the case for the advanced economies. For the emerging market countries the reaction is adequate at moderate debt levels but probably not for highly-indebted countries.<sup>35</sup>

The advantage of this approach is that it does not require assumptions about likely shocks and estimation of their respective probabilities. Nor does it require passing judgment on what is an acceptable debt level, thus avoiding the contentious CPIA process. The limit of the approach is, once again, a consequence of the impossibility principle. Debt sustainability is a forward-looking concept: future Governments are not bound by past government behavior. Evidence of past sustainability, or the lack thereof, is not guarantee that future Governments will continue to react in the same way. All that can be concluded is whether past practices are delivering debt sustainability or not.

It might be argued that simply looking at the existing debt level, or the history of past defaults, provides the same answer in a much simpler way. But this is not correct. The debt may be high currently either because of undisciplined past policies or because of adverse shocks. In order to assess whether high debt is the result of bad luck or of bad policies we need to disentangle these two assumptions. This is what reaction functions are designed to do. For instance, if the reaction function indicates that the authorities have systematically reacted in a stabilizing way to debt buildups, we can conclude that a high debt is due to bad luck. Inasmuch as bad luck does not strike again and again, in such instances a debt can be assessed as high and yet sustainable. This is the key lesson from Figure II.1., confirmed by Figure II.5.

One benefit of this approach is that it focuses attention on the issue of policy-making institutions. The best guarantee that the authorities will always react to shocks in a debt-stabilizing way is that their decisions are embedded in a framework that constrains them to do so. Put differently, sustainability requires that the debt level be systematically treated as a policy objective. This can be done in many ways.

One solution is the adoption of rules. This has been the case in the area of monetary policy with rules for money growth or with the adoption of exchange-rate anchors. Fiscal rules have been proposed to ensure public-debt sustainability; the Stability and Growth Pact of the Economic and Monetary Union in Europe is one example. A huge and inconclusive literature has explored the trade-off between rules and discretion. More recently there has been attention to intermediate solutions in the form of institutions that are bound by strict objectives but are also given some leeway to exercise discretion. Much progress has been achieved in the area of monetary policy with the adoption of inflation targeting and independent monetary policy committees. Similar considerations could be applied to fiscal policy (Wyplosz (2005b)).

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<sup>35</sup> See also Wyplosz (2005a) for a comparison of Brazil and the OECD countries.



## **D. Review and Conclusions**

Along with price stability, low unemployment and balanced growth, sustainability of external and public debt is an essential attribute of good macroeconomic policies.<sup>36</sup> Along with these other attributes, its precise definition is elusive and its assessment challenging. This section takes stock of the previous analysis, develops a number of principles, and advances some suggestions.

### **1. Assessment**

The overview of the IMF's DSA and alternative approaches yields a number of conclusions.

- The various approaches to debt sustainability differ from one another in two main respects: the definition of sustainability and the way they attempt to deal with the impossibility principle.
- Strict definitions of sustainability start from the solvency condition. These are, sometimes strengthened, for example, where the IMF adds a no-major-adjustment condition, and sometimes relaxed, for example, in the approach of Arrow et al. (2004) to the eventual achievement of solvency. Weaker definitions focus on the stationarity of the debt level, usually scaled by GDP or exports.
- Implementation of these definitions requires making guesses about the future evolution of key variables. This gives rise to the impossibility principle: because the future is unknown, any debt sustainability assessment is only valid within the bounds of the underlying guesses.
- There is no way to escape impossibility principle. Any approach is based either on an analysis of the past, whose relevance is unknown, or on simulations of what the future might be, which is unknown by definition. Some approaches – e.g. VAR stress tests – combine both procedures.
- The IMF approach combines simple and transparent procedures (computing debt paths based on scenarios) with more elaborate procedures (CPIA) for determining country debt ceilings. The former are necessarily arbitrary. The latter attempt to extract information from the past through “black box” procedures.
- The impossibility principle does not necessarily provide support for the view that added complexity allows for more precise assessments of sustainability. VAR stress testing, for instance, is state-of-the-art but, as far as policy-making is concerned, the benefits are illusory.<sup>37</sup>
- Debt sustainability is intimately related to credibility. Credible authorities may adopt a weaker definition of debt sustainability, eschewing the serious economic and political costs inherent in strict definitions. Credibility, in turn, emphasizes the role in debt sustainability of policy-making institutions.
- Policy conclusions drawn from DSA exercises must be considered with care. Sacrificing growth – in the short and even in the long run – to imprecisely known risks concerning debt sustainability can be very costly. Trading off growth and debt sustainability will always remain more art than science.

### **2. Principles**

Like any guide to policymaking, DSA must be both simple and transparent. Simplicity is needed to make it possible for every country – especially the less developed countries where growth crucially depends on

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<sup>36</sup> Debt sustainability may be seen as a pre-condition for all the other attributes. It is certainly not a sufficient condition. Whether it is a necessary condition remains open to debate.

<sup>37</sup> This point is made by Goldfajn in his excellent discussion of Garcia and Rigobon (2005).

external borrowing – to be able to produce its own analysis. Transparency is important because the range of possible causes of debt distress is infinite. Vague and low probability threats should not inform policy choices.

This paper argues that DSA ought to rely on a number of principles.

#### *Accept the Impossibility Principle*

Except for obvious but extreme cases, it will never be possible to assert that a debt is unsustainable as defined by the IMF. Its own definition requires checking for solvency, which is impossible. It also requires passing judgment of what is a major adjustment, which involves assessing the willingness and political ability of the Government to carry out unpopular policies. This turn calls for an evaluation of the impact of these policies and of the likely reaction of various segments of society, which depends on the political regime and, in democratic countries, on the electoral calendar. Finally, except for concessional loans, DSA is directly influenced by market sentiment, which can be a source of unpredictable vicious or virtuous cycles.

#### *There is No Trade-Off between Impossibility and Simplicity*

The impossibility principle rests on the uncertainty inherent in predicting the future. While eliminating this uncertainty is plainly not an option, a natural temptation is to reduce uncertainty by adopting sophisticated techniques of assessment. Most users are unlikely to grasp how these techniques function. Complexity means opacity. It is an illusion to think that some degree of opacity is worthwhile because even the most sophisticated instruments do not avoid the impossibility principle. Moreover opacity may also result in the mistaken use of the instruments. By contrast simplicity, which lays bare our lack of knowledge of the future, is a virtue in itself.

#### *Adopt a Workable Definition of Debt Sustainability*

The different definitions and approaches reveal that debt sustainability is and will remain a vague concept. In addition there is a huge gap between theory and implementation. From an operational viewpoint, two main approaches are possible: the first one rests on debt thresholds and the second on the evolution of debt levels. Given the impossibility principle, if DSA is to establish uncontroversial debt thresholds, at least for the time being it should rest on a variant of the second approach which specifies that debt is sustainable if it is on a non-increasing trend.

#### *Even Better, Replace Debt Sustainability with Debt Distress Avoidance*

However, that a debt level be trend-decreasing is neither necessary nor sufficient to avoid debt distress. Numerous debt crises have occurred while the debt-GDP ratio was declining. On the other hand many countries with long rising debt levels have not run into trouble. In the end, the main reason for paying attention to the evolution of debts is concern with the possibility of debt distress which, unlike sustainability, is a clear concept.

#### *Recognize that Debts Are Not Necessarily Bad*

Many countries and virtually all Governments are quasi-permanently indebted, for both good and bad reasons. The view that debts should always be reduced assumes that all debts are bad, which cannot be generally true. Separating good from bad debts is a hopeless undertaking, but it is important to move away from the presumption that debt accumulation is to be avoided under all circumstances.<sup>38</sup>

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<sup>38</sup> It is puzzling that the IFIs, which routinely emphasize debt reduction, exist mainly to grant loans and are actually the main creditors to many developing countries.

### *Open Up the Process of Determining Whether Debts Are Excessive*

How should one assess whether a debt is excessive? When the debt is traded, the risk premium provides a reasonable guide. It also provides the right incentive for Governments to lower their debt levels. But when the country does not have market access, there is no such gauge. Yet, the lenders are naturally entitled to have a view. Given that any assessment is bound to be controversial, as the shortcomings of the CPIA exercise well illustrate, the multilateral financial institutions should have a procedure to assess excessive indebtedness that is open and involves experts other than their own staffs.<sup>39</sup>

### *Time is of the Essence*

When current debt levels are considered excessive, avoidance of debt distress calls for a declining trend. How steep should the rate of decline be? Obviously, bringing the debt down to a safe level before debt distress occurs is highly desirable, but it may be costly in terms of growth and employment. There is thus a trade-off between a fast debt roll-back and the associated costs. This trade-off must be carefully assessed, taking due account of each country's specificities.

### *Accept Risk*

Unless current debt levels are considered excessive, keeping them stable is likely to avoid debt distress under most plausible conditions. To be sure, there will always be exceptional events that will result in debt distress. Like all disastrous events, this risk must be accepted as a fact of life. A complete guarantee that debt distress will never occur is illusory, and a high level of protection is bound to be very costly.

## **3. Suggestions**

### *Use both Approaches*

DSA rests on the debt accumulation process, which is nothing more than an accounting identity:  $b_t - b_{t-1} = (r - g)b_{t-1} - \text{primary balance}_t$ . At the operational level, one approach is to make assumptions about the evolution of the primary balance, interest rate  $r$  and growth rate  $g$  in order to project the debt path. This is the IMF's DSA approach. The other approach is to ask what should happen to the primary balance to achieve a desirable debt path, given assumptions about the evolution of the interest rate  $r$  and growth rate  $g$ . This is the debt-stabilizing primary account approach. Which approach is more appropriate?

While the IMF also computes debt-stabilizing primary accounts, its policy analysis and graphical apparatus emphasizes debt path projections. The present paper has argued that the policy interpretation of debt-path projections, already subject to the impossibility principle, inevitably leads to a search for debt thresholds, another mission impossible. This suggests that it is preferable to rely on the debt-stabilizing primary account approach.

But in fact there is no reason to choose one over the other. Both can be used as Figure II.5. shows. All that is needed is the classic distinction between targets and instruments. The debt path is a target. The primary account is the instrument (assuming that the authorities can control it). The policy implications then follow naturally: DSA becomes a procedure that explores the effect on the debt path of various settings of the primary-account instrument. What should this combined approach include and what assumptions should be made?

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<sup>39</sup> This is in line with the recommendations of the external panel that reviewed the World Bank's CPIA, see World Bank (2004).

### *Parameter Settings*

A baseline projection, such as carried out by the IMF, shows how the debt accumulation unfolds on the basis of the currently foreseen primary balance, exchange, interest and growth rates. In association with this projection it is straightforward to compute the primary balance that would stabilize the debt under current conditions, as well as the primary balance required to lower the debt-to-GDP ratio when the current level is perceived excessive.

The baseline is not a forecast, only a statement of where current conditions lead. Currently the IMF provides two baselines: one that is based on Staff forecasts and one that is based on historical trends. Neither is adequate. Staff forecasts introduce a degree of arbitrariness. Indeed, IMF (2003b) reports a tendency for these forecasts to err on the side of optimism. Producing a baseline on the basis of these forecasts has the merit of consistency, but this comes at the cost of a self-inflicted lack of realism. In addition, the baseline should extend over a horizon which goes beyond the ability to make credible forecasts.

Historical trends have the advantage over current values of providing some stability, but this stability is illusory. Trend projection is adequate for GDP growth, which tends to fluctuate around a reasonably stable level, with good years making up for bad years. But this is the only historical trend that should be used. The other variables, the exchange and interest rates and the primary balance are potentially volatile and, partly at least, controlled by the authorities. Exploring the debt implications of the current settings is more informative than relying on historical averages that are often outdated.

The horizon should be long, say ten years. As argued in Section C.3, debt corrections are best carried out slowly, with small changes in the primary account maintained over a long period. Debt corrections are inherently costly – and more costly, the sharper they are. The same correction can be achieved at a much lower cost if it is the result of changes sustained over many years.

### *Policy Implications*

Projected over a long horizon, the charts displayed in Figure II.5. provide an adequate framework for policy discussions. The impossibility principle means that DSA should not lead to automatic policy conclusions, a fact well recognized in IMF (2003b). For this reason, the more transparent are the parameter settings, the smaller is the risk of their being given an overly prominent role.

The baseline debt projection immediately indicates where the debt is heading. The primary account which is debt-stabilizing – or debt-reducing when the debt is deemed excessive and a lower long-run target can be agreed upon – provides a reasonable evaluation of what is required to achieve debt sustainability.

It is then possible, indeed desirable, to ask “what if?” questions. In policy discussions, many questions can be asked and easily answered. It is straightforward to produce charts similar to Figure II.5. showing the mechanical effects on debt and the stabilizing primary account of changes in interest or growth rates, whether they are permanent or temporary. But it is important to keep in mind that such an exercise is purely mechanical, because it ignores the linkages among the variables that drive debt accumulation. For example, changes in the primary current account may require acting on the exchange rate, which in turn will not only affect the debt-GDP ratio in terms of local currency but may also lead to different interest-rate levels.

This has some resemblance to the IMF approach to DSA but differs from it in two important ways: 1) there is no pretense of providing forecasts and of assessing their likelihood; and 2) the results are answers to questions asked by policymakers and not simply ready-made suggestions that the debt might be in a danger zone.

*Institutions Matter*

Credibility is an essential component of DSA, yet it is largely hidden. Credibility affects exchange and interest rates, and can trigger virtuous or vicious circles. The CPIA is one way of recognizing the importance of credibility but suffers from its assumption that institutions are given. Policymaking is not just about setting macroeconomic variables. It should also give a prominent role to shaping policy-making institutions.

A number of countries have taken steps to improve their policy-making institutions in the area of fiscal policy, with much success. Brazil and Chile, for instance, have adopted formal procedures that bind policy actions within a framework that puts debt sustainability at the forefront. Most East Asian countries have informally done the same, relying on norms instead of legal arrangements. Mechanical DSA implicitly (and, as just noted, CPIA explicitly) takes institutions as given. It would seem important to downplay the mechanical part of DSA and, in contrast, to emphasize forcefully the contributions that adequate institutions can make to avoiding debt distress.

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### **Annex: An Alternative Debt Sustainability Condition**

Section B.1. suggests an alternative definition of debt sustainability. This appendix briefly characterizes the link of this definition with the solvency condition.

Let  $B_t$  be the debt outstanding at beginning of period  $t$ ,  $R_t, t+i$  the discount factor between periods  $t$  and  $t+i$ , and  $S_t$  the primary budget balance. The debt accumulation process implies:

$$R_{t,t+n} B_{t+n} = B_t - \sum_{i=0}^n R_{t,t+i} S_{t+i}$$

Solvency is defined by the usual transversality condition:

$$\lim_{n \rightarrow \infty} R_{t,t+n} B_{t+n} \leq 0$$

which can be rewritten as:

$$B_t \leq \sum_{i=0}^{\infty} R_{t,t+i} S_{t+i}$$

The net worth of the entity (Government, country) is:

$$V_t = \sum_{i=0}^{\infty} R_{t,t+i} S_{t+i} - B_t$$

and therefore solvency simply requires  $V_t \geq 0$ .

The alternative sustainability condition (based on Arrow et al. (2004)) is that  $V_t$  be trend-increasing, i.e.:

$$V_{t+n} - V_t \geq 0 \text{ for most } n.$$

Thus, it may be that initially  $V_t \leq 0$  but the sustainability condition implies that there exists a horizon  $N$  such that, for all  $n > N$ ,  $V_{t+n} \geq 0$ .





# **THE MECHANICS OF DEBT SUSTAINABILITY ANALYSIS**

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## **A. Introduction**

Debt sustainability has become a key issue in the discussion on debt in different fora. The concept of debt sustainability is difficult to define in practice and depends on answers to a number of questions. When is a certain level of debt too high and unsustainable? How important is debt sustainability for development? Should it be a major objective and should economic policies be adjusted accordingly? Alternatively should development be an objective which can override debt sustainability? If so, what does this mean in terms of policies? Or on the contrary should there be acknowledgement that debt sustainability and development are too interconnected for such a separation of objectives to be feasible?

Answers to these questions are not straightforward. The literature on debt sustainability offers a wide range of analyses of the issue from different perspectives. The basic elements of the different approaches are highlighted in this paper, with particular reference to their practicality and relevance. Four main approaches are covered:

- Present value analysis;
- Financing gaps analysis;
- The indicators of debt crisis; and
- A development policy-based framework.

The analytical underpinnings of these approaches are linked, but the focus on particular aspects of the debt problems is typically different. The last approach attempts to address various concerns within a comprehensive macroeconomic and policy-based model.

## B. Debt Indicators and Early Warning of Crisis

In the aftermath of recent debt crises economists have attempted to identify early warning indicators which would signal in advance the probability that a currency or debt crisis will occur. Such indicators are intended to facilitate corrective measures. One such indicator is an *unsustainable current account deficit* associated with low GDP growth. That typically characterized debt crises in the 1980s.

According to the models of debt dynamics discussed below, a country's debt accumulation is sustainable as long as the growth of GDP is greater than the real interest rate. However, access to credit can be abruptly stopped if creditors become worried about increasing debt. In addition, high growth rates of GDP accompanied by capital inflows, can cause the real exchange rate to appreciate. This can lead to loss of competitiveness and further deterioration of the current account.

Another important indicator of debt sustainability is the *size of exports*, which enhance the debtor's ability to generate the foreign-currency revenues needed to service debt. However, a large export sector can make a country vulnerable to terms-of-trade and foreign demand shocks. For example, as it is shown by Corsetti et al. (1998), the exports of South East Asian countries were subject to negative terms-of-trade shocks in 1996 prior to the financial crisis of 1997 following the fall in the prices of semiconductors and other exports, the increasing competition of cheaper goods from China, and decreasing demand from Japan due to long stagnation of its economy.

Radelet and Sachs (1998) point out that so long as investments financed by external borrowing are channeled to productive activities, they can contribute to growth. However, *over-reliance on external financing* can be the source of macroeconomic instability if it induces an appreciation of the real exchange rate. Prior to the Asian financial crisis a significant part of capital inflows was directed to sectors producing non-traded goods and to real estate, neither of which generate foreign exchange revenue.

Radelet and Sachs (1998) also identify the *increasing fragility of financial sector* as a sign of an upcoming debt crisis. As credit to the private sector grew rapidly prior to the Asian financial crisis, banks increased their recourse to short-term foreign borrowing. Banks were thus exposed in two ways: (1) to exchange-rate risk since they were borrowing in foreign currency for on-lending in domestic currency; and (2) to maturity mismatches since they borrowed short and lent long.

Traditional indicators such as a *slowing of export growth*, a *deteriorating current-account deficit* and an *overvalued exchange rate* are not necessarily a reliable source of warnings. Some recent research on early warning systems (EWS), described in Berg et al (2004), has been model-based. The aim of this research, of which examples are Kaminsky, Lizondo and Riehart (KLR) (1998) and work of the IMF Developing Countries Studies Division (DCSD), has been to develop "the exchange market pressure index". If the value of this index exceeds its mean by more than three standard deviations, then the currency is exposed to a serious risk of devaluation. Although the models developed for this purpose use different econometric techniques, they are designed to estimate the probability of an "event" on the basis of various indicators. The indicators of the DCSD model include real-exchange devaluation, changes in foreign reserves, the ratio of short-term debt to foreign exchange reserves. The KLR model also includes indicators such as the domestic credit growth, change in money multiplier, and the ratio of foreign-exchange reserves to M2.

The IMF also examined the *ratio of the short-term debt to reserves* as a warning indicator but found that it performed better as an indicator of liquidity than of external solvency problems. For example, prior to its debt crisis of January 2002 Argentina had a better indicator for this ratio than Turkey in 1999-2000. However, its ratio of debt-service to current receipts was twice as large as that of Turkey and more successfully anticipated its subsequent solvency problems.

The IMF has drawn attention to the possibility of including models of country risk models and sovereign-risk indices in the EWS, pointing to an econometric model of Eichengreen and Moody (2000) in this context. This model is used to estimate the determinants of emerging-market debt spreads and to forecast currency problems on this basis. *Inter alia* the authors found that the debt-service-to-exports ratio was highly correlated with the level of spreads.

Other studies of EWS models (reviewed in Berg et al., 2004) point to a mixed performance in predicting crises. While they tend to perform better than non-model-based indicators such as sovereign spreads, sovereign ratings or market surveys, they have often signaled false alarms. On the other hand, these models have covered a large number of macroeconomic and financial variables for many countries and for long periods. They have highlighted invaluable information about the relative vulnerability of different countries (Berg and Patillo, 2000).

A *liquidity* problem arises because of a bunching at a particular time of debt obligations which cannot be fully serviced on the basis of existing revenues. However, the debt can be repaid if recourse to external funding is available on a temporary basis or if the debt is restructured so that debt obligations are better matched to the debtor's revenues. *Insolvency*, on the other hand, denotes the inability of the debtor to pay in full his debt obligations owing to more structural problems which cannot be solved simply by a rearrangement of payments due.

In theory a country is solvent even if it runs a huge current account deficit as long as it is capable of producing current account surpluses in the future and, as described below, GDP increases at a rate above the rate of interest. In practice this condition has been shown to be unrealistic. According to Roubini (2001) the main problem with such debt dynamics lies with the fact that a Government cannot credibly commit to run the required fiscal and balance-of-payments surpluses in the future. This author prefers the simple ratio of foreign debt to GDP ratio as an indicator of both solvency and sustainability. If this ratio is increasing, then a larger trade surplus will be required to achieve solvency and this must be increased still further if the real interest rate is bigger than GDP growth.

Other studies have attempted to determine empirically the thresholds beyond which a "debt crisis" (or solvency problems) will develop. The debt crisis is defined as an event in which there are arrears of principal or interest on external obligations, or in which the country reschedules or restructures its external debt. These studies (IMF, 2002a) have found that a debt crisis occurs typically at debt to GDP ratios below 50-60 per cent. The "transfer problem" implies that a country must also generate foreign-exchange receipts through an export surplus sufficiently large to service its debt. This implies that the exports-to-GDP ratio (or another indicator for the same purpose such as the debt- service-to-exports ratio) is relevant. The survey of IMF (2002a) showed that for debt crises at export-to-GDP ratios below 20 per cent three-quarters occurred at debt-to-GDP ratios of less than 60 per cent of GDP, while for crises at export-GDP ratios of between 20 and 40 per cent the corresponding debt-to-GDP ratio was between 60 and 80 per cent.

The main indicators used to measure liquidity are the ratio of foreign exchange reserves to imports, the ratio of foreign exchange reserves to short-term debt, the share of short-term debt in total debt, and interest payments to foreign exchange reserves. Although a country can be solvent, it risks a debt default or crisis if it does not have enough liquidity to service its short-term debt, perhaps owing to a bunching of loans maturing at a particular time. This might happen during a financial panic where short-term creditors decide not to renew their loans or ask for a repayment. Thus debtor countries should monitor their maturity structure to make sure that they have enough short-term assets to cover their short-term liabilities.

Assessing the solvency and the liquidity of a country is a dynamic process which should take account of different shocks that might reduce its capacity to service its debt. These shocks could be drops in export

earnings, unfavorable movements in the terms of trade, or increases in oil prices. Roubini (2001) draws the attention to what he calls “self-fulfilling solvency traps”. This is where a high external or public debt – but not necessarily at a level entailing insolvency - will be considered by the markets as a situation sufficiently risky for the spreads on interest rates to increase. As a result, the debtor country will pay more interest and will accumulate debt more rapidly. This is another case where a liquidity crisis may turn into a solvency crisis.

Liquidity and solvency concepts are usually interlinked in practice so that it is very difficult to distinguish between the two. It is generally difficult to determine whether incapacity to pay is temporary or permanent. Moreover problems of illiquidity can turn into insolvency if they are not tackled in time.

### **C. The Present Value of Future Income**

How should debt sustainability be defined? Since debt is generally incurred to finance investment, one approach involves an analogy with the micro-level analysis of investment projects. Here debt sustainability is determined by the condition that the present value of the future income stream (net of expenditure) derived from investment projects should be at least equal to the nominal value of debt used to finance them. There are two ways to obtain the present value of future income streams. The present value can be computed by discounting the streams of income by the interest rate of the debt. Another way is to compute the expected internal rate of return, defined as the rate of discount applied to future income which would makes the expected present value of income equal to the nominal value of debt. In this case debt sustainability is assured if the expected internal rate of return is at least equal to the interest rate of the debt.

Application of the present value approach to debt sustainability to the debt of a country nonetheless involves addressing many challenges at once:

- The investment projects financed by debt are the sum of private and public projects with different rates of return. The latter may include projects addressing social rather than economic needs.
- The income generated by investment can be denominated in foreign currency (in the case of exports) or in local currency.
- External debt sometimes is used to smooth out cyclical changes in consumption (which do not generate any income), debt being incurred during times of depressed growth and repaid during high-growth periods.
- Debt can carry concessional or market interest rates and have different maturities and grace periods, which make the choice of the appropriate discount rate a complicated issue.

Notwithstanding these difficulties, the present value approach has been widely applied to developing countries’ debt. The IMF implicitly uses this concept of the present value in their approach to debt sustainability (see IMF, 2002a). It defines *debt sustainability* as “a situation in which a borrower is expected to be able to continue servicing its debts without an unrealistically large future correction to the balance of income and expenditure”.<sup>40</sup> Underlying this definition of sustainability are concepts of solvency and liquidity, which are defined on the basis of the present value approach.

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<sup>40</sup> Sustainability, according to the IMF, rules out : (1) debt restructuring ; (2) Ponzi games where the borrower indefinitely accumulates debt faster than its capacity to service debt is growing); (3) moral hazard whereby the borrower lives beyond its means by accumulating debt in the knowledge that a major debt service reduction will eventually be needed.

*Solvency* is secured when the present value of a debtor's current and future primary expenditure (E) is no greater than the present value of its current and future path of income (Y), net of any initial indebtedness (D):

$$\sum_{i=0}^{\infty} \frac{E_{t+i}}{\prod_{j=1}^i (1+r_{t+j})} \leq \sum_{i=0}^{\infty} \left( \frac{Y_{t+i}}{\prod_{j=1}^i (1+r_{t+j})} - (1+r_t)D_{t-1} \right)$$

A *liquidity* crisis occurs when a debtor's liquid assets and available financing are insufficient to meet or roll-over its maturing liabilities, regardless of whether the solvency condition is met. *Sustainability* is reached when a debtor's liability position satisfies the present value budget constraint without the need for a major correction in the balance of income and expenditure, given its costs of financing.

The practicality of such a notion of solvency is questionable. First, the time horizon is infinitely long, which makes planning or time framing of Government's budget impossible. Furthermore, the appropriate discount rate must still be chosen. Different choices will result in different estimates of present value.

The present value approach is also applied to the analysis of the *primary balance* of the Government budget or the *balance of payments on current account excluding payments*. Based on the national accounting identities, the balance,  $P_t$ , that is the difference between revenue and expenditure or the current-account balance, in both cases excluding interest payments, is equal to the change in debt  $D_t$  plus interest payments:

$$D_t = (1+r)D_{t-1} + P_{t-1}$$

Assuming a constant interest rate, recursive application of this formula gives:

$$D_t + \sum_{j=1}^i \frac{P_{t+j}}{(1+r)^{j-1}} = \frac{D_{t+i+1}}{(1+r)^{i+1}}$$

As  $i$  tends to infinity, the term on the right-hand side tends to zero. This means that the present value of debt in the indefinite future converges to zero and reflects the unwillingness of lenders to allow the debtor perpetually to pay its interest obligations by borrowing more. Hence, for  $i$  sufficiently

large,  $D_t = -\sum_{j=0}^{\infty} \frac{P_{t+j}}{(1+r)^{j+1}}$ , which implies that all debt must eventually be paid back for sustainability to ensue.

This observation leads to the interesting conclusion that the ability to generate a surplus is a precondition for long-term debt sustainability. In the case of the fiscal balance this is a primary surplus. In the case of the balance of payments on current account the debtor country must eventually export and earn enough foreign exchange through a trade surplus to repay debt (the so called transfer problem).

A different version of the present value approach is the *IMF Net Present Value of Debt*. In the case of low-income countries that receive loans on concessional terms, creditors apply the concept of "Net present Value"<sup>41</sup> (NPV) of loans to calculate the "real burden" of debt, using a formula for which the debt service on concessional loans is discounted at the market rate of interest in order to reflect the "true opportunity

<sup>41</sup> The term « Net Present Value » (NPV) is used here in a way that diverges from standard corporate finance jargon for which NPV is the difference between the present values of the income and cost of an investment project. In fact, a more correct term here would be the "present value" (PV).

cost” of the loans. This NPV concept was first applied in the context of Paris Club rescheduling on concessional terms and then in the context of the Initiative for the Heavily Indebted Poor Countries (HIPC). The IMF applies it to the low-income countries in its debt sustainability analysis framework (IMF, 2003, May).

The rationale behind the use of this version of NPV is that discounting the stream of future debt-service payments by an appropriate market interest rate provides an aggregate measure of the effective debt-service burden implied by a given debt stock. However, as seen at the beginning of this section, in order to gauge whether the debtor can service its debt, the debtor’s *future stream of income* has to be discounted either at the rate of interest on the loan which has been contracted or at the rate of return on the investment project.

This NPV approach does not, therefore, reflect the debtor’s capacity to pay. If at all, this capacity is taken into account when concessional terms are granted to low-income countries. The version of NPV is rather a concept of interest to creditors, used to measure the grant element of aid. It can also be useful as a means to determine comparable opportunity costs for donors for burden sharing purposes in debt-relief operations.

## D. The Financing Gap

The financing gap analytical approaches are based on the three national account identities related to the balance of payments, domestic investment and savings, and government budget, which link external debt with different financing gaps: the current account deficit, or the shortage of domestic savings compared to domestic investments, or the government budget deficit (part of which cannot be financed by domestic public debt).

As such, the financing gaps are just accounting identities. Economists have expanded these identities and added behavioral equations in order to project financing gaps or to analyse the dynamic stability conditions of external debt. The use of gap models to project financing gaps and aid requirements has been widely accepted by international financial institutions. However this approach has been much criticized, notably because of ex-post inaccuracies of these projections and because of the instability of the key variable, the incremental capital-output ratio (ICOR),<sup>42</sup> used to determine the growth path of income.

Despite these shortcomings, financing gaps as determined by accounting identities remain useful indicators for policymakers in the short run for the analysis of the origins of external debt and of the burden of debt servicing on government budget.

### 1. Debt and National Accounting Identities

Three national accounting identities related to the balance of payments, domestic investment and savings, and the government budget show the links of external debt to different financing gaps.

(1) *The balance-of-payments identity* is stated as follows:

$$E_t(D_t^E - D_{t-1}^E) = E_t P_t^* M_t - P_t X_t + E_t [ i^* D_{t-1}^E - FDI_t - (R_t - R_{t-1}) ]$$

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<sup>42</sup> See Easterly (1997).

where  $D_t^E$  is the external debt stock in domestic currency,  $E_t$  the nominal exchange rate (domestic per unit of foreign currency),  $P_t^*$  foreign prices,  $M_t$  import volume,  $P_t$  domestic prices,  $X_t$  export volume,  $i_t^*$  the foreign interest rate,  $FDI_t$  the net flow of foreign direct investment (including long term portfolio equity investment), and  $R_t$  the stock of foreign exchange reserves.

This identity shows that new debt-creating capital inflows fill that part of the current- account deficit ( $E_t P_t^* M_t - P_t X_t + E_t i_t^* D_{t-1}^E$ ) not financed by FDI and the change in reserves.

(2) The *investment-savings identity* is derived from the national income identity:

$$Y_t = C_t + S_t = C_t + I_t + (P_t X_t - E_t P_t^* M_t)$$

Where  $C_t$  is consumption,  $S_t$  is savings, and  $I_t$  is investment.

$$\text{so that } S_t - I_t = P_t X_t - E_t P_t^* M_t$$

Combining the balance-of-payments and investment-savings identities gives another equation for external debt:

$$E_t (D_t^E - D_{t-1}^E) = (I_t - S_t) + E_t [ i_t^* D_{t-1}^E - FDI_t - \Delta R_t ]$$

This identity shows that new debt-creating capital inflows fill the gap between domestic investment plus interests payments and domestic savings which not financed by FDI and the change in reserves.

$$\Delta DG_t = \Delta D_t^D + E_t \Delta DG_t^E = i_t D_{t-1}^D + E_t i_t^* DG_{t-1}^E - P_t$$

(3) The *Government budget identity* is stated as:

where  $D_t^D$  is Government's domestic debt,  $G_{t-1}$  is government consumption expenditure and  $P_t$  is the primary surplus.

$$P_t = T_t + ET_t - (G_t + IG_t + DT_t)$$

Where  $T_t$  is government revenue,  $ET_t$  external transfers to Government,  $G_t$  government consumption,  $IG_t$  government capital formation, and  $DT_t$  domestic transfers and subsidies.

This identity above shows that new debt-creating capital inflows fill the gap between the total budget deficit and the amount of the deficit that can be financed by issuing domestic debt.

## 2. The Stability of External Debt Dynamics

The role of foreign capital in the development process has first been analysed in the context of the two-gap models, whereby debt or capital inflow helps in filling the resource gap resulting from of shortage foreign exchange earnings (derived from identity (1)) or of savings (derived from identity (2)). As debt is assumed to contribute to growth, over time the resource gap is gradually narrowed and towards the end of the cycle, the debtor country will have enough surpluses in resources to repay its debt.



This virtuous cycle of debt is characterized by a stable dynamic path of debt accumulation, which decreases over time. Assuming unchanged exchange rate and expressing the variables in the same currency (with  $E=1$ ), the dynamic interactions between debt on one hand and income growth and export growth on the other hand, would determine the conditions under which the debt accumulation process can be controlled. The basic model shown below illustrates such debt dynamics.<sup>43</sup>

The first equation describes debt accumulation ( $D$ ) to finance the resource gap, which is defined here as the difference between imports and exports ( $M-X$ ) and the interest payments on earlier debt ( $iD$ ).

$$(1) \quad \frac{dD}{dt} = M - X + iD$$

The increase in output is simply the product of investment ( $I$ ) and the inverse of the incremental capital-output ratio ( $1/k$ ):

$$(2) \quad \frac{dY}{dt} = \frac{1}{k} I$$

The savings gap (the difference between investment  $I$  and domestic savings  $S$ ) and the foreign exchange gap (the difference between imports  $M$  and exports  $X$ ) are equal ex post:

$$(3) \quad I - S = M - X = \frac{dD}{dt} - iD$$

Other specifications can be added to this basic model. For example, imports can be broken down into imports of capital goods and imports of consumption goods. Exports can be specified to grow exogenously or to depend on the investment rate.

Consider the **savings gap** first.

The savings function simply states that savings are the product of the marginal propensity to save ( $s$ ) and domestic product:

$$(4) \quad S = sY$$

Using the savings gap ( $I - S$ ) and rearranging the terms, debt accumulation (expressed as a ratio of debt to output) can be set in function of the output growth rate ( $g$ ), investment ( $gk$ ) and savings ( $s$ ) rates:

$$(5) \quad \frac{d(D/Y)}{dt} = \frac{D}{Y} (i - g) + (gk - s)$$

Equation 5 states that the change in the ratio of debt to domestic product depends on the current level of this ratio, as well as the difference between the interest rate and the growth rate, and the difference between the investment rate and savings rate. The solution to this differential equation will determine the condition of stability of the debt accumulation process:

$$(6) \quad \frac{D}{Y} = \frac{gk - s}{g - i} + \left( \frac{D_0}{Y_0} - \frac{gk - s}{g - i} \right) e^{(i-g)t}$$

where  $D_0/Y_0$  is the value of  $D/Y$  at time  $t = 0$ .

<sup>43</sup> Note that the model is in real terms, i.e all variables are divided by the GDP deflator.

From equation 6 it can be seen that the dynamic path will be stable and converge to equilibrium only if the rate of GDP growth is higher than the interest rate. If the interest rate is higher than the rate of growth, debt will grow at an ever-increasing rate and will reach an exploding level.

With  $g > i$ , the asymptotic value of the debt-income ratio is:

$$\lim_{t \rightarrow \infty} D/Y \rightarrow [(gk - s)/(g - i)]$$

The maximum amount of  $D/Y$  (or the maximum level of sustainable debt-to-GDP) is determined by the difference between the marginal investment rate ( $gk$ ) and savings rate ( $s$ ).

Alternatively, using the **trade gap** ( $M - X$ ) and rearranging the terms, debt accumulation can be set in function of the interest rate ( $i$ ) and the rate of growth of exports ( $x$ ).

$$(7) \quad \frac{d(D/X)}{dt} = \frac{D}{X}(i - x) + \frac{M - X}{X}$$

where  $D/X$  is the debt-to-export ratio.

Equation 7 states that the change in the ratio of debt to export is the sum of the current level of this ratio multiplied by the difference between the interest rate and the rate of growth of exports, and the current trade gap divided by the current level of exports. The solution to this differential equation gives the following time path of the debt-export ratio:

$$(8) \quad \frac{D}{X} = \frac{1}{x - i} \left( \frac{M - X}{X} \right) + \left[ \frac{D_0}{X_0} - \frac{1}{x - i} \left( \frac{M - X}{X} \right) \right] e^{(i-x)t}$$

where  $D_0/X_0$  = debt-export ratio at time  $t = 0$ .

Here, the stability condition is that the interest rate should be lower than the rate of growth of exports ( $i < x$ ). The trajectory of  $D/X$  can be exponentially ascending or descending, depending on whether  $x$  is greater or smaller than  $i$ .

With  $i < x$ ,  $D/X$  will converge to an equilibrium with the following limit:

$$\lim_{t \rightarrow \infty} D/X \rightarrow [1/(x-i)] [(M - X)/X]$$

As the size of the debt-to-export ratio depends on the trade gap, this limit to sustainability can be very high if the trade gap is very large.

Finally, taking into consideration the **fiscal gap**, as derived from the Government budget identity (and assuming that the Government incurs only external debt and does not have domestically contracted debt), applying the same procedure as above yields the following equation:

$$(9) \quad \frac{d(D/Y)}{dt} = \frac{D}{Y}(i - g) + \frac{PB}{Y}$$

PB is the primary deficit of the Government budget and  $g$  is the rate of growth of the economy. This time the stability condition is that  $g$  exceeds  $i$ .

The debt dynamics depicted above imply that as long as GDP grows faster than real interest rate, a country is solvent even if the ratio of foreign debt to GDP keeps growing. The same applies for fiscal debt. Likewise, as long as export grows faster than real interest rate, a country is solvent even if the ratio of foreign debt to exports is increasing.

In practice, these concepts have shown to be not very realistic. In particular, even though the stability conditions can be satisfied, the asymptotic values of debt, as well as the trade gap and fiscal deficit which determine these values, can be very high. Nothing in the model signals the capacity of debtors to repay the full amount of this debt. Unless lenders are willing to lend over a prolonged period while knowing that debt is not going to be repaid, debtors need to run fiscal surplus or trade surplus in order to reduce their debt.

### 3. The IMF and World Bank DSA Framework

The three financing-gap identities are also used as the basis of the framework employed by the IMF and the World Bank for debt sustainability assessment (DSA). The framework consists of two templates, one related to the external debt sustainability and the other to the fiscal sustainability of the public sector.

The *external debt sustainability template* analyses the debt incurred externally by domestic residents (both the public and the private sector). Using the balance-of-payments identity as the point of departure and rearranging the terms derived from the algebraic transformations of this identity, the following equation can be used to decompose changes in external debt:

$$d_{t+1} - d_t = \frac{1}{(1 + g + \rho + g\rho)} (r - g - \rho(1 + g) + \varepsilon\alpha(1 + r))d_t - tb_{t+1}$$

where  $d$  is the debt-to-GDP ratio,  $\alpha$  is the share of domestic-currency debt in total external debt,  $\varepsilon$  is the change in the exchange rate expressed in US\$ per local currency unit,  $tb$  is the current-account balance excluding interest payments in per cent of GDP,  $\rho$  is the change in the domestic GDP deflator expressed in US\$,  $g$  is the real GDP growth rate, and  $r$  is the interest rate.

This equation allows the following decomposition of the separate channels affecting the evolution of the debt-GDP ratio:

- the non-interest current account deficit,  $tb$ ;

- the real interest-rate,  $\frac{r}{(1 + g + \rho + g\rho)} d_t$ ;

- the real growth rate,  $-\frac{g}{(1 + g + \rho + g\rho)} d_t$ ;

- price and exchange-rate changes,  $\frac{-\rho(1 + g) + \varepsilon\alpha(1 + r)}{(1 + g + \rho + g\rho)} d_t$ .

The three last effects can be characterized as the contributions of endogenous debt dynamics.

The *fiscal sustainability template* analyses the behavior of the debt-to-GDP ratio with all variables expressed in domestic currency. Using the Government budget identity as the point of departure and rearranging the terms derived from algebraic transformations of this identity, the following equation can be used to decompose changes in public debt:

$$d_{t+1} - d_t = \frac{1}{(1 + g + \pi + g\pi)} (\hat{r} - \pi(1 + g) - g + \varepsilon\alpha(1 + \hat{r}))d_t - pb_{t+1}$$

where  $d$  is the debt-to-GDP ratio,  $pb$  is the primary balance,  $\hat{r}$  is a weighted average of domestic and foreign interest rates,  $\alpha$  the share of foreign-currency denominated public debt,  $\pi$  the change in the domestic GDP deflator, and  $g$  the real GDP growth rate. Changes in the exchange rate (local currency per U.S. dollar) are denoted by  $\varepsilon$ , with  $\varepsilon > 0$  indicating a depreciation of the local currency.

This equation allows the following decomposition of the channels affecting the evolution of the debt-GDP ratio:

- the primary deficit  $pb$ ,
- the real interest rate,  $\frac{r - \pi(1 + g)}{(1 + g + \pi + g\pi)} d_t$  ;
- the real growth rate,  $-\frac{g}{(1 + g + \pi + g\pi)} d_t$  ;
- exchange-rate depreciation,  $\frac{\varepsilon\alpha(1 + r)}{(1 + g + \pi + g\pi)} d_t$  .

Again, the three last effects can be characterized as the contributions of endogenous debt dynamics.

By identifying different factors contributing to the growth of the debt ratios, the templates indicate the channels through which debt can be reduced, if the level is too high. Note that in the templates the real GDP growth rate and export growth rate are exogenously given so that there is only a one-way relationship from GDP and export growth to debt accumulation. The shortcoming, therefore, is the lack of a reverse relationship from GDP and debt growth to growth of exports, which limits use of the templates for examining certain scenarios for debt, GDP and export growth.

Furthermore, the IMF and World Bank DSA framework leaves open the question of the appropriate level of debt around which debt should be stabilized. An example of ad hoc character of the application of IMF/World Bank DSA framework in determining a sustainable level of debt is the setting of the indicative thresholds for the ratios of NPV of debt to GDP, to exports and to government revenue at different levels for low-income countries according to the policy performance of borrowing countries as measured by the Country Policy and Institutional Assessment (CPIA) Index. The following table illustrates these thresholds.

**Table III.1. Indicative External Debt Burden Indicators 1/**

	Quality of Policies and Institutions 2/		
	Poor	Medium	Strong
<i>NPV of debt in per cent of:</i>			
Exports	100	150	200
GDP	30	40	50
Revenue 3/	200	250	300
<i>Debt service in per cent of:</i>			
Exports	15	20	25
Revenue 3/	25	30	35

1/ See IDA and IMF "Operational Framework for Debt Sustainability Assessments in Low-Income Countries - Further Considerations", 2005.

2/ Country's with a CPIA below or equal to 3.25 are defined to have a poor quality of policies and institutions, while a CPIA above 3.75 indicates a good quality.

3/ Revenue is defined exclusive of grants.

There are several problems with using the CPIA as the sole criterion for determining debt thresholds. Historical series for the CPIA index are not publicly disclosed (only data for IDA countries starting from 2005 are disclosed). As a consequence, all analyses that link debt sustainability to the CPIA have been conducted by World Bank/IMF staff and no external researcher has been allowed to test the robustness of the links between these two variables. It is also questionable whether the quantitative impact of the CPIA on the probability of debt distress is large enough to formulate debt thresholds only based on the CPIA. Moreover, it is not clear whether the CPIA is indeed a measure of policies or just a leading indicator of a debt crisis.

#### 4. Debt, Trade and Growth

Interlinkages between trade, growth and debt can be shown more directly by rearranging the balance of payments identity of section B.1 in accordance with the algebraic transformations in section I of the Appendix. These give the following equation:

$$d_t - d_{t-1} = m - x + (i_f - p_f)d_{t-1} - (ctot + g)d_{t-1}$$

where  $d$  is the ratio of external debt to GDP,  $m$  the ratio of imports to GDP,  $x$  the ratio of exports to GDP,  $i_f$  the foreign interest rate,  $p_f$  the rate of change of foreign price index,  $p_h$  the domestic price index,  $ctot (= e + p_f - p_h)$  the rate of change of the terms of trade ( $e$  being the rate of change of the exchange rate expressed as domestic per unit of foreign currency), variables being expressed in domestic currency.

Ignoring the effect of real foreign interest rate and including a term representing the effect of FDI ( $fdi$ , the ratio of net flows of FDI to GDP), this equation has been tested empirically through a panel regression of data for seven countries (Argentina, Bangladesh, Bolivia, Kenya, the Republic of Korea, Malaysia, and Uganda) over the period 1981-2004. The results are as follows (t-statistics in parentheses):

$$dt - dt-1 = 0.27 - 0.36(xt - mt) - 0.37 fdi - 0.14 g - 0.18 ctot$$

(6.07) (5.54) (2.30) (1.68) (0.66)

$$R^2 = 0.1858$$

The variables on the right-hand side of the equation explain 18-19 per cent of the variations in debt ratios. The coefficients are significant at the 5- or 10- per-cent level except for that of the terms-of-trade change. All the coefficients have the expected signs. Understandably, the trade balance plays a highly significant role in debt accumulation: a trade deficit adds to debt, while a trade surplus reduces it. FDI and growth reduce debt accumulation.

## 5. Contribution of Debt to GDP Growth

The preceding suggests that growth reduces the expansion of the debt ratio. But what is the contribution of debt to growth? In order to assess this relationship, the balance-of-payments identity is rearranged again to show the relationship between growth as a dependent variable and other variables including debt flows (see appendix for the algebraic transformations). This relationship is reflected in the following equation (derived in section II of the Appendix).<sup>44</sup>

$$\frac{dY}{Y} = \frac{(1 + \lambda\eta + \psi)(dP/P - dE/E - dP^*/P^*) + (1 - \lambda)(d(\Delta D^e)/\Delta D^e) + \lambda\epsilon dY^w/Y^w}{\pi}$$

where  $\lambda$  is the initial ratio of exports to imports,  $\psi$  the price elasticity of imports,  $\pi$  the income elasticity of imports,  $\eta$  the price elasticity of exports,  $\epsilon$  the income elasticity of exports,  $\Delta D^e$  the net external debt flows,  $P$  the export price index,  $P^*$  the import price index,  $E$  the exchange rate (domestic per unit of foreign currency), and  $Y^w$  world income.

Panel regression, covering the same countries and the same period as in the analysis above, was used to estimate alternative relationships (i) and (ii) based on this equation.

$$(i) \ g = 0.04 - 0.109 \Delta d + 0.049 \text{ ctot} + 0.054 \Delta x$$

$$(10.75) (5.25) (2.00) (1.91)$$

$$R^2 = 0.25$$

where  $g$  is real GDP growth,  $\Delta d$  the change in the ratio of external debt stock to GDP,  $\text{ctot}$  the rate of change of the terms of trade (UNCTAD index of terms of trade), and  $\Delta x$  the growth rate of constant US\$ exports

All coefficients are significant. The sign of the coefficient of debt is negative, signifying that an increase in the debt to GDP ratio reduces growth.

$$(ii) \ g = 0.338 + 0.127 \Delta f + 0.094 \text{ ctot} + 0.045 \Delta x$$

$$(8.05) (2.22) (3.23) (1.46)$$

$$R^2 = 0.11$$

in which the debt stock is replaced by a variable ( $\Delta f$ ) measuring the ratio of net external resource flow to GDP:  $\Delta f = f_t - f_{t-1}$  and  $f = nd + fdi + oda$ ,  $nd$  being the ratio of net transfers on debt (debt flows net of amortization minus interest payments) to GDP,  $fdi$  the ratio of net flows of FDI to GDP, and  $oda$  the ratio of grants to GDP.

<sup>44</sup> Thirwall and Hussain (1986) derived a similar equation, expressing growth in terms of the volume effect of relative price changes, the terms of trade, and the growth of the world economy and capital flows.

The variables on the right-hand side of (ii) explain only 11 per cent of GDP growth. However, the coefficients except that of export growth are statistically significant. This time external debt is not specified in the equation as such but is included as one of the components of the variable representing net external resource flows which have a statistically significant positive impact on growth.

## **E. Development Policy-Based Approach to Debt Sustainability**

The above discussion shows that there is a diversity of approaches to DSA. Each approach has a particular focus and serves a different purpose, whether it be debt management, crisis prevention, or debt relief. Technical indicators should be supplemented by policy considerations and other kinds of analysis if countries are to manage their external debt in a sustainable way.

Bearing in mind all external and domestic factors contributing to debt sustainability, under a development-policy approach, debt sustainability is not viewed only from the narrow perspective of reducing an unsustainable level of debt but is also integrated into the overall development strategy of a country. Under this approach, debt should be managed in such a way as to maximize its contribution to sustainable development.

Such an approach incorporates the view that external indebtedness cannot be sustainable in the long run if the development strategy adopted does not lead to an increase in foreign exchange earnings to repay the debt only after the other domestic resource requirements of the development strategy have been met. Thus the point of departure of a sustainable debt strategy is a clear vision of the country's development trajectory. Debt should be integrated into this development trajectory by encouraging efficient use of external debt which balances its costs and benefits in the context of the trajectory.

The panoply of policies integrating debt into a country's development strategy would aim at addressing different situations:

- policies to enhance an efficient use of debt in line with development objectives;
- policies to adjust to shocks in order to avoid debt crises;
- policies to deal with debt crises and to restore growth.

Integration of debt and development strategy does not exclude policies to reduce excessive levels of debt but emphasizes the context of a growth-oriented approach to debt sustainability. Furthermore such integration is based on acknowledgement that in an interdependent world prevention of a debt crisis often also requires actions at the international level, based on international cooperation to ensure adequate transfer of resources for development as well as trading opportunities for debtor countries.

The establishment of an effective institutional framework up for debt management is essential for the implementation of a sustainable debt strategy. Within this framework specific roles and responsibilities should be assigned to the ministry of finance, the central bank and the debt management agency, i.e. the different government entities, and the framework itself should be adapted to the administrative capacity of each debtor country.

Development is not a smooth process, and no country can be sheltered from the threat of a debt or financial crisis. Countries can more effectively adjust to debt and currency crises if they manage to foresee the events likely to trigger them. Taking early adjustment measures, where possible, could in some cases help to mitigate the gravity of the crisis and shorten its duration. The indicators reviewed in this paper should help in this respect. They should also help countries to assess the costs and benefits of debt renegotiations.

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## ANNEX

### 1. Debt, Trade and Growth

From the Balance of Payments identity:

$$1) P_h X - EP_f M - i_f ED + EF = 0$$

$X$  are real exports (or volume of exports)

$M$  are real imports (or volume of imports)

$P_h$  is domestic price index

$P_f$  is foreign price index

$D$  is external debt expressed in foreign currency

$F$  are external flows, including new debt and net FDI, expressed in foreign currency

$E$  is nominal exchange rate (domestic currency per unit of foreign currency)

$i_f$  is the foreign interest rate

We assume that there are no changes in international reserves.

Dividing all variables by nominal GDP,  $P_h Y$ , we get:

$$2) x - m - i_f \frac{ED}{P_h Y} + \frac{EF}{P_h Y} = 0$$

$$m = \frac{EP_f}{P_h} * \frac{M}{Y}$$

where  $x = \frac{P_h X}{P_h Y}$ , and for simplicity it is assumed that all external flows are debt

related so that  $F = \frac{dD}{dt}$

Define  $d = \frac{ED}{P_h Y}$  and  $f = \frac{EF}{P_h Y}$

Differentiate the expression for  $d$ :

$$\begin{aligned} \frac{dd}{dt} &= \frac{(EdD + DdE)P_h Y - ED(dP_h Y + P_h dY)}{(P_h Y)^2} \\ &= \frac{EdD + DdE}{P_h Y} - \frac{ED(dP_h Y + P_h dY)}{(P_h Y)^2} \\ &= \frac{EdD + DdE}{P_h Y} - \frac{EDdP_h}{P_h} \frac{1}{P_h Y} - \frac{EDdY}{Y} \frac{1}{P_h Y} \\ &= \frac{EdD + DdE}{P_h Y} - \frac{EDp_h}{P_h Y} - \frac{EDg}{P_h Y} \end{aligned}$$

$$= \frac{ED[(dD/D + dE/E) - p_h - g]}{P_h Y}$$

We can rewrite the above expression as:

$$\frac{dd}{dt} = d(e - p_h - g) + \frac{ED}{P_h Y} \frac{F}{D} = d(e - p_h - g) + f$$

$e$  rate of change of exchange rate

$p_h$  rate of change of domestic prices  
 $g$  real GDP growth rate ( $dY/Y$ )

Finally, we replace  $f$  with the above expression in equation 2:

$$x - m - i_f d - (e - p_h - g)d + \frac{dd}{dt} = 0$$

or

$$3) \frac{dd}{dt} = m - x + (i_f + e - p_h - g)d$$

Further, we can rewrite equation 3 as:

$$\frac{dd}{dt} = m - x + i_f d + (e + p_f - p_h - g - p_f)d$$

where  $p_f$  represents the rate of change of foreign prices  
 or

$$\frac{dd}{dt} = m - x + (i_f - p_f)d - (ctot + g)d$$

where  $ctot$  (=  $ph - pf - e$ ) is the rate of change of the terms of trade.

## 2. Contribution of Debt and Capital Flows to Growth

First, the balance of payments identity:

$$4) (D_t^e - D_{t-1}^e) = E_t P_t^* M_t - P_t X_t + i^* D_{t-1}^e - \Delta FDI_t - (R_t - R_{t-1})$$

$D_e$  is expressed in domestic currency.

For simplicity, we will assume that all capital inflows are debt-related and so included into  $D_t^e$ , that these inflows are estimated on a net basis (i.e. after allowing for  $i^* D_{t-1}$ ), and that the foreign exchange reserves are unchanged ( $\Delta R_t = 0$ ). Then:

$$\Delta D_t^e + P_t^* X_t = E_t^* P_t^* M_t$$

Taking logs on both sides:

$$\ln(\Delta D_t^e + P_t^* X_t) = \ln(P_t^* E_t M_t)$$

Differentiating:

$$\frac{d(\Delta D_t^e + P^* X)}{\Delta D_t^e + P^* X} = \frac{dP^*}{P^*} + \frac{dE}{E} + \frac{dM}{M}$$

Since  $d(P^* X) = dP^* X + P^* dX$  and  $\Delta D_t^e + P_t^* X_t = E_t * P_t^* * M_t$ , we can rewrite this expression as:  $\{P^* X / P^* E^* M\} \{dP/P + dX/X\} + \{\Delta Det / P^* E^* M\} \{d(\Delta Det) / \Delta Det\} = dP^*/P^* + dE/E + dM/M$

Replacing  $\frac{P^* X}{P^* E^* M}$  by  $\lambda$  and  $\frac{\Delta D_t^e}{P^* E^* M}$  by  $1 - \lambda$  we get .

$$5) (1 - \lambda) \left( \frac{d(\Delta D^e)}{\Delta D^e} \right) + \lambda \left( \frac{dP}{P} + \frac{dX}{X} \right) = \frac{dE}{E} + \frac{dP^*}{P^*} + \frac{dM}{M}$$

where  $\lambda$  represents the initial ratio of exports to imports.

Substituting the expression for real imports,

$$dM / M = \psi (dP^* / P^* + dE / E - dP / P) + \pi dY^R / Y^R$$

and real exports,

$$dX / X = \eta (dP / P - dE / E - dP^* / P^*) + \varepsilon dY^w / Y^w,$$

where  $\eta$  is the price elasticity of exports,  $\psi$  the price elasticity of imports,  $\pi$  the elasticity of demand for imports,  $\varepsilon$  the elasticity of demand for exports,  $Y^r$  the GDP of the debtor country, and  $Y^w$  foreign income ,

and solving for  $dY^r/Y^r$ , we get:

$$6) dY^r/Y^r = \frac{(1 + \lambda \eta + \psi)(dP/P - dE/E - dP^*/P^*) + (1 - \lambda)(d(\Delta D^e)/\Delta D^e) + \lambda \varepsilon dY^w/Y^w}{\pi}$$

On the RHS of this expression, we see that the balance-of-payment-constrained growth rate of real GDP depends on:

the rate of change of terms of trade  $(dP/P - dE/E - dP^*/P^*)$ ;

the combined effect of price elasticity of imports and export and relative price changes/changes in the terms of trade  $(\eta + \psi)(dP/P - dE/E - dP^*/P^*)$ ;

the combined effect of rate of change of debt-related foreign capital inflows and the trade deficit as a proportion of imports,  $(1 - \lambda)d(\Delta D^e)/\Delta D^e$ ;

the combined effect of growth rate of the ratio of exports to imports, the elasticity of demand for exports, and foreign income,  $\lambda \varepsilon Y^w$ .

# **AN ANALYTICAL FRAMEWORK FOR DEBT SUSTAINABILITY AND DEVELOPMENT**

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## **A. Introduction**

### **1. External Debt and Development**

This paper is intended to contribute to the further development of debt sustainability analysis for developing countries, within a framework that does not take the narrow view of debt sustainability as being reached solely by reducing excessive current levels of debt. Rather it views debt sustainability, as an integral part of a successful development strategy, closely linked to export growth.

There are at least three good reasons for developing country Governments to borrow abroad: (i) the economic return on public investment in developing countries is superior to the cost of borrowed capital so that growth can be accelerated by prudent use of debt without excessively reducing current consumption levels; (ii) domestic firms (particularly small and medium enterprises) cannot easily borrow abroad and terms are better for sovereign borrowers so that it is efficient for the Government to use debt for on-lending to productive sectors, particularly exports; and (iii) the externalities from public investment in infrastructure, health, education, etc. are large and positive but cannot generally be captured in returns to foreign direct investors.

Foreign private investors can benefit from investing in developing-country sovereign debt as the rates of return are higher than those obtainable on OECD government bonds, while the risk due to possible default can be mitigated by appropriate diversification of portfolios. However, finance from this source is available only for “emerging markets” – that is middle-income countries and a few large low-income countries. Most low-income countries, on the other hand, do not have access to external private capital except for foreign direct investment in natural resource sectors owing to problems associated with contract enforcement, information asymmetry, and economic externalities. In consequence bilateral aid

donors and multilateral development banks act as financial intermediaries to provide loans on suitable terms on the basis of their own ability to raise funds in global capital markets.

External debt has to be repaid in foreign exchange, so that trade plays a critical role. The relationship between external borrowing and trade is the key to a successful external debt strategy, as external indebtedness cannot be sustainable in the long run if the development strategy does not lead to an increase in foreign exchange earnings above import requirements sufficient to repay the debt. The point of departure of a sustainable debt strategy is, therefore, a clear vision by the Government of the country's development trajectory and its relation to its trade potential.

## 2. The Current Empirical Context for External Debt Analysis

It is essential to take into account the situation of different types of debtor countries (middle-income countries, low-income countries, HIPCs, etc.) both because lenders are diverse (with distinct objectives and leverages) and because countries' economic structures and vulnerability to exogenous shocks differ. In this sub-section we take a brief look at aggregate data organized by regional groups, income levels, and debt difficulties. This disguises many problems at the country level but gives a good idea of the overall issues.

As Table IV.1. indicates, the debt burden in relation to exports is three times higher in low-income than in middle-income countries. However middle-income countries owe three-quarters of all developing-country debt. Thus the "debt problem" is an issue of integration into the world economy if considered from the point of view of a middle-income country, but an issue of economic development if viewed from the perspective of a low-income country.

**Table IV.1. External Debt and Exports by Income Level, 2003**

	Exports (US\$ bn)	External Debt (US\$ bn)	Debt/Exports (Per cent)
Low-income countries	176	523	297
Middle-income countries	1813	1815	100
Total developing countries	1999	2339	117

Source: World Bank (2005b).

The total value of external debt and debt service varies widely by region and by debtor status, at Table IV.2. indicates. By 2003 net external borrowing was quite low compared to outstanding debt in all three regions identified here,<sup>45</sup> but only in Developing Asia are reserves sufficiently large (particularly since the mid-1990s financial crises) to cover external debt liabilities. In Latin America (and by extension in "UDC" countries with recent debt difficulties) reserves barely cover debt service, leading to serious liquidity difficulties. In Africa (and by extension the HIPC group) reserves are at least four times debt service but this has no practical significance because the debt is not traded. It is worth noting that if the overseas assets of the private sector were recorded and entered here, the net asset position of developing countries would be positive – and in this sense there is no "developing country debt issue" as such but rather a serious sovereign debt problem.

<sup>45</sup> The CIS and Eastern Europe were in fact the main net borrowers in 2003.

**Table IV.2. External Debt of Developing Countries by Region and Debtor Status, 2003 (US\$ bn)**

	Total	of which	Developing Asia	Latin America and Caribbean	Africa	UDC	HIPC
External debt	2 724.3		695.7	759.0	278.0	804.2	145.8
Official Reserves	1 412.6		670.1	196.2	90.9	168.7	19.7
Debt service	437.8		105.5	174.3	25.2	112.3	3.6
Net external borrowing	91.5		18.7	0.6	3.8	3.8	2.0
Exceptional financing	32.4		6.2	14.4	6.7	13.0	5.1

*Source:* IMF (May 2005).

*Notes:* “UDC” are Unsustainable Debt Countries (author’s definition) with arrears and/or rescheduling during 1997-2001; HIPC are “highly indebted poor countries” under consideration by the World Bank and IMF for debt cancellation; “debt service” is actual payments of interest on total debt plus amortization payments on long-term debt, incorporating exceptional financing; “exceptional financing” is arrears on debt service, rescheduling of debt service and debt forgiveness.

The external debt structure varies in two dimensions – maturity and creditor. As table IV.3. shows, most debt is “long-term” (that is with a maturity of one year or more) and has an average maturity of the order of ten years. Africa and the HIPC countries rely mostly on official creditors, while Asia and Latin America rely more on private lenders. Within this latter category bonds predominate over bank credit, although the difference is not great in practice from the point of view of the borrower.

**Table IV.3. Structure of External Debt, by Maturity and Creditor, 2003 (US\$ bn)**

	Total	of which	Developing Asia	Latin America and Caribbean	Africa	UDC	HIPC
Short-term	377.9		106.3	89.7	19.4	34.8	3.3
Long-term	2 344.9		589.4	669.3	258.6	769.4	142.5
Total debt	2 724.3		695.7	759.0	278.0	804.2	145.8
Official creditors	1 021.9		292.6	204.5	213.1	491.3	132.0
Private creditors:							
bank credit	722.1		161.9	185.8	42.5	183.2	10.8
bonds	960.0		241.3	368.7	22.4	129.7	3.0

*Source:* IMF (May 2005).

*Notes:* For UDC see notes to table IV.2.

In relation to exports it is clear from Table IV.4. that the major “debt overhang” difficulties are encountered in Latin America and Africa, where most of the UDC and HIPC are to be found. In relation to debt service Latin America (and by extension the UDCs) has the most serious problem. African countries (and thus the HIPC) benefit from softer, aid-related debt terms – and, indeed, do not fully service their debt. The differences in interest rates paid reflect the differences between middle-income countries with access to private lending and low-income countries which rely on official lenders, on the one hand, and the higher default risk in Latin America compared to Asia, on the other.

**Table IV.4. Indicators of Debt in Relation to Trade, 2003**

	Total	of which:	Developing Asia	Latin America and Caribbean	Africa	UDC	HIPC
<i>Per cent of exports</i>							
External Debt	111.3		73.2	199.3	144.6	208.9	321.1
Interest Payments	4.3		2.6	10.8	4.1	6.8	3.6
Amortization	13.6		8.5	34.9	9.0	22.3	6.6
<i>Per cent of debt</i>							
Interest	3.9		3.6	5.4	2.8	3.3	1.1
Amortization	12.2		11.6	17.5	6.2	10.7	2.1

Source: IMF (May 2005).

### 3. Coverage of the Paper

This paper focuses on external debt. It does not examine domestic debt, even though with currency convertibility public debt denominated in domestic currency can represent a contingent claim on foreign exchange reserves – albeit at an undefined exchange rate. Nor does this paper address debt crises as such and the subsequent renegotiations and restructurings. None the less, many of the analytical results for prudent debt management discussed below are relevant to debt sustainability at the domestic as well as the external level because latter sustainability cannot be sensibly planned for either except in the context of a sustainable debt trajectory.

The structure of the paper is as follows. Section B provides the appropriate national accounting framework for debt analysis, and then sets out the traditional “gap models” (savings, trade and fiscal) along with a summary of the modern critique of this approach. Section C outlines the modern intertemporal approach to debt analysis, derives the optimal debt level in relation to output and exports for an open developing economy, and proposes two “golden rules” for external debt management. The macroeconomic consequences of external debt are addressed in Section D, which starts with the key impact on real exchange rates and follows this with the framework for analysing the effects on fiscal balances and income distribution. Section E explains how credit rationing in global capital markets means that debt levels are not determined by borrowers, and goes on to analyse the impact of interest-rate and trade shocks under these circumstances. Finally, Section F derives policy conclusions for both domestic Governments and the international community.

## B. Debt and the “Finance Gap” Model

### 1. National Accountings and Debt

Debt accounting is quite complex because debt flows – inflows of fresh debt capital and outflows of debt service – enter into the process of savings and investment, the balance of payments (on both current and capital account) and the fiscal framework. In the savings and investment balance, net debt flows constitute “external saving”. In the current account of the balance of payments interest payments on debt are an outflow of factor income. In the capital account net debt flows create changes in the net external asset position. In the fiscal accounts gross debt inflows are an external resource, while amortization and

interest payments are major expenditure items. Furthermore net debt flows in a particular year, in combination with inherited debt, determine debt for next year, thus introducing a dynamic element into debt accounting.

These accounting identities tell us nothing about the behavior of the various components: in other words they are not a model. However, they do clarify the complex relationship between debt and the domestic economy, and also underline the fact that the components must be reconciled - in other words, "add up".

We use the following nomenclature:

$Y$  aggregate output (i.e. GDP)  
 $C$  aggregate consumption  
 $X$  exports of goods and services  
 $M$  imports of goods and services  
 $S$  domestic saving  
 $I$  investment (gross fixed capital formation)  
 $i$  interest rate on external debt  
 $\delta$  amortization rate on external debt  
 $D$  external debt  
 $G$  government expenditure  
 $T$  government revenue  
 $R$  official foreign exchange reserves

We start with the aggregate demand-supply balance

$$Y + M \equiv C + I + X \quad [\text{B.1}]$$

which, when the savings-investment identity is inserted, yields the "accumulation balance"

$$S = Y - C \quad [\text{B.2}]$$

$$S - I \equiv X - M$$

The balance of payments on current account includes not only exports and imports of goods and services, but also factor income (income from capital and workers' remittances). To simplify the exposition we include here only the interest payments on (public) external debt at this stage. Note that, if these are included in [B.2], then the definition of savings ( $S$ ) is national savings and that of output ( $Y$ ) is GNP.

The current account (CAB) and the capital account (KAB) are opposite and equal. Thus

$$CAB \equiv X - M - iD \quad [\text{B.3}]$$

and the capital account is

$$KAB \equiv \Delta D - \Delta R \quad [\text{B.4}]$$

so that

$$CAB + KAB \equiv 0 \quad [\text{B.5}]$$



Note that private capital flows (and the corresponding factor payments) can be inserted into this accounting framework very simply. Foreign private assets (A) include portfolio holdings overseas (sometimes misleadingly called “capital flight”) and FDI abroad by domestic companies. Foreign private liabilities (L) include both foreign borrowing by domestic firms and inward FDI. The full capital account can thus be written<sup>46</sup>

$$KAB \equiv \Delta D + \Delta L - \{\Delta R + \Delta A\} \quad [\text{B.4a}]$$

However, in the rest of this paper we shall assume that the Government is the only external debtor – not least because the “external debt” statistics reflect public sector and publicly guaranteed external debt.

In this framework we assume that the fiscal balance is closed only by foreign borrowing – thus excluding monetary issue (“seignorage”) and domestic borrowing from consideration:

$$T + \Delta D \equiv G + iD \quad [\text{B.6}]$$

Last, but far from least, we have the law of motion for the external debt itself (D) in terms of its previous period value (D-1), and new borrowing ( $\Delta D$ ) and the depreciation rate ( $\delta$ ) in the following two alternative forms:

$$\begin{aligned} D &\equiv D_{-1} - \delta D_{-1} + \Delta D \\ \Delta D &\equiv D - D_{-1} + \delta D_{-1} \end{aligned} \quad [\text{B.7}]$$

## 2. “Financing Gap” Models of Debt and Growth

In the context of work on development strategies from the 1960s through the 1980s “financing gap” models provided the basic analytical framework for both lenders and borrowers.<sup>47</sup> In these models,<sup>48</sup> the objective of the planner is to maximize the rate of output growth ( $y$ ) subject to the constraints imposed by domestic savings (i.e. the capacity to invest), the external sector (i.e. the capacity to import) or fiscal balances (i.e. the capacity to spend).

The savings constraint exists because available funds are determined by the domestic economy’s propensity to save ( $s$ ) and the inflow of external finance ( $F$ ), which in turn determines the maximum level of investment ( $I$ ) that can be undertaken and thus the rate of growth ( $y$ ).

The external constraint exists because the level of imports ( $M$ ) cannot exceed the foreign exchange available from exports ( $X$ ) and capital inflows ( $F$ ). Exports are assumed fixed in the short term, due to capacity constraints and/or limited external markets. The availability of imports determines the maximum level of output ( $Y$ ) for a given import propensity ( $m$ ).

The fiscal constraint exists because growth depends on public investment (either because it constitutes the bulk of investment, as in poor countries, or because it is essential in order to promote private investment, as in middle-income countries). Public investment is assumed to be a constant proportion ( $p$ ) of total investment. Public investment, and thus growth, is constrained by budgetary balance ( $Z$ ).

<sup>46</sup> A complete current-account identity would include private inflows and outflows of factor income

<sup>47</sup> Avramovic and others (1964) is a good survey of the traditional methodology for analysing the relationship between debt and growth.

<sup>48</sup> There is a large literature on these models, which originates with the Harrod-Domar growth model of the savings constraint, and continues with Chenery & Strout (1955), who modeled the external constraint. This model was then extended to include also the fiscal constraint. Good formal expositions of all three ‘gap models’ are given by Bacha (1990) and Taylor (1994).

In consequence of these assumptions external finance (F) acts as a source of “external saving”, to fill the gap between domestic savings and total investment, acting as a form of “import support” and as a source of fiscal revenue. Through these channels F affects both the level of investment and the rate of growth of GDP. This model still informs most of the empirical policy debate about aid, debt and foreign investment.

The planning problem is thus to maximize  $y$  where

$$\begin{aligned}
 Y_t &= k K_t \\
 K_t &= K_{t-1} + I_t \\
 S_t &= s Y_t + (t - g) Y_t \\
 M_t &= m_1 Y_t + m_2 I_t \\
 F_t &= D_t - D_{t-1} - (i + \delta) D_{t-1} \\
 Z_t &= (g - t) Y_t + p I_t
 \end{aligned}
 \tag{B.8}$$

subject to the three constraints

$$\begin{aligned}
 I_t &\leq S_t + F_t \\
 M_t &\leq X_t + F_t \\
 Z_t &\leq F_t
 \end{aligned}
 \tag{B.9}$$

(where  $t$  is tax revenue and  $g$  government expenditure as a proportion GDP).

The outcome depends on which of the three constraints actually binds at any one point in time, which is an empirical issue.

The savings-constrained maximum growth rate ( $y_s^*$ ) can be derived as:

$$y_s^* = k \left[ s + (t - g) + \frac{F}{Y} \right]
 \tag{B.10}$$

The main concern of aid-related policy modeling in most developing countries is the externally-constrained maximum rate of growth ( $y_e^*$ ), which can be derived as:

$$y_e^* = \frac{k}{m_2} \left[ \frac{X + F}{Y} - m_1 \right]
 \tag{B.11}$$

Finally, the fiscally constrained rate of growth ( $y_f^*$ ) can be derived as

$$y_f^* = \frac{k}{p} \left[ \frac{F}{Y} + (t - g) \right]
 \tag{B.12}$$

All three growth rates are of course increase in response to net debt inflows (i.e.  $\partial y / \partial F > 0$ ), but with different derivatives. Which binds depends on the character of the economy. Generally it is reasonable to assume that in the poorest economies the savings constraint is binding, and that external and finally fiscal

become binding as economic development advances. The effect of net debt flows is likely to be progressively greater in each of these three stages because generally

$$p < m_2 < 1$$

$$\frac{\partial y_f^*}{\partial F} > \frac{\partial y_e^*}{\partial F} > \frac{\partial y_s^*}{\partial F} \quad [\text{B.13}]$$

### 3. The Limitations of “Financing Gap” Models

The “financing gap” model continues to form the basis for the trade, aid and growth linkages in the medium-term macroeconomic programming model used by the World Bank: the Revised Macroeconomic Standard Model (RMSM).<sup>49</sup> It also informs the short term monetary programming framework used by the IMF.<sup>50</sup> These two models still form the essential analytical underpinning for the mission reports of the two Bretton Woods institutions on stabilization and adjustment programs.<sup>51</sup> The UNDP makes estimates of the external financing requirements of poor countries on a similar basis when preparing for meetings of donor consortia.

However, the last decade has witnessed growing awareness of the limitations of these models, which no longer correspond either to modern macroeconomic theory or to macroeconomic policy practice in open economies. Indeed from a neoclassical viewpoint this analytical tradition is regarded as invalidating the proposals from the Bank and the Fund on additional lending and debt forgiveness.<sup>52</sup> However, their persistence is doubtless due in large part to their analytical simplicity and the fact that the parameters can be estimated easily and quickly from available macroeconomic data in developing countries.

Without going so far as to reject “financing gap” models, it is possible to identify four areas of weakness which need to be remedied in order to produce a sounder conceptual framework and analytical model for quantifying debt sustainability. These are:

- First, the coefficients in the behavioral equations (particularly the constraints) are assumed to be stable and exogenous, rather than endogenously determined. In the case of savings, empirical evidence and Keynesian theory suggest that domestic saving (and thus consumption) in fact adjusts to the level of fixed investment and foreign inflows of capital.<sup>53</sup> Again, the fiscal balance can always be adjusted by varying government expenditure.
- Second, in the external balance of trade, exports are assumed to be given and imports to depend only on the level of economic activity. This ignores the effect of the real exchange rate on both import and export volumes, and thus the possibility of adjusting to foreign exchange shortages without having to reduce growth.<sup>54</sup> It also underplays the role of exchange rates in determining the fiscal balance.
- Third, “financing gap” models assume that extra external finance always contributes to growth, by simply and directly adding to savings, import capacity or fiscal resources and thus allowing investment – and thus growth – to rise. However, it is established that external resources often in

<sup>49</sup> See the Addison (1989) and <http://www.worldbank.org/data/rmsm/index.htm> for an updated version of this paper plus other RMSM documents.

<sup>50</sup> See IMF (1987), which in turn derives from Polack (1957). See also Baquir and others (2003) for the growth linkages in IMF models.

<sup>51</sup> See Aghenor and Montiel (2003) for a recent survey, and Khan and others (1990) for a formal statement of the relationship between the two models.

<sup>52</sup> See Easterly (1999).

<sup>53</sup> See FitzGerald (2003a).

<sup>54</sup> See Dornbusch & Helmers (1988).

practice lead to increased consumption.<sup>55</sup> Moreover the investment undertaken may not lead to increased exports and thus debt-repayment capacity.

- Fourth, and most seriously from an analytical viewpoint, the “financing gap” model does not allow for intertemporal optimization by economic agents: that is, the fact that households, firms and Governments take investment, saving and borrowing decisions looking forward over many years. The assumption of intertemporal optimization is the basis of modern macroeconomics in general and for small open economies in particular; and allows resource allocation behavior to be endogenized.<sup>56</sup>

## C. Sustainable Debt Levels

### 1. The Optimal Debt Level, Export Capacity and Intertemporal Maximization

The contemporary approach to debt sustainability starts from the same foundation as the modern macroeconomic theory of open economies, where apparent balance of payments disequilibria in the short run can be seen as part of an intertemporal equilibrium based upon expectations by economic actors about the future. The small open economy is composed of overlapping generations of households optimizing consumption and saving over time and of firms making investment decisions based on profit maximization.<sup>57</sup> Current account surpluses (or deficits) generate net asset (or liability) positions with the rest of the world, which in turn affect the future behavior of firms and households.

If there is free access to international financial markets at a given interest rate ( $i$ ) and no issues such as debt default, then the country obeys the Fisherian maxim and separates the decision to invest from the decision to consume.<sup>58</sup> Focusing here on the decision to invest, firms choose their investment strategy so as to maximize the wealth of their shareholders when measured at world interest rates. The intertemporal equilibrium strategy<sup>59</sup> amounts to selecting an investment rate ( $k^*$ ) that is a solution to

$$\begin{aligned} & \max_k \int_0^{\infty} \exp(-it)(Q_t - J_t) dt \\ & Q_t = Q(K_t) \\ & \dot{K}_t = I_t - \delta K_t \\ & k \equiv I_t / Q_t \end{aligned} \quad [C.1]$$

where  $Q$  is the level of net output,  $J$  the cost of installing new capital,  $K$  the capital stock and  $\delta$  the rate of depreciation.

In order to find a tractable solution to this general problem, we have to specify the relevant functional forms. We start off by defining national income ( $W$ ) as output minus debt interest costs, where debt also plays a role in capital formation, such that

<sup>55</sup> At least since Griffin (1970).

<sup>56</sup> See Obstfeld & Rogoff (1995) and Sen (1994).

<sup>57</sup> This is now a standard formulation: see for instance Obstfeld & Rogoff (1995).

<sup>58</sup> The savings rate depends on the social rate discount factor and the intertemporal elasticity of substitution of consumption, on the one hand, and the (world) interest rate, on the other. See Sen (1994).

<sup>59</sup> See Cohen (1994) for the derivation.

$$\begin{aligned}
 W &= Y - iD \\
 W'(D) &> 0 \\
 W''(D) &< 0
 \end{aligned}
 \tag{C.2}$$

in order that a maximum should exist.<sup>60</sup> This formulation is also convenient because the two constraints reflect declining absorption capacity and debt overhang effects respectively. Under these conditions, the optimal debt level will be defined by the condition for maximizing  $W$  with respect to  $D$ :

$$\frac{\partial W}{\partial D} = \frac{\partial Y}{\partial D} - \left( i + D \frac{\partial i}{\partial D} \right) = 0
 \tag{C.3}$$

In other words, debt should be contracted up to the point where the marginal addition to output equals the marginal addition to interest costs. *Ceteris paribus*, the higher the interest rate, the lower the resulting optimal debt level; and the larger the positive impact of that debt on output, the higher the optimal debt level.

To find the optimal debt level, we start with a standard<sup>61</sup> endogenous-growth production function of the form

$$Y = aK
 \tag{C.4}$$

Leaving aside the last term in [C.3] and thus assuming that the interest rate is unaffected by the debt level, we have the following maximization condition:

$$\begin{aligned}
 \frac{\partial W}{\partial D} &= \frac{\partial Y}{\partial D} - i = \frac{\partial Y}{\partial K} \frac{\partial K}{\partial D} - i = 0 \\
 \frac{\partial K}{\partial D} &= \frac{i}{a}
 \end{aligned}
 \tag{C.5}$$

The key issue is thus shown to be the effect of debt on investment. We shall examine the particular case where the domestically funded capital ( $K_1$ ) is already installed, there is no previous debt, and the authorities contemplate moving in one period to the optimal debt level, by providing extra capital stock ( $K_2$ ) funded by external debt

$$K = K_1 + K_2
 \tag{C.6}$$

External debt ( $D$ ) is then contracted. A fixed proportion ( $\lambda$ ) of this is used to fund the installation of new productive capital (directly as in rural infrastructure, or indirectly as loans to exporters), while the rest is allocated to other activities such as social investments (health etc), coverage of current-account deficits, or non-economic infrastructure. The cost of this productive public investment ( $J$ ) is a quadratic function of the investment rate:<sup>62</sup>

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<sup>60</sup> Otherwise the optimal debt level would be infinite, of course.

<sup>61</sup> See Rebelo (1991) for the basis of the 'AK' model used here, and Aghion & Howitt (1999) for a comprehensive survey of modern endogenous growth theory.

<sup>62</sup> See Heijdra and van der Ploeg (2002: 40) and also Cohen (1994: 490).

$$D = \frac{J}{\lambda}$$

$$J = K_2 \left( 1 + \frac{\phi}{2} \frac{K_2}{K_1} \right) \quad [\text{C.7}]$$

With  $\phi > 1$

So we can now specify the objective function [C.2] as

$$W = a(K_1 + K_2) - \frac{i}{\lambda} K_2 \left( 1 + \frac{\phi}{2} \frac{K_2}{K_1} \right) \quad [\text{C.8}]$$

and differentiating with respect to  $K_2$  yields the optimal solution in terms of the ratio ( $\gamma$ ) between debt-funded capital and “domestically funded” capital:

$$\frac{\partial W}{\partial K_2} = a - \frac{i}{\lambda} \left( 1 + \phi \frac{K_2}{K_1} \right) = 0$$

$$\frac{\hat{K}_2}{K_1} = \frac{1}{\phi} \left( \frac{a\lambda}{i} - 1 \right) = \gamma \quad [\text{C.9}]$$

Note that the optimal capital structure coefficient ( $\gamma$ ) can be negative – which would imply accumulation of foreign assets instead of borrowing abroad.

We find the optimal debt-to-output ratio ( $\theta$ ), by substituting [C.9] into [C.7] and [C.4]:

$$\hat{D} = \frac{\hat{K}_2}{\lambda} \left( 1 + \phi \frac{\hat{K}_2}{K_1} \right) = K_1 \frac{\gamma}{\lambda} (1 + \gamma\phi)$$

$$\hat{Y} = a(K_1 + \hat{K}_2) = aK_1(1 + \gamma)$$

$$\theta = \frac{\hat{D}}{\hat{Y}} = \frac{\gamma(1 + \gamma\phi)}{a\lambda(1 + \gamma)} \quad [\text{C.10}]$$

Clearly  $\theta$  is increasing in  $\gamma$ , and thus by [C.9] the optimal debt-output ratio will be lowered by an increase in the interest rate ( $i$ ) (as we should expect), but will be lowered by an increase in the proportion of debt funds allocated to productive investment ( $\lambda$ ) or in the overall productivity of capital ( $a$ ). This result can be generalized to a steady-state growth situation because in such a situation  $Y/K$  is constant (and thus both components of capital grow at the output growth rate), and thus  $D/Y$  must be constant. If the optimal debt level ( $\theta$ ) is higher, then debt can be safely raised.

Overall capital productivity requires some further comment in the context of this study. We assume a simplified form of the externally constrained economy discussed in the previous section such that:

$$M = mY$$

$$M \leq X$$

$$X = \alpha\beta K \quad [\text{C.11}]$$

where exports are a function of the proportion ( $\beta$ ) of the capital stock located in the export sector with known productivity ( $\alpha$ ). If it is assumed that the second constraint of [C.11], i.e. that  $M = X$ , substitution of the first expression of [C.11] into [C.4] and the result into the third expression of [C.11] gives

$$a = \frac{\alpha\beta}{m}$$

$$\frac{\hat{K}_2}{K_1} = \frac{1}{\phi} \left( \frac{\alpha\beta}{m} \frac{\lambda}{i} - 1 \right) = \gamma \quad [\text{C.9a}]$$

In other words, the optimal debt level rises with the proportion  $\beta$  of debt-funded capital stock allocated to the export sector. However, it falls with an increase in interest rates or the import coefficient. To put this another way: *long-run debt solvency – and thus the avoidance of debt crises arising from trade or capital market shocks – requires the allocation of a higher proportion of the funds raised not only to productive investment but also to investment in the export sector.*

Finally, we can also define the optimal debt service ratio ( $\omega$ ) from this result, where

$$\omega = \frac{(i + \delta)\hat{D}}{\hat{X}} \quad [\text{C.12}]$$

by substituting [C.10] and [C.11] into [C.12] to yield:

$$\omega = (i + \delta) \frac{\hat{D}}{\hat{Y}} \frac{\hat{Y}}{\hat{X}} = (i + \delta) \theta \frac{a}{\alpha\beta} \quad [\text{C.13}]$$

The optimal debt service ratio ( $\omega$ ) will *decrease* with a higher interest rate ( $i$ ) because its negative influence on the optimal debt-output ratio ( $\theta$ ) outweighs that of the explicit  $i$  term in [C.13].

## 2. The “Golden Rules” for Debt Sustainability

The “law of motion” for external debt from the previous section (equation [B.7]) can be expressed in terms of the primary<sup>63</sup> current account balance ( $P$ ) on the assumption that this debt is the only form of external finance:

$$D_t = (1 + i)D_{t-1} + P_{t-1} \quad [\text{C.14}]$$

which through repeated substitution yields

$$\frac{D_t}{(1 + i)^t} = \sum_{t=0}^{t-1} \frac{P_t}{(1 + i)^t} + D_0 \quad [\text{C.15}].$$

When  $n$  goes to infinity, the present value of debt (i.e. the left hand side of the equation) goes to zero and we retrieve the intertemporal balance of payments constraint

<sup>63</sup> That is, excluding interest payments.

$$D_0 = \sum_{t=0}^{\infty} \frac{P_t}{(1+i)^t} \quad [\text{C.16}]$$

In other words, all debt must *eventually* be paid back.

However, in practice, developing country financial authorities and debt managers have to work on a shorter time scale and without the luxury of searching for optimal solutions. The ceiling on “prudent” debt is conventionally expressed as a share of output or as a ratio of debt service to exports, the former reflecting longer-term solvency considerations and the latter shorter-term liquidity ones.

Once the prudential ceiling ( $d$ ) on the debt output ratio has been reached, debt management strategy is logically not to exceed it. Thus the “golden rule” is that

$$\frac{D_t}{Y_t} \leq \frac{D_{t-1}}{Y_{t-1}} = d \quad [\text{C.17}]$$

For a given rate of output growth ( $y$ ) and expressing the primary deficit as a ratio ( $p$ ) of output we have

$$\begin{aligned} d &\geq \frac{D_t}{Y_t} = \frac{(1+i)D_{t-1} - P_t}{(1+y)Y_{t-1}} = \frac{(1+i)D_{t-1}}{(1+y)Y_{t-1}} - \frac{P_t}{Y_t} \\ d &\geq \frac{1+i}{1+y}d - p \end{aligned} \quad [\text{C.18}]$$

so that the “golden rule” for the debt-output ratio is

$$p \geq d \left( \frac{1+i}{1+y} - 1 \right) \approx (i-y)d \quad [\text{C.19}]$$

In other words, a primary deficit ( $p < 0$ ) can only be safely incurred if the growth rate is higher than the interest rate ( $y > i$ ).

If we express the rule in terms of the current account balance proper, as a proportion ( $c$ ) of output then the golden rule becomes

$$\begin{aligned} c &= p - id \\ c &\geq -yd \end{aligned} \quad [\text{C.20}]$$

In other words, the *maximum current account deficit as a proportion of GDP is the rate of growth multiplied by the prudent debt-GDP ratio.*

We can now turn to the second “golden rule” related to the ratio of debt service to exports. The derivation is very similar to that for the first rule, but expressed in terms of the second ceiling ( $\sigma$ ):

Once the prudential ceiling ( $d$ ) on debt in relation to output ratio has been reached, the next requirement of debt-management strategy is that service payments on the resulting  $D_t$  in relation to exports should not exceed  $\sigma$ . Thus the “golden rule” is that



$$\frac{(i + \delta)D_t}{X_t} \leq \frac{(i + \delta)D_{t-1}}{X_{t-1}} = \sigma \quad [\text{C.21}]$$

For a given rate of export growth (x) and expressing the primary deficit as a ratio (p') of exports we have

$$\begin{aligned} \sigma &\geq \frac{(i + \delta)D_t}{X_t} = \frac{(i + \delta)\{(1 + i)D_{t-1} - P_t\}}{(1 + x)X_{t-1}} \\ &= \frac{1 + i}{1 + x} \frac{(i + \delta)D_{t-1}}{X_{t-1}} - \frac{(i + \delta)P_t}{X_t} \\ \sigma &\geq \frac{1 + i}{1 + x} \sigma - (i + \delta)p \end{aligned} \quad [\text{C.22}]$$

so that the "golden rule" for the debt service ratio is

$$p' \geq \frac{\sigma}{i + \delta} \left( \frac{1 + i}{1 + x} - 1 \right) \approx \frac{i - x}{i + \delta} \sigma \quad [\text{C.23}]$$

In other words, and more generally that a primary deficit ( $p' < 0$ ) can only be safely incurred if the export growth rate is higher than the interest rate ( $x > i$ ). If we express the second rule in terms of the current-account balance proper, as a proportion (c') of exports

$$\begin{aligned} c' &= p' - i\sigma \\ c' &\geq -\frac{x}{i + \delta} \sigma \end{aligned} \quad [\text{C.24}]$$

### 3. Convergence and Expectations

Policymakers with responsibility for debt attempt to adopt at least a medium-term view, and when their debt levels are above the prudent limits, then a "convergence" strategy must be adopted in order to reach these limits within a reasonable number of years. Suppose that we wish to reach to the prudential limit (d) of the debt-GDP level over a number of years from the present level (d') by reducing the debt by a proportion u each year over n years, then

$$u = \left( \frac{d' - d}{d'} \right)^{1/n} \quad [\text{C.25}].$$

The first golden rule is then re-expressed as:

$$\begin{aligned} \tilde{p} &\geq (i + u - y)d \\ \tilde{c} &\geq (u - y)d \end{aligned} \quad [\text{C.26}]$$

Whether new debt is sustainable depends, therefore, on expectations about the future growth of output and of the determinants of the balance of trade and of the current account, namely export growth and future interest rates and terms of trade. As we have seen, the debt level itself will affect growth in an optimal solution so that the use to which the debt is to be put, and thus future productivity, are also part of the solution. Debtors and creditors should have agreed on these forecasts before signing a debt

contract. For instance, if we expect the rate of change of the terms of trade ( $h$ ) to have a projected value in the future, then this is distinguished from export *volume growth* ( $\bar{x}$ ) so that [C.24] is rewritten as

$$c' \geq -\frac{h + \bar{x}}{i + \delta} \sigma \quad [\text{C.24a}]$$

For a debt contract to be agreed upon by debtor and creditor, both must agree on projections of key parameters; or if they disagree, at least the overall outcome must be anticipated as profitable to both sides.. But as exemplified by the debt crises of the early 1980s and of the middle 1990s and by the present plight of the HIPC's, events do not always turn out as expected. Expectations on both sides are thus crucial to the lending/borrowing decision – *there can be no “over-borrowing” without “over-lending”*.

## D. Fiscal Consequences of External Debt

Analytical frameworks such as those developed in sections B and C can be used explore the effects of policy towards external debt. One important issue under this heading is the relation between debt and fiscal policy. Here the analysis starts from an adjusted version of equation (B.6) in which tax revenue and foreign financing constrain feasible levels of government expenditure and services payments (interest and amortization) on external debt as follows:

$$G + (i + \delta)D \leq T + F' \quad [\text{D.9}]$$

Thus an increased gross debt flow ( $F'$ ) allows a fiscal expansion (i.e.  $G$  to rise). However, accumulated debt itself generates large budgetary items which in some cases become the largest single item of government expenditure, crowding out other expenditure categories.<sup>64</sup>

This constraint can be elaborated and simplified to take account of additional assumptions:

- Since external debt is denominated in foreign currency and the rest of the Government's budget in domestic currency, the debt term is multiplied by the real exchange rate ( $e = (E_{pf})/pd$ );
- Debt amortization flows are netted out;
- A strict budgetary rule is observed that only allows a maximum fiscal deficit ( $q$ ) in domestic currency to be financed from seignorage and/or domestic borrowing;
- The prudent debt-output ratio ( $d$ ) is maintained;
- Tax revenue is a given share ( $t$ ) of national income

(D.9) is then rewritten as:

$$G + ieD \leq (t + q)Y + de\Delta Y \quad [\text{D.10}]$$

Diving through by  $Y$  and rearranging, we then obtain the constraint on the share ( $g$ ) of government expenditure in national income in terms of the familiar debt parameters ( $d$ ,  $i$ ) and the rate of growth ( $y$ ) of output:

$$g \leq (\tau + q) + e(y - i)d \quad [\text{D.11}]$$

Absent a serious tax reform ( $\Delta\tau$ ) or a more relaxed monetary stance ( $\Delta q$ ), the government-expenditure share ( $g$ ) in national income is highly dependent on the debt parameters, on the one hand, and the

<sup>64</sup> For all developing countries in 2003, the average ratio of external debt service to GDP was 6 per cent. The average ratio of tax revenue to GDP ( $t$ ) was 15 per cent and of public health expenditure to GDP was 3 per cent (World Bank, 2005a).

growth rate ( $y$ ) and the real exchange rate ( $e$ ), on the other, - both of which variables are themselves strongly affected by the debt strategy. In particular, an increase in  $e$  consequent upon devaluation when the rate of output growth is low (i.e.  $y < i$ ) – a common occurrence during debt crises - will have a strongly negative impact on the fiscal constraint and thus on government expenditure.

This subordination of government expenditure as illustrated by the fiscal constraint [D.11] to debt management has at least three major consequences:

- (a) It is difficult to give priority to increasing social provision in general (and poverty reduction in particular) by expanding real health and education expenditure faster than population growth;
- (b) It is not possible to engage in an active counter-cyclical fiscal policy in order to reduce the impact of exogenous shocks on investment and growth, for example, by expanding infrastructure expenditure to maintain capacity utilization;
- (c) Long-term planning of public expenditure is rendered meaningless, with negative effects for the efficiency of public services, infrastructure provision and the utilization of scarce administrative skills.

## **E. Debt Vulnerability and External Shocks**

### **1. Determinants of Debt Flows**

So far we have been working on the assumption that developing countries can choose the level ( $D$ ) of debt that they contract at a given interest rate ( $i$ ). This is the conventional assumption in economic analysis as well as in policy debates when reference is made to “over-borrowing”. In fact, however, lenders determine the volume of changes in debt and the interest rate is not given. International debt flows are subject to a form of credit rationing.

Official lending (that is by bilateral donors or multilateral organizations) is always determined by the lender on its own criteria, although these should in principle support sustainable development and thus coincide with those of the borrower. However, the borrower does not decide the debt level. Rather the overall volume of official lending is determined by the institutional strategy of the lender. Within the total regional and country allocations lending depends upon both the technical appreciation of development prospects - and thus the sustainability of debt -; on the one hand, and the geopolitical pressures of donor Governments, on the other.

Given a ceiling of official lending from donors in any one period, developing-country Governments tend to contract debt up to this limit. It is in this sense that “credit rationing” exists for this category of lending. It is extremely rare for developing countries – particularly small low-income countries without access to private capital markets – to turn down official lending proposals. The interest rate and maturity of official debt is also set by the lender, usually on a subsidized basis. Eligibility is decided by the donor.

In international debt markets for both bonds and bank loans to the great majority of developing-country Governments (“sovereigns”) another form of credit rationing obtains. This reflects the influence of uncertainty in the loan market creates which causes adverse selection, as the two sides have different perceptions of risk and lenders cannot distinguish between borrowers as to their ability to repay in the future. It also reflects the lower tolerance of risk on the part of OECD investors in foreign than in their own markets, a situation which leads to an inefficient allocation of their portfolios known as “home bias”.<sup>65</sup>

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<sup>65</sup> See FitzGerald & Babilis (2005).

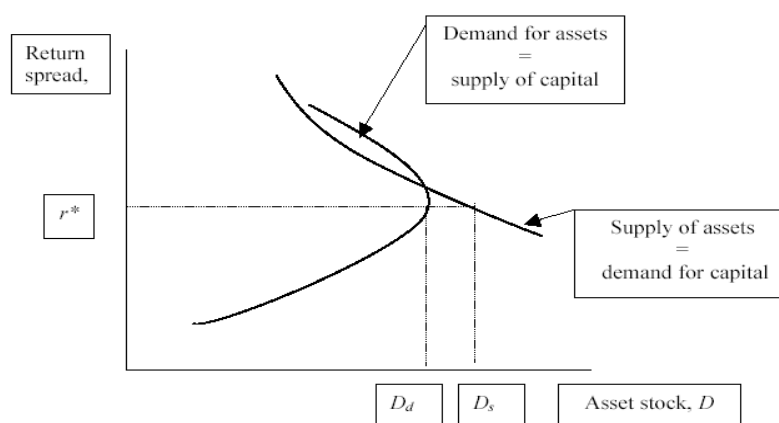
Consider the initially upward-sloping supply schedule of bank loans or bond purchases in Figure IV.1. below. This shows the return spread,  $r$  (the excess of the risky over the riskless rate, the latter being the rate of interest on government bonds, along the ordinate and the volume of lending along the abscissa. The competitive international banking market is made up of many non-collusive bank lenders and borrowers. Banks are price-takers in deposit markets but set lending rates (i.e. spreads) to maximize expected returns. Higher lending rates have an adverse selection effects on borrowers by increasing the perceived risks of lending. These in turn thus increase actual default risk owing to the increased burden of interest payments and the enhanced incentive to default due to rises with debt and interest rates. Beyond a certain point the debt supply schedule will be backward-sloping. Banks' unwillingness to differentiate between different risk reflects their imperfect information on fundamentals (e.g. default risk) as well as their fear of covariant risk between borrowers (contagion).

The demand schedule ( $D_d$ ) in figure IV.1. for debt is the backward-sloping curve for the supply of capital. Competitive lenders maximize their debt holdings at the point ( $D_d, r^*$ ): at this price (i.e. return spread) the potential supply of capital or demand for debt assets from developing countries ( $D_s$ ) is in excess of demand for capital or the supply of assets ( $D_d$ )– in other words, the willingness to borrow exceeds the willingness to lend.

$$D = D_d(r^*) < D_s(r^*) \quad [E.1]$$

The market interest rate in foreign currency ( $i_f$ ) to emerging market borrowers is determined by two elements, the riskless world rate ( $i_w$ ) and the risk premium ( $r$ ). The risk premium is the product of the perceived<sup>66</sup> probability of default ( $\pi$ ) and an appropriate of investors' degree of risk aversion ( $A$ ).<sup>67</sup> Perceived default risk depends upon indicators discussed in section C.B such as the debt-GDP ratio ( $d$ ) and the debt service ratio ( $\sigma$ ).<sup>68</sup>

**Figure IV.1. Credit Rationing in Global Debt Markets**



<sup>66</sup> The perception is that of lenders typically influenced by credit ratings agencies.

<sup>67</sup> Thus the risk premium is only equal to the underlying default risk if the financial market is strictly risk-neutral and there is perfect information; so that yield spreads should *not* generally be interpreted as measures of 'country risk' – see Cunningham and others (2001).

<sup>68</sup> As well as cruder liquidity measures such as the 'quick ratio' mentioned in Section F.1.

Thus we have:

$$\begin{aligned} i_f &= i_w + r \\ r &= \pi A \\ \pi &= \pi(d, \sigma) \end{aligned} \quad [E.2]$$

Clearly an increase in  $d$  or  $\sigma$  increases default risk (which is why the loan supply curve eventually becomes backward-sloping) and thus not only raises interest costs but also reduces loan availability. Note that the risk premium ( $r$ ) depends on *forecasts* of debt default probability, and thus on expectations of export and output growth, on the one hand, and on the risk tolerance of investors, on the other.

## 2. Capital-Market Shocks

One shock is an increase in rates of interest in a country with a major financial market. This shock affects interest rates paid by developing country sovereign borrowers (if) in two ways as Equation [V.2] indicates: firstly, by simply raising the risk free rate ( $i_w$ ), and, secondly, by raising the risk premium ( $r$ ) owing to the increase in the debt-service ratio ( $\sigma$ ).

However, another more commonly observed market shock results from shifts in the demand for emerging-market debt due to changes *within* developed country markets – such as changes in regulations, fluctuations in risk aversion amongst lenders and investors, or contagion from other debtors. These lead to “horizontal” downward shifts in the asset demand curve in Figure IV.1.

The macroeconomic and distributional consequences for emerging markets can be disproportionately large.<sup>69</sup> This results from a fundamental asymmetry in international capital markets: while capital flows are relatively small in relation to the home economies of lenders and investors, they are much larger in relation to host markets. The effect of the shocks is exacerbated by hysteresis:<sup>70</sup> owing to the irreversibility of investment and wage-price stickiness, a downswing does not lead the economy back to where it was before the upswing. Fluctuations in the real exchange rate associated with short-term capital flows also lead firms to misallocate investment between the traded and non-traded sectors, with negative consequences for growth.<sup>71</sup>

Another potentially serious negative effect of debt shocks on growth is not felt directly through the balance of payments but rather through the effect on investor uncertainty about future macroeconomic conditions<sup>72</sup> and policy changes<sup>73</sup> when the debt level exceeds the prudential limit, a position commonly known as “debt overhang”. But this risk can be reduced by government action. Even if the Government cannot credibly pre-commit to repay debt, investing in growth before borrowing can make foreign lenders as well as domestic investors more optimistic about growth prospects.

## 3. Global Trade Shocks

Global trade shocks can take various forms which include:

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<sup>69</sup> See FitzGerald (2001). Interestingly, this was the position taken by the IMF in the 1998 *World Economic Outlook* (‘Financial Crises: Characteristics and Indicators of Vulnerability’). However, by 2005 the *World Economic Outlook* had become much more sanguine, attributing most of emerging-market volatility to domestic fundamentals.

<sup>70</sup> A model of this process is set out in Chapter 6 of FitzGerald (2003). On the macroeconomic theory of hysteresis and path-dependency see Heijdra & van der Ploeg (2002), Chapter 2.2 and Appendix A.6.4.

<sup>71</sup> See FitzGerald & Perosino (1999).

<sup>72</sup> See FitzGerald, Jansen & Vos (1994).

<sup>73</sup> See Rodrick (1991).

- Sudden movements in export prices, particularly for primary commodities, due to demand shifts in developed countries or supply changes by other producers;
- Unexpected shifts in import prices, particularly those for essential commodities such as oil; and
- The loss of access for exporters to particular developed country markets due to changes in trade barriers or domestic (e.g. health) regulations.

These shocks obviously have an effect on the debt service-export ratio by changing the denominator: for example, a sudden fall in primary commodity prices will raise this ratio, even though debt service itself has not changed, and can render a previously sustainable debt unsustainable. Second-order effects depend upon what policy response the authorities take. In summary they have four options:

- *Incurring more debt in order to sustain import levels and maintain the level of economic activity.* This is likely to appreciate the real exchange rate (or at least prevent it from depreciating) and to prevent an increase in exports. The result is a further rise in the debt-service ratio through lower exports in addition to the higher debt.
- *Maintaining the debt level and allowing the currency to depreciate in order to improve the current-account balance and stimulate exports.* In this case exports do not fall and the debt-service ratio does not increase. However, owing to the increased burden of servicing the external debt in domestic currency the fiscal balance is worsened with consequent cuts in social expenditure cuts. Moreover the income distribution worsens with declining real wages and inflation.
- *Maintaining the debt level and stabilizing the real exchange rate.* This is likely to be associated with cutting the level of economic activity in order to depress imports, prevent inflation and balance the current account.
- *Any one of the above policies combined with a reallocation of debt funds to exports with good markets so as to maintain export growth and thus reduce the debt-service ratio.*

Which policy option is adopted determines the impact of a trade shock on debt sustainability. The domestic policy choice between exchange-rate shifts and demand management depends on local economic structures and political processes, as well as pressures from creditors or international institutions. The “golden rule” in this context is well known: “treat negative shocks as permanent and positive shocks as temporary”. It is clearly better to reduce debt in response to improved trade conditions than to increase it when they deteriorate. None the less, developing-country Governments frequently do the exact opposite: increasing debt during downswings and not reducing it again in upswings. Moreover the tendency to apply public external debt to non-traded sectors (which is often encouraged by the international institutions) reduces the ability to cope with trade shocks.

## **F. Conclusions: Principles for Debt Management in Development Strategies**

### **1. The Parameters of Debt Policy**

The main indicators underlying prudent debt management are shown in Table IV.5. It is clear that those economies with unsustainable debt (i.e. the UDCs which were in arrears and/or undertook debt rescheduling during the 1997-2001 period) still have very high debt-GDP ratios close to the conventional upper bound of 60 per cent. This ceiling is derived from experience of countries which get into major debt

difficulties and is in fact considerably lower than that set by the World Bank<sup>74</sup> in the context of the HIPC initiative.

Those UDCs which depend on private creditors are mainly in Latin America: their debt-service ratios and interest payments as a proportion of debt are higher and the average maturity shorter than for other countries in the region. The Latin American UDCs are typically suffering from a liquidity problem, reflected in the fact that the ratio of reserves to short-term obligations (or “quick ratio” as it is known by debt traders) is less than unity, making them susceptible to speculative attack. The African HIPCs in contrast, appear to be insolvent rather than illiquid: their inability to repay principle results in very long implicit maturities (i.e. years required to pay off debt at present rates of amortization). In marked contrast, Asia appears to be both solvent and liquid.

**Table IV.5. Indicators of Debt Vulnerability, 2003**

	Total	of which:	Developing Asia	Latin America and Caribbean	Africa	UDC	HIPC
External Debt ( <i>per cent of GDP</i> )	38.1		25.4	43.9	49.9	63.2	86.9
Debt Service ( <i>per cent of exports</i> )	17.9		11.1	45.8	13.1	29.2	10.2
Interest Payments ( <i>per cent of debt</i> )	3.9		3.6	5.4	2.8	3.3	1.1
Implicit maturity ( <i>years</i> )	8.2		8.6	5.7	16.1	9.4	48.7
Liquidity Ratio	1.73		3.16	0.74	2.04	1.14	2.86

**Source:** Author’s calculations based on IMF (May 2005).

**Notes:** “UDC” are Unsustainable Debt Countries’ with arrears and/or rescheduling during 1997-2001; HIPC are “highly indebted poor countries” under consideration by the World Bank and IMF for debt cancellation; interest payments divided by debt outstanding should be compared with long-term average interest rates in advanced economies averaging 5 percent in this period; “implicit maturity” is outstanding debt divided by amortization payments; “liquidity ratio” is the ratio of reserves to payments in the form of interest and principle on short-term debt principle plus service payments on long-term debt.

Nonetheless, as Table IV.6. shows, sustainability as measured by all indicators and for all debtor classes clearly improved between 1996 and 2003. This appears to be due to export growth and control of imports (which allowed current- account balances to move into surplus in many countries, especially in Asia and Latin America) rather than to significant reductions in debt levels. Indeed, all regions appear to be running current account deficits that are less or surpluses which are larger than indicated by the prudent rules shown in the table.

These indicators point to the effects of credit rationing on the part of creditors and stabilization efforts on the part of debtors. They suggest that there is room to initiate a new cycle of increased debt levels so long as it is accompanied by prudent macroeconomic policy.

<sup>74</sup> See World Bank (2004). ‘Moderately indebted’ countries are those with a ratio of the present value of contracted debt payments (PV) to GNP of over 132 percent and of PV to exports of goods and services (XGS) of over 48 percent, while ‘highly indebted’ countries have PV/GNP of over 220 percent and PV/XGS of over 80 percent. No explanation is given for how these exact figures are derived. These ratios are also difficult to compare with the IMF data used in this paper because the ratio of PV to nominal debt depends on the terms of the debt itself.

Table IV.6. Changes in Debt Sustainability 1996-2003

	Total	of which:	Developing Asia	Latin America and Caribbean	Africa	UDC	HIPC
<i>External Debt (per cent of GDP)</i>							
1996	37.8		31.2	35.0	69.0	51.0	126.9
2003	38.1		25.4	43.9	49.9	63.2	86.9
<i>GDP growth (per cent) 1996-2003</i>							
	5.1		6.6	2.6	3.9	3.5	4.8
<i>Current-account balance (per cent of G CESR (2005 para. 117).DP)</i>							
1996	-		-1.9	-2.2	-1.1	-	-
2003	-		3.1	0.3	-0.1	-	-
"prudent value" ( $\sigma$ )	-1.9		-1.9	-1.0	-2.3	-2.0	-5.1
<i>Debt Service (per cent of exports)</i>							
1996	21.5		13.9	46.7	20.3	29.2	22.6
2003	17.9		11.1	45.8	13.1	29.2	10.2
<i>Export growth 1996-2005</i>							
	10.8		12.0	7.0	8.1	8.1	7.1
<i>Current-account balance (per cent of exports)</i>							
1996	-		-7.3	-14.7	-3.6	-	-
2003	-		8.9	1.4	-0.29	-	-
"prudent value" ( $\sigma$ )	-2.1		-1.5	-3.2	-1.4	-2.4	-1.24

*Source:* author's calculations from IMF (May 2005).

*Note:* for definitions, see Section III above.. The debt/GDP and debt- service/export levels used in the calculation of prudential CAB and "golden rule" are the simple averages of 1996 and 2003.

## 2. Policy Implications for Developing Countries

Debt levels must clearly be kept within prudent limits and Governments should make credible commitments to keep within these constraints, employing appropriate legislation if necessary. Such a policy is essential to reduce uncertainty for domestic firms which are the main vehicles for the investment on which growth depends. A debt overhang and the prospect of deflationary stabilization policies and debt restructuring (or even moratoria) imply future losses of sales, profits and asset values.

Debt should be contracted on the longest terms possible. The cost of servicing should be kept at a minimum subject to appropriate control over the vulnerability to future capital-market or world-trade shocks. Such control may imply that higher interest rates are a reasonable price to pay for loans of longer maturity if vulnerability can be reduced thereby.<sup>75</sup>

The use of funds generated by external debt should be geared to ensuring repayment capacity. This means that a substantial proportion of these funds should be allocated to the support of export growth. This does not imply that the Government should be directly engaged in export production but rather that

<sup>75</sup> Missale (1999) demonstrates how this principle has been applied in OECD countries.



funds should be used to support appropriate infrastructure provision, the supply of long-term credit to exporters, and training for the work force.

The support of export growth also involves maintaining a competitive real exchange rate, which has implications both for nominal exchange rate management and for wage bargaining policy. The political-economy constraints on excessive reduction of real wages are best countered by appropriate commitments to output and employment growth. Low real interest rates and an expansionary credit policy are needed to support the investment rate likely to be required for the target rate of growth. This in turn means that the domestic financial system should to some extent be shielded from international capital markets.

The recent popularity of inflation targeting as the core of stabilization policy in emerging-market economies does not help reduce debt vulnerability because it has the effect of increasing vulnerability to cyclical capital flows. Opening of the capital account and a floating exchange rate has been accompanied by reliance on a single monetary policy instrument (the interest rate) and rigid fiscal rules in emerging-market economies in pursuit of price stability. This precludes not only countercyclical monetary and fiscal policy but also the use of the exchange rate to maintain export competitiveness which is a key element of prudent debt management. There is a strong argument for emerging-market Governments to adopt a counter-cyclical monetary stance in response to capital flows. This would need to be supported by real exchange-rate targeting, bank credit regulation and a more active fiscal stance.<sup>76</sup>

If such a policy is to be successful in middle-income countries with substantial short-term private capital flows, there is thus a strong case for intervention through various controls to reduce the volatility of capital flows.<sup>77</sup> These controls now usually take the form of taxes, regulatory measures (such as setting special reserve or deposit levels for inflows), and targeted money-market operations, while quantitative controls have become less common.

### **3. Policy Implications for the International Community**

There are a number of other policy areas that can only be addressed by the international community.

Substantial debt reduction has not yet been forthcoming, even for HIPC countries, due to difficulties in budgetary allocations for the corresponding asset write-downs. This is an internal accounting matter for OECD countries and requires urgent solution. Further debt restructuring can reduce the liquidity problem of debt-service pressure on the current account. However, it does not reduce the investment disincentives from debt overhang and may even make them worse by increasing uncertainty.<sup>78</sup>

Given that export growth is a key component of prudent debt management, access to OECD markets for developing country exporters is crucial to their ability to contract debt prudently, while accelerating economic growth and poverty reduction. The same is true of measures to reduce speculative fluctuations in primary commodity prices. Ideally, these would be combined with linkage of debt repayments to export levels – at least in the case of payments to official creditors.<sup>79</sup>

Since capital shocks to developing countries usually originate within OECD financial markets, policy towards them should be based on recognition of their external character. One step to reduce the impact of these exogenous shocks would be for the IMF to provide temporary finance on a larger scale, more quickly and with less conditionality in order to facilitate smooth debt management. In the longer run, it is

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<sup>76</sup> See FitzGerald (2005b).

<sup>77</sup> See FitzGerald (2005a).

<sup>78</sup> This effect far outweighs any potential moral hazard implicit in 'front loading' debt forgiveness.

<sup>79</sup> In practice markets are very unlikely to accept sovereign bonds with yields linked to commodity exports. However, certain primary commodities can be used as collateral for borrowing.

essential to deepen the market for developing-country debt in OECD countries by: lengthening the tenor of instruments, taking measures to increase their liquidity, and encouraging their inclusion in the investments of pension and insurance funds.<sup>80</sup>

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<sup>80</sup> Such measures would also reduce the riskiness of sovereign debt.

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## **THE DEBT EXPERIENCES OF UGANDA, KENYA AND BOLIVIA**

Damoni Kitabire, Peter Michael Oumo, Francis M. Mwega and  
Paul Beckerman<sup>81</sup>

### **A. Introduction**

This chapter reviews the debt experiences of three of the world's poorest economies, namely Uganda, Kenya and Bolivia. The chapter highlights the conditions and debt problems that underpinned the failure of successive debt initiatives to render their debt position sustainable.

A major contributory factor to this failure is that the three countries' exports remain concentrated on a handful of commodities, all of which suffered significant deteriorations in the terms of trade since the 1980s. Moreover, the three countries also experienced severe climatic shocks, such as severe droughts (Kenya) and *El Nino* (Bolivia). To these factors must be added political turmoil, instability and wars.

Uganda and Bolivia have records of having been exemplary pupils of Washington Consensus policies. Kenya followed similarly orthodox approaches to macro-economic management, albeit against a background of turbulent relations with creditors. All three countries went through a succession of programs. The reform efforts revived growth at the outset but sustained per capita gains failed to materialize.

The country reviews in sections II, III, and IV highlight the role of factors affecting sustainability that should have been incorporated in past debt relief analyses with special emphasis on export diversification, fiscal

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<sup>81</sup> Section B is based on a paper by Damoni Kitabire and Peter Michael Oumo (Ministry of Finance, Planning and Economic Development of Uganda) (Kitabire and Oumo (2005)), Section C is based on a paper by Francis M. Mwega (Department of Economics, University of Nairobi) (Mwega (2005)), Section D is based on a paper by Paul Beckerman (Independent Consultant) (Beckerman (2006)).

positions, and new financing. The three experiences are then compared and contrasted in Section E. Section F summarizes the principal findings.

## **B. Uganda**

### **1. Introduction**

Despite three decades of attempts to reduce the external debt burden, debt sustainability still eludes Uganda. The country's principal debt problem has been its heavy debt service burden. Despite remarkable GDP growth since the 1990s and improvements in export earnings, the economy remains dependent on rain-fed agriculture and vulnerable to shocks delivered by world commodity markets. The country is also still heavily dependent on donor aid which currently finances about 40 per cent of the budget.

Since the 1991 debt crisis, Uganda has developed a fairly coherent debt strategy. However, its debt burden remained high until the HIPC Initiative put Uganda on a sustainable debt path momentarily. Unfortunately the HIPC Initiative did not lead to a permanent exit from debt problems. The country has borrowed heavily post-HIPC to achieve the MDGs and its debt indicators are unsustainable again.

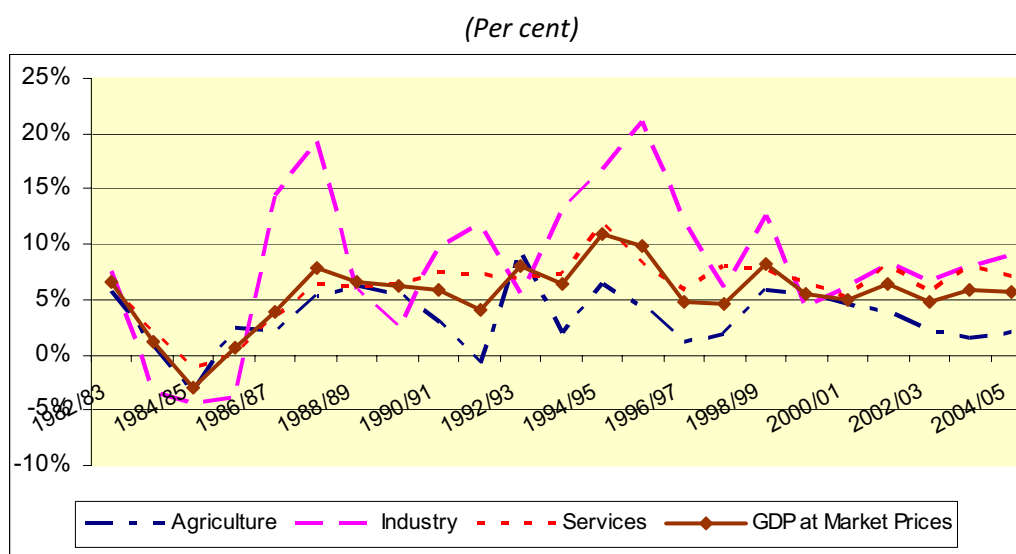
### **2. Economic Performance and Policies**

Uganda entered the 1980s with a degree of political stability that allowed GDP growth to recover to a positive 1.7 per cent in 1980-1983. Thereafter, industrial production declined due to foreign exchange shortage and the poor state of infrastructure, while agricultural production also lagged. In 1983/84 fiscal there was fiscal slippage on an IMF stabilization program which was cancelled in late 1984. Political instability and a protracted guerrilla war led to a new Government taking power in January 1986.

In May 1987, the new Government embarked on an Economic Recovery Programme with the support of IMF, World Bank and others. This was followed in 1989 by a Structural Adjustment Programme (SAP). Its focus was on limiting the involvement of the state in economic activities, the liberalization of trade, financial-sector and marketing activities, the privatization and divestiture of public enterprises, and more generally the promotion of private-sector participation in production. The program resulted in an acceleration of GDP growth to an average rate of 6.9 per cent per annum between 1991/92 and 1999/2000 (see Figure V.1.).

By 2000, the structure of the Ugandan economy had changed dramatically. In 1982/83, agriculture accounted for 53.6 per cent of GDP, but its share declined to 36.3 per cent in 2004/05. At the same time, the shares of industry and services steadily increased, that of services rising from 35.2 per cent 1982/83 to 36.6 per cent in 1990/91 and becoming the largest in 2001/02. However, Uganda remains vulnerable to weather changes as the country's agricultural system relies heavily on rain-fed small holder agriculture.

**Figure V.1. Uganda's GDP Growth 1982/83 – 2004/05**

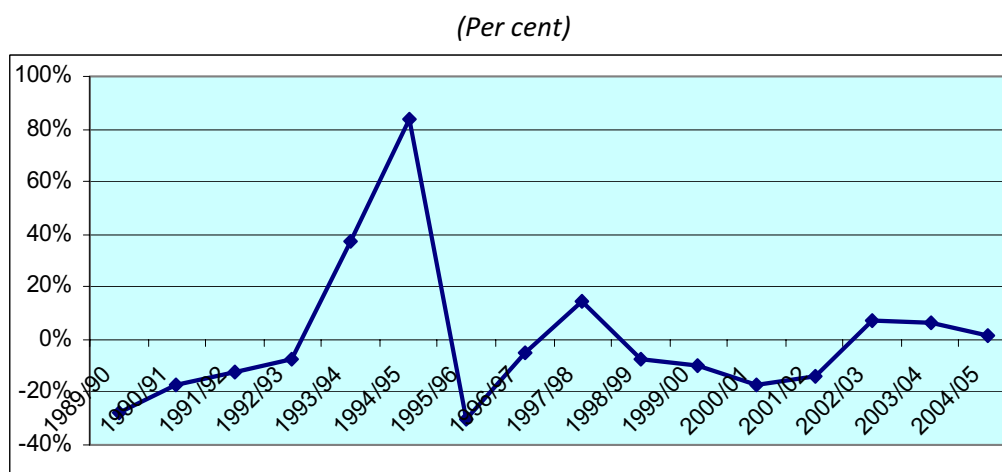


Source: Uganda bureau of Statistics.

Largely dependent on primary commodities, Uganda's export growth has been erratic. Following reform efforts, growth rebounded in the early 1990s. This was reinforced by the coffee price boom of 1993/94-1996/97. Following efforts to diversify away from coffee, the share of coffee in Uganda's exports has declined from 70 per cent in the 1990s to about 20 per cent since 2000/01. Fish has become Uganda's leading export, followed by cotton, tea, tobacco, and flowers.

As shown in Figure V.2., Uganda's terms of trade (TOT) have been erratic but with an overall secular declining trend, largely determined by the international price of coffee. The TOT have recently improved and changes have been positive since 2002/03. Deteriorating terms of trade have a direct impact on debt sustainability. Coffee export prices in 2003/04 were 49 per cent lower than envisaged at the time of HIPC II completion. 64 per cent of the deterioration in the ratio of the NPV of debt to exports between 2002 and 2004 was due to falling coffee export prices.

**Figure V.2. Changes in Uganda's Terms of Trade 1989/90 – 2004/05**



Source: Bank of Uganda.



Under the Economic Recovery program initiated in 1987, reforms in trade policy gradually eased quantitative restrictions and were geared towards export promotion. Trade licensing schemes were abandoned and coffee marketing was liberalized in the late 1980s. In 1992, the tax on coffee exports was abolished. It was briefly reintroduced in 1994 to limit the appreciation of the exchange rate as a result of the coffee boom, and abolished again in 1996. Import duties were rationalized in 1992 to a range of 10-60 percent, and were further reduced to a range of 10-50 percent in 1994.

Initially, the exchange-rate policy involved repeated devaluations and rationing of the available foreign exchange under various schemes. A foreign-currency retention scheme was introduced in 1988 and extended in 1989. In 1990, the exchange market was liberalized with the legalization of the parallel (kibanda) market. In 1992, an exchange rate auction market was created. The foreign exchange market was fully liberalized and the exchange rate was floated in 1993. In 1997, the capital account was liberalized.

To promote foreign investment, Uganda enacted an Investment Code in 1991. This reversed long-standing antipathy towards foreign investment and introduced standard provisions regarding investment incentives, profit repatriation and protection against expropriation. FDI rose from US\$43.2 million in 1992/93 to US\$670 million as of end 2004/05.

Successive reforms have enabled Uganda to manage its fiscal balances more prudently but have not reduced the country's dependency on donor aid for financing its budget. In the 1990s, over half of Uganda's budget was funded by donor aid and this ratio was still 40 per cent in 2005/06. Up to 1996 over half of the aid received was in the form of loans, though grants became more important subsequently (Atingi-Ego 2005).

Dealing with the Dutch Disease effects of these flows has been the source of a significant rise in domestic debt servicing. Dutch Disease effects put appreciation pressures on the exchange rate, with interest rate rises owing to the attempt to contain the inflationary effects of the inflows on liquidity. According to Atingi-Ego (2005), since 1998 Dutch Disease effects in Uganda have adversely affected investment and imports.

### **3. External Debt**

Uganda's debt problems date back to the 1980s. Debt continued to accumulate (despite the Government's increasing inability to service it) due to continuing foreign exchange shortages. By 1986, Uganda's debt stock had grown to US\$1.4 billion, up from US\$680 million in 1980. Between 1986 and 1990, because of the reconstruction and recovery program and of a lack of an effective debt management strategy, both the debt stock and debt service went out of control. Large sums were borrowed on unfavorable terms and arrears accumulated, the burden being exacerbated by delinquent private-sector loans guaranteed by the Government.

By the late 1980s, Uganda faced a debt crisis. In 1990, the Government ran out of foreign exchange following a sharp decline in terms of trade due largely to a decline in the price of coffee. Debt service obligations amounted to over 60 percent of export earnings. Drastic action was therefore necessary to reverse the collapse in the balance of payments, prompting the development of Uganda's first integrated debt management strategy in 1991.

As shown in table V.1., most of Uganda's debt (63 per cent in 1991 to 88 per cent as of 2004) is owed to multilateral institutions and is therefore long-term. Owed mainly to IDA and ADF the debt is also on concessional terms, i.e. has 10 years of grace, and a repayment period of 30 years for IDA and of 40 years for ADF. The debt to GDP ratio has declined drastically from a peak of 98 per cent in 1992 and has recently stabilized in a range of 60 -70 per cent. The ratio of debt service to exports has also undergone sharp

fluctuations but since the end of the 1990s has stabilized at around 20 per cent largely due to HIPC debt relief initiative and the promotion of non-traditional exports.

**Table V.1. Uganda's Debt Structure and Indicators 1980 – 2004**

US\$ Million	1980	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total Debt Stock	689.0	1,422.0	1,945.0	1,923.0	2,177.0	2,583.0	2,591.6	2,647.4	2,637.1	2,999.4	3,386.9	3,515.8	3,660.2	3,631.6	3,499.6	3,579.9	3,397.5	3,825.2	4,296.3	4,310.0
o/w arrears	101.0	92.0	99.0	136.0	190.0	298.0	370.9	583.1	301.8	251.0	233.4	250.3	316.6	275.5	241.5	232.0	286.8	301.7	318.7	342.9
Multilateral	n.a	n.a	n.a	n.a	n.a	n.a	1,643.6	1,755.9	1,815.9	2,156.1	2,487.9	2,655.1	2,763.0	2,826.8	2,782.6	2,936.3	2,893.3	3,318.1	3,720.4	3,782.8
Bilateral	n.a	n.a	n.a	n.a	n.a	n.a	811.8	651.4	697.3	730.4	787.9	755.1	796.0	748.6	649.9	593.2	476.1	488.5	555.5	510.3
o/w Paris Club	n.a	n.a	n.a	n.a	n.a	n.a	285.5	273.2	281.7	332.0	380.1	350.6	339.1	325.0	288.2	260.6	131.5	111.4	122.8	66.1
Non Paris Club	n.a	n.a	n.a	n.a	n.a	n.a	526.3	378.2	415.6	398.4	407.9	404.5	456.9	423.6	361.7	332.6	344.7	370.1	432.7	444.2
Other	n.a	n.a	n.a	n.a	n.a	n.a	136.2	240.1	123.9	112.9	111.1	105.6	101.2	56.2	67.1	50.5	28.1	18.5	20.4	16.9
Multilateral (% Debt Stock)	n.a	n.a	n.a	n.a	n.a	n.a	63.4%	66.3%	68.9%	71.9%	73.5%	75.5%	75.5%	77.8%	79.5%	82.0%	85.2%	86.7%	86.6%	87.8%
Bilateral (% Debt Stock)	n.a	n.a	n.a	n.a	n.a	n.a	31.3%	24.6%	26.4%	24.4%	23.3%	21.5%	21.7%	20.6%	18.6%	16.6%	14.0%	12.8%	12.9%	11.8%
Other (% Debt Stock)	n.a	n.a	n.a	n.a	n.a	n.a	5.3%	9.1%	4.7%	3.8%	3.3%	3.0%	2.8%	1.5%	1.9%	1.4%	0.8%	0.5%	0.5%	0.4%
Debt Service	57.0	172.0	160.0	202.0	186.0	147.0	148.0	131.0	140.6	167.8	150.7	142.2	155.9	154.6	162.9	133.4	146.1	133.6	172.0	179.7
Debt/GDP	54.6%	32.7%	66.4%	54.2%	59.5%	86.0%	83.4%	98.2%	87.4%	81.3%	64.3%	64.0%	64.0%	59.5%	62.0%	65.9%	65.0%	71.3%	74.4%	68.8%
Debt Service/Exports	17.2%	43.2%	43.8%	62.3%	61.2%	59.8%	66.1%	65.2%	83.2%	66.1%	22.6%	19.7%	18.9%	24.4%	22.4%	20.1%	21.6%	19.1%	22.2%	19.4%
Debt/Exports Ratio	208.2%	357.3%	532.9%	593.5%	716.1%	1050.0%	1157.0%	1317.1%	1560.4%	1180.9%	507.8%	486.3%	443.8%	573.1%	481.8%	540.0%	501.9%	545.7%	555.1%	464.4%

**Source:** Ministry of Finance, Planning & Economic Development and Bank of Uganda.

First attempts at developing a debt management system came in 1983 with the formation of the External Debt Management Office (EDMO) within the Bank of Uganda (BoU). In 1986, two other offices; the Aid Coordination Unit (ACU) in the Ministry of Finance Planning and Economic Development (MFPED), and the Treasury Office of Accounts (TOA) were mandated to manage and disburse external debt together with the EDMO. The ACU, now called Aid Liaison Department (ALD), was responsible for seeking and negotiating new loans in line with Government's financing requirements.

The key features of Uganda's debt adopted in the 1995 strategy include seeking grant funding before contracting any loan and ensuring that all loans are strictly on IDA-comparable terms. Loans must be approved by the beneficiary sector and the development committee before being contracted, and they must be in line with sectoral and poverty reduction targets. Loans are then scrutinized by the Ministry in charge and checked against budgetary targets, after which cabinet and parliamentary approval are sought.

Technical capacity for debt management in Uganda is well developed. Particularly since 1995, Uganda has made sustained, tangible progress in capacity building in all aspects of debt management. Moreover, BoU has now a good debt recording capacity and a complete up-to-date computerized database which uses UNCTAD's Debt Monitoring and Financial Analysis System (DMFAS).

#### 4. Domestic Public Debt

In Uganda the issuance of Government debt has not only had the normal function of meeting revenue shortfalls, but also that of financing the sterilization of foreign aid inflows. As sterilization efforts intensified at the end of the 1990s, Treasury bill sales rose from 23 per cent to 32 per cent of commercial bank holdings between 1998 and 2004 despite the fact that domestic debt was typically in the range of 1-2 per cent of GDP (see Table V.2.). Interest payments on domestic debt, however, doubled in 1995-2000 owing to the policy of high interest rates associated with the attempt to manage the consequences of high aid inflows. By adding to pressures on the fiscal balance these interest payments contributed to post-HIPC difficulties.

**Table V.2. Domestic Debt in Uganda and Kenya, 1980-2000**

(Per cent)

		Kenya	Uganda	Average	HIPC	Decision Point 2/	Non-HIPC 3/
<i>Domestic debt (in percent of GDP)</i>	1980-89	21	2	11	9	10	14
	1990-94	23	1	12	6	7	18
	1995-00	22	2	15	8	8	23
<i>Total debt (in percent of GDP)</i>	1980-89	81	2	62	69	73	53
	1990-94	100	74	102	138	143	59
	1995-00	74	59	118	169	164	59
<i>Domestic/Total debt</i>	1980-89	25	100	25	22	25	30
	1990-94	23	1	19	6	7	35
	1995-00	29	4	22	6	7	40
<i>Domestic interest payments/ total debt</i>	1990-94	71.7	14.4	49.7	42.3	43.6	60.8
	1995-00	74.5	29.4	51.9	42.5	43.2	65.3

Source: Christensen (2004)

**Notes:**

1/ Both domestic debts include Treasury Bills and Government Stocks, with Kenya also issuing bonds

2/ Includes Uganda

3/ Includes Kenya

## 5. The Debt Strategy from 1991 to 1995

In early 1991, the Government of Uganda embarked on a comprehensive debt strategy, including a full debt audit. The 1991 Debt Strategy focused on overcoming the immediate debt payment crisis and developing mechanisms to ensure that it did not re-occur. The first objective of this strategy was to provide a solution to the cash flow problem through debt restructuring. This necessitated clearing arrears and reducing debt service to levels consistent with Uganda's ability to pay. The second objective was to improve debt management structures. This resulted in the strengthening of debt management by requiring ministries to work with the Aid Coordination Unit (ACU) in the Ministry of Finance. In addition, strict limits on borrowing were put in place, with a requirement to exhaust all sources of grant financing before considering new loans, which had to come from highly concessional sources.

By 1991, Uganda had already undertaken four restructuring operations within the framework of the Paris Club in 1981, 1982, 1987, and 1989. Unfortunately, these restructuring operations were not sufficient to ease the debt overhang for two reasons. First, in the Paris Clubs 1 to 3, negotiations covered only debt falling due during a short consolidation period (12-18 months). Second, until Paris 8, only pre-cut off debt (accounting for 4 per cent of the total debt stock) was eligible for debt relief. Moreover, the *de minimis* clause excluded loans of less than SDR500,000 from rescheduling.

The 1991 strategy also addressed the country's commercial debt. Although this debt accounted for just over 9 percent of total debt stock in 1992, most of it was in arrears. Uganda embarked upon a debt buy-back strategy, financed by the World Bank. The offer price was fixed at 12 cents per dollar in December 1992, and the closing date was in February 1993. Overall, the buyback was very successful.

The 1991 debt strategy was successful in many ways. It established clear procedures for negotiating new loans and strengthened debt management. It helped to increase the proportion of payments made on time. It led to large reductions in commercial debt and debt service. Consequently, the debt to GDP ratio fell from 83 per cent in 1991 to 64 per cent in 1995. The stock of arrears fell from 15 per cent in 1991 to 7 per cent in 1993, while multilateral debt increased from 61 per cent to 75 per cent of total external debt

over the same period. However, this put the country in a difficult position because multilateral debt could not be restructured.

There were three main weaknesses in the 1991 debt strategy. First was the insufficient reduction in long term multilateral debt. Secondly, the country continued to require large amounts of new financing to support the reform program with the danger of increased debt servicing obligations if the new financing was not concessional enough. Thirdly, there were still some problems with debt management structures.

A comprehensive review of the debt strategy was carried out in 1995 with help from the Swedish Government. The new strategy which emerged focused on four objectives:

- (a) Reduction of the multilateral debt service burden through bilateral grants;
- (b) Increasing the concessionality of new borrowing and the quality of loan financed investment;
- (c) Improving debt and reserve management;
- (d) Improving coordination with donors, and lobbying for long term multilateral debt reduction. In fact, in November 1995, a Multilateral Debt Fund (MDF) was established, with contributions used to service debt. The strategy also introduced the requirement of parliamentary approval of new loans.

## **6. The HIPC Debt Relief Initiative**

In April 1998, Uganda became the first country to benefit from HIPC Debt Relief Initiative. Prior to HIPC debt relief, the nominal value of Uganda's external debt stock was US\$3.5 billion, and the NPV of debt to exports ratio was 294 per cent. Under HIPC I, Uganda received debt relief of US\$347 million in NPV terms. Of this amount, 79 per cent was due to multilateral creditors so that for the first time, debt relief had a large multilateral component. Uganda's NPV of debt to exports ratio was supposed to fall 196 per cent, i.e. below the threshold ratio of 202 per cent.

However, Uganda's debt swiftly returned to unsustainable levels, mainly on account of the El Nino weather phenomenon, which severely affected export performance in 1999. Hence, in May 2000, Uganda received further relief under Enhanced HIPC. Prior to this, in June 1999, Uganda's external debt stock reached US\$3.6 billion. Total relief under HIPC II was expected to amount to an additional US\$656 million, with multilateral creditors contributing 83 per cent. The total relief under the HIPC as a whole was US\$1 billion in NPV terms, or under one third of the pre-HIPC nominal debt stock.

## **7. Post- HIPC Developments**

Since HIPC II completion, Uganda's external debt sustainability as measured by NPV of debt to exports ratio has deteriorated. Uganda's NPV of debt to exports ratio had reached 280 per cent according to a June 2004 analysis.

A number of factors have contributed to the deterioration in debt indicators.

- First, is the impact of falling coffee prices on export earnings, which were 57 per cent and 36 per cent lower in 2002/03 and 2004/05 than initially envisaged.
- Secondly, rising interest rates reduced the concessionality of the country's debt.
- Thirdly, at the Enhanced HIPC decision point, estimates for new financing in the macroeconomic framework and balance of payments projections were not fully incorporated in the Debt Sustainability Analysis.
- Fourth, the initiative was weakened by the refusal of some creditors to participate.

- Fifth, and most importantly, Uganda has borrowed more than US\$1.6 billion since HIPC II completion, 85 per cent of which is owed to IDA and ADF, primarily to finance the Poverty Eradication Action Plan (PEAP), Uganda's over-arching policy framework to eradicate poverty. This heavy reliance on borrowed funds reflects limited improvements in domestic revenues, which has left the country highly dependant on external assistance.

In the 2004 budget speech it was announced that ceilings would be put on annual to achieve a gradual decline in the NPV of debt to exports ratio to sustainable levels.

Its tumultuous history aside, Uganda's experience serves to underscore that without a comprehensive debt strategy it is impossible to use debt for development. In addition, the failure to diversify the export base has left the country at the mercy of primary commodity prices

Uganda needs to consolidate the gains of the debt strategy it has pursued since 1991. The institutional arrangements for external borrowing should clearly outline the roles, responsibilities, and obligations of all stakeholders. Uganda is currently attempting to ensure that borrowing is strictly for enhancing productivity and competitiveness. Moreover the quality of infrastructure built with past borrowing has fallen into a dilapidated state even before the loans are repaid so that there is a serious risk of accumulating further debt for its repair.

## **C. Kenya's Debt Experience**

### **1. Introduction**

Kenya did not experience one big default. Rather, it has had serious recurrent debt servicing problems, with a debt crisis peaking in 1991. These problems occurred against a background of negative exogenous financial and trade shocks arising from the vulnerability of the Kenyan economy and the prices of key primary commodities to weather conditions.

### **2. The Economic Environment**

#### ***(a) Overall Economic Performance***

The 1980-84 period was characterized by various adverse external and internal shocks (including two severe droughts), global recession and reduced capital inflows following the 1982 debt crisis. It was also characterized by inability to satisfy the IMF credit ceilings and Government borrowing conditionalities, leading to the cancellation of a number of programs. In 1985-90, economic growth was relatively rapid, partly due to an increase in coffee and tea prices and a decline in petroleum prices. The Government adopted a pro-cyclical policy and increased public expenditure (both capital and current) more than the increase in revenue.

In the first half of 1990s, the economy received more shocks: a drought in 1991/1992, oil price increases due to the Gulf War, an aid embargo in 1991-93, and ethnic clashes in 1992. These shocks were accompanied by an increase in the budget deficit, rising inflation, and large exchange rate depreciations, as the foreign exchange market was liberalized. In the second half of the 1990s, economic growth declined further to an average of 1.9 per cent, as similar instabilities continued.

As shown in table V.3., the performance of Kenya's export sector has been lacklustre and exports have grown less than GDP since independence. The share of exports in GDP decreased from 21.8 per cent in 1980 to 12.5 per cent in 2004. Tea, horticulture and coffee are by far the most important exports,

accounting for 54 per cent in 2000-2004. Kenya's terms of trade have also declined substantially. Dependence on primary commodity has also meant that the terms of trade are very volatile.

**Table V.3. Kenya: of Exports, Terms of Trade (TOT) and Foreign Direct Investment (FDI)**

Year	Exports (K£ million)	GDP (K£ million)	Exports (in per cent of GDP)	Exports (US\$ million)	Growth of exports (per cent)	TOT 1982=100	FDI/GNI (per cent)
1980	487.64	2235.37	21.8	1318.0		123	1.1
1981	513.86	2597.23	19.8	1388.8	5.37	108	0.2
1982	545.74	2944.62	18.5	992.2	-28.56	100	0.2
1983	633.08	3316.63	19.1	994.8	-4.78	94	0.4
1984	754.81	3851.78	19.6	1041.2	10.20	110	0.2
1985	785.10	4374.62	17.9	957.4	-8.05	92	0.5
1986	957.97	5083.98	18.8	1182.6	23.52	103	0.5
1987	753.41	5648.23	13.3	913.2	-22.78	85	0.5
1988	917.74	6480.62	14.2	986.8	8.06	88	0.0
1989	999.83	7451.34	13.4	925.8	-6.18	79	0.8
1990	1232.38	8377.78	14.7	1022.8	10.47	69	0.7
1991	1533.83	9540.33	16.1	1091.6	6.73	82	0.2
1992	1708.08	11402.53	15.0	943.6	-13.55	79	0.1
1993	3625.21	14185.41	25.6	1063.2	12.67	90	0.0
1994	4170.72	16903.24	24.7	1162.0	75.13	101	0.1
1995	4656.18	19205.79	24.2	1674.8	-10.05	95	0.4
1996	5696.30	21865.55	26.1	2071.2	23.67	93	0.1
1997	5722.95	31161.76	18.4	1944.9	-6.10	102	0.4
1998	5722.25	34701.44	16.5	1738.3	-10.63	100	0.4
1999	5770.3	37173.95	15.5	1528.9	-12.05	86	0.4
2000	5988.2	39817.15	15.0	1529.2	0.02	84	1.3
2001	6071.7	48391.90	12.5	1560.1	2.02	79	0.5
2002	6569.7	51938.20	12.6	1715.2	9.94	78	0.4
2003	6835.45	57089.00	12.0	1781.4	3.86	81	
2004	7953.05	63685.80	12.5	2056.5	15.44	77.4	
Average					0.10		

Source: Economic Survey, Various Issues.

Collier and Gunning (1999) attribute much of Kenya's weak growth performance to geography and risk. Much of the country is also semi-arid so that agricultural production intrinsically risky. Kenya's geography also means that transport costs are high, quite aside from deficiencies in infrastructure. But they also argue that trade shocks caused an economic decline because of over-regulation and the Government's loss of control over public expenditure. Azam (1997) shows that insufficient private investment and the failure to increase human capital accumulation contributed to the slowing of growth in the 1980s and 1990s.

### **(b) Liberalization Strategies**

In the 1980s, Kenya had a "managed-float" exchange rate regime. The period witnessed acute shortages of imported inputs due to non-availability of foreign exchange. This resulted not only in frequent interruptions in production but also in chronic under-utilization of installed capacity. Kenya took a series of measures that gradually removed foreign exchange controls and liberalized the exchange rate, including a large devaluation of the shilling. In 1992-1993 the official exchange rate and the inter-bank foreign exchange rate were merged, controls on current and capital account transactions were removed. Further liberalization followed in 1995.

Similarly in the 1980s and 1990s Kenya implemented trade reforms, which eliminated most non-tariff barriers and lowered tariffs, substantially opening the economy. The maximum tariff rate was reduced from 170 per cent to 70 per cent over 1987-1993. Recently, under obligations of the East African Community customs union, tariff bands were reduced to three with a maximum external tariff of 25 per cent since January 2005.

Kenya liberalized its capital account over the same period. Reforms also included the easing of restraint on foreign ownership and the establishment in 1990 of the Capital Markets Authority (CMA). The Nairobi Stock Exchange market opened to foreign investors in January 1995. To insure against the potential risk of liquidity crises delivered by exogenous shocks or speculative activities, Kenya has followed other developing countries in accumulating foreign reserves.

Kenya also embarked on financial sector reforms. Positive real interest rates, the target of the market reforms, aimed at enhancing efficiency. Institutional reforms focused on strengthening the Central Bank, particularly in its supervisory and regulatory roles. In monetary policy there was a shift to more indirect instruments like open-market operations. There was a financial crisis in 1998 which led to the liquidation of several banks. Much of the financial deepening which has resulted is due to the conversion of deposits of non-banking financial institutions to commercial banks deposits.

The Central Bank has maintained a high interest-rate regime to stabilize the exchange rate and has pursued a generally tight monetary policy in the face of inflationary pressures. One of the consequences has been widespread distressed borrowing so that banks' portfolios have included many non-performing loans. The decline in credit has been associated with declining investment.

Kenya's fiscal policy is linked to its external indebtedness. Kenya is heavily dependent on aid inflows for its government finances, with aid accounting for 45 per cent of the budget at the peak in 1991 (O'Brien and Ryan, 1999). Throughout the 1990s, foreign aid averaged about 9 per cent of GDP, accounting for about 20 per cent of the annual government budget and financing slightly over 80 per cent of development expenditures (Njeru 2004).

### **3. External Debt**

Kenya is as a moderately indebted country. The country's external debt increased from US\$4.2 billion in the mid-1980s to a peak of US\$7.5 billion in 1991, declining to US\$6 billion in 2002. As a proportion of GNI it increased from 70.8 per cent of GNI in 1985 to a peak of 156 per cent in 1993 but then declined to 49.2 per cent in 2002. (See Table V.4.) External debt service increased to a peak of 39 per cent of exports in 1988 but then declined to 13 per cent in 2002.

Almost all of Kenya's external debt is either public or publicly guaranteed and owed primarily to Governments and multilateral organizations. For the period 1985-2002, private non-guaranteed debt generally accounted for less than 15 per cent of the total. Short-term debt accounted for between 54 and 69 per cent of outstanding stocks. The average grace period is about 6.9 years, the average grant element about 50.9 per cent, and the average maturity period about 26.5 years. Bilateral aid has been mainly in the form of grants (72 per cent of the total), whereas multilateral aid has mainly been in the form of loans (86 per cent), mostly from the World Bank group.

While Kenya's external debt to GNI ratios are currently less unfavorable than at the beginning of the 1990s and are even sustainable according to HIPC criteria (IMF 2003), the stock of external debt and its servicing nevertheless poses a major problem for two reasons. First, debt servicing is still a large proportion of export earnings and government expenditures. Second, a large external debt creates uncertainties for investments and undermines the credibility of domestic policies (Elbadawi et al., 1997). Pattillo et al. (2002), using a panel data set of 93 developing countries over 1969-98, find that the average

impact of external debt on growth becomes negative for a debt to GDP ratio of 35-40 per cent. Kenya's external debt significantly exceeds this threshold.

**Table V.4. Debt Indicators of Kenya**

Year	Total debt stocks (US\$ million)	External debt (as per cent of GNI <sup>a</sup> )	External Debt service (as per cent of Exports of goods and services)	Principal arrears (US\$ million)	Interest arrears (US\$ million)	Budget deficit (as per cent of GDP <sup>b</sup> )	Domestic Debt (as per cent of GDP <sup>b</sup> )	Foreign financing (as per cent of budget deficit <sup>b</sup> )
1985	4180.6	70.8	38.7	4.1	10.9		12	
1986	4602.8	65.9	35.6	6.2	17.3	3.7	16	42.7
1987	5782.9	75.4	39.8	12.6	28.3	4.8	27.8	40.6
1988	5808.9	71.2	39.0	25.5	40.3	7.5	27.1	21.9
1989	5889.6	73.7	36.6	49.4	64.6	3.7	26	17.9
1990	7057.6	87.2	35.4	71.8	94.7	3.8	24.6	21.3
1991	7457.8	98.3	32.6	155	140.9	4.3	26.9	54.3
1992	6902.6	90.7	31.1	263.3	188.8	5.0	25.9	40.4
1993	7115.4	156.0	27.1	409.8	241.7	1.3	33.5	44
1994	7128.9	105.5	32.9	9.2	81.2	4.5	27.2	42.6
1995	7313.4	84.2	30.4	6.1	31.4	5.8	24.9	6.2
1996	6811.4	75.4	27.8	14.8	9.9	1.3	21.5	175.1
1997	6455.6	62.2	22.1	56.6	27.5	1.2	22.4	12.7
1998	6808.1	60.9	23.2	105.7	58.2	2.2	21.1	48.8
1999	6450.2	64.5	25.7	177.9	68.8	0.8	20	-135.8
2000	6159.2	61.1	18.7	133.6	42.1	0.7	19.7	168.5
2001	5561.6	49.9	15.8	149.9	34.4	0.9	18.1	268.7
2002	6031.2	49.2	13.6	236.5	56.8	1.6		84.9

**a Source:** World Bank, Global Development Finance, 2004.

**b Source:** Kenya Economic Survey, Various Issues.

Kenya has yet to develop a coherent strategy for managing aid flows. Aid design, process and implementation have been *ad hoc* through issues of circulars from the Ministry of Finance (MOF). The default policy is to accommodate as much foreign aid as is made available. The external Loans and Credits Act specifies limits on borrowing to a principal amount outstanding to no more than 650 million Kenya pounds at the prevailing exchange rate, or "such higher sum as the National Assembly may by resolution approve". The latter is a loophole routinely used by ministers in parliament. The management of foreign aid and external debt are the responsibility of several government ministries and agencies. The main governments departments dealing with donors and loans (the External Resources Department (ERD) and Loans Division and the External Debt Management (DMD)) are highly constrained in human resource capacity in terms of numbers and skills. The country also lacks debt management objectives.

#### 4. Public Domestic Debt

To finance its budget deficits, Kenya has borrowed on domestic markets as well as abroad. As Table V.4. shows, Kenya's domestic debt accounted for 25 per cent of GDP for much of the 1990s, and foreign financing in some years covered a high proportion of the budget deficit. At their peak in 1993/94 interest payments on domestic debt amounted to 47.6 per cent of government revenues and 24.8 per cent of government expenditure respectively. These percentages exceed widely used benchmarks for sustainable rates of interest on domestic debt. Sterilization of the inflows associated with the foreign financing of



budget deficits contributed to tight credit markets and recession, thereby undermining growth and contributing to debt problems.

## **5. The Evolution of Kenya's External Debt**

Kenya's first debt problems followed the drought and trade shocks of the early 1980s, with external debt/GNI ratio exceeding 70 per cent by 1985. After a brief improvement, following more external trade shocks and the ethnic clashes of 1992, debt levels rose again, and Kenya accumulated arrears on both interest and principle. Arrears peaked in mid-1993 after the cutting of aid and of relations with donors. By 1994 Kenya had rescheduled debts worth US\$500 million it owed to the Paris Club (World Bank 2003). In 1998 it began negotiations to reschedule debt owed to private lenders at the London Club.<sup>82</sup>

Debt indicators improved as a result of the 1994 debt rescheduling. When HIPC was launched in 1996, Kenya was declared capable of achieving sustainability with an NPV of debt to exports of less than 150 per cent (148 per cent). However, further trade, climate and political shocks (surrounding the 1997 elections and another suspension of foreign aid) worsened the situation again in the late 1990s (see Table V.4.). Following the approval of an IMF program in 2000, Kenya rescheduled with the Paris Club under "Houston" terms with an agreement covering US\$300 million of arrears. However, arrears continued to accumulate and, following a third IMF program in 2003, a new Paris Club deal was secured in January 2004 covering US\$353 million of arrears. External debt stocks were not significantly reduced by the agreements of 2000 and 2004. Indeed, the stock increased from US\$5.5 billion in 1999 to US\$ 5.7 in 2004.

In recent years, there has been some improvement in economic performance. A fiscal strategy has been established to control expenditure over the medium term and there has been a reversal of the declining trend in domestic revenues as well as a small repayment of public debt in 2004/05. However, Kenya has been demanding more debt relief following the MDRI initiative, particularly since its service burden has been exceeding MDG spending for years.

As with Uganda, Kenya's debt accumulation has been closely related to its fiscal needs. Kenya's case shows that in the absence of a debt strategy, external debt is unlikely to serve a development agenda. Kenya's development and public investment expenditure suffered from both fluctuations in external financing and the burden of debt service

Kenya's debt woes are also related to its continued dependency on agriculture and on primary commodities. Severe climatic and terms-of-trade shocks have undermined growth and deepened poverty. Despite diversification in the production and export base the economy remains vulnerable to adverse exogenous shocks.

Kenya has failed to develop significant debt- management capacity or clear aid strategies. Arrears have tended to accumulate even when external debt stocks were not growing. Owing to poor relations with donors the country has also missed out on major debt reduction initiatives. Most debt restructurings have concentrated on liquidity problems, i.e. arrears. Weakness in debt management and aid strategy are likely to result in a continuation of the country's historical pattern of debt problems.

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<sup>82</sup> The former agreement led to the cancellation of US\$21 million of arrears and maturities, while the latter deal eventually led to the rescheduling US\$45 million of debt.

## **D. Bolivia's Debt Experience**

### **1. Introduction**

Bolivia is topologically rugged country with arid agricultural conditions and low population density. The natural-resources-based economy has generated only limited employment, and exports earnings have contributed little to relieving poverty. Bolivia was one of the first beneficiaries of HIPC Initiatives because its track record as a liberalizing reformer. However, since the late 1990s Bolivia's per-capita real GDP has stopped growing. Political opposition to reform has intensified. The debt stock returned to pre-HIPC levels. Bolivia's experience raises questions concerning current debt relief arrangements.

### **2. Overall Economic Performance**

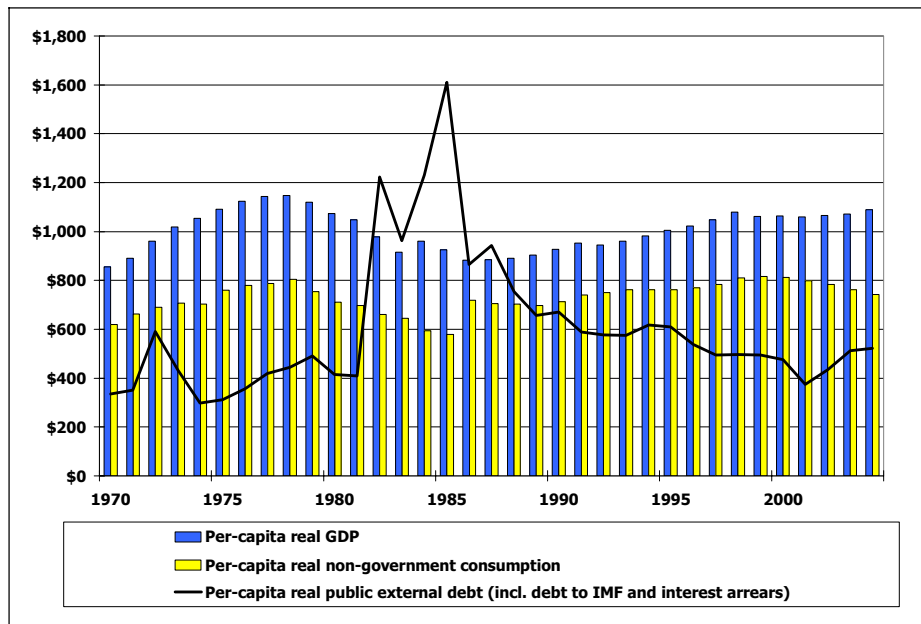
In the early 1980s, like many other Latin American economies, Bolivia's economy slid into recession associated with surging world interest rates and the 1982 debt crisis (see Figure V.3.). Between 1981 and 1988 per-capita real GDP declined by 15 percent. Over the subsequent 10 years per-capita real GDP grew at an annual average rate of 2 percent. In 1998-2003 it stagnated.

In the 1990s economic growth was revived by rising investment associated with the "capitalization" process (see below) and with the export of natural gas. FDI inflows became more important than debt from the mid-1990s, and remittances were also an important source of external financing. Inflows of financing from private foreign creditors have been adversely affected by past experience of losses. However, recently multilateral lenders like the Andean Development Corporation (CAF) and the IDA have been a significant source of credit.

As an exporter of natural-resource products Bolivia has been vulnerable to adverse price shocks and terms-of-trade movements. The prices of its key exports collapsed spectacularly in the early 1980s. Commodity prices did not recover significantly in the 1990s. Figure V.4. shows the decline in Bolivia's terms of trade since 1991. Export prices lost a quarter of their value between 1991 and 2000, while import prices drifted upwards with world inflation. Declining terms of trade undermine debt export ratios.

Additionally Bolivia was affected by a series of shocks as of 1997: El Niño; the East Asian crisis in September 1997; the Russian crisis of August 1998; and the Brazilian and Argentine crises of 1999-2001. More generally country-specific factors have hindered growth though to an extent difficult to measure. These factors include harsh topography and climate, ethnic and linguistic diversity, regional divisions, and a history of political instability.

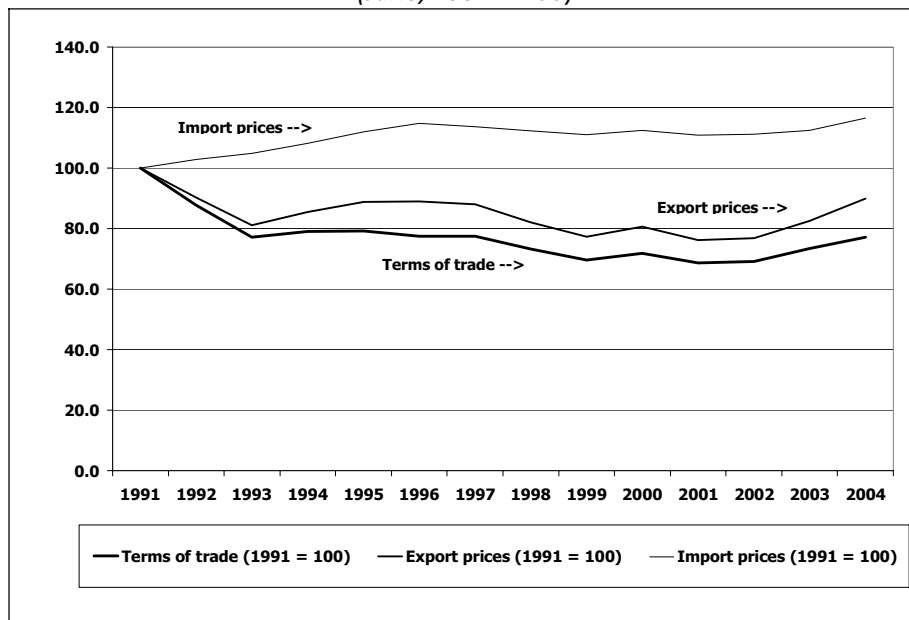
**Figure V.3. Bolivia: Per-capita real GDP, Private Consumption, and Public External Debt, 1970-2004**



Source: International Financial Statistics (International Monetary Fund).

**Figure V.4. Bolivia: Terms of Trade, 1991-2004**

(June; 1991 = 100)



Source: Central Bank of Bolivia (website).

### 3. Bolivia's Liberalization and Structural-Reform Policies

Since 1985 successive Bolivian Governments have carried out some of Latin America's most ambitious liberalization and reform programs. The reform process began with the 1985 stabilization program, which

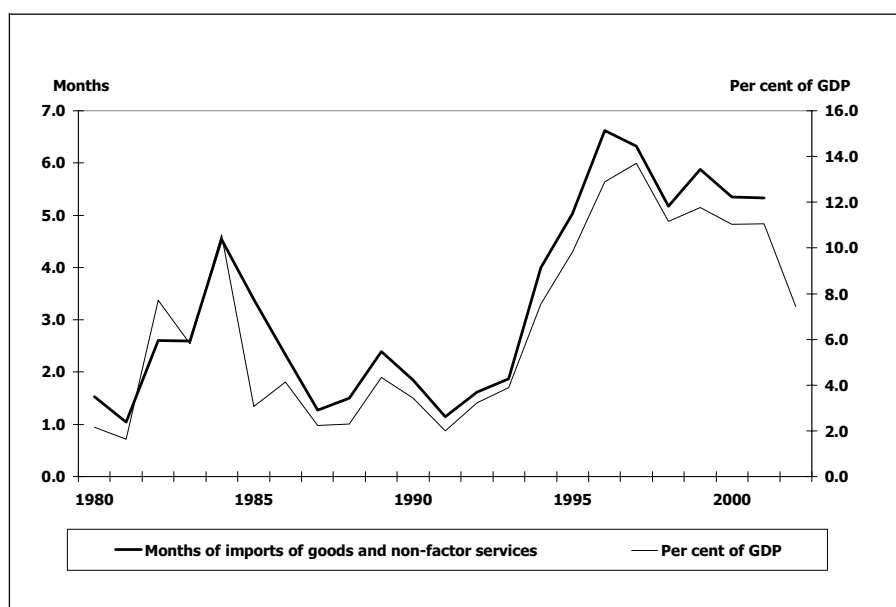
vanquished hyperinflation. The Bolivian Government introduced a “New Economic Policy” of: fiscal discipline; price and interest-rate liberalization; lifting of controls on cross-border financial flows; a unified market-based exchange rate; and trade liberalization. Price liberalization, which had ended the control and subsidies of prices, was none the less replaced by price capping in 2000 after export prices rose sharply.

Exchange-rate management has been at the centre of Bolivia’s stabilization efforts since 1985. The authorities allowed the peso to float and ended multiple exchange-rate practices. In January 1987, a new currency, the “boliviano”, was introduced, at a rate of one peso per million. In early 1988 the new currency stabilized at about 2.3 bolivianos per dollar. The Central Bank has managed the exchange rate as a crawling peg, moving it in line with the difference between Bolivia’s and world inflation rates. This policy has led to the maintenance of relatively high foreign exchange reserves (see Figure V.5.).

Persisting dollarization has complicated exchange-rate policy. Despite compulsory conversion of dollar bank deposits into Bolivian pesos in the early 1980s, there has remained a large amount of informal dollarization, which has contributed to inflationary pressure. Since 1985 dollar-denominated accounts have accounted for 85-90 percent of deposits and loans. Bolivia’s coca trade has also continued to bring a large inflow of dollars, contributing to dollarization.

Tight monetary control has been fundamental to the maintenance of price and exchange-rate stability. Between 1987 and 2004, the average annual rate of increase in consumer prices was only 8.7 percent; and the average annual rate of increase in the price of the U.S. dollar in bolivianos was 8.2 percent. On the whole, Bolivia’s exchange-rate policy has continued to support stabilization since 1985.

**Figure V.5. Bolivia: Year-end Foreign-Exchange Reserves, 1980-2003**



Source: Central Bank of Bolivia

The mid-1990s witnessed a “second generation” of reforms, which centered on three elements: restructuring and capitalization of key sectors; pensions’ reform; and significant decentralization. The “capitalization” program of 1995-1996 was an alternative to politically unfeasible privatization. The Government auctioned the right to 50-per-cent temporary ownership stake and management control in selected enterprises accompanied by a commitment to carry out specified capital expenditures. The program was successful in the sense that the enterprises which were capitalized exceeded agreed

investment targets, and services improved (IMF 2005). A closely associated reform was the 1996 Hydrocarbons Law designed to enhance foreign investment, particularly in the development of new fields. The reform did succeed in attracting substantial investments, and led to discovery and exploitation of large gas reserves. However, government revenue from the sector was disappointing, and deepening foreign participation has been source of popular resentment.

In 1997 the Government undertook reform of the troubled pensions system along the lines of Chile's pension reform, i.e. shifted to a contribution system. As for decentralization, representative governing bodies were set up for departments and provinces. These institutions were given significant fiscal roles, including shares of government revenue. However, the transfer of revenue and responsibilities proved politically contentious, and contributed to Bolivia's fiscal difficulties.

Throughout these changes, the Government lacked firm political support. Ambitious as the reforms were, they did little for ordinary Bolivians. In response, many Bolivians tried to escape poverty by "rent-seeking" strategies involving public-sector employment, smuggling activities, or participation in the illicit coca-derivatives trade. Thus the political process became closely linked to persistent pressures for public employment and subsidization; smuggling became ubiquitous; and suppression of the coca trade has been impossible. Since securing public positions has become a basic function of political parties, it is hardly surprising that the administration has been prone to inefficiency, overstaffing and corruption.

The reforms of the 1990s have begun to undermine fiscal balances despite the existence of policy rules such as forbidding the printing of money and mechanisms to control government expenditure and to ensure a good flow of foreign trade revenues. Tax revenue has stabilized since 1998 at about 12-13 per cent of GDP with customs revenues steady at about 1 per cent of GDP. Hydrocarbons reform had an unexpectedly large up-front fiscal cost, especially when royalties were cut in 1997. Earnings from hydrocarbons had been around 10 percent of GDP but by 2004 they had slid to 6.4 per cent. Receipts from fuel excises initially rose after 1997 but stagnated in 2000 when fuel prices were frozen. On the expenditure side personnel costs are 10 per cent of GDP. The costs of decentralization and of the pension reform turned out well above what was anticipated. Lastly, domestic interest payments have been rising in line with domestic borrowing.

#### **4. Bolivia's External Debt: Structure and Main Features**

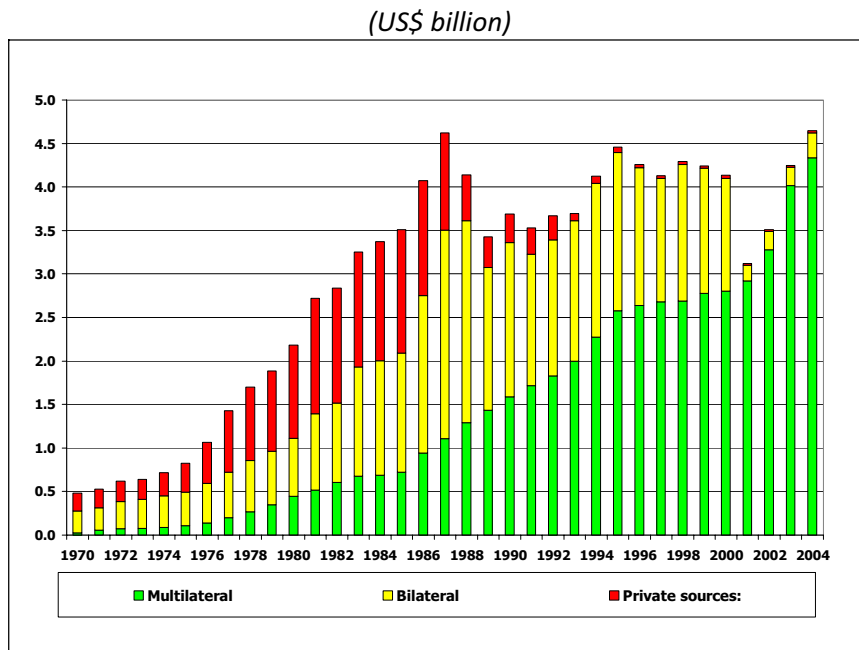
External debt grew in dollar terms from the 1970s until HIPC debt relief in 2001. In the 1970s the bulk of the debt was bilateral debt owed to commercial sources and borrowed mostly for development purposes, notably infrastructure (communications, roads, airports). Between 1980 and 1987 the growth of Bolivia's total external debt accelerated, increasing from US\$2.7 billion to US\$5.8 billion - from just under 60 to just over 140 per cent of GDP. The prime reason for this surge was increases in world interest rates. In addition, international recession drove down Bolivian export prices. As a result Bolivia could no longer meet its debt-service obligations to commercial banks, and went into arrears and default.

Between 1989 and 1992, Bolivia's overall external debt stock stabilized at about US\$4 billion, rising to US\$5 billion after 1996. Meanwhile, higher economic growth during the mid-1990s reduced the debt-GDP ratio somewhat. In 1998 and 2001 Bolivia received about US\$1 billion in HIPC debt relief, reducing the debt-GDP ratio. However, this reduction proved transitory and within two years slow growth and heavy borrowing from multilateral sources raised the debt-GDP ratio to where it had been before HIPC debt reduction.

Since the second half of the 1980s Bolivia has cut its dependence on commercial bank finance. Multilateral agencies increased their lending in the late 1980s to assist stabilization, and in the 1990s to support liberalization and structural reform. Thus, of the end-2004 total external debt of US\$4.6 billion

US\$4.3 billion was owed to multilateral entities with the IDA accounting for US\$1.7 billion (see Figures V.6. and V.7.).

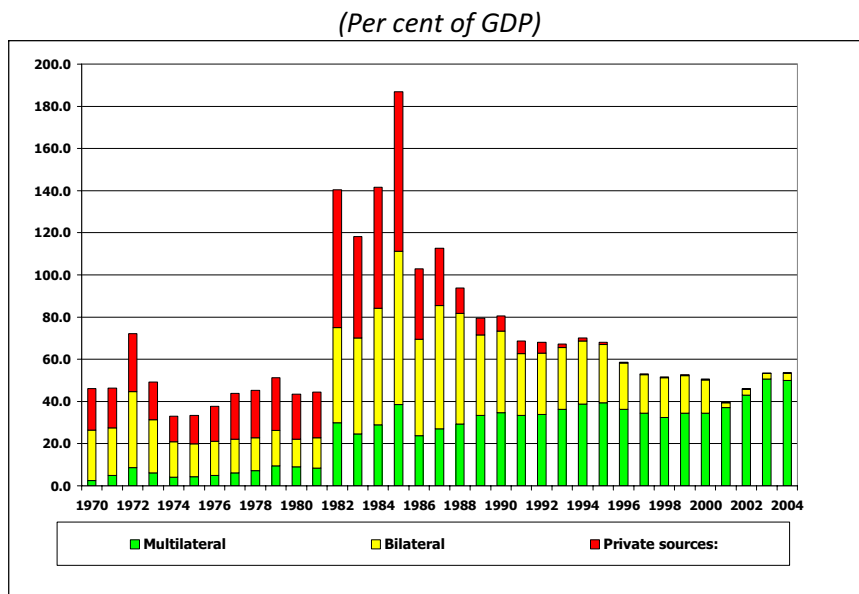
**Figure V.6. Bolivia: Year-End Public and Publicly-Guaranteed External Debt, 1970-2004**



Source: Global Development Finance (World Bank).

Debt service remained within a range of 4 to 5 per cent until the end of the 1990s. It then surged briefly in 2000 and 2001 due to relatively high repayment flows. Bolivia's external debt-service-to-exports ratio was generally been above 20 per cent until it fell below 20 percent after HIPC debt reduction. Bolivia's interest burden was kept down by the concessional nature of much of its debt since the second half of the 1980s.

**Figure V.7. Bolivia: Year-End Public and Publicly-Guaranteed External Debt, 1970-2004**



Source: Global Development Finance (World Bank).

Bolivia debt management has improved significantly since the early 1980s. At that time, Bolivia had no administrative system of debt management and governance as such, though the Government formed committees to deal with commercial banks. In 1985 debt was consolidated in the national Treasury, and a ministerial-level committee was formed to work out a strategy. In 1987 commercial banks decided to offer relief through debt buybacks but the operations were carried out ad hoc by experts without the help of sophisticated debt-management systems.

Under the basic institutional arrangement eventually adopted the Government assigned the bulk of managing and monitoring of external debt to the Central Bank because of its institutional depth and analytical capacities. Since the 1980s Bolivia's technical debt-management capacity has improved steadily and Bolivia's debt policies are now highly transparent. The Constitution requires parliament to approve all new borrowing.

## **5. Domestic Public Debt**

Alongside of its external borrowing to finance government expenditures Bolivia has also borrowed domestically particularly after the 1985 reforms. Thus domestic public debt rose steadily from 1991 to over US\$1bn in 2000, then doubling to just under US\$2 billion by 2004, i.e. from 13 to 21 per cent of GDP.

The issuance of domestic obligations can help Governments to deepen their financial sector and widen their revenue base. But as with other HIPC, Bolivia had to pay high interest rates on its domestic debt, which is not contracted on concessional terms. Interest payments on internal debt rose from 0.4 to 1.8 per cent of GDP between 1998 and 2004, while interest payments on external debt remained stable around one per cent of GDP. Domestic debt reached 21 per cent of GDP in 2004, and total public debt 95 per cent of GDP. Initial fiscal sustainability targets under HIPC programs overlooked this source of indebtedness and the resulting pressure on fiscal balances.

**Table V.5. Bolivia: Domestic Public Debt 1991-2004**

Year	Domestic Debt (US\$ million)	Total Public debt (US\$ million)	Domestic debt (as per cent of GDP)	Total Public debt(as per cent of GDP)
1991	385.6	4 258.4	7.2	86.9
1992	396.2	4 429.8	7.0	85.5
1993	296.8	4 300.1	5.2	80.2
1994	97.5	4 576.5	1.6	78.3
1995	217.0	4 999.6	3.2	77.8
1996	438.8	5 080.8	6.0	74.8
1997	508.4	5 040.0	6.4	70.1
1998	827.9	5 487.3	9.8	74.5
1999	983.6	5 557.4	11.9	79.3
2000	1 100.1	5 560.1	13.2	79.7
2001	1 508.6	5 920.6	18.7	92.2
2002	1 504.3	5 804.7	18.3	89.1
2003	1 724.4	6 768.7	20.1	98.8
2004	1 992.9	6 944.0	21.3	95.5

*Source:* Cowan et al 2006.

## 6. Past and Present External Debt Practices and Strategy

Since the early 1980s three broad phases of Bolivia's debt strategy can be distinguished. The first began with the onset of the debt crisis in 1982. At that time Bolivia relied heavily on external debt to cover its fiscal deficit, and when debt flows were cut off, the Government shifted to monetary financing, generating hyperinflation. In 1984 Bolivia declared a moratorium on debt service. The market value of Bolivia's debt to commercial banks plunged to 10-15 per cent of its face value by the mid-1980s. The second phase lasted from the August 1985 stabilization program until 2000 and consisted largely of reducing debt through various initiatives and increasing recourse to concessional flows. Since 2001 new multilateral debt inflows have offset HIPC debt reduction, political turmoil has intensified, and GDP growth has stagnated.

Once the stabilization program began in August 1985, the authorities restored relations with the IMF and other creditors. The 1986 IMF program opened the way to new financing. Bolivia took a pioneering approach to its commercial-bank debt (about US\$650 million in 1986). Using funds provided by donors, it retired the bulk of its debt by purchasing it at deeply discounted values.<sup>83</sup> Bolivia's debt to commercial banks was mostly eliminated by the early 1990s.

Thereafter, Bolivia sought relief on its bilateral debt through the Paris Club. It went through six reschedulings between 1986 and 1995. Between 1986 and 2003, Bolivia had three IMF programs involving SDR515 million, including one of the first Poverty Reduction and Growth (PRG) Facilities in 1998. In April 2003, Bolivia secured an IMF agreement for SDR 129 million amidst economic and political crises. Fearing that the collapse of the agreement would aggravate Bolivia's problems, the IMF waived some conditions, and Bolivia drew SDR 102 million by March 2005 (IMF 2005).

In September 1998, multilateral and bilateral creditors provided Bolivia debt relief amounting to US\$449 million in net-present-value (NPV) terms, at the "completion point" of its HIPC process. Of this total, bilateral creditors and the IADB each accounted for about 35 per cent, the World Bank for about 12 per cent, CAF for 9 per cent, and the IMF for about 6 percent. The conditions Bolivia satisfied for

<sup>83</sup> The Bolivian buyback operation of 1987, where US\$253 million were repurchased at about 11 cents per dollar, was one of the first large-scale buyback carried out with the specific purpose of reducing a country's external debt since the 1930s.



completion were its history of IMF- led programs. The estimated equivalent stock reduction was US\$760 million (7.8 per cent of 1998 GDP) (IMF & IDA 1998).

In May 2001, Bolivia became the second country to reach its completion point under “enhanced” HIPC. This time, official creditors provided debt relief of US\$834 million in NPV terms. Conditions satisfied for completion included a successful review of performance under the 1998 PRG Facility, the formulation of a Poverty Reduction Strategy, and continued implementation of social-sector programs.

Subsequently, however, Bolivia’s economic performance has deteriorated. A widening public deficit meant that Bolivia had to secure increased financing. Over 2001-2003, the Government used external sources to cover about 60 per cent of its financing requirements. Of the total about one half came from the IADB and the World Bank at concessional rates and the remainder from the CAF at non-concessional rates.

The premise of Bolivia’s debt strategy was that stabilization, liberalization, structural-reform and debt-reduction would create a dynamic economy and high real GDP growth. But the results have been disappointing. The IMF 2005 staff’s report notes that Bolivia’s post-1998 slowdown may be understood as the consequence of “a protracted sequence of external and domestic shocks...” (IMF 2005, p.12). Reforms had not achieved their goals, and the political and social roots of Bolivia’s problems were deeper than recognized.

For the majority of Bolivians, the overriding objective of structural economic policy ought to have been the identification of ways to bring about their participation in the economy. However, liberalized prices discouraged enterprise in areas capable of generating employment, and reforms led to cuts in public sector employment. Through their political protests Bolivians are now demanding that the Government make these problems its highest priority. Negotiated debt relief is of little consequence in this context, since as in much of the rest of Latin America, repayments are viewed as illegitimate since debt was accumulated in the first place without popular consent.

It is not clear how much Bolivia benefited from the HIPC initiative. By the time Bolivia negotiated HIPC relief it had already reduced burdensome commercial and bilateral debts. When debt reduction is not accompanied by measures successful in reducing both internal and external borrowing requirements, debt indicators are likely to grow again. The IMF failed to grasp the deeper problems behind Bolivia’s debt accumulation, hiding instead behind customary calls to deepen reforms along lines already tried unsuccessfully.

## **E. Debt Experiences Compared**

Despite nearly three decades of adjustment, stabilization, extensive reforms and liberalization, Uganda, Kenya and Bolivia have not escaped their predicament as highly indebted poor economies. Comparison of the three economies points to three common remaining features:

- Failure to reduce poverty significantly;
- Failure to generate sustained growth; and
- Failure to reduce their vulnerability to external shocks and the continued concentration on vulnerable sources of income.

The assumption of IMF and World Bank programs had been that reform and liberalization would deliver growth by instituting prudent macroeconomic management and eliminating price distortions. In many cases, the policy measures not only caused momentary pain but also had longer-term adverse effects. Higher interest rates did not automatically result in financial deepening, but did increase defaults of

private enterprises and the fiscal costs of domestic borrowing (or both). Exchange- rate devaluation failed to make primary commodity exports more competitive, and trade liberalization undermined the government revenue base. Cuts in government spending undermined public investment, thereby weakening private investment and human capital formation.

In all three cases the reforms adopted were not sufficient to overcome many deep- rooted problems and structural weaknesses. Fiscal discipline has been beneficial, but it does not expand a tax and revenue base curtailed by measures such as tariff removals. Hence, 40-50 per cent of government activities in Uganda and Kenya continue to be financed by foreign aid. Likewise, orthodox reforms have not reduced high production and transportation costs inherent to the three countries' difficult geography and topography.

Neither the reforms nor the debt initiatives have adequately recognized or produced solutions to the extreme vulnerability of the three countries to strong external shocks. All three countries have a heavy concentration of economic activity and exports in a few primary and unprocessed commodities, whose prices have been highly volatile and subject to sharp declines. The effects of this concentration are exacerbated by the dependence of large parts of the population on rain-fed agriculture.

It is against this context that the three debtors have had to manage their external debt burdens. While the countries were catapulted into debt traps at different times and with different intensities, debt sustainability continues to elude all three. Although inherited debt stocks have been reduced and there have been shifts to concessional financing and grants, the three debtors continue to experience the pressures of high debt burdens.

Recent debt crises in all three cases have originated in the government sector, i.e. the inability of the Government to service foreign loans. However, the defaults and arrears were caused less by the ballooning of debt stocks than by sudden and unexpected sharp shortfalls in revenues due to exogenous shocks, namely rising interest rates or collapsing export earnings which led debt ratios to soar.

All three Governments have increasingly resorted to domestic borrowing, albeit to different degrees, to finance government budgets. Domestic debts and debt burdens have only recently been included in debt sustainability analyses (*World Economic and Social Survey 2005*). Domestic debt tends to be more expensive than external finance, so that its costs worsen fiscal difficulties or widen fiscal deficits. This undermines the beneficial effects of operations reducing external debt, and is one of the reasons for the failure of HIPC initiatives. In Uganda and Kenya domestic debt has also been issued to sterilize official aid inflows. In Uganda such sterilization has had the consequence that there would be no improvement in its debt service after HIPCII after allowance for the cost of the Treasury Bills issue to sterilize aid flows.

At the time of their first crises none of the three countries had in place a meaningful debt strategy or even good management systems to monitor or analyse debt. This has changed substantially in the case of Uganda and Bolivia, which both now have adequate technical capacity to manage their debt. Only Kenya still lacks an adequate debt management system.

Since the 1990s, debt strategies have been determined by official creditors. Rescue from defaults and fresh finance depended on the IMF and multilaterals, which initiated the countries' adjustment and reform programs as pre-conditions for debt restructurings with the London and Paris Clubs. The details of the agreements reached explain why there was a need for continuous and repeated rescheduling efforts. These resulted from early cut-off points, the exclusion of too many types of debts and creditors, debt relief inadequate to ease repayment difficulties.

The launch of the HIPC initiative was a recognition of the following:

- Debt problems particularly for poorer countries reflect insolvency rather than illiquidity;
- Partial and protracted re-scheduling has not provided a permanent exit from restructuring; and

- Reaching sustainable debt paths requires debt reduction.

The fact that HIPC had to be enhanced almost as soon as it was born highlighted its similarity to the reluctant and partial approach to debt problems that characterized previous initiatives. It also reflected weak analytical bases, which, for example, overlooked fiscal criteria for sustainability. More seriously, debt sustainability analyses were not based on realistic and comprehensive scenarios, and underestimated the vulnerability to and the extent of exogenous shocks (see for example Nissanke and Ferranini (2006)). Even the most compliant countries included in the initiative had been consistently thrown off course by such shocks, including during and after HIPC.

The post- HIPC problems of Uganda and Bolivia reveal other flaws:

- The limits of a narrow focus which defines the attainment of debt sustainability in terms of debt ratios below thresholds at one point in time;
- Failure to take into account that the rise in post-HIPC borrowing could quickly reverse gains (the result in Uganda's case of a failure to place a limit on the stock of new borrowing);
- The problem of using loans instead of grants to finance poverty alleviation programs;
- The more general difficulty for poorer economies of achieving the reforms of fiscal policy which make possible observance of domestic debt thresholds.

In 2007 Bolivia had unsustainable debt based on fiscal criteria and Uganda's debt sustainability has deteriorated since HIPC II completion. Kenya's debt indicators remain unsatisfactory and its second Poverty and Growth Facility is under review.

## **F. Concluding Remarks**

All three countries covered by this study have extensively liberalized their trade and foreign-exchange regimes and their financial sectors. Part of this liberalization was undertaken at the countries' own initiative. But with respect to many of the measures the countries had little choice, since receiving debt relief and aid from multilaterals depended on implementation of conditions in agreed programs. These conditions limited the space of policymakers and failed to deliver either broad-based or sustained growth.

These experiences show that the programs on which debt relief was conditional were based on an inadequate approach. By failing to deliver growth or to stabilize revenues and export earnings, they also failed to provide a sufficient improvement in the ability to repay or service debt. Debt initiatives were blinkered and partial in their coverage, dragging each country into an unending series of negotiations and reschedulings.

One lesson of these experiences is the need for a much deeper and more comprehensive understanding of debt sustainability and of solvency which goes beyond thresholds and liquidity ratios, however rigorously derived. Another lesson is that it is impossible to use debt to spur economic growth and development without a coherent debt management strategy. A third lesson is that new external borrowing by poorer countries will contribute to growth only if directed at expenditures that enhance productivity and competitiveness.

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## **CASE STUDIES: ARGENTINA AND THE REPUBLIC OF KOREA**

Mario Damill, Roberto Frenkel, Martín-Rapetti and Yung Chul Park <sup>84</sup>

### **A. Introduction**

This paper examines recent crises that shook the economies of Argentina and the Republic of Korea as well as the international financial system. Both were capital-account crises in apparently successful middle-income developing economies. While both countries had experienced debt crises beginning in the late 1970s, Argentina's default of 2000-2001 and the Republic of Korea melt-down of 1998 were exceptional in their severity. International rescue packages led by the IMF were organized in both instances and were a source of political controversy.

The Argentine crisis and default, the largest in recent years, is still subject to disagreement as to its causes. Section II ascribes central importance to a wrong diagnosis of the crisis by the IMF, which concentrated on addressing a fiscal disequilibrium during a liquidity crunch. The country's political leadership shared the IMF's belief, as is evident from the various fiscal adjustment programs undertaken. Several factors - external as well as internal - did push public debt towards unsustainable levels, particularly in the context of a recession. However, structural features of the economy such as the convertibility regime and the dollarization of the banking system were of critical importance to the default, which led to a historical falling- out between Argentina and the IMF and an acrimonious debt restructuring.

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<sup>84</sup> Section B is based on a paper by Mario Damill, Roberto Frenkel and Martín Rapetti (Researchers at CEDES, Buenos Aires) (Damill, Frenkel and Rapetti (2005)), Section C is based on the paper by Yung Chul Park (Graduated School of International Studies, Seoul National University) (Park (2005)).



The experience of the Republic of Korea described in Section III also suggests that IMF policy prescriptions worsened the crisis by helping to push the economy into default. Section III also highlights the role of banking crises, collapsing financial markets, and irresponsible foreign borrowing by *chaebols*. Yet, as in Argentina, the immediate triggers of the crisis were adverse external shocks, namely the weakening of the Yen and regional contagion. Section IV compares major features of the two crises.

## B. Lessons from the Argentine Crisis and Default

### 1. Introduction

This section challenges the leading explanations of the latest Argentinean debt crisis, whereby uncontrolled public spending is perceived as the main cause of debt accumulation, crisis and default.

Firstly, it is shown that the effects of rises in interest rates were the main driver of public debt dynamics at the end of the 1990s. Even if allowance is made for the effect of uncertainties about public debt sustainability on investors' assessment of the country's position, the main source of the deterioration was not fiscal policy but financial fragility and contagion.

Secondly, the role of macroeconomic policies – particularly exchange rate policy - in generating an unsustainable debt path is emphasized. In this regard the Argentine case is an extreme example of badly managed financial integration leading to high interest rates, low growth, and vulnerability to financial contagion and volatility of capital flows (Frenkel, 2003b).

Thirdly, the paper challenges a commonly held opinion that the default decision was mainly responsible for the deep crisis in Argentina. It shows on the contrary that the abrupt contraction in activity and employment occurred before the default as the Government tried to keep debt service on track. The default proved to be one of triggers that subsequently allowed recovery.

Fourthly, the section examines how debt restructuring took place in the context of a confrontational relationship between the IMF and Argentina. The most unusual – indeed unprecedented - feature of this process was that the IMF did not participate in the design of the restructuring.

### 2. Macroeconomic Performance in the 1990s

Between 1977 and 1982 Argentina went through a phase of financial opening and accelerated indebtedness that ended in massive capital flight, exchange-rate crisis, and default. This was followed by a long period of international credit rationing between 1982 and 1990. The 1991-2001 period also ended in crisis and default. A distinguishing feature of these two periods is the role played by the private sector in the generation of external financial obligations. Despite the strong rise in total external debt in the 1990s the share of public external in total debt declined by over 20 percentage points which suggests that fiscal disequilibrium was not the main cause of the crises.<sup>85</sup>

Argentina entered both phases of accelerated indebtedness in the context of stabilization programs based on a fixed nominal exchange rate. These programs set in motion pro-cyclical macroeconomic processes which left the economy vulnerable to negative external financial shocks. (Frenkel, 1983; Taylor, 1998; Frenkel, 2003a).

In 1981 the stabilization policy based on the exchange-rate anchor was abandoned. A new phase followed, characterized by massive devaluations of the peso. These devaluations were accompanied by higher

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<sup>85</sup> Selected indicators for Argentina's economy during 1977- 2006 are given in table 1.

international interest rates and an eventual peak of the ratio of foreign debt to GDP of nearly 60 per cent in 1982. The public sector's share in external debt also rose in this period because the Government assumed a considerable proportion of the private foreign debt. During the second phase of the 1990s total external debt increased but most of that rise was generated by the private sector.

The fiscal balance went through three periods in the 1990s. (see table VI.2.) During 1991-94 the average deficit, which in the 1980s was about 7 per cent of GDP, decreased to less than 1 per cent of GDP. This was mainly due to an improvement in the overall public sector balance. Nonetheless, public debt rose in the early 1990s because the Government assumed debts that were not registered in the fiscal balance, especially debts of public-sector purveyors and of the social security system.

In 1994 new negative pressures emerged on public finances due to three factors. Firstly, a social security reform that created the Private Pension Funds led to a significant fall in contributions. Secondly, the regional boom was followed by the consequences of the Tequila effect in 1995, which was manifested in a sharp rise in the country-risk premium of Argentina's interest rates (see table VI.3.). Thirdly, the Government attempted to counter these consequences by lowering the tax burden on tradables. Between 1995 and 1997 the public debt/GDP ratio rose slightly before stabilizing.

The Russian and Brazilian crises in 1998 resulted in a new jump in the country-risk premium. This was accompanied by a recession and increased financial vulnerability of debtors. A sharp rise in interest payments had already begun in 1996. By 2000 these payments amounted to nearly 19 per cent of government revenues. Recession and higher interest rates largely explain the explosive paths taken by the public debt and deficit, which had the consequence that the public debt/GDP ratio increased by almost 20 percentage points between 1997 and 2001.

### **3. Macroeconomic Performance Before and After the Default**

The macroeconomic story of the late 1990s can be described as a swing from euphoria to depression. The negative turnaround in the external environment experienced in 1997-1998 left the economy with a significant and growing current-account deficit, an appreciated real exchange rate, and a visible lack of policy instruments to deal with the problem. Hence, restrictive fiscal policies had to bear the main burden of attempts at adjustment. The expectation was that fiscal discipline would trigger greater confidence, leading to a recovery in domestic expenditure which would push the economy out of recession. De la Rúa's administration accepted this argument, and the IMF gave its seal of approval.

However, the result was failure. Fiscal policy alone was impotent to counter large macroeconomic imbalances, which were mostly rooted in the external sector of the economy. The economy suffered the longest recession since the First World War.

Capital inflows contracted sharply in response to the contagion caused by the Mexican crisis at the beginning of 1995 (see table VI.4.). Foreign-exchange reserves also fell. However, the recession was short-lived thanks to the effects of the IMF-led package of financial support. After a brief recovery the country-risk premium began to increase again after the devaluation in Thailand in 1997. As noted above, a sustained contraction started after the Russian default in 1998.

During the early 1990s there were large private capital inflows, followed by a contraction in 1995. Capital inflows to the public sector were more stable, being sustained in the recession of 1995 and during that which began in 1998. Private capital inflows recovered in 1996 but were accompanied by outflows of a similar magnitude. From 1998 onwards the net inflow turned into a large net outflow.

The increase in the foreign public debt of the entire period from 1991 onwards exceeded US\$35 billion. This amount is quite close to the increase in the foreign financial obligations of the non-financial private sector which, however, were more than offset by the rise of the sector's external assets.

In December 1999, a new Government took office. As previously mentioned, this Government believed that the main cause of the economic depression was fiscal mismanagement. Successive packages of tight fiscal measures were applied. Efforts to prevent default included a Fiscal Responsibility Law in 1999 that set a mandatory declining trend for the public deficit designed to bring it to zero in a few years. By mid-2001 the measures became desperate and included an unprecedented 13-per-cent across-the-board cut in public wages and pension benefits. Coming after years of severe recession, these cuts did not contribute to social peace.

The expected "confidence shock" never materialized. Indeed, the rounds of contractionary fiscal policies only reinforced the deflationary trend. During 2000 and 2001 the Government attempted to complement fiscal measures with some financial initiatives. It also implemented important debt swaps aiming at convincing the public that there was no risk of default. By the end of 2000, a package of local and external support of about US\$40 billion was announced (the "blindaje" or financial shield). The IMF led the operation with a US\$13.7 billion extension of the stand-by credit in force since March 2000. However, two months later, a crisis in Turkey led to a sharp rise in the country-risk premium.

As a reaction a voluntary debt swap (the "megacanje") of bonds of US\$30 billion was launched in June. However, because the newly issued bonds carried interest rates of about 15 per cent, they fuelled the perception that debt had become unsustainable. Another voluntary swap directed at domestic bondholders involving US\$42 billion of public bonds, was launched in November 2001. All these measures failed to halt the withdrawal of bank deposits and the fall of international reserves which began in October 2000.

From the beginning of December 2001 the Government established tough restrictions on capital movements and on cash withdrawals from banks. It was hoped these measures would hold back the demand for foreign currency, preserve the stock of reserves, and make it possible to avoid devaluation. In fact, they ushered in the end of the regime. The December measures threw the country into social and political unrest. In the first days of 2002, the currency-board regime was officially abandoned, and with it the one-to-one parity of the peso to the US\$.

After three years of recession economic activity suffered a particularly abrupt fall as of mid-2001. Social indicators such as the unemployment rates and poverty indexes, which had worsened in the 1990s, deteriorated further, adding to social tensions and to the political crisis (Damill, Frenkel and Maurizio, 2003).

The catastrophic fall in output and employment continued for a while after the end of the convertibility regime. However, contrary to mainstream beliefs and quite extraordinarily, a recovery started only one quarter after the devaluation and default. It was triggered by the sudden change in relative prices in favor of sectors producing tradables.

The turnaround was associated with a set of policies aimed at recovering basic macroeconomic equilibrium. The policies included the following:

- (a) The imposition of restrictions on capital outflows and exchange controls, including under the latter the requirement that exporters sell a part of foreign currency earnings;
- (b) The establishment of taxes on exports, which allowed the authorities to capture some of the benefits of the devaluation for exporters' incomes;
- (c) A flexible monetary policy aimed to assist the recovery of banks;

- (d) An exchange-rate policy aimed at avoiding the appreciation of the peso.

The IMF had insisted on the immediate free flotation of the peso. For a short period the Government adopted this regime. Once the exchange rate was free to float, the exchange rate moved abruptly to levels of close to 4 pesos per US\$. The reintroduction of exchange controls was designed to contain further movement. Soon afterwards the demand for pesos started to recover with US\$ in excess supply. This resulting stabilization helped to halt the rise in domestic prices, as did the freezing of public utility rates.

GDP recovery of the first half of 2002 had a short first phase in which aggregate demand barely rose. What stopped the recession was a recovery in domestic production which was now meeting an increased proportion of domestic demand as imports contracted sharply. Investment rose by nearly 40 per cent between 2002 and 2004, being followed closely by private consumption.

Economic recovery took place in a context of severe credit rationing. Investment was financed by retained profits. A “wealth effect” from the external assets holdings of the private sector, also helped. These assets – now estimated at over US\$100 billion- rose in value as result of exchange rate depreciation, and in relation to the prices of domestic assets such as real estate.

Improvement in the current account started in 1998. The abrupt contraction of imports after the end of convertibility helped to transform a deficit of almost US\$3 billion in 1998 into a surplus of US\$17 billion in 2002.

On the fiscal front between 2001 and 2004 there was an improvement in the overall balance of the Consolidated Public Sector from a deficit of 5.6 per cent of GDP in 2001 to a surplus of 3.5 per cent in 2004 (see table VI.5.). This reflected improvements in the three major components, the primary balance, interest payments, and the aggregate balance of the provinces.

The most important factor in the improvement of the primary balance was an improvement in tax revenues due mainly to those on exports and income. In table VI.7. interest payments are shown as declining by 2.5 per cent of GDP. However, this does not indicate the effect of the suspension of payments on external public debt, which at the 2004 exchange rate would have amounted to about 10 per cent of GDP:

#### **4. Default on External Debt and the Restructuring Proposals**

The suspension of service payments on part of public debt was declared on 24 December 2001. Out of a total of US\$144.5 billion US\$61.8 billion in public bonds and some US\$8 billion in other liabilities were affected. The devaluation of the peso had a major impact on the economy’s contractual obligations, given the pervasive dollarization of contracts. A few days after the devaluation, as part of policies to attenuate the shock, the authorities issued new debt.

The main source of the new indebtedness came from interventions in the financial system, and led to a US\$14.4 billion rise in public debt. In February 2002 the Government decided to undertake a compulsory conversion of foreign-currency bank deposits at a rate of 1.4 pesos per dollar.<sup>86</sup> The withdrawal of deposits was restricted to 1,500 pesos per person per week. Bank credits in foreign currency were subject to conversion at a rate of one peso per dollar. This “asymmetric pesoification” of credits and deposits caused a significant loss in banks’ net worth that was compensated by the Government. New debt issued for this purpose amounted US\$5.9 billion.

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<sup>86</sup> When the measure was sanctioned, the dollar was at around 2.15 pesos. Four months later, the dollar exchange rate reached 4 pesos, declining smoothly thereafter. From March 2003, the parity stabilized at between 2.8-3 pesos per dollar.

The pesoification of private deposits and the forced resetting of their maturities triggered legal claims. Many of the courts' rulings were favorable to these claims. In response the Government of President Duhalde launched three offers for the voluntary swap of deposits for new public bonds, which were widely accepted by savers. This measure alleviated the financial system's liquidity problems, but at the expense of increasing public debt by a further US\$6.1 billion.

Another source of increases in public debt was the transfer of the bank liabilities of provincial Governments to the central Government, which amounted to US\$9.7 billion. The central Government also assumed the loss due to the assumption of obligations on provincial Governments' bonds that had performed as currency between 2001 and 2003.<sup>87</sup> Both transactions were guaranteed by a proportion of the future flow of national tax resources. Lastly, in 2002-2003, public debt also rose by US\$2 billion due to obligations to employees, pensioners and purveyors. This followed a Supreme Court ruling stating that the 13-per-cent cut of public wages and pensions in July 2001 was unconstitutional.

In February 2002, the Government decided to convert into pesos all debts issued in foreign currency under the Argentinean legislation. The measure would affect US\$57.5 billion of mostly "guaranteed loans" issued after the November 2001 swap.<sup>88</sup> It was also decided to apply fixed interest rates of 2-5.5 per cent to the "new" debt. The pesoification of the "guaranteed loans" reduced the dollar value of the debt by about US\$22.1 billion. However, due to the indexation of this debt, by the end of 2003, the value of these obligations had risen by some US\$7.3 billion.

In summary, various measures related to managing the convertibility collapse and the default led public debt stocks to increase by US\$28.2 billion between December 2001 and December 2003.

In the second half of 2003, the first official steps towards restructuring the defaulted debt were taken. In September, after an agreement with the IMF, the Government announced the main guidelines of a restructuring proposal at the annual meeting of the IMF and the World Bank in Dubai. The "Dubai proposal" established that the offer would be directed to holders of bonds issued until December 2001 with a uniform treatment, the rest of the debt being serviced.<sup>89 90</sup>

The Government acknowledged a defaulted debt stock of about US\$87 billion excluding unpaid interest. A 75-per-cent haircut was imposed on this amount with new bonds to be issued up to a maximum of US\$21.8 billion. The issue of three new bonds (Par, Quasi-Par and Discount) was announced for this purpose. The first two would receive moderate haircuts, but that on the Discount bond would be higher. The proposal was consistent with the primary surplus target that had been recently agreed with the IMF (2.4 per cent of GDP for the central Government and 3 per cent for the consolidated public sector).

Argentina's creditors expressed strong disapproval, arguing that the country was in a position to make a better offer by committing itself to a higher fiscal effort. The IMF exerted pressure on the Government for signs of "good-faith". Similar pronouncements were made in June 2004 by G-7 finance ministers. In response the Government announced a new proposal in Buenos Aires, aimed at getting closer to the creditors' positions. The eligible debt was the same as that defined in Dubai.<sup>91</sup> But in exchange for defaulted debt new bonds would be issued up to a total of US\$38.5 billion, depending on the level of

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<sup>87</sup> As of mid 2001, some provincial governments issued bonds that performed as money. When the rescue process started in May 2003, the stock of 'quasi-monedas' was at 7.5 billion pesos (2 per cent of GDP).

<sup>88</sup> The measure affected public bonds, bilateral loans, debt with commercial banks and other obligations, which all added to about US\$15 billion.

<sup>89</sup> This set of obligations was termed 'eligible debt'. It consisted of 158 instruments, issued in 7 different currencies and under 8 jurisdictions.

<sup>90</sup> Some obligations (bilateral debt, debt with commercial banks and other creditors) remained without definition. In December 2003, these debts amounted to US\$7.5 billion.

<sup>91</sup> The Buenos Aires offer specified some details omitted in Dubai. It was clarified that the 'eligible amount' comprised the stock of bonds at December 31, 2001, plus accrued interests up to that date.

acceptance.<sup>92</sup> Later, it was made clear that the swap would comprise both capital and interest arrears and the amount of the new bonds was increased to a maximum of US\$38.5-41.8 billion. The three different bonds were maintained in the new proposal.

The Buenos Aires proposal implied a higher future fiscal effort. The Government was in effect committed to a primary surplus target of 2.7 per cent of GDP during the first five years, this target easing to around 2.3 per cent of GDP as of 2014. Under the assumption of 3.3 per cent annual average growth, projections indicated that the fiscal effort would finance most interest payments. However, even if the multilateral organizations agreed to refinance debt due to them, the Government would still have to obtain annual funding of about 2 per cent of GDP for ten years after the swap.

Evidence that Argentina would face a heavy debt burden after the swap did not ease creditors' demands. Immediately after the announcement in June bondholders' organizations rejected the proposal. Financial analyses showed that a substantial haircut of about 73-80 per cent was implied. The size of the haircut depended crucially on the discount rate used in the calculation. That used was the yield of assets of emerging-market countries rated as of similar risk, i.e. 12-14 per cent.

By late 2004 developments on international capital markets unexpectedly started to play in favor of Argentina. Greater world liquidity stimulated the appetite for risk and for emerging- markets debt, and led to a reduction of developing countries' risk premium.<sup>93</sup> In this new context estimates of the haircut implied by Argentina's proposal were reduced and the swap looked more attractive. The present value of offered bonds calculated at the new discount rate was 30-35 cents on the dollar. This was similar to the market price of the defaulted bonds.

The improvement in the financial environment paved the way for the Government finally to launch the swap without introducing any change to the June 2004 proposal.<sup>94</sup> The swap started on January 14, 2005. On May 3, 2005, the Government announced that acceptance had reached 76.15 per cent. This meant that US\$62.3 billion of the old bonds would be exchanged for about US\$35.3 billion of new instruments and GDP growth-linked coupons. The operation reduced public external debt by US\$67.3 billion,<sup>95</sup> and attenuated the public finances' exposure to foreign exchange risk, since around 44 per cent of the new bonds were denominated in local currency.

## **5. Argentina, the IMF and the International Financial System**

At first glance it may seem striking that the crisis and the massive default took place in a country considered an example of the success of Washington Consensus policies. From the IMF's perspective Argentina's currency board had been a prime example of a feasible corner solution for exchange-rate policy in an emerging market (Fischer, 2001). Yet at the same time it was widely believed that the debt and the convertibility regime were not sustainable, as the program did not involve any substantial changes to macroeconomic policy.

Argentina's program aimed at re-establishing confidence through commitments to fiscal austerity. However, the recession and the liquidity crunch meant that it was implausible that the issuing of fiscal

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<sup>92</sup> In the lower acceptance scenario the recognition of interest arrears would include the period until December 31, 2003 for about US\$18.1 billion, whereas in the higher acceptance scenario it would include interests arrears till June 30, 2004, for US\$1.4 billion.

<sup>93</sup> The JP Morgan EMBI+ index decreased to an average of 375 basis points in the last quarter of 2004, whereas the Brazilian country risk-premium fell to 417 basis points.

<sup>94</sup> To relieve itself from creditors' pressures, the government gave up the right to change the guidelines by sending a bill to the Congress preventing the administration from doing so. Congress quickly approved.

<sup>95</sup> According to minister Lavagna, at the end of 2004, the haircut would reduce debt stocks from US\$191.2 billion to US\$123.9 billion. The public debt/GDP ratio would have fallen from 113 to 72 per cent.

signals would be sufficient to stop the crisis. By the time of the reductions in government expenditure in mid-2001, there were good reasons to think that multilateral resources would end up financing private capital flight without preventing a default.

After the changes at the head of the IMF in 2001, the Fund's relationship with Argentina became increasingly strained. IMF recommendations played a negative role in stabilization and recovery. A prime example was exchange-rate policy. In February 2002 the IMF demanded the immediate flotation of the exchange rate, threatening not to reestablish negotiations in its absence. The implementation of this measure predictably led to an abrupt rise in the price of the dollar and an acceleration of inflation. Similarly, there was a clash over the management of the crisis in the banking sector. The Lavagna Government wanted gradual action and voluntary options, while the IMF promoted heroic "solutions" such as bank liquidations.

These examples show that the Fund operated on the basis of the diagnosis that (1) the exchange market could not be stabilized, (2) a hyperinflationary process was unavoidable, and (3) reestablishment of some degree of financial intermediation in domestic currency soon would be impossible. The implementation of the measures promoted by the IMF would have transformed its diagnosis into a self-fulfilling prophecy. The IMF maintained its policy line until May 2003 when the Deputy Manager Director recognized the deficiency of the Fund's diagnosis.

The 2002 and 2003 agreements were signed in the context of a highly confrontational relationship between Argentina and the IMF. In September 2003, a three-year agreement to refinance debts to the IMF was agreed. The terms of conditionality were only established for the first year, as the Government refused to commit to higher targets for subsequent ones. Targets included new regulations of privatized public utilities, measures to strengthen financial system, and a new law about the distribution of fiscal revenues between the national and provincial Governments. The conditionality also included a clause under which the country was to display "good faith" in the treatment of external creditors. The ambiguity of the term left to the IMF a great margin of discretion in its evaluation.

A year later Argentina had comfortably fulfilled the quantitative targets but not the qualitative ones. The most significant one under the latter heading was probably the finalization of the renegotiation of contracts and the establishment of a new regulatory framework for privatized public utilities. While the IMF was conducting its evaluation, Argentina was presenting the debt restructuring proposal and organizing the swap. The relationship between Argentina and the Fund reached an impasse. The IMF could have terminated the agreement on the basis of the failure to fulfill qualitative targets. That would have signified a serious negative shock for a country in the middle of the debt restructuring process. It could also have led to financial difficulties for the IMF since Argentina was a large borrower.

The impasse was overcome by the suspension of the program until the beginning of 2005 at Argentina's request. Thereafter, Argentina repaid to the IMF all principal and interest that could not be postponed. In the period 2002-2004 it made net principal payments of more than US\$2.1 billion, and interest payments of US\$1.9 billion. As these figures compared with net receipts of US\$23 billion in 1994-2001, the Argentinean Minister of the Economy described the IMF as moving from being a "last-resort lender" to a "privileged debt payments collector".

A crucial element in the process was the Government's view that international financial crises and defaults are the result of excessive debts attributable to the irresponsible behavior of borrowers and lenders. This irresponsible behavior is encouraged by the implicit guarantee given by the IMF's rescue packages. Hence, there should be less intervention by the IMF both under normal conditions and in default situations. Argentina's Government requested non-intervention of the IMF, arguing further that the restructuring proposal did not involve additional multilateral funding. The high haircut was seen as

proportional to the irresponsibility shown by the market. Indeed, Argentina's strategy illustrated both the flaws of the international financial system and the viability of alternative ways to solve problems.

By 2006 Argentina had restarted negotiations with the IMF from a position strengthened by the high level of acceptance of the swap. The negotiations gave greater legitimacy to the operation. Too rigid position by the IMF risked being politically uncomfortable for some G-7 Governments, and would have contradicted the acceptance of the haircut by private creditors.

Moreover, with the high acceptance of the swap, the IMF faced a *fait accompli* in that the outcome indicated an assumption by the market that Argentina's multilateral debt would be refinanced. Still more uncomfortably for the IMF the Fund had not participated in the design of the proposal. This clearly clashed with IMF's institutional logic in that the refinancing of a country's debt was supposed to require its approval of new loans. Therefore, by accepting Argentina's demands the IMF appeared to be accepting a change in its role.

These tensions were exacerbated by the special circumstances that the institution was going through. The IMF had actively participated in the restructurings of sovereign debts with the private sector since the 1980s. The recent SDRM initiative was intended to be an extension of that tradition, and was an attempt to define, formalize and strengthen the IMF's role in cases of sovereign debt default. After Wall Street and the United States rejected the SDRM initiative, this role of the IMF remains ill defined. This is not the first time that the Governments of developed countries –particularly the United States- have redefined the functions of the IMF during the process of dealing with immediate and specific problems. For example, the 1995 Mexican crisis led to IMF rescue packages for capital- as opposed to current-account crises. Argentina's case may eventually contribute to a redefinition of the functions of the IMF in the international financial system.

## **C. External Debt Management of the Republic of Korea during the Crises of 1979-1980 and 1997-1998**

### **1. Introduction**

During the past four decades, the Republic of Korea has experienced a number of periods of financial stress. The most serious was the 1997-98 crisis that brought the country to the brink of default. The other periods of stress, including the crisis of 1979-80, were less damaging (Park, 1986; Cooper *et al.*, 1994). In many respects the causes were similar: they included investment booms in the periods leading to the crises, large and growing current-account deficits, and appreciations of the real exchange rate. However, the 1997-98 financial melt-down was a capital-account crisis, of which the Republic of Korea had no previous experience.<sup>96</sup>

The Republic of Korea engineered a quick recovery from both crises. In terms of economic fundamentals there was no reason to believe the Republic of Korea was any more vulnerable to a crisis during the second half of the 1990s than it had been two decades earlier. Nevertheless, the cost of resolving the second crisis was far greater, and the two crises followed different adjustment trajectories.

Section B discusses the build-up and resolution of the 1979-80 debt crisis. This is followed in Sections C and D by an examination of macroeconomic developments prior to and in the aftermath of the second crisis. Section E explores the lessons and Section F contains a summary of the main points.

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<sup>96</sup> Selected economic indicators for Republic of Korea for 1975-1985 and 1995-2004 are given in tables 6 and 7.



## 2. The 1979-1980 Debt Crisis

The Republic of Korea economy slowed in 1979 after three years of strong growth, while the current account slid into deeper imbalance, rising to a deficit of 6.6 percent of GDP in 1979 and of 8.3 per cent in 1980 from one of 2 percent in 1978. In 1980 output contracted by 1.5 per cent and the consumer price index (CPI) soared to 29 percent. The economy was thus experiencing stagflation with a large current-account imbalance. At the same time total external debt as a proportion of GDP swelled to 42.6 per cent.

In these circumstances a traditional IMF-supported prescription would have included a strong dose of stabilization measures together with a currency devaluation. But Republic of Korea policymakers opted for a different growth-first policy. To the surprise of the IMF and the international financial community, the economy rebounded in 1981, growing 6.2 percent.

At the centre of Republic of Korea economic policy in the mid-1970s was the plan for the heavy and chemical industries. This policy entailed tax incentives, low-cost bank credit, and other subsidies mostly to large firms belonging to the Republic of Korea's industrial groups or *chaebols*. The result was an investment boom leading to a rise in the ratio of gross investment to GDP from 28.7 per cent in 1977 to 36 per cent in 1979. At the same time the economy overheated, with annual increases in real wages in 1976-78 averaging over 18 percent. A steep hike in agricultural prices caused by a poor harvest in 1978 further aggravated inflationary pressures.

Despite this, the Republic of Korea Government was determined to maintain a dollar-pegged exchange rate. This led to an appreciation of the real exchange rate, which in turn undermined export earnings. At the same time, the Republic of Korea suffered adverse external shocks. It was hit by the second oil crisis in 1979, suffering a 15-per-cent deterioration in its terms of trade in 1979-1980.

Furthermore, the Republic of Korea was thrown into political turmoil by the assassination of President Park in 1979. The new military Government of May 1980 was hardly in a position to adopt a strong stabilization program. Political uncertainties worsened Republic of Korea economic prospects. Not surprisingly, businesses adjusted by cutting investment, fixed investment falling by 11 per cent in 1980. The economy sank into a deep recession in 1980, which was aggravated by a crisis in the informal credit market. However, surprisingly the current-account deficit did not shrink as expected. This was because consumption remained strong: consumers considered the fall in output transitory and cut their savings rather than their consumption. As a result the share of saving in GDP dropped more than that of investment.

Lacking support for a stabilization program, the caretaker Government focused its policy response to the deteriorating current account on the exchange rate. The won was devalued vis-à-vis the US\$ by 27 percent in 1980, and thereafter the Republic of Korea moved to a managed float tied to a basket of major international currencies. On the macroeconomic front the Government gave priority to stopping the economic downturn.

Here its commitment was to broadly conceived stabilization together with financial reform and corporate restructuring. In its view inflation was at the root of the deterioration in income distribution, of labor unrest, and of the weakening of the country's export competitiveness. A growth-first strategy would succeed only if the deficit on the current account was brought under control and financed externally. The prospect for such a policy was uncertain as the Republic of Korea had one of largest external debts among developing countries. Nevertheless, debt service levels remained within a sustainable range. The gamble paid off. The Government maintained an expansionary policy until 1983 when it began restraining domestic demand. By 1981 inflation was already subsiding and the economy recovered fully only a year after the recession of 1980.

What were the factors responsible for the dramatic turnaround? Haggard and Collins (1994) single out three developments:

- An improvement in the external environment due to (1) falling prices of oil and raw materials leading to a better terms of trade and lower inflation, (2) declining international interest rates, and (3) an appreciation of the yen against the US\$;
- Declining real wages in both 1980 and 1981, partly due to more flexible labor markets;
- The depreciation of the real exchange rate, which improved the Republic of Korea's export competitiveness.

However, other important factors also helped pull the Republic of Korea economy out of crisis. One was the closed capital account. This allowed flexibility as well as effectiveness for monetary policy in a fixed-exchange rate regime. Despite the economic crisis and political turmoil, the Republic of Korea did not experience any capital flight or any withdrawal of foreign loans. The other crucial factor was the Republic of Korea's ability to finance its current-account deficit externally. The country was never denied access to international financial markets, although its borrowing costs went up.

By 1983, stability returned alongside of the resurgence in growth. By now both domestic demand and export earnings were strong. In these circumstances a continuation of loose monetary and fiscal policies could have rekindled inflation. Furthermore, total external debt remained at over 47 per cent of GDP. To reduce the debt burden the current account had to move in the direction of surplus. This explains the Government's shift to a stabilization policy which was sustained until 1988.

### 3. The 1997-1998 Crisis

#### ***(a) Investment Boom Fueled by Foreign Borrowing***

The Republic of Korea economy rebounded strongly from a slow-down in 1992 and 1993. This growth was led by exports and investment (39 per cent of GDP in 1996). In that year, the deficit on current account was a little over 4 per cent of GDP and apparently manageable yet a major financial crisis followed in 1997-1998.

Expansion of investment on this scale in an economy with still small financial markets led to higher external borrowing. Two major developments can help to explain this debt-financed investment surge. The first was the strengthening of the yen from the second half of 1992 to the first half to 1995. This rise ended in the spring of 1995 when the yen hit the level of 79.5 yen to the dollar. The yen's appreciation brought about a sharp increase in Republic of Korea export earnings because many of its industries were in direct competition with those of Japan.

The second development was increased financial openness, which increased the availability of low-cost foreign credit. In the period 1996-1998 external debt rose from 28 to 47 percent of GDP. Much of the inflows during 1995-1997 consisted of short-term borrowings by domestic financial institutions, which used the proceeds to finance investments by *chaebols*. The consequences included serious currency and maturity mismatches in the balance sheets of financial institutions (Park, 1998, and Park and Song, 2002).

At the same time, Republic of Korea industrial groups were increasing their investments abroad. Much of this investment was financed with foreign credits. This helps to explain a rise in the foreign debts of domestic firms from US\$35.6 billion in 1996 to US\$43.2 billion a year later. The liabilities of the foreign subsidiaries and branches of Republic of Korea firms were estimated to have exceeded US\$51 billion at the end of June 1997.

### **(b) The Bursting of the Investment Bubbles**

At the end of 1995, the Japanese yen began to depreciate. At the same time the terms of trade moved against the Republic of Korea, and continued to deteriorate for the next two years. This terms-of-trade shock, which reflected falling demand for the Republic of Korea's major exports, worsened the current account and set in motion a weakening of the economy. The real exchange rate continued to appreciate throughout 1996. However, policymakers did not react owing to their preoccupation with industrial restructuring and the belief that a strong won would help facilitate the shifting of resources from light manufacturing to more skill- and knowledge-intensive industries.

Despite a slowdown of the economy as of the second half of 1996 large industrial groups did not adjust their production and investment. As their inventories piled up, so did their losses. However, commercial banks became less accommodating. As a result *chaebols* turned to high-cost, short-term loans from any foreign financial institutions willing to lend to them.

Why were the Republic of Korea's industrial groups so inflexible in adjusting? The answer lay in some of their characteristics. One of these was their predatory behavior of competing for market share more than for profit, a feature nurtured by an industrial policy geared to obtaining economies of scale in major export industries. Thus, when profits fell, they tried to protect their share by investing more, and by diversifying at the first opportunity into new industries.

Furthermore, rigid and bureaucratic management systems with decision-making concentrated at the top made it difficult for *chaebols* to adjust quickly to changing market conditions. Reluctance to reduce investment led to highly leverage. A survey conducted in 1997 shows that the average debt-equity ratio of the 30 largest *chaebols* was above 380 percent in 1996, four times as high as that of Taiwan Province of China (Korea Institute of Economics and Technology, 1997). The high leverage and the balance sheet mismatches of the corporate sector proved to be the Republic of Korea economy's most damaging structural weaknesses during the crisis.

By 1994 the new Government was committed to market opening as a result of its WTO agreement. This agreement reduced the room for industrial policy, while reduction in control over financial activity took away much of the rest of the Government's ability to coordinate investments. Moreover reform of corporate governance or financial regulation failed to keep pace with market opening.

### **(c) The Financial Market Collapse of 1997**

The externally financed investment boom could only last so long. Once the investment bubble burst, the number of corporate bankruptcies also soared as did the volume of non-performing loans at financial institutions. Between December 1996 and June 1997, non-performing loans as a proportion of total loans doubled (Park 1998). The first major corporate casualty in the second half of 1996 was Hanbo, the 14th largest *chaebol*.

The investigation into the Hanbo collapse revealed that many loans to this group had been made under political pressure. The extent of unholy ties between politicians and industry and the scale of corruption shocked both the Republic of Korea people and foreign investors. Moreover, the pervasiveness of corruption undermined the confidence of foreign investors in the Government and the economy, thereby helping to bring about the crisis.

More high-profile bankruptcies followed. The Kia group was put into liquidation in October 1997, and was followed by five more *chaebols*. By the end of 1997, the Republic of Korea had a lame-duck Government which was unable to restore stability to the Republic of Korea financial markets. Foreign investors knew this, and began withdrawing funds from the Republic of Korea stock market during the autumn.

Reflecting the ineffectiveness of the Government, exchange-rate policy in the last three months before the crisis drifted into inconsistency and unpredictability. The won had been under strong pressure of depreciation since early 1997. Throughout the year, the Government stated that it would defend the exchange rate. When the won/US\$ exchange rate approached the psychologically important level of 1000, the Government intervened heavily in the market, only suddenly to withdraw a few days later.

Between June and November 1997, the Bank of Korea's reserve holdings fell by US\$10 billion. The Government further strained investors' credulity by failing to divulge the true level of foreign exchange reserves. It asserted that the Bank of Korea still held about US\$30 billion in reserves, when the actual level of usable reserves had already dropped below US\$22 billion in March. By the end of November the figure had fallen to US\$7 billion dollars.

The dire financial situation was further compounded by changes in sovereign credit ratings. Between January and November 1997, Moody's adjusted the rating downward twice, and S&P three times. By the same token the premium on Republic of Korea securities rose. Foreign banks began to refuse to rollover short-term loans to the Republic of Korea. The actions of the credit ratings agencies generated a vicious cycle of declining ratings and market sentiment.

#### **4. Management of and Recovery from the 1997-98 Crisis**

By the end of October 1997 the financial situation was out of control. Foreign investors moved out of the stock market in droves, and Republic of Korea banks were increasingly unable to rollover their short-term foreign loans. To avoid default, they were forced to turn to the Bank of Korea for liquidity or to resort to foreign overnight loans.

No action was taken until the announcement on 19 November of a reform package, which included measures for the disposal of non-performing loans and a widening of the band for exchange-rate movements. In the prevailing panic, the market hardly noticed. Three days later, unable to control the situation, the Government publicly approached the IMF for assistance. Negotiations between the Republic of Korea Government and the IMF were completed in a record time of 10 days. The IMF agreed to provide a total of US\$21 billion to be disbursed over a three-year period. It also secured financial commitments totaling US\$36 billion from the World Bank, the Asian Development Bank, the United States, Japan, and others as a second line of defense.

IMF conditionality required tight monetary policy, a fiscal surplus, sweeping financial-sector reform including further liberalization, greater flexibility in the labor market, and restructuring the *chaebols*. By the end of December, a 25-per-cent interest rate ceiling and most capital controls were abolished. The limit on aggregate stock ownership by foreigners was raised to 55 percent, and the short-term money market was also to be deregulated. However, the swift conclusion of negotiations did little to change market sentiment which was also affected by the political uncertainties concerning the outcome of the presidential elections due in December 18. The won/dollar exchange rate continued to depreciate; interest rates soared; and stock prices went into a nose-dive.

The squeeze on the money supply together with banks' efforts to meet the 8-percent Basel capital adequacy ratio by April 1998 reduced the availability of bank credit. In December the percentage rate of loan defaults jumped to 1.49 from 0.14 a year earlier, while business failures were five times higher. External lenders saw that the IMF financing which had been agreed was short of the amount of foreign debt repayment due. There were also concerns that tight monetary and fiscal policies would depress economic activity so much that the Republic of Korea's ability to service its debt would be undermined. Interest rates shot up to the dizzying height of 40 percent, and the won/depreciated to a level of 1,995 per dollar.

The financial situation was clearly unsustainable, and rumors began to circulate that the Republic of Korea might have to declare a debt moratorium. On Christmas Eve, the IMF and the G-7 countries came up with another emergency financing program of US\$10 billion, drawing on the second line of defense. The new package succeeded in turning around market sentiment as it demonstrated the resolve to rescue the Republic of Korea from financial collapse. Foreign lenders wanted to be assured of payments of principle and interest. They asked for and received government guarantees on private debt on the basis of the argument that this would facilitate debt restructuring and new credit extension. By January 1998, international creditor banks agreed to convert most of the short-term debt of Republic of Korea banks (US\$24 billion) into long-term loans, with government guarantees that mature over one to three years, and interest rates of 2.25-2.75 points above Libor.

In 1998 the growth rate of GDP plunged to - 6.9 per cent from +4.7 per cent a year before. Prices leaped by 7.5 per cent, the won depreciated by 27 per cent vis-à-vis the dollar, and the unemployment reached 8 per cent, the highest since the 1960s. Surprisingly, the crisis was short lived. The rebound was no less drastic than preceding fall. The Republic of Korea economy grew by 9.5 per cent in 1999, and recovery continued thereafter.

The initial GDP contraction in 1998 was largely caused by the collapse of investment. The consumption-GDP ratio remained fairly stable, while the investment-GDP ratio dropped sharply to 25 per cent. In 1998, there was a huge current- account surplus of almost 12 per cent of GDP. This was because import demand declined by 22 per cent in 1998, while exports fell by under 3 per cent, movements which reflected the influence of both the recession and the depreciation of the won.

An empirical examination by Park and Lee (2002) of worldwide patterns of adjustment in 160 currency crisis episodes from 1970 to 1995 shows a widespread tendency for countries to undergo a V-type recovery of real GDP growth similar to that experienced by the Republic of Korea after the 1997-1998 crisis. The study also shows that a large real depreciation, expansionary monetary and fiscal policy, and an improvement in the global economic environment are usually responsible for the upturns. All of these developments were present during the second Republic of Korea crisis. What distinguishes the Republic of Korea experience from others are the degree of the initial contraction and subsequent recovery. This was due to the following factors:

- Exchange Rate Depreciation and Openness: in view of the Republic of Korea's relatively high level of openness and relatively large trade sector, a depreciation of the real exchange rate was going to have an especially large impact.
- Favorable External Environment: the Republic of Korea economy was the beneficiary of an improvement in the external trading environment. The global economy was strong in 1999. Moreover, the Republic of Korea exports also benefited from higher prices of semiconductors, and from an appreciation of the yen which improved its industries' competitiveness.
- Macroeconomic Policy Adjustments: realizing the depth of the slowdown, the IMF agreed to relax monetary and fiscal policies as early as April 1998. The ensuing expansion of money supply prevented a further contraction of domestic demand.

The positive role of expansionary macroeconomic policies in the post-crisis recovery has raised the question of whether the initial tightening was too harsh, maintained for too long, and as a consequence deepened the crisis. In order to deal with the crisis, the IMF chose a traditional policy prescription designed for managing a current-account crisis, which comprised tight monetary policy and fiscal austerity. However, the Republic of Korea crisis involved principally the capital account. In these circumstances increased interest rates resulted in widespread bankruptcies which did little to restore financial stability and the confidence of foreign lenders and investors.

The IMF and supporters of the contractionary monetary policy argue that in the absence of such a policy capital outflows and the bank run would have continued. Those who dispute the IMF view such as Radelet and Sachs (1998) and Feldstein (1998), on the other hand, maintain that the Republic of Korea problem was one of liquidity. Therefore, the traditional IMF strategy was likely to have done more harm than good as it drove many highly leveraged but viable firms out of business, thereby deepening economic recession.

## 5. Lessons of the Two Crises

Both debt crises were in part precipitated by investment booms financed by foreign borrowing. The ratios of external debt to GDP were similar, and the Republic of Korea exaggerated the crises by adhering for too long to rigid exchange- rate regimes. In both cases, The Republic of Korea economy rebounded swiftly in both cases, but the scars of the 1997-98 crisis were more extensive and deeper.

The most significant difference between the two crises involved the policy responses. In the 1979-80 crisis the Republic of Korea policymakers took advantage of the country's continuing access to international financial markets to finance the deficit on current account in the belief that economic fundamentals were strong and that the economy was afflicted by a transitory imbalance. In the second crisis the Government had to seek IMF financing that subjected the economy to a wide ranging array of policy changes. It paid a high price in terms of lost output and of the cost of resolving bankrupt financial institutions and bailing out insolvent corporations, which amounted 16 percent of GDP in 1998. It had no chance of replicating the strategy of reliance on external borrowing followed after the 1979-1980 owing to its increased financial openness and the more limited possibility of recourse to capital controls.

Greater financial openness was the result of the policy of economic liberalization pursued since the mid-1980s, which had also resulted in a more open trade regime. The Government had opened the financial sector and deregulated capital- account transaction ahead of the bid to join the OECD in the early 1990s. By the time of the 1997-98 crisis broke out the Government had been reforming institutions and restructuring its financial, corporate, and public sectors for more than a decade.

A financially open economy with a relatively inflexible exchange rate lacks an effective buffer against external financial shocks. Moreover orderly financial opening requires an efficient financial regulatory system to monitor risks. The reform of the regulatory system lagged in the Republic of Korea at a time when financial institutions were taking on new risks, especially in their operations abroad.

According to Eichengreen, Wyplosz and Rose (1996) there are three types of distortion that can give rise to a financial crisis. The first is asymmetric information where borrowers or issuers of debt or equity take advantage of superior information as compared with that of lenders and investors about the risks of their business. Asymmetric information, is associated with the danger of herd behavior on the part of foreign investors and financial institutions. Second is moral hazard in both domestic and international financial markets. This denotes the danger that those who expect protection against loss through bail-outs by public authorities will take greater risks than they would otherwise. The third is any distortion that could lead to the instability in the exchange rate associated with multiple equilibria in foreign exchange markets. All of these distortions were present in the Republic of Korea in the run- up to the 1997-98 crisis.

Before and during the early years of market liberalization foreign lenders and investors did not care to learn about the structural weaknesses of Republic of Korea banks and corporate governance because of government guarantees. Only with the growing exposure of the Korean economy to international financial markets did their awareness increase of balance-sheet mismatches at banks and *chaebols*. By the time the Thai crisis spread to other parts of East Asia in September 1997, the Republic of Korea began losing reserves. Lacking confidence concerning the adequacy of Republic of Korea reserves, lenders and investors began to reduce their exposure to the country, refusing even to renew short-term loans. Both

borrowers and lenders were to blame for bringing on the crisis - borrowers owing to their disregard for prudence and risk management and lenders owing to their short-termism and herd mentality.

International financial markets and Republic of Korea policymakers share responsibility for failing to carry out reforms which would have reduced moral hazard. Commercial and merchant bank had long operated with implicit government guarantees. Together with inadequate supervision these guarantees provided incentives to banks to borrow larger amounts of funds abroad, and to invest in riskier projects than they would otherwise.

Moral hazard also appears to have affected the lending behavior of foreign financial institutions. These expected to receive national treatment. Assuming that they too would benefit from government guarantees, foreign banks did not conduct careful credit analyses of Republic of Korea borrowers. Moreover, when the crisis broke out, few foreign banks attempted to reschedule loans to troubled Republic of Korea banks in sharp contrast to their behavior towards delinquent borrowers in their domestic markets.

Finally, creditors believed that, as a group, they could pressurize the Republic of Korea Government if there was a crisis. In the event this assumption was to prove justified since their pressure played an important role in the decision of the Republic of Korea Government to seek IMF financing. The banks were aware that a debt moratorium was not a realistic option owing to the large number of lenders and borrowers involved. Banks' recourse to this pressure also reflected their knowledge that IMF programs favor creditors over debtors (Soros 1998).

The crisis of 1997-98 was a capital-account crisis in which the initial current account- imbalance did not play a primary role. Massive capital outflows provoked a liquidity and credit crisis. In these conditions the traditional IMF stabilization program did not work, and an infusion of fresh capital was required to stop the bleeding of the economy.

It is natural to ask whether the Government could have followed the same policy as that pursued in response to the crisis of 1979-1980, i.e. combining a growth-oriented macroeconomic policy with continued reliance on external borrowing. It is hard to believe that financial markets today would support anything but a macroeconomic stabilization program, even if there were good grounds for thinking that the crisis would be transitory. In such an environment the accumulation of large reserves through current-account surpluses by major emerging-market countries as insurance against the imposition of inappropriate stabilization programs becomes fully understandable.

## **D. Concluding Remarks**

The second crises of both the Republic of Korea and Argentina were capital- account crises that took place in economies that had liberalized capital transactions and that were thus integrated into international financial markets. Capital inflows which fuelled the growth preceding the crises and which in the Republic of Korea case became an investment boom were transformed into outflows which led to melt-downs. In both cases IMF policy prescriptions worsened the crises.

During much of the 1990s Argentina experienced strong growth. However, as early as 1995 adverse developments in the external environment began to trigger economic difficulties and the country suffered a mini-crisis together with a sharp deterioration in its fiscal balance following the Mexican crisis of 1995. After a recovery in 1996-1997 Argentina's risk premium began to rise again and foreign borrowing became more costly. External debt was increasing, while the ability to pay was being undermined. A series of rescue packages failed to restore confidence, and were unable to stop eventual bank runs and the bleeding of foreign exchange reserves. The dollarization of bank credits and of the contractual structure of

the economy made the collapse more severe. Public-sector debt rose after the default owing to measures taken by the Government as part of its intervention in the financial system.

The Republic of Korea crisis also came after a period of high growth, and was triggered by the depreciation of the yen and adverse shocks to its exports. These changes triggered greater attention on the part of foreign lenders to the scale of foreign borrowing by *chaebols* and to deteriorations in their balance sheets. The rises in bankruptcies and non-performing loans that followed heralded a financial market crisis with foreign borrowers refusing to roll-over major bank loans. Given the context of the earlier crisis in Thailand the won came under massive attack as bank runs and capital outflows continued. These developments underlined the importance of better financial regulation and corporate governance - and not just good macro-economic management - as essential elements of successful debt management.

In both countries the melt-downs led to sharp falls in GDP growth. Resolution of the debt problems followed different courses. In the Republic of Korea case, bank lending to private borrowers was more important and resolution involved the conversion of short-term bank loans into longer-term loans with government guarantees. In Argentina debt securities were more important and restructuring involved their conversion into alternative securities with lower coupons or values and longer maturities.

In both cases the IMF programs included ill-conceived policy measures due to mistakes in diagnosis, which worsened the impact of the crises. In Argentina, the austerity measures deepened the recession, thereby undermining payment capacity and accelerating default. In the Republic of Korea, earlier relaxation of monetary and fiscal policy could have meant that bankruptcies and lost output would have reached less than 16 per cent of GDP.

In both cases, the recovery was aided by favorable external developments such as the improvement in appetite amongst lenders and investors for developing country risk, easing of interest rates and improved export markets. In Argentina default also provided a respite to the fiscal balance and the domestic economy.

In both cases, devaluation compressed imports as well as helping exports (whose increase was particularly notable for the Republic of Korea). The turnarounds were surprisingly quick: the worst of the crisis in Argentina was in December 2001, and signs of recovery were evident in the first half of 2002; and the Republic of Korea crisis collapse of 1998 was followed by a spectacular recovery as early as 1999. This follows a pattern identified by Levy-Yeyati and Panizza (2006) according to which, by the time a default occurs, the losses in terms of output and growth have already taken place so that its occurrence coincides with the beginning of economic recovery. An implication of this pattern is that, once firm expectations of default take hold and the melt-down starts, measures to postpone the default may well be more costly than the default itself.

Beyond a certain point, neither country could have done anything to stop external debt from following an exploding path. Herd behavior delivered the final blows, As Park (2005) notes, international financial markets are not a good source of short-term liquidity for emerging economies, when they are experiencing financial instability. The lesson drawn by several emerging-market countries has been to accumulate reserves as a form of insurance. If these economies felt assured of adequate liquidity assistance from international financial institutions or regional financial cooperative arrangements, they would be less inclined to follow this policy.

IMF policy failures and the perception that it sided with creditors in these two crises have contributed to undermining of its authority amongst developing countries. Argentina's debt restructuring proposals and independent recovery program have set a precedent for crisis resolution not mediated by the IMF. However, the faith of the United States and private creditors in individual debt work-outs under rules subject to only minor modifications in comparison with the present regime is unlikely to constitute a fully-



fledged, unquestioned alternative. Moreover impetus from these quarters in favor of further capital-account liberalization has now been lost.

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Table VI.1. Argentina: Selected Economic Indicators, 1977-2006

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
<b>Output and trade</b>										
<i>(Per cent)</i>										
Real GDP annual growth	6.4	-3.2	7.0	1.5	-5.4	-3.2	4.1	2.0	-7.0	7.1
Inflation CPI change	176.0	175.5	159.5	100.8	104.5	164.8	343.8	626.7	672.2	90.1
Nominal Exchange Rate (Peso per US\$)	191.2	95.2	65.5	39.5	139.6	488.8	306.2	542.4	789.6	56.7
Terms of Trade (goods)					18.5	-17.0	-3.5	7.0	-13.9	-14.8
Terms of Trade (goods and services)					-18.3	-8.9	6.1	-0.2	12.4	-3.0
<i>(in USD millions unless otherwise stated)</i>										
Total exports, fob	5651	6401	7810	8021	9143	7623	7835	8100	8396	6852
Total imports, fob	-3799	-3488	-6028	-9394	-8431	-4859	-4119	-4118	-3518	-4406
Current Account Balance	1126	1856	-513	-4774	-4712	-2353	-2436	-2495	-952	-2859
Current account (as percentage of GDP)	2.0	3.2	-0.8	-6.3	-6.0	-2.9	-2.8	-2.7	-1.1	-2.7
Gross Reserves	3331.7	5161.6	9589.6	6914.6	3446.5	2675.2	1332.6	1392.6	3441.1	2905.2
Public publicly guaranteed debt (as percentage of GDP)	8.9	11.5	12.6	13.5	13.5	19.8	29.3	29.0	42.3	38.7
Private nonguaranteed debt (as percentage of GDP)	5.7	5.3	8.0	8.7	15.6	14.0	12.0	11.2	5.2	4.1
<b>Public finances</b>										
<i>(Percent of GDP)</i>										
Central Government, total revenue and grants				13.3	12.6	10.5	11.9	12.2	15.8	16.5
Central Government, total expenditure and net lending				16.7	21.3	19.2	18.4	18.2	19.7	18.3
Central Government balance				-3.4	-8.7	-8.7	-6.5	-6.0	-3.9	-1.8

Table VI.1. (continued)

Output and trade	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>(Per cent unless otherwise stated)</i>										
Real GDP annual growth	2.5	-2.0	-7.0	-1.3	10.5	10.3	6.3	5.8	-2.8	5.5
Inflation CPI change	131.3	343.0	3079.8	2314.0	171.7	24.9	10.6	4.2	3.4	0.2
Nominal exchange rate (Peso per US\$)	127.4	308.2	4736.7	1051.8	95.6	3.9	0.8	0.0	0.1	0.0
Terms of Trade (goods)	-14.2	6.9	1.4	-12.2	-2.0	-4.5	-1.4	17.1	-0.2	7.7
Terms of Trade (goods and services)	-10.0	-8.7	-7.9	-8.0	44.9	1.3	3.0	1.2	-5.8	9.2
<i>(in US\$ millions unless otherwise stated)</i>										
Total exports, fob	6360	9134	9573	12354	11978	12398.9	13268.9	16023.3	21161.7	24042.7
Total imports, fob	-5343	-4892	-3864	-3726	-7559	-13794.8	-15632.5	-20162.2	-18804.3	-22283.2
Current Account Balance	-4235	-1572	-1305	4552	-647	-5547.75	-8205.89	-10979.5	-5117.96	-6769.98
Current account (in percent of GDP)	-3.9	-1.2	-1.7	3.2	-0.3	-2.4	-3.5	-4.3	-2.0	-2.5
Gross Reserves	1834.1	3569.4	1664.4	4803.1	6211.1	10200.2	14001.4	14550.4	14515.4	18324.1
Publicly guaranteed debt (as percentage of GDP)	45.2	37.5	67.6	33.2	25.1	20.8	19.4	19.5	21.3	22.9
Private nonguaranteed debt (as percentage of GDP)	1.7	1.4	2.3	1.3	0.9	1.0	2.7	5.1	6.2	7.0
<b>Public finances</b>										
<i>(Percent of GDP)</i>										
Central Government, total revenue and grants	15.6	13.5	14.1	14.3	16.7	17.1	18.9	18.9	18.6	17.6
Central Government, total expenditure and net lending	19.6	18.0	26.2	16.0	18.0	17.4	18.0	19.4	19.6	20.1
Central Government balance	-4.1	-4.4	-12.1	-1.7	-1.2	-0.2	0.9	-0.5	-0.9	-2.5

Table VI.1. (continued)

Output and trade	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<i>(Per cent unless otherwise stated)</i>										
Real GDP annual growth	8.1	3.9	-3.4	-0.8	-4.4	-10.9	8.8	9.0	9.2	8.0
Inflation CPI change	0.5	0.9	-1.2	-0.9	-1.1	25.9	13.4	4.4	9.6	10.9
Nominal exchange rate (Peso per US\$)	0.0	0.0	0.0	0.0	0.0	206.5	-5.3	0.8	-0.7	5.2
Terms of Trade (goods)	-2.0	-6.0	-6.1	10.1	-0.5	-0.4	9.8	0.4	-3.0	6.5
Terms of Trade (goods and services)	0.0	-4.8	-4.4	9.9	-0.7	-0.6	8.6	1.8	-2.1	5.7
<i>(in US\$ millions unless otherwise stated)</i>										
Total exports, fob	26430.8	26433.7	23308.6	26341	26542.7	25650.6	29938.8	34575.7	40386.8	46456.4
Total imports, fob	-28553.5	-29530.9	-24103.2	-23889.1	-19157.8	-8473.1	-13134.2	-21311.1	-27300.1	-32584.8
Current Account Balance	-12138.1	-14482	-11942.8	-8980.62	-3780.42	8719.69	8092.6	3218.98	5690.52	7998.22
Current account (in percent of GDP)	-4.1	-4.8	-4.2	-3.2	-1.4	8.5	6.2	2.1	3.1	3.7
Gross Reserves	22336.8	24769.9	26268.3	25147.7	14553.4	10489.8	14153.9	18980.6	27266.9	30996.2
Publicly guaranteed debt (as percentage of GDP)	22.8	25.8	28.6	29.8	32.0	88.3	74.5	65.6	33.1	29.9
Private nonguaranteed debt (as percentage of GDP)	8.0	9.3	9.6	9.1	11.8	27.9	21.9	15.5	14.4	10.4
<b>Public finances</b>										
<i>(Percent of GDP)</i>										
Central Government, total revenue and grants	18.5	19.0	19.4	19.5	18.8	18.2	20.7	23.4	23.7	24.2
Central Government, total expenditure and net lending	20.1	20.3	21.9	22.0	22.6	33.4	25.8	27.8	26.2	25.9
Central Government balance	-1.6	-1.3	-2.5	-2.4	-3.7	-15.2	-5.2	-4.3	-2.5	-1.7

**Source:** UN National Account Statistics; IMF Balance of Payments Statistics, International Financial Statistics and World Economic Outlook databases; World Bank Global Development Finance database.

**Table VI.2. Consolidated fiscal balance (National Administration and Provinces)***(as a percentage of GDP, annual average)*

Period	National Administration				Consolidated Public Sector Balance (3)
	Primary Surplus without Social Security (1)	Primary Surplus	Interest payments	Total Balance (2)	
Average 1981-90	nd	-4.4	1.9	-6.2	-7.0
Average 1991-94	2.1	1.3	1.2	0.1	-0.6
Average 1995-97	1.7	-0.3	1.7	-2.0	-2.6
Average 1998-01	3.1	0.5	3.1	-2.7	-4.1
Average 1991-01	2.3	0.6	2.0	-1.5	-2.4

**Source:** Authors' calculations based on Ministry of Economy, Cetrángolo and Jiménez (2003) and Gaggero (2003).

(1) Primary balance excluding receipts and expenditures of national security system.

(3) = (2) + Provinces and Buenos Aires City balances.

**Table VI.3. Total public interest payments, Tax collection-GDP ratio and sovereign risk premium***(in per cent)*

Year	Tax collection as percentage of GDP (1)	Average interest rate on public debt (2)	Interest payments / tax collection ratio (3)	Sovereign risk premium (annual average)
1991	18.8	s.d	5.5	9.6
1992	20.8	6.6	8.3	6.9
1993	21.3	5.0	6.0	4.9
1994	21.1	5.5	6.9	5.9
1995	20.9	6.1	9.2	12.4
1996	19.6	5.8	9.7	6.5
1997	21.0	6.7	10.9	3.3
1998	21.4	7.6	12.2	5.8
1999	21.4	8.3	15.9	7.2
2000	21.9	8.9	18.5	11.5
2001	21.0	9.4	23.4	14.8
2002	19.2	5.2	13.3	-.-
2003	23.1	1.9	9.6	-.-

**Source:** Authors' calculations based on Ministry of Economy.

(1) Includes Security System receipts.

(2) Calculated as a ratio between interest payment in period t and debt at the end of t-1.

(3) Tax receipts include those from social security system.

**Table VI.4. Change in foreign debt and foreign assets by sector and period**

(US\$ million)

Period	Changes in						
	External debt of				External assets of		Net external debt of private sector (2)-(3)
	Public Sector (1)	Financial Sector	Private Sector (2)	Total	Financial Sector	Private Sector (3)	
1991:4 to 1994:4	8,529	5,726	10,321	24,575	1,728	566	9,755
1994:4 to 1995:4	5,924	2,952	4,361	13,238	821	11,174	-6,813
1995:4 to 1998:2	9,222	11,579	15,607	36,407	15,307	15,050	557
1998:2 to 2000:4	8,523	-555	3,139	11,107	-4,274	11,876	-8,737
2000:4 to 2001:4	2,975	-8,053	-688	-5,766	-10,665	12,865	-13,553
Total	35,173	11,649	32,740	79,561	2,917	51,531	-18,791

**Source:** Authors' estimations on the basis of data from the Ministry of Economy.

(1) Including the Central Bank.

**Table VI.5. Fiscal adjustment: Results of the Consolidated Public Sector (CPS)**

(as per cent of GDP)

Concept		2001	2004	Variation (2004-2001)
National Public Sector	Tax receipts	13.8	18.7	4.9
	Taxes on exports	0.0	2.3	2.3
	Financial tax (*)	1.1	1.5	0.4
	VAT	3.1	3.4	0.4
	Income tax	2.5	3.4	0.9
	Other taxes (**)	7.2	8.1	0.9
	Other receipts	4.9	4.8	-0.1
	Total receipts	18.8	23.5	4.7
	Total expenditures	22.0	20.9	-1.1
	Primary expenditures	18.2	19.6	1.4
	Interest services	3.8	1.3	-2.5
Primary result	0.5	3.9	3.3	
Total result of the NPS	-3.2	2.6	5.9	
Provinces (***)	-2.4	0.9	3.3	
Total result of the CPS	-5.6	3.5	9.2	

**Source:** Authors' calculations based on Ministry of Economy.

(\*) Tax on bank debits and credits.

(\*\*) Includes taxes shared with provinces, which are included as expenditures in Primary expenditures as transfers to provinces.

(\*\*\*) Including the City of Buenos Aires.



Table VI.6. Republic of Korea: Selected Economic Indicators, 1975-1985

Macroeconomic Indicators	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<i>(Per cent)</i>											
Real GDP annual growth	5.9	10.6	10	9.3	6.8	-1.5	6.2	7.3	10.8	8.1	6.8
Investment	8.9	20.7	30.2	34.4	10.0	-10.7	-3.1	11.1	17.4	10.9	5.3
Saving as percentage of GDP	19.8	25.0	28.4	30.3	30.0	25.0	25.4	26.3	29.5	31.8	32.2
Investment as percentage of GDP	28.7	26.7	28.7	33.1	36.1	31.8	29.6	28.7	29.0	30.3	30.0
Inflation CPI change	25.3	15.3	10.2	14.7	18.3	28.7	21.4	7.2	3.5	2.2	2.4
Real wages annual growth	▪	17.6	19.8	18.2	8.5	-4.0	-0.5	7.9	7.2	6.4	6.6
<b>External Sector Indicators</b>	<b>1975</b>	<b>1976</b>	<b>1977</b>	<b>1978</b>	<b>1979</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>
<i>(per cent unless otherwise stated)</i>											
Current Account as percentage of GDP	-8.8	-1.1	0.0	0.0	-2.0	-8.3	-6.4	-3.3	-1.8	-1.4	-0.8
Real export growth	13.9	51.8	30.2	30.2	26.5	16.3	21.4	2.8	11.9	19.6	3.6
Terms of Trade (1985=100)	87.0	99.3	106.2	111.3	108.9	94.4	92.5	96.5	97.4	99.5	100.0
Nominal Exchange Rate (Won/USD)	404.5	484	484	484	484	484	607.4	681	731	776	806
Real effective exchange rate (1993=100)	93.4	108.6	113.1	107.6	120.1	107.6	108.4	106.3	101.9	99.3	93.4
Total external debt as percentage of GDP	39.5	35.5	33.2	28.1	32.1	42.6	45.4	48.7	47.8	46.2	48.4
Short-term Debt as percentage of external debt	28.2	28.6	29.4	26.2	27.1	34.6	31.5	33.4	30.0	36.5	22.9
Debt Service Ratio (long term debt only)	12.7	10.4	▪	11.3	13.7	14.0	14.7	16.1	16.3	16.3	21.3
Foreign Exchange Reserves (US\$ billion)	1.6	3.0	4.3	4.9	5.7	6.6	6.9	7.0	6.9	7.6	7.7

Table VI.7. Republic of Korea: Selected Economic Indicators, 1995-2004

Macroeconomic Indicators	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<i>(Per cent)</i>										
Real GDP annual growth	9.2	7.0	4.7	-6.9	9.5	8.5	3.8	3.1	4.6	
Investment	13.1	8.4	-2.3	-22.9	8.3	12.2	-0.2	6.6	4.0	1.9
Saving as percentage of GDP	36.5	35.7	35.8	37.9	35.8	33.9	31.9	31.4	33.0	35.0
Investment as percentage of GDP	37.7	38.9	36.0	25.0	29.1	31.0	29.3	29.1	30.0	30.2
Inflation	4.4	5.0	4.4	7.5	0.8	2.2	4.1	2.7	3.6	3.6
Real wages annual growth	6.4	6.7	2.5	-9.3	11.2	5.6	1.5	8.6	5.7	2.8
External Sector Indicators	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<i>(per cent unless otherwise stated)</i>										
Current Account as percentage of GDP	-1.7	-4.1	-1.6	11.7	5.5	2.4	1.7	1.0	2.0	4.1
Real export growth	30.3	3.7	5.0	-2.8	8.6	19.9	-12.7	8.0	19.3	31.0
Terms of Trade (2000=100)	138.5	125.4	122.2	116.7	114.1	100.0	95.5	95.0	89.0	85.3
Nominal Exchange Rate	771	804	950	1,401	1,189	1,130	1,291	1,252	1,192	1,146
Real effective exchange rate (1993=100)	105.0	108.1	100.5	73.7	84.3	90.7	85.1	89.7	92.1	94.6
Total external debt as percentage of GDP	23.2	28.2	33.7	47.3	34.4	29	27.1	26.1	26.6	26.1
Short-term Debt as percentage of external debt	45.8	48.2	36.6	24.2	28.2	33.7	32.2	34.8	33.9	33.8
Debt Service Ratio (long term debt only)										
Foreign Exchange Reserves (US\$ billion)	32.7	33.2	20.4	52.0	74.1	96.2	102.8	121.4	155.4	199.1

Source: Bank of Korea.



# **APPROPRIATE INSTITUTIONAL SETTINGS FOR PUBLIC DEBT MANAGEMENT**

Jaime Delgadillo Cortez  
(World Bank<sup>97</sup>)

## **A. Introduction**

Weak institutions dealing with public debt management in transition and emerging economies as well as external shocks can be major sources of debt distress. While shocks cannot be totally controlled, the institutional setting for debt management can be strengthened. Thus vulnerability to debt problems can be reduced or better managed when solid institutions are in place.

Public debt management can be defined as the process of establishing and executing a strategy for managing the Government's debt portfolio in order to meet government funding requirements, to achieve objectives with regard to costs and risks, and to meet other objectives related to debt such as promoting investment for economic growth and developing the domestic financial market for government securities. Effective debt management can also help to ensure that both the level and growth of debt are fiscally sustainable.<sup>98</sup>

In emerging and transition economies the main emphasis in debt management is put on the following:

- The production of reliable debt data;
- Market development;
- Ensuring adequate financing for developmental and social needs;
- Ensuring compliance with debt-service obligations;

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<sup>97</sup> The author was a Senior Economic Affairs Officer of UNCTAD when he wrote this chapter.

<sup>98</sup> See World Bank and IMF (2002), and DMFAS, *Effective Debt Management a Revision*, forthcoming.

- Controlling contingent liabilities;
- Negotiating agreements with creditors;
- Performing cost/risk analysis;
- Designing strategies to attain a sustainable debt position.

An appropriate institutional framework for debt management can contribute to achieving the objectives of effective debt management. Institutional arrangements should focus on the following:

- Governance;
- Clarity of the roles of the institutions dealing with debt management;
- Specification of the objectives for public debt management;
- Coordination of public debt management with other public policies;
- The organizational structure of DMOs;
- Transparency and accountability.

This paper is divided in two parts. Section II provides an overview of the context of public debt management and describes the challenges which DMOs and other areas of public debt management must meet as part of the broad framework of macroeconomic policies. Section III examines the different issues related to the institutional framework of debt management including governance, mandates, accountability and transparency, the separation of executive and operational debt management, and the need for an executive debt management committee. The principal focus is the role, organization and functions of DMOs in low and middle-income countries from the perspective of development needs.

## **B. The Context of Public Debt Management**

### **1. The Challenges and Constraints Facing Institutions Dealing with Debt Management**

Pro-active debt management is essential in today's market conditions. DMOs must face the challenge of more complex portfolios of public and private debt, the globalization of capital markets, and the volatility of capital flows. Furthermore, many emerging market economies obtain substantial financing in the form of equity flows.

External factors such as volatility in the price of export products and exchange- and interest- rate fluctuations, and contagion effects are beyond the DMO's control. However, in normal circumstances, DMOs can play a crucial role in crisis prevention and resolution.

Inadequate legal arrangements, unclear definition of functions and responsibilities, inappropriate organizational structures, inadequate staff and insufficient training, and the failure to define strategic objectives and responsibilities are all too common features of DMOs. These weaknesses are manifest in the absence of strong middle offices which should be equipped to conduct analytical work required for defining a debt strategy. Unclear debt management objectives and benchmarks and the inability to conduct Debt Sustainability Analysis (DSA) are also frequent problems of DMOs. Other deficiencies involve the implementation of strategies and the lack of coordination with monetary and fiscal policies.

Factors which are not under the control of DMOs but which none the less can impede their efficient performance include structural deficiencies in money markets and in the primary and secondary markets for financial instruments as well as inadequate management of quasi-fiscal deficits and

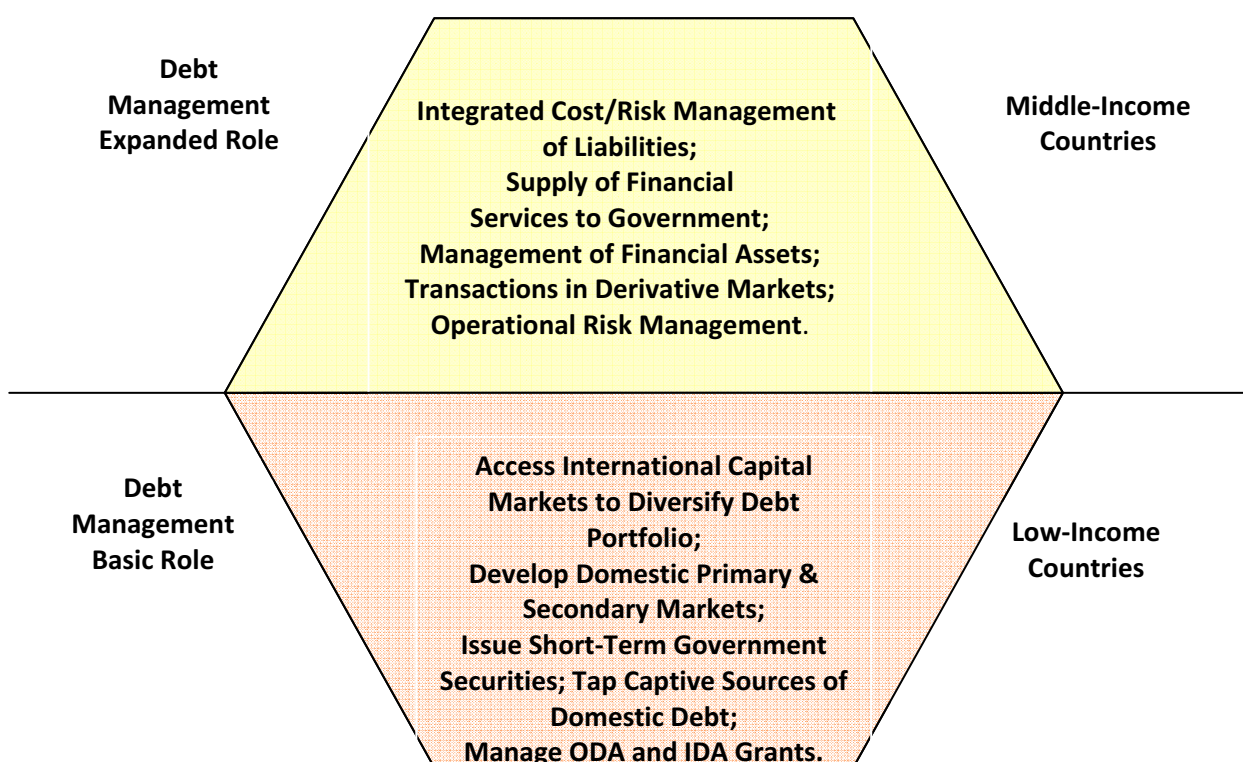
international reserves. Moreover some DMOs lack the resources or mandate (or both) to transmit clear messages to other levels of the Government.

This document does not address all of these issues. It focuses on ways in which the constraints and challenges facing DMOs can be addressed by strengthening the ability of DMOs to manage their debt portfolios and by strengthening other institutional and legal arrangements for debt management.

Figure VII.1. illustrates the core activities typically performed by DMOs in low- and middle-income countries. In the former, debt management is concerned principally with captive markets for domestic debt and concessional financing or grants. Government financing depends heavily on short-term instruments with high interest rates. DMOs thus attempt to diversify the debt portfolio by developing primary and secondary financial markets and by eventually accessing international capital markets.

In the case of middle-income countries, debt management has a wider role in involving the management of the costs and risks of a more diversified portfolio including recourse to transactions in derivatives, providing a range of financial services to the Government, and eventually participating in a integrated financial risk management with other parts of the Government.<sup>99</sup>

Figure VII.1.



<sup>99</sup> See, for example, The Changing Role of the Public Debt Manager, presentation made by Phillip Anderson, World Bank, in UNCTAD (2005).

## 2. Public Debt Management as an Integral Part of the Framework of Macroeconomic Policies

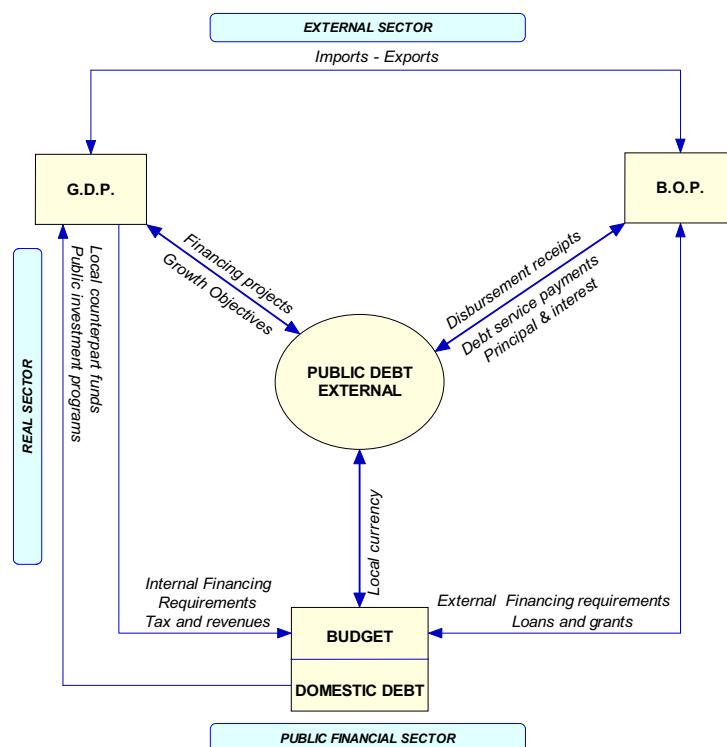
Figure VII.2. below indicates the relationship between public debt, external debt and the real domestic sectors of the economy. Public investment programs are financed with internal or external resources in the form of loans or grants.

Debt flows are recorded in the Balance of Payments. DSA relates public debt information to the balance of payments data and macroeconomic variables including growth objectives and economic and social programs. Information regarding debt stocks and flows (including debt service and disbursements), interest rates, exchange rates, capital-account movements, etc. is combined to determine the size of the financing gap. This needs to be filled with a combination of external and domestic financing and, if necessary, with debt restructuring or debt relief.

Given the importance of domestic debt and the necessity of incorporating it into the overall management of government liabilities, the concept of Total Public Debt is used in this paper, which thus includes both external and domestic debt.

**Figure VII.2.**

*Flow chart for public debt management in developing economies within macroeconomic framework*



Since public debt is often the largest liability in the national balance sheets of low and middle-income countries, its management cannot be seen as isolated from the overall macroeconomic management of a country. Public debt has major linkages with macroeconomic and financial stability.

The objectives of fiscal, monetary and public debt policies should be coordinated to achieve and maintain debt sustainability and fiscal discipline.

Moreover, an effective system of overall financial management is essential not only for macroeconomic management but also for providing reliable financial information to prevent fraud and waste.

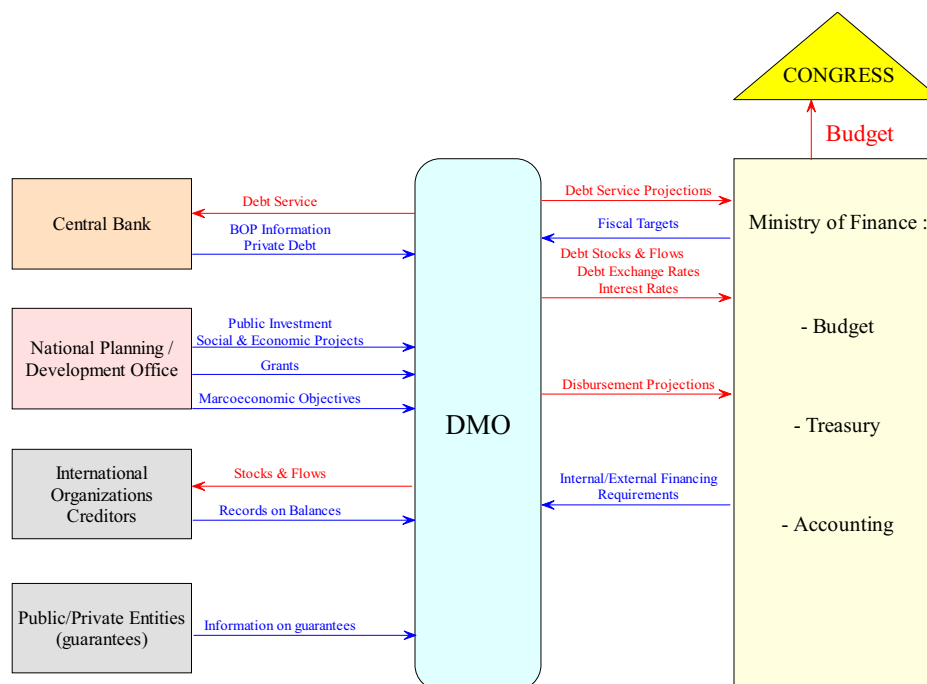
Public debt management as part of such a system can significantly contribute to the attainment of its objectives. Relevant information on debt management strategies, DSA, and public debt stocks and flows are essential ingredients of sound public finances. This is particularly true in the context of budgeting and expenditure management. In this area, Governments want to improve planning and budget formulation; set realistic and achievable spending ceilings; improve spending prioritization; monitor commitments and disbursements; and ensure accurate and timely information flows among government institutions.

As is noted in the World Bank's Public Expenditure Management Handbook, theory and practice show that reform of a country's institutions of financial management - both formal and informal - can have a decisive influence on budgetary outcomes at three levels. At the first level, the introduction of institutional reforms in public financial management can improve aggregate fiscal discipline and planning as well as the traditional control functions of public expenditure through budget parameters. At the second level, these reforms can improve the planning function of public expenditure management through improvements in the capacity to allocate resources in accordance with strategic priorities and baseline data on prior expenditures and revenue patterns. At the third level, the reforms contribute to political decision-making concerning the allocation of scarce resources to selected priorities.

Figure VII.3. illustrates the flows of information between a consolidated DMO and its main stakeholders: the Ministry of Finance, the Central Bank, the National Planning Agency, and its external creditors including International Organizations. Incoming and outgoing information to and from the DMO contribute to a close and coordinated relationship regarding debt management among key institutions. This facilitates the implementation of debt management operations such as debt service payments, and enables the DMO to assist the Government in conducting a DSA.



Figure VII.3. Integrated Debt Management Information Flows



### C. The Role and Organization of a DMO

#### 1. Governance Issues: Legal Framework, Mandates and Jurisdiction, and Accountability and Transparency

The legal framework for a DMO should identify the authority that borrows and issues new debt, invests, and undertakes transactions on the Government’s behalf. The organizational framework for debt management should be well specified, and should ensure that mandates and roles are well articulated. In accordance with IMF-World Bank guidelines, the legal framework should cover the appropriate delegation of authority to debt managers.

An Act of Parliament usually stipulates that the Minister of Finance may delegate to the DMO specific powers, duties and functions that pertain to the management of public debt. This helps the DMO to conclude transactions in a timely manner, to take advantage of market opportunities, and to ensure that projects are funded in the fiscal year in which they were budgeted for. These benefits also apply to concessional funding inasmuch as loan negotiations may be concluded but projects may not be implemented on time due to decision-making delays caused by inadequate delegation.

The degree of delegation may depend on the number of financial transactions the DMO undertakes in a year. Finance Ministers face difficult decisions in determining how much decision-making authority should be vested in others, what specific borrowing and investment powers to delegate, and whom to delegate this power to. Given the importance of these issues, Governments tend to move cautiously. Debt management objectives should be clearly defined and published. These objectives should encompass all types of government obligations, including domestic and external debt and contingent liabilities. The policies regarding risk and cost should also be disclosed. The responsibilities and roles attached to each institution involved in debt management should be clearly spelled out, since otherwise lack of coordination can lead to uncertainties and higher

transaction and borrowing costs. Consolidation of the authority for debt management in a single well-structured DMO can enormously contribute to transparency and accountability.

Legislation on fiscal responsibility can bring the debt management objectives in line with fiscal targets. This is particularly important when local Governments have a certain degree of independence to incur debts, both foreign and domestic, especially in federal countries.

Delegation implies accountability. Therefore, it is highly desirable that the Act of Parliament specifies that the Minister of Finance prepares an annual or semi-annual report with Parliament on activities related to public debt management, and on plans regarding public debt management in the next fiscal year. This helps promote transparency and accountability, and encourages a domestic debate on these issues. Investors and international financial institutions would also be able to acquire a better knowledge of the Government's future funding plans and of its developmental priorities. (Major features of the legal framework for DMOs and of its responsibilities are summarized in Boxes 1 and 2.)

#### **BOX VII.1. DMOs' Main Functions and Responsibilities**

- To implement the debt strategy, debt management policies, procedures, benchmarks and guidelines prescribed in the regulations designed at the appropriate level of Government;
- To issue debt or to contract debt on behalf of the Minister of Finance, to participate in DSA together with other areas of the Government, to alert the authorities concerning situations of unsustainable debt, and to recommend timely adjustments when needed;
- To maintain a timely and reliable database on public debt and to conduct regular data validation;
- To minimize costs and risks associated with public borrowing and publicly issued guarantees;
- To order debt service payments to the financial agent of the central Government through the Treasury and/or the Budget Department, for the loans and bond issues of the central Government.
- To generate and provide reliable and timely information on public debt policies and data to a variety of users and to the public on a periodic basis;
- To provide government guarantees after risk evaluation. The Congress on annual basis through the budget law normally authorizes guarantee coverage. The DMO should monitor all forms of contingent liabilities;
- To monitor the loans and bonds issues of public entities and enterprises;
- To monitor debt incurred at the sub-national level, including the loans and bonds issues of local Governments and entities controlled by them;
- To monitor grants, private external debt and on-lending to both public and private entities;
- To ensure that the provisions of international agreements with creditors (Paris Club, London Club, other bilateral creditors, multilateral creditors, etc.) are complied with.

Sound practice under the heading of accountability requires regular auditing of the financial transactions undertaken by the debt managers to assess their compliance with generally accepted accounting practices and with the Government's portfolio management policies. This auditing would review the risks in the portfolio and compliance with the risk management framework. It could also facilitate the establishment of multi-year targets for debt. The results of the audits would be disclosed in the reports to the Minister of Finance and Parliament.

### **BOX VII.2. Legal and Regulatory Processes for Debt Issuance by a DMO**

A DMO needs to be able to operate in accordance with rules which ensure that debt issuance is consistent with specified borrowing limits, and which do nothing to undermine the confidence of lenders and investors concerning the obligation to service and repay government debt. The delegation of authority should be clear, as should be accountability and reporting obligations. Many Governments have in place legislation of this kind. Usually the legislation authorizes the Minister of Finance to conduct all borrowing and related financial transactions on behalf of the Government and establishes a maximum amount of new funding and guarantees that can be extended over a specified period (generally one year). This avoids the need for specific authorizations from Parliament for individual transactions, which might increase the role of political factors in the decision making and delay the execution of transactions.

## **2. Policies, Procedures and Operations**

Risks of losses from inadequate operational controls should be managed according to sound business practices, including well-articulated responsibilities for staff, clear monitoring and control policies, and adequate reporting arrangements.

- Debt management activities should be supported by an accurate and comprehensive management information system with proper safeguards.
- Staff involved in debt management should be subject to a code-of-conduct and conflict-of-interest guidelines regarding the management of their personal financial affairs.
- A framework should be developed to enable debt managers to identify and manage the trade-offs between expected costs and risks in the Government's debt portfolio. Portfolio benchmarks should reflect the level of risk that is acceptable to the DMO.
- As part of risk assessment, debt managers should regularly conduct stress tests of the debt portfolio on the basis of economic and financial shocks to which the Government – and the country more generally – are potentially exposed.
- In order to help/guide decisions and reduce Government's risk, debt managers should consider the financial and other risk characteristics of the Government's cash flows.
- The responsibility for identifying and developing plans to manage operational risks also lies with the DMO which should have a plan to minimize damages caused by such risks. (For more detail on operational risks see Annex 1.)

### BOX VII.3. Types of Risk

**Market Risk.** The risk associated with changes in market indicators, such as interest rates, exchange rates, commodity prices. For both domestic and foreign currency debt changes in interest rates affect debt-servicing costs on new issues and on floating rate debt at the rate-reset dates. The market risk of debt denominated in or indexed to foreign currencies is due to the vulnerability of debt-servicing costs as measured in domestic currency to exchange rate movements. Bonds with embedded put options (i.e. rights for investors to sell the bonds to the issuer at a specified price during a certain period) can exacerbate market and rollover risks.

**Rollover Risk.** The risk that debt will have to be rolled over at a high cost or, in extreme cases, cannot be rolled over at all. To the extent that rollover risk is limited to the risk that debt might have to be rolled over at higher interest rates it may be classified as a type of market risk. However, because rollover risk can lead to, or exacerbate, a debt crisis, it is often treated separately. Managing this risk is particularly important for emerging market countries.

**Liquidity Risk.** There are two types of liquidity risk. One concerns the risks of situations in which a borrower does not have access to liquid assets when they are needed. The other refers to the risk of penalty rates of interest or other costs when a borrower wants to exit a position through the sale of assets for which the market is illiquid. This risk is particularly relevant to the management of liquid assets and liabilities and to the use of derivatives contracts.

**Credit Risk.** The risk of non-performance by a borrowers or by one of the counterparties to other financial contracts. This risk arises in various contexts such as the acceptance of bids in auctions of securities issued by the Government and in relation to contingent liabilities and derivative contracts.

**Settlement Risk.** The potential loss that a counterparty could suffer as a result of the possibility that it does not receive funds or other assets, for reasons other than default, from another counterparty in accordance with an agreed timetable.

**Operational Risk.** This includes a range of different types of risks due to involvement in various kinds of business. It includes risks due to transaction errors in the various stages of executing and recording transactions, to inadequacies or failures in internal controls, systems and services, and to the effects of natural disasters. It may be defined to include reputational risk and legal risk.

DMOs can implement a “Code of Conduct for Staff and Management” that rests on a tripod of professionalism and integrity; honesty, faithfulness, efficiency, staff courtesy in official conduct; and dignified conduct in private life.

- *Professionalism and integrity* requires staff to openly demonstrate professionalism and integrity in executing the policies and programs of the DMO;
- *Honesty, faithfulness, efficiency, and courtesy in official conduct* requires staff to keep faith to their official responsibilities by not allowing personal considerations or activities to interfere with official duties, maintaining constancy and sincerity of purpose, being result-oriented, and respecting the people it deals with;
- *Dignified conduct in private life* requires staff to exercise restraint in their private lives and in the conduct of private activities that could have bearings on their official engagements.

Annual work plans should be tightly integrated with debt strategy work. There is a strategy hierarchy extending from overall strategic debt management objectives to annual debt management reviews and plans consistent with the overall objectives and to operational plans for individual work areas to give effect to the annual strategy.

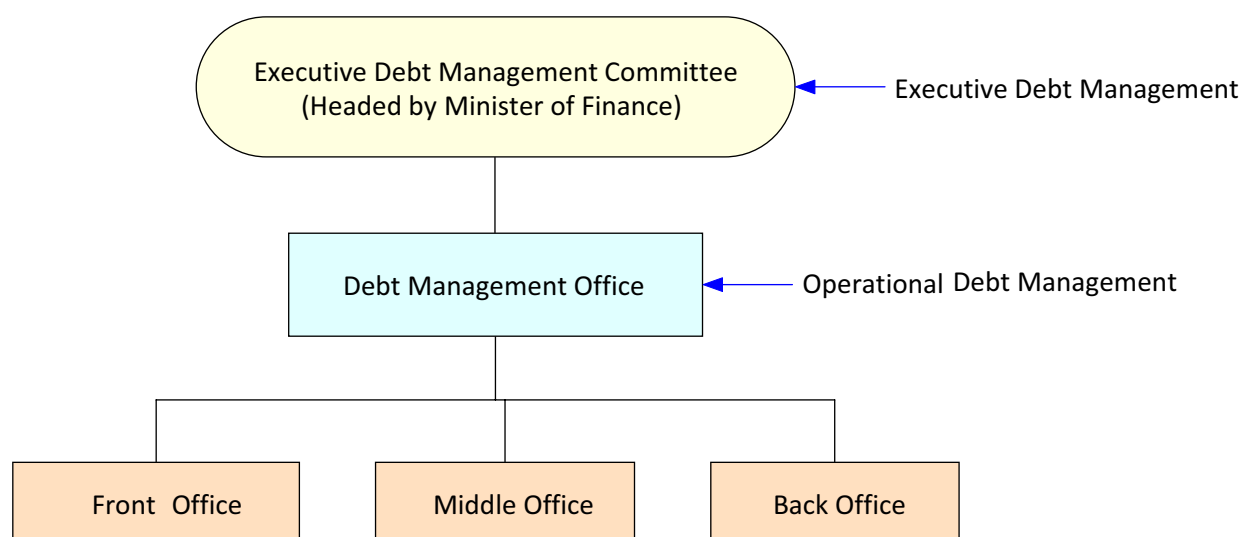
### 3. The Separation of Executive and Operational Debt Management

The Executive Debt Management functions (that is the policy, regulatory and resourcing functions<sup>100</sup>) are the responsibility of the Minister of Finance and other high government officials, such as the Heads of the DMO, National Planning, and Budget and Treasury Offices. These functions may be subject to overall direction and coordination through a high level body which could be denominated as the Executive Debt Management Committee (EDMC).

The role of the EDMC is to approve debt management guidelines and the principles to implement them. It meets at intervals to analyse the DMO's performance and evaluate compliance with established regulations and targets. The Governor of the Central Bank can be part of this Committee to help to ensure coordination between monetary policy, debt management and fiscal policy. Day-to-day operations are delegated by the EDMC to the DMO and then reported to and coordinated with the Minister of Finance.

An organizational structure for effective debt management is shown schematically in figure VII.5., and the proposed composition of the EDMC in figure VII.6. Its different functions are specified in Box VII.4.

**Figure VII.5. Effective Public Debt Management**



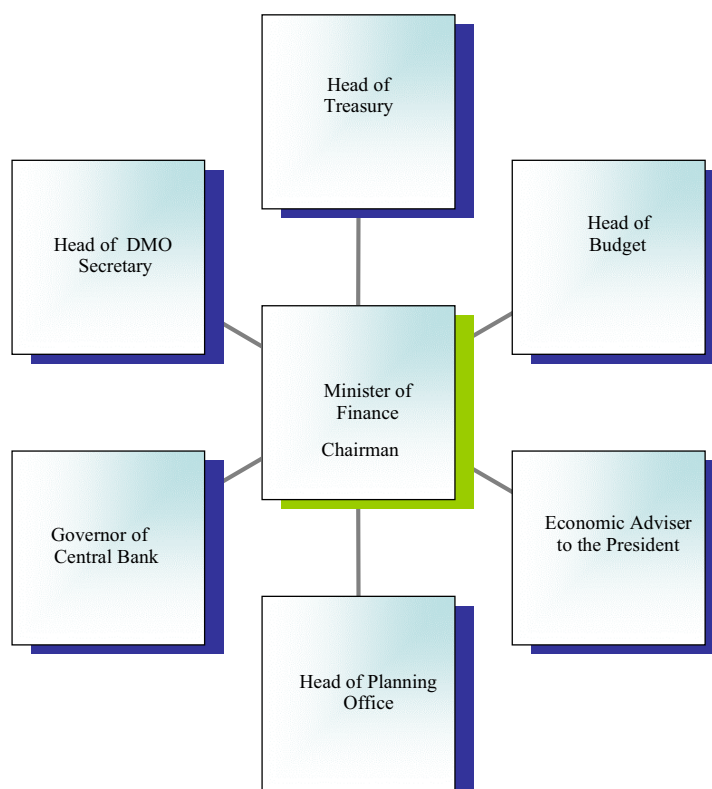
The DMO must have a clear medium-term strategy, performance indicators, and strict monitoring and control functions. These functions should not be related only to debt issuance and debt service. They should also encompass effective management of the risks associated with the debt structure and ensuring compatibility with the fiscal targets, while reducing government finance's vulnerability to shocks.

Based on previous work on effective debt management developed by DMFAS/UNCTAD and other international organizations such as the World Bank and the IMF and best practices in debt management implemented in several countries, the recommended Executive Debt Management (EDM) functions can be summarized as follows:

<sup>100</sup> See DMFAS/UNCTAD (1993).

- (a) EDM functions for external debt include the establishment of debt sustainability standards; determination of borrowing needs and limits, and desired terms and borrowing sources; formulation of guidelines for debt operations such as debt conversions, buy-backs, on-lending, etc; a policy framework for government guarantees and contingent liabilities; and arrangements and regulations for borrowing, disbursements, and debt service.
- (b) EDM functions for domestic debt concern the formulation of debt management objectives and strategy; establishing borrowing ceilings according to budgetary and fiscal goals; development of a benchmark debt structure; determination of the volume and types of instruments to be used and their maturity, timing, frequency, and selling techniques; and development of communication linkages with stakeholders.
- (c) Operational Debt Management is the responsibility of the DMO itself. Basic functions under this heading include recording, operating, monitoring, controlling, coordinating and negotiating public debt. These functions are best performed within the framework of a Back, Middle, and Front Office type of organization. Separation of functions in this context helps promote the independence of those designing strategies and monitoring them (Middle Office) from those registering debt and performing operations (Back Office) and from those carrying out negotiations and debt transactions (Front Office).

**Figure VII.6. Possible Composition of the Executive Debt Management Committee**



Consolidation of the debt management functions in a single office can lead to efficiency gains. This is crucially important to avoid fragmentation of the debt strategy. When conducting DSA and risk analysis it is important to have an integrated view of the total debt portfolio.

The terms of reference of the DMO should incorporate all functions related to the contracting of domestic and external debt. Therefore, the organizational structure must have units responsible for the registration and management of both types of liabilities. (For details see Box VII.1).

The organizational structure of the DMO should be based on a Functions Manual that determines its role, responsibilities and functions together with a staff table detailing job descriptions and responsibilities. The functions of each element of the DMO structure should be clearly specified here. There should be effective coordination and information sharing within the DMO embodied in an internal communications strategy.

The DMO should have the personnel required for efficient response to its mandates, and a policy of adequate remuneration to attract and retain qualified staff.

#### **BOX VII.4. Functions of the Executive Debt Management Committee**

- Approve the debt management strategy over the medium-term;
- Decide on sectors that will have access to external or domestic financing and on what terms;
- Define the level and characteristics of domestic debt issues for fiscal purposes;
- Establish borrowing ceilings by debtor and creditor categories;
- Establish guidelines for extending government guarantees;
- Define the required mix of external and domestic indebtedness and the desired amortization profiles;
- Decide on debt restructurings proposed by the DMO to conform with the debt strategy;
- Provide laws, guidelines and regulations for effective debt management;
- Define institutional framework for the DMO and other institutions involved in debt management operations, including proper coordination of activities;
- Put in place the organizational framework for the DMO, including information flows, functions, and schedules of duties;
- Through the Budget Law, for each fiscal year, establish the debt-service targets and ceilings on indebtedness for foreign and domestic debt;
- Establish benchmarks for certain debt indicators, such as debt service to exports, stock of public debt to GDP, debt service to government revenues, etc.;
- Define policies, including those covering salaries, career perspectives and allowances, for attracting and retaining DMO staff with relevant qualifications;
- Put in place training programs for DMO staff;
- Support improvements, maintenance and extensions of the debt data base.

## 4. The Front, Middle, and Back Offices of a DMO

### *(a) Back Office*

The Back Office centralizes all aspects of the registration, monitoring and control of disbursements/subscriptions, of the execution and management of public debt service operations, and of the production of statistical information. The functions comprise the administration of the full cycle of the life of a contract/instrument from the signature/issue to its full payment.

The Office is responsible for the management of the records of debt holders and for the registration of government debt instruments. Forecasts of forthcoming debt-service payments for domestic as well as external debt need to be produced and sent to the financial agent of the Government for compliance with the debt-service obligations.

The Office performs the basic functions which permit all other operational functions to be carried out. The distribution of tasks to comply with these functions could be divided into the following: (1) the *Area of Registration* concerning the registry of debt information in the database; (2) the *Area of Accounting Operations*, which is mainly concerned with the issue of the *Payment Orders*; and (3) the *Area of the Database Administrator* in charge of the system and network maintenance including the required information technology. These functions should be regulated by a Procedures Manual that sets norms for the flow of information in the operative cycle and that links the operational activities with the structure and functions of the DMO.

Under *Area of Registration grants*, on-lending, guaranteed debt and contingent liabilities should be registered and monitored closely, as should private non-guaranteed debt and debt incurred at the sub-national level.

The Back Office normally has to deal with large-scale requirements for information on public debt. International organizations, different areas of the executive and legislative branches, researchers, and the media require reliable and continuously updated debt information. Transparency and efficiency in generating information is thus a key task of the "Area of Registration".<sup>101</sup>

An important activity of this part of the Back Office is to conduct data validation at regular intervals in order to ensure the reliability of the data base. Normally, this also requires regular reconciliations of data with creditors. The dissemination of information on public debt should be closely coordinated with the Front and Middle Offices.

The preparation of payment orders to service public debt can be performed by the *Area of Accounting Operations*, with payment schedules generated by the functional groups of the *Area of Registration*, although the actual accounting for debt service payments is not necessarily done inside the DMO. With a reliable debt database and a debt system, the preparation of payment orders should be rapid and efficient. The payment orders can be generated and printed directly from the database system, based on the debt system's information. The process of debt service payments to creditors is performed after the reconciliation of the creditors' requests with the amounts scheduled in the debt system's database. This centralization of public debt registration and monitoring and the operative process for the issue of the payment orders represent important savings through the reduction of processing time and the elimination of penalties for late payments.

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<sup>101</sup> For more details on this topic see Information and Transparency in Debt Management, presentation by Udaibir S. Das, IMF, in UNCTAD (2005).



The *Area of Accounting Operations* of the Back Office should also ensure that budgetary provisions exist for (external and domestic) public debt service, including contingent liabilities, and that sufficient sums are allocated to reserves.

A well-organized Back Office will have a structure for ensuring the efficient flow of information, adequate business processes, and the quality of information produced. Therefore, the structure should be organized with a distribution of functions that clearly defines and establishes the sources of financing and the co-ordination of the different entities involved.

Under the *Area of the Database Administrator* the monitoring and control of public-debt information should be based on a methodical centralization of public credit operations in the database of the DMO. The debt database should contain up-to-date information on the domestic and external debt registered in the system. The registration of operations of domestic or external financing in the database system is initiated with the opening of loan files classified by the type and use of the financing, creditor, debtor, and executing agency. This registration will facilitate an adequate control of the management of disbursements and payments made during the fiscal year as well as the projection of future debt service. The control and monitoring of the registration of new loans in the database should be carried out by the head of each functional group. The status of the database and its evolution should be evaluated in regular meetings among the heads of the functional groups who have the responsibility of executing the work program.

The input of loan information to the database should be monitored and controlled periodically by the head of unit of the Back Office of the DMO. The technicians of the units should have the responsibility to run lists of loans to verify the consistency of the information and to correct them if necessary. The Database Administrator should perform the validation of the consolidated debt information periodically. Errors and inconsistencies in the information can be detected through consolidated reports, and the head of each group should be notified for corrections. The status of the database and its consistency should be analysed in periodic meetings with the heads of units who have the responsibility of executing the agreed work program.

Confidence in the debt information processed and reported by the DMO has a direct relationship with the quality of data that is entered in the system. In order to ensure timeliness and high quality, the processing and reporting of debt information should be regulated by a resolution or legal norm that instructs all the entities of the public sector to respond to data requirements of the DMO.

The control and supervision functions of a DMO require that debt information be collected without obstacles. This will guarantee that the authorities have access to up-to-date detailed and aggregated information. Therefore it is important that the DMO establishes direct contact with the executing agencies or users of resources and creditors. Information from these sources will be reconciled with that received from other sources including the Central Bank.

It is also important that the institution in charge of monitoring the public investment program provides all its information to the DMO. This information will guarantee that the projections of debt service are compatible with estimates of disbursements for investment projects. This will enhance the quality of the estimates provided by the DMO for the preparation of the Government's budget.

#### ***(b) The Middle Office***

The main function of the Middle Office is to conduct the analytical work required for assisting executive management levels in designing a debt strategy and a framework for risk monitoring and

control. Regular debt portfolio review should be part of the activities of this office in coordination with other government offices.

Other important roles of this office are the generation of managerial reports on public debt for users inside the DMO and the Government, and the publication and other dissemination of statistics and other information related to policies concerning external and domestic debt. The preparation of debt information and reports should be in accordance with standard requirements and specific requests. The Procedures Manual should specify the reports that are required by various government entities and by external users such as the World Bank, the IMF, regional development banks, Paris Club creditors, civil society and other private parties.

The work program of the Middle Office should include the preparation of monthly and quarterly managerial reports for the Ministry of Finance. The reports would comprise the stock of debt outstanding and transactions that took place during specific periods. This work program should also be supported by the preparation and distribution of a Statistical Bulletin of Public Debt.

The work program should also include estimates mainly used for analytical purposes such as projections of disbursements and public debt service with various assumptions concerning interest and exchange rates. The usefulness of such estimates will be enhanced by the development of the capacity to incorporate debt data into the framework of balance-of-payments and macroeconomic data analysis. Such an expanded framework will facilitate the design and implementation of debt strategies.

For this work it may be useful to establish an *Analytical Function* and a *Risk Analysis Function*.

The *Analytical Function* will perform portfolio analysis in a macroeconomic framework and analysis of long-term debt sustainability on a regular basis. DSA needs to include fiscal sustainability and should also include scenario analysis of ways of meeting medium- and long-term social and economic needs. This can be accomplished by using different DSA analytical tools, such as the World Bank/IMF debt dynamics templates, Debt-Pro or DSM+.<sup>102</sup>

Performance of sensitivity analysis with different assumptions about exchange rates and interest rates allows the Middle Office to provide information about the impact of different debt service scenarios on fiscal and monetary variables. Proposed debt management targets regarding currency composition and amortization profiles are also part of the Middle Office's responsibilities. This function will provide a basis for the Minister or the EDMC to evaluate the macroeconomic debt strategy and amend it, if necessary. The *Analytical Function* would also allow the DMO to adopt strategies within the mandate given to it and to propose strategy changes to the Minister of Finance.

The *Risk Analysis Function* will be responsible for the evaluation and establishment of cost and risk limits for the debt portfolio. This can be accomplished by scenario analysis involving different assumptions concerning not only exchange and interest rates but also other major macroeconomic variables such as global economic growth as well as growth and prices in the country's major export markets.

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<sup>102</sup> Information on these analytical tools can be obtained through the websites of Debt Relief International or the DMFAS/UNCTAD Programme.

### **(c) The Front Office**

The functions of the Front Office are mostly related to the gathering of financial resources to cover resource utilization and needs related to the public debtor debt. They thus include all the processes involving the negotiation and contract of new borrowing.

The front office performs the functions that could be described as those of an EDMC Secretariat, i.e. to ensure that the law, the rules and regulations, and the guidelines issued by the EDMC are applied and followed. For this purpose the Front Office requires proper legal advice.

Two major functions of the Front Office are the *Implementation/Monitoring/Negotiating Function* and the *Government Securities Market Function*.

The *Implementation/Monitoring/Negotiating Function* is responsible for the following up and implementation of the decisions taken at the executive level and for ensuring that implementation by the Government is established in accordance. In lower income countries this function is also likely to cover attracting Official Development Assistance (ODA) and grants.

The *Government Securities Market Function* comprises numerous responsibilities regarding the development of markets for government debt, and carrying out issuance, redemption, and other tasks related to management of the Government's debt.

These include the following:

- The development of securities market regulation to support the issuance and trading of government securities;
- The development of market infrastructure to help increase market liquidity and reduce systemic risk;
- Strengthening the demand for government securities by building the potential investor base;
- Improving the quality government securities in primary and secondary markets through extending maturities and consolidating the number of issues;
- Matching the Government's financing needs with the term structure of its debt; and
- Creating efficient channels for the marketing and distribution of government securities.

In its *Government Securities Market Function* the Front Office should aim as far as possible at the separation of instruments used for debt management, on the one hand, and for monetary policy, on the other. When the market for government securities is limited to short-term instruments, it conflicts between the pursuit of the objectives of monetary and debt policies are difficult to avoid.

In more sophisticated DMOs the Front Office has roles involving derivatives transactions, integrated risk management, accessing the international capital markets, and providing various other financial services to the Government.

## **5. Institutional Location of the DMO**

A unified DMO with consolidated functions regarding operational debt management appears to be the most appropriate setting for effective debt management.<sup>103</sup> The existence of a single institution in charge of implementing debt policies permits a greater attention and concentration to debt management issues and helps to ensure a clear separation between fiscal, monetary and debt management policies.

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<sup>103</sup> See also Currie, Dethier, and Togo (2003).

Regarding the location of the DMO with the Government present practices vary.

Separate DMOs are more frequent in developed economies with sophisticated financial markets. Under this arrangement DMOs implement the debt strategies determined by the Minister of Finance as an agency of the Government.<sup>104</sup> To ensure Government monitoring and control of debt management, for example, through an EDMC, clear governance, legal and institutional arrangements are put in place and strategic objectives and benchmarks for debt management established.

The main advantages of separate DMOs can be summarized as follows:

- (a) Greater efficiency in managing debt;
- (b) More independence from political influence;
- (c) The possibility of attracting qualified staff at better salaries; and
- (d) Latitude for the application of private-sector management practices and debt techniques.

An example of the organizational structure of a separate DMO is provided in Box VII.5.

DMOs inside the Ministry of Finance (MOF) are more common in less developed economies, where more coordination is needed between debt management and other policies owing to the vital and strategic role of the former.

Advantages of this arrangement are the following:

- (a) Greater coordination of debt management with the core activities of the MOF, such as fiscal and budgetary policies;
- (b) More flexibility in managing contingent liabilities and on-lending; and
- (c) Facilitation of handling issues related to the fiscal sustainability of debt.

Fiscal discipline, social and economic growth, and debt sustainability are inextricably intertwined in less developed economies.<sup>105</sup>

In either case the MOF is ultimately accountable for incurring debt on behalf of the Government and delegates some of its authority to the DMO for this purpose. When the debt management activities are consolidated in a single office with an appropriate organizational structure and governance arrangements, there are no great dissimilarities between a separate DMO and a DMO inside the MOF.

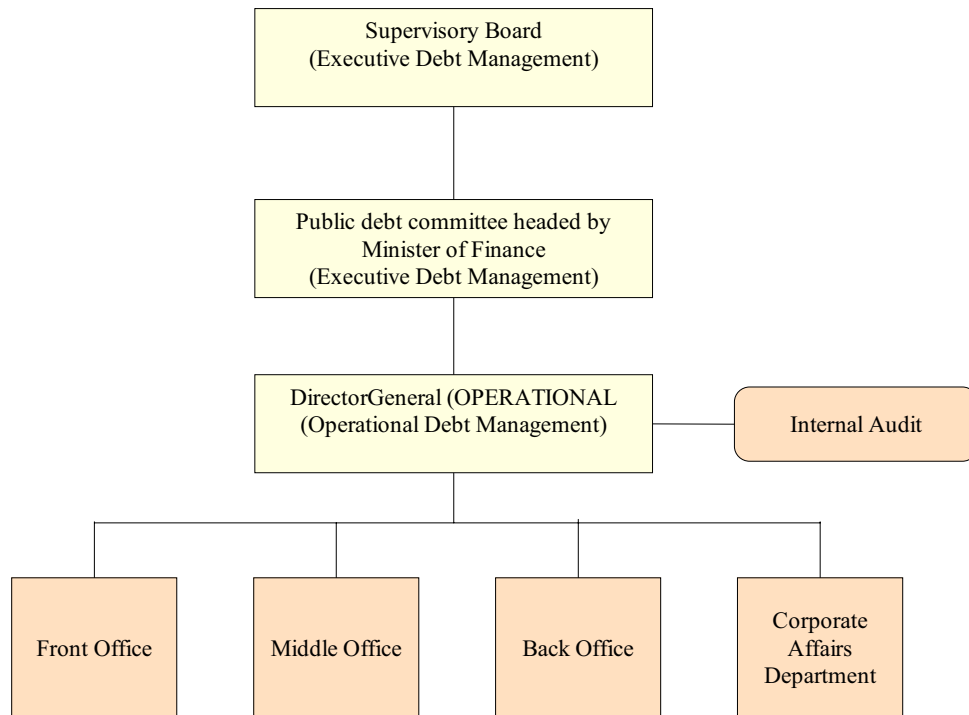
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<sup>104</sup> Recent Experiences in the Organization of Debt Management Offices, presentation by Fred Jensen in UNCTAD (2005).

<sup>105</sup> See Borresen and Cosio-Pascal (2002).

### Box VII.5. The Separate DMO of Nigeria

There are a few developing countries such as Nigeria with separate DMOs. The figure below shows the arrangements of the Nigerian DMO.



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## **Abbreviations**

ALM	Asset and Liability Management
BIS	Bank for International Settlements
BOP	Balance of Payments
CB	Central bank
ComSec	Commonwealth Secretariat
DMFAS	Debt Management and Financial Analysis System
DMOs	Debt management Offices
DSA	Debt Sustainability Analysis
DSM+	Debt Sustainability Model Plus
EDM	Executive Debt Management
EDMC	Executive Debt management Committee
GDP	Gross Domestic Product
G-8	Group of Eight
G-77	Group of 77
IDA	International Development Agency
IFMS	Integrated Financial Management Systems
INTOSAI	International Organization of Supreme Audit Institutions
IT/IS	Information Technology/Information Systems
IMF	International Monetary Fund
MDGs	Millennium Development Goals
MEFMI	Macroeconomic & Financial Management Institute of Eastern and Southern Africa
MOF	Ministry of Finance
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
SAI	Supreme Audit Institutions
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development



## Annex

### Managing Operational Risks

Operations risks arise in the areas that provide support services to the management of public debt. Auditors would recognize the following operational risks when they examine the organizational structure of public debt management.

- (a) Lack of separation of duties or functions. Public debt transactions must be independently processed, confirmed, valued, and reviewed, and monitored by an independent administrative office.
- (b) Inadequate staff expertise. Supervisors must have the proper expertise to avoid becoming a “rubber stamp” to those responsible for debt transactions. Support staff is usually the first line of defense to uncover errors and irregularities that may occur in processing debt transactions.
- (c) Product risk. New debt instruments can be too complex or poorly understood. This can lead to the inability of support staff to process, value, and control new debt instruments.
- (d) System and technology risks. These risks exist when staff fails to stay up to date in its understanding of technological developments associated with new information systems or adopts computerized information systems without “re-engineering” their debt management practices.
- (e) Procedures risks. These risks exist when the debt management functions do not have written procedures and the work flow is not structured in a predictable and well- designed manner with proper audit trails. These written procedures become more important, the more complex debt instruments are.
- (f) Disaster recovery risks. These risks exist when the debt organization has not planned for alternative sites, computer resources, communications, resources, trading facilities, and other support services in the case of a disaster. Those responsible for debt transactions must have alternative remote trading and technology sites.
- (g) Documentation risks. These risks exist when debt transactions do not have well-designed agreements that are legally authorized, properly executed and supported by appropriate confirmation in a timely manner. Legal departments and support staff must maintain master agreements and supporting confirmations.
- (h) Valuation risks. These risks exist when the support staff cannot perform, at least on a regular basis, an independent valuation of all debt instruments or if the valuation of the support staff differs from the valuation of the Supreme Audit Institutions (SAI) or an independent third party.

**Source:** INTOSAI Guidance for Planning and Conducting an Audit of Public Debt.

# **CREDIT RATING AGENCIES AND THEIR POTENTIAL IMPACT ON DEVELOPING COUNTRIES**

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## **A. Introduction**

Credit rating agencies (subsequently denoted CRAs) specialize in analysing and evaluating the creditworthiness of corporate and sovereign issuers of debt securities. In the new financial architecture CRAs are expected to become more important in the management of both corporate and sovereign credit risk. Their role has recently received a boost from the revision by the Basel Committee on Banking Supervision (BCBS) of capital standards for banks culminating in Basel II.

The logic underlying the existence of CRAs is to solve the problem of the informational asymmetry between lenders and borrowers regarding the creditworthiness of the latter. Issuers with lower credit ratings pay higher interest rates embodying larger risk premiums than higher-rated issuers. Moreover, ratings determine the eligibility of debt and other financial instruments for the portfolios of certain institutional investors due to national regulations that restrict investment in speculative-grade bonds.

The rating agencies fall into two categories, recognized and non-recognized. The former are recognized by supervisors in each country for regulatory purposes. In the United States only five CRAs (of which the best known are Moody's and Standard & Poor's) are recognized by the SEC. The majority of CRAs such as the Economist Intelligence Unit (EIU), Institutional Investor (II), and Euromoney are "non-recognized".

There is a wide disparity among CRAs. They may differ in size and scope (geographical and sectoral) of coverage. There are also wide differences in their methodologies and definitions of the default risk, which renders comparison between them difficult.

Regarding their role vis-à-vis developing countries, the sovereign rating is particularly important. As defined by Nagy (1984), "Country risk is the exposure to a loss in cross-border lending, caused by events in a particular country which are - at least to some extent - under the control of the Government but definitely not under the control of a private enterprise or individual". Under this definition all forms of cross-border lending in a country, -- whether to the Government, a bank, a private enterprise or an individual -- are included. Country risk is therefore a broader concept than sovereign risk. The latter is restricted to the risk of lending to the Government of a sovereign nation. However, sovereign and country risk are highly correlated as the Government is the major actor affecting both. Moreover, there only rare exceptions to the principle of the sovereign ceiling; i.e. the debt rating of a company or bank based in a country cannot exceed the country's sovereign rating.

The failure of big CRAs to predict the 1997-1998 Asian crisis and the recent bankruptcies of Enron, WorldCom and Parmalat have raised questions concerning the rating process and the accountability of CRAs and has prompted legislators to scrutinize rating agencies. This report gives an overview of the sovereign credit rating industry, analyses its impact on developing countries and assesses some of the CRAs' shortcomings in the context of concerns that have recently been raised.

## **B. Credit Rating Agencies in the International Financial System**

### **1. Asymmetry of Information and CRAs as "Opinion" Makers**

A credit rating compresses a large variety of information that needs to be known about the creditworthiness of the issuer of bonds and certain other financial instruments. The CRAs thus contribute to solving principal-agent problems by helping lenders "pierce the fog of asymmetric information that surrounds lending relationships and help borrowers emerge from that same fog"( White (2001)).

CRAs stress that their ratings constitute opinions. They are not a recommendation to buy, sell or hold a security and do not address the suitability of an investment for an investor. Ratings have an impact on issuers via various regulatory schemes and by determining the conditions and the costs under which they access debt markets. Regulators have outsourced to CRAs much of the responsibility for assessing debt risk. For investors ratings are a screening tool that influences the composition of their portfolios as well as their investment decisions.

### **2. Credit Ratings and Basel II**

Regulatory changes in banks' capital requirements under Basel II have resulted in a new role for credit rating agencies. Ratings can be used to assign the risk weights determining minimum capital charges for different categories of borrower. Under the Standardized Approach to credit risk Basel II establishes credit risk weights for each supervisory category which rely on "external credit assessments" (see Box VIII.1.). Moreover, credit ratings are also used for assessing risks in some of the other rules of Basel II.

The importance of ratings-based regulations is particularly visible in the United States, where it can be traced back to the 1930s. These regulations not only affect banks but also insurers, pension funds,

mutual funds and broker-dealers by restricting or prohibiting the purchase of bonds with “low” ratings, i.e. non-investment grade or speculative-grade ratings.<sup>106</sup> While ratings-based regulations are less common in Europe, they are part of the new Capital Requirements Directive that the EU will implement through Basel II.

#### **BOX VIII.1. Basel II**

The major objective of Basel II is to revise the rules of the 1988 Basel Capital Accord in such a way as to align banks’ regulatory capital more closely with their risks, taking account of progress in the measurement and management of these risks and the opportunities which these provide for strengthened supervision. Under Pillar 1 of Basel 2 regulatory capital requirements for credit risk are calculated according to two alternative approaches, the Standardized and the Internal Ratings-Based. Under the Standardized Approach (SA) the measurement of credit risk is based on external credit assessments provided by external credit assessment institutions (ECAIs) such as credit rating agencies or export credit agencies. 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. Under the foundation version (FIRBA) banks calculate the probability of default (PD) 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 (AIRBA) banks also estimate their own measures of all the determinants of credit risk, including loss given default (LGD) and exposure at default (EAD).

Under the regulatory capital requirements for operational risk there are three options of progressively greater sophistication. Under the Basic Indicator Approach (BIA) the capital charge is a percentage of banks’ gross income. Under the Standardized Approach (SAOR) the capital charge is the sum of specified percentages of banks’ gross income from eight business lines (or alternatively for two of these business lines, retail and commercial banking, of different percentages of loans and advances). Under the Advanced Measurement Approach (AMA), subject to the satisfaction of more stringent supervisory criteria, banks estimate the required capital with their own internal systems for measuring operational risk.

Pillars 2 and 3 of Basel 2 are concerned with the supervisory review of capital adequacy and the achievement of market discipline through disclosure.

Various writers such as Reisen (2002) have expressed the view that the Basel II Accord may destabilize private capital flows to developing countries. This would be true if the closer links under Basel II between the levels of banks’ regulatory capital and their assessment of credit risks accentuated pro-cyclical fluctuations in their lending. Moreover the same link may also result in higher interest rates than under the 1988 Accord for less creditworthy developing-country borrowers. The ratings of CRAs may contribute to unfavorable effects under both headings. As discussed below, changes in these ratings sometimes follow closely cyclical changes in economic conditions. Moreover owing to their low credit ratings certain developing countries may be assigned higher weights for credit risk than under 1988 Capital Accord and thus be charged higher rates of interest on their borrowing.

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<sup>106</sup> The major CRAs have their own ratings schemes which differ for different categories of debt – long-and short-term, bank and non-bank - and in the case of Fitch’s ratings for banks include the likelihood of external support, should this become necessary to enable them to continue meeting their financial obligations on a timely basis. The best known ratings are those of Standard and Poor’s and Moody’s for long-term debt, which vary between AAA and BBB- for investment grade for Standard and Poor’s (Aaa-Baa3 for Moody’s) and between BB+ and CC for speculative grade for Standard and Poor’s (Ba1-C for Moody’s). For more details see table 1 of Annex 2.

## **C. CRAs' Procedures and Methods**

### **1. Quantitative and Qualitative Methods**

The processes and methods used to establish credit ratings vary widely among CRAs. Traditionally CRAs have relied on a process based on a quantitative and qualitative assessment reviewed and finalized by a rating committee. More recently there has been increased reliance on quantitative statistical models based on publicly available data with the result that the assessment process is more mechanical and involves less reliance on confidential information. No single model outperforms all the others. Performance is heavily influenced by circumstances.

A sovereign rating is aimed at "measuring the risk that a Government may default on its own obligations in either local or foreign currency. It takes into account both the ability and willingness of a Government to repay its debt in a timely manner" (Moody's, Special Comment (2006)). The key measure in credit risk models is the measure of the probability of default, PD, but exposure is also determined by the expected timing of default and by the recovery rate, RE, after default has occurred.

- (a) S&P ratings seek to capture only the forward-looking probability of the occurrence of default. They provide no assessment of the expected time of default or of mode of default resolution and recovery values.
- (b) By contrast Moody's ratings focus on the Expected Loss, EL, which is a function of both PD and the expected recovery rate, RE. Thus  $EL = PD \cdot (1 - RE)$ .
- (c) Fitch's ratings also focus on both PD and RE (Bhatia, 2002). They have a more explicitly hybrid character in that analysts are also reminded to be forward-looking and to be alert to possible discontinuities between past track records and future trends.

The credit ratings of S&P and Moody's are assigned by rating committees and not by individual analysts. There is a large dose of judgment in the committees' final ratings CRAs provide little guidance as to how they assign relative weights to each factor, though they do provide information on what variables they consider in determining sovereign ratings. Identifying the relationship between the CRAs' criteria and actual ratings is difficult, in part because some of the criteria used are neither quantitative nor quantifiable but qualitative. The analytical variables are interrelated and the weights are not fixed either across sovereigns or over time. Even for quantifiable factors, determining relative weights is difficult because the agencies rely on a large number of criteria and there is no formula for combining the scores to determine ratings.

In assessing sovereign risk CRAs highlight several risk parameters of varying importance: economic, political, fiscal and monetary flexibility and the debt burden (see Box VIII.2.). Economic risk addresses the ability to repay its obligations on time and is a function of both quantitative and qualitative factors. Political risk addresses the sovereign's willingness to repay debt. Willingness to pay is a qualitative issue that distinguishes sovereigns from most other types of issuers. Partly because creditors have only limited legal redress, a Government can (and sometimes does) default selectively on its obligations, even when it possesses the financial capacity for debt service. In practice, political risk and economic risk are related. A Government that is unwilling to repay debt is usually pursuing economic policies that weaken its ability to do so. Willingness to pay, therefore, encompasses the range of economic and political factors influencing government policy (see Box VIII.2.).

Broadly speaking, the economic variables aim at measuring three types of performance: (1) measures of domestic economic performance, (2) measures of a country's external position and its ability to service its external obligations and (3) the influence of external developments. Bhatia (2002) notes that CRAs' analysis prior to the Asian financial crisis focused on traditional macroeconomic indicators with limited emphasis on contingent liability and international liquidity considerations. Moreover private-sector weaknesses were not included in the analysis of sovereign rating.

In practice, a small number of variables -- GDP per capita, real GDP growth per capita, the consumer price index (CPI), the ratio of government fiscal balance to GDP, and government debt to GDP -- have a large impact on credit ratings. (The relationship between these indicators and S&P's ratings are illustrated in figures 1-5 of Annex 1.). By and large, higher GDP per capita lead to higher ratings; higher CPI to lower ratings, the lower the rating, the lower the government balance as a ratio to GDP; higher fiscal deficits and government debt in relation to GDP also lower ratings.

## Box VIII.2. S&P Sovereign Ratings Methodology Profile

### Political risk

- Stability and legitimacy of political institutions
- Popular participation in political processes
- Orderliness of leadership successions
- Transparency in economic policy decisions and objectives
- Public security
- Geopolitical risk

### Income and economic structure

- Prosperity, diversity and degree to which economy is market-oriented
- Income disparities
- Effectiveness of financial sector in intermediating funds availability of credit
- Competitiveness and profitability of non-financial private sector
- Efficiency of public sector
- Protectionism and other non-market influences
- Labor flexibility

### Economic growth prospects

- Size and composition of savings and investment
- Rate and pattern of economic growth

### Fiscal flexibility

- General government revenue, expenditure, and surplus/deficit trends
- Revenue-raising flexibility and efficiency
- Expenditure effectiveness and pressures
- Timeliness, coverage and transparency in reporting
- Pension obligations

### General government burden

- General government gross and net (of assets) debt as a percent of GDP
- Share of revenue devoted to interest
- Currency composition and maturity profile
- Depth and breadth of local capital markets

### Offshore and contingent liabilities

- Size and health of NFPEs
- Robustness of financial sector

### Monetary flexibility

- Price behavior in economic cycles
- Money and credit expansion
- Compatibility of exchange rate regime and monetary goals
- Institutional factors such as central bank independence
- Range and efficiency of monetary goals

### External liquidity

- Impact of fiscal and monetary policies on external accounts
- Structure of the current account
- Composition of capital flows
- Reserve adequacy

### External debt burden

- Gross and net external debt, including deposits and structured debt
- Maturity profile, currency composition, and sensitivity to interest rate changes
- Access to concessional lending
- Debt service burden

**Source:** S&P, "Sovereign Credit Ratings: A Primer", October 2006.

**Notes:** NFPEs: Non-financial public sector enterprises.

## **2. Empirical Assessments of Credit Rating Determinants**

A number of economists have estimated econometrically the determinants of credit ratings for both mature and emerging markets (Cantor and Packer (1995, 1996), Haque et al., (1996, 1997), Reisen and von Maltzan (1999), Jüttner and McCarthy (2000), and Bhatia, (2002)). In these studies a small number of variables explain 90 percent of the variation in the ratings:

- GDP per capita;
- GDP growth;
- Inflation;
- The ratio of non-gold foreign exchange reserves to imports;
- The ratio of the current account balance to GDP;
- Default history and the level of economic development.

Indeed, a single variable, GDP per capita, explains about 80 percent of the variation in ratings (Borenszstein and Panizza (2006)). It is worth noting that the fiscal position, measured by the average annual central government budget deficit/surplus ratio to GDP, in the three years before the rating year and the external position measured by the average annual current account deficit/surplus in relation to GDP, in the three years before the rating year, were found to be statistically insignificant.

While including political events can improve the explanatory power of the regressions, the exclusion of political variables does not bias the parameter estimates (Haque et al., 1996; Cantor and Packer, 1996). In addition, for developing-country ratings, two other variables adversely affected ratings independently of domestic economic fundamentals (Haque et al., 1996, 1997):

- Increases in international interest rates;
- The structure of its exports and its concentration.

Jüttner and McCarthy (2000) found a structural break in ratings assessment in 1997 in the wake of the South-East Asian crisis. “[...] Econometric estimates may convey wrong or meaningless signals to investors during a rating crisis ... there is no set model or framework for judgment which are capable of explaining the variations in assignment of sovereign ratings over time” (Jüttner and McCarthy (2000)). The authors add in a footnote that this means that in a global financial crisis ratings models might become completely obsolete since a stable relationship between rating and their determinants might be impossible to identify.

In their analysis of the determinant of ratings during the Asian crisis, Jüttner and McCarthy found that the following variables:

- The CPI;
- The ratio of external debt to exports;
- A dummy default history, and;
- The interest rate differential;
- The real exchange rate.

Neither the interest rate differential nor the real exchange rate were found to be significant determinants prior to the Asian crisis thus indicating that these variables may have been overlooked by the agencies before the crisis. Variables denoting financial strength were not found to be significant determinants of sovereign ratings even one year after the Asian crisis. However, these variables were subsequently included in ratings assessments by the major CRAS following their unsatisfactory performance during Asian crisis.



### **3. Rating Differences, Notching, Solicited and Unsolicited Ratings**

Although CRAs have different concepts and measurements of the probability of default, various studies which have compared Moody's and S&P' ratings, have found a great similarity for investment grade ratings (Cantor and Packer, 1996; Ammer and Packer, 2000). In the case of speculative-grade issues, Moody's and S&P assign divergent ratings much more frequently to sovereign bonds than to corporate bonds. The literature also finds clear evidence of differences in rating scales once we move beyond the two largest agencies. For example, ratings for the same issuer tend to be lower for the two largest agencies than for other agencies such as Fitch or Duff and Phelps.

Some of these differences can be explained by sample selection bias. The analysis of Cantor and Packer (1996) points to only limited evidence of significant selection bias and significant evidence for differences in rating scales between larger and small CRAs. Regardless of ratings differences, the market appears to reward issuers with a lower interest costs when a third rating is assigned, especially when the rating is higher (BCBS (2000)).

Fitch and the Egan-Jones Ratings Company have accused the two big CRAs of practicing the "notching", a practice whereby S&P and Moody's would initiate an automatic downward of structured securities, if the two agencies were not hired to rate them (Egan-Jones Ratings Company, 2002). Moody's response to Fitch's accusations is that unsolicited ratings usually result in a lower rating for debt securities because of either a lack of information or the use of different methodologies to determine the probability of default.

Unsolicited ratings raise potential conflicts of interest. Both Moody's and S&P state that they reserve the right to rate and make public ratings for United States SEC-registered corporate bonds, whether or not requested by an issuer. If the issuer does not request the rating, the rating will simply be based on publicly available information. If the issuer requests the rating, then it provides information to the rating agency and pays the fees. Many new entrants in the credit rating industry issue unsolicited ratings to gain credibility in the market. Some issuers have accused CRAs of using unsolicited ratings and the threat of lower ratings induce issuers to cooperate in the rating process and pay the fees of solicited ratings.<sup>107</sup>

Since 2001, Moody's claims that it has not done any unsolicited rating in Europe. S&P also claims not to do any unsolicited rating outside the United States. As unsolicited ratings are based on public information and thus lack issuer input, the issue of unsolicited ratings could be addressed by requiring CRAs to disclose whether it has been solicited or not. Both Moody's and S&P already specify in their ratings whether the rating has been solicited and give issuers the opportunity to participate at any stage of the process if they wish.

## **D. Impact of Ratings**

### **1. Costs and Benefits of Obtaining a Rating**

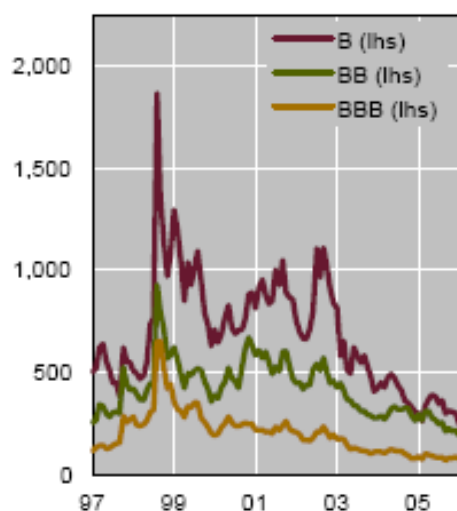
As mentioned earlier, the primary purpose of obtaining a rating is to enhance access to private capital markets and lower debt-issuance and interest costs. Theoretical work (Ramakrishnan and Thakor, 1984; Millon and Thakor, 1985) suggests that credit rating agencies, in their role as information gatherers and processors, can reduce a firm's capital costs by certifying its value in a

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<sup>107</sup> SEC, 'Concept' Release. Rating Agencies and the Use of Credit Ratings under the Federal Securities Laws, Securities and Exchange Commission. Release Nos. 33-8236; 34-47972; IC-26066.

market, thus solving or reducing the informational asymmetries between purchasers and issuers. For sovereign borrowers, there is evidence of a clear correlation between bond spreads and rating grades, as shown in Figure VIII.1., (BIS (2006)): the lower the rating, the higher the spread.

**Figure VIII.1. Bond Spreads by Ratings**



**Source:** BIS Quarterly Review, March 2006 from JPMorgan Chase EMBI Global Diversified (EMBIGD).

There are other indirect benefits from ratings for low income countries, namely to foster FDI, to promote more vibrant local capital markets, and increase public-sector financial transparency (Standards and Poor's (2004)). As a result, even some sovereigns that do not intend to issue cross-border debt in the immediate future seek credit ratings from CRAs.

For emerging markets, there is an important externality of obtaining a rating, that of the "sovereign ceiling" effect. Borenzstein et al. (2006) find that, although it has been relaxed since 1997, the effect of the sovereign ceiling remains statistically highly significant, especially for bank corporations, being more important for banks that reside in countries with a high levels of sovereign debt and smaller for banks with strong foreign parents.

## 2. Booms and Busts: Financial Crises in Emerging Markets and the Pro-cyclicality of Ratings

The 1997-1998 Asian crisis highlighted CRAs' potential for reinforcing booms-and-busts of capital flows. As ratings were lagging instead of leading market events and over-reacted during both the pre-and post-crisis periods, they may have helped to amplify these cycles.

Several empirical studies show that sovereign ratings are sticky, lagging market sentiment and over-reacting with a lag to economic conditions and the business cycle. Larrain, Reisen and von Maltzan (1997) have found that ratings are correlated with sovereign bond yield spreads. In the aftermath of the 1994-1995 Mexican crisis, the authors find a two-way causality between sovereign ratings and market spreads. Not only do international capital markets react to changes in the ratings, but the ratings systematically react, with a lag, to market conditions as reflected in the sovereign bond yield spreads. This study also indicates a highly significant announcement effect when emerging markets sovereign bonds are put on review with negative outlook. Moreover, the study finds a significant

negative effect of rating announcements: following a rating downgrade investors readjust their portfolios. Positive rating announcements, by contrast, do not seem to have a significant effect on bond spreads.

Moody's more recent (2003) report on pro-cyclicality claims that the relative stability of credit ratings compared to market-based indicators suggests that ratings were more likely to dampen rather than to amplify the credit cycle, and that most rating changes reflected long-lasting changes in fundamental credit risk rather than temporary cyclical developments. The relationship between credit ratings and cyclical – and thus the impact of changes in the CRAs' practices in response to shortcomings revealed by the crises of the 1990s - thus remains an open empirical question.

### **3. Accuracy and Performance of Ratings**

CRAs' failure to predict the Mexican and Asian financial crises was due, among other things, to the fact that contingent liability and international liquidity considerations had not been taken into account by CRAs. .

Concerning the Asian crisis, Moody's acknowledged that it had been confronted with a new set of circumstances requiring a paradigm shift in the following areas:

- Greater analytic emphasis on the risks of short-term debt for otherwise creditworthy countries;
- Greater emphasis on the identity and creditworthiness of a country's short-term borrowers;
- Greater appreciation of the risks posed by a weak banking system; and
- Greater attention to the identity and likely behavior of foreign short-term creditors;
- Increased sensitivity to the risk that a financial crisis in one country can lead to contagion effects for other countries.

A balance has to be found in the trade-off between accuracy and stability. Rating agencies are averse to reversing ratings within a short period of time. Both Moody's and S&P intend their ratings to be stable measures of relative credit risk. Moody's claims that this corresponds to issuers' as well as institutional investors' wishes and that its *"desire for stable ratings reflects the view that more stable ratings are "better" ratings.*

Bhatia (2002) has measured "failures" based on ratings stability. With exceptions for some of the lowest ratings he defines a "failed rating" as one that is lowered or raised by "three or more notches within 12 months. The choice of three notches is related to the small probability of a three notch rating change among CRAs. Applying the Bhatia definition of rating failure to the long-term foreign currency sovereign ratings of S&P and Moody's in 1997-2002, shows that S&P and Moody's both experienced failures during the Asian crisis; S&P also failed during the Russian and Argentinean crisis; and Moody's failed during the Russian but not the Argentinean crisis (see table VIII.1.). Bhatia's failure definition suggests that rating failures were less prevalent in 1999-2002 than in 1997-1998.

Table VIII.1. Sovereign Ratings Failure Statistics, 1997 - 2002<sup>1/</sup>

<u>Failure</u>	<u>Failed rating (&amp; date) 2/</u>	<u>Corrected rating (&amp; date) 2/</u>	<u>Notches adjusted 3/</u>	<u>Key factor</u>
<b>S&amp;P</b>				
1997: Thailand	A (Sept. 3, 1997)	BBB- (Jan. 8, 1998)	4↓ (0.97)	Evaporation of reserves
1997: Indonesia	BBB (Oct. 10, 1997)	B- (Mar. 11, 1998)	7↓ (1.40)	Collapse of asset quality
1997: Korea	AA- (Oct. 24, 1997)	B+ (Dec. 22, 1997)	10↓ (5.26)	Evaporation of reserves
1997: Malaysia	A+ (Dec. 23, 1997)	BBB- (Sept. 15, 1998)	5↓ (0.57)	Collapse of asset quality
1998: Korea	B+ (Feb. 18, 1998)	BBB- (Jan. 25, 1999)	4↑ (0.36)	Reserves replenishment
1998: Romania	BB- (May 20, 1998)	B- (Oct. 19, 1998)	3↓ (0.61)	Evaporation of reserves
1998: Russia	BB- (June 9, 1998)	B- (Aug. 13, 1998)	3↓ (1.43)	Evaporation of reserves
2000: Argentina	BB (Nov. 14, 2000)	B- (July 12, 2001)	4↓ (0.50)	Fiscal slippage
2002: Uruguay	BBB- (Feb. 14, 2002)	B (July 26, 2002)	5↓ (0.94)	Evaporation of reserves
<b>Moody's</b>				
1997: Thailand	A2 (Apr. 8, 1997)	Ba1 (Dec. 21, 1997)	5↓ (0.68)	Evaporation of reserves
1997: Korea	A1 (Nov. 27, 1997)	Ba1 (Dec. 21, 1997)	6↓ (7.83)	Evaporation of reserves
1997: Indonesia	Baa3 (Dec. 21, 1997)	B3 (Mar. 20, 1998)	6↓ (2.05)	Collapse of asset quality
1997: Malaysia	A1 (Dec. 21, 1997)	Baa2 (Sept. 14, 1998)	4↓ (0.46)	Collapse of asset quality
1998: Russia	Ba2 (Mar. 11, 1998)	B3 (Aug. 21, 1998)	4↓ (0.75)	Evaporation of reserves
1998: Moldova	Ba2 (July 14, 1998)	B2 (July 14, 1998)	3↓ (90.00)	Evaporation of reserves
1998: Romania	Ba3 (Sept. 14, 1998)	B3 (Nov. 6, 1998)	3↓ (1.76)	Evaporation of reserves
2002: Uruguay	Baa3 (May 3, 2002)	B3 (July 31, 2002)	6↓ (2.07)	Evaporation of reserves

1/ Ratings failure defined by successive downgrades or upgrades of a long-term foreign currency sovereign rating by three or more notches in aggregate during any rolling 12-month period, excluding downgrades or upgrades into, out of, within, or between the ratings categories from 'CCC' or 'Caa' downward. Based on ratings activity up to end-July 2002; coverage of failures from August 2001 on is therefore partial.

2/ Refers to the long-term foreign currency sovereign rating.

3/ Notches of ratings downgrades (↓) or upgrades (↑). Figures in parentheses capture the speed of adjustment, in notches per month (notches of adjustment divided by the number of months from start to end of the corrective sequence).

Source: Bhatia, 2002, Box 5.

In response to criticism concerning such failures, Moody's has introduced "Watchlist" and S&P's launched "Outlook" reports in order to alleviate the tension between accuracy and stability by providing timely warnings of likely rating changes.

Ratings performance can also be compared with market indicators. IMF (1999) conducted an analysis of yield spreads in relation to the Asian crisis and found that one year ahead of the crisis in Thailand, Indonesia and the Republic of Korea, sovereign spreads were quite low - of the order of 100-150 basis points. In Russia and Brazil they were higher - about 300 basis points. Thus, in relative terms the markets were in broad agreement with the CRAs with respect to these countries, indicating a higher risk of default for Russia and Brazil than for the Asian countries. Moreover, spreads did not widen much initially in response to the onset of the Asian crisis, a pattern conforming to that of the ratings. Thus the performance of financial markets broadly paralleled that of the major CRAs.

#### 4. Impact of Ratings on Policies Pursued by Borrowing Countries

For borrowing countries a rating downgrade has negative effects on their access to credit and the cost of their borrowing (Cantor and Packer, (1996)). Although precise information is not available on the way in which macroeconomic policies are taken into consideration by CRAs in establishing sovereign ratings, it is reasonable to assume that orthodox policies focusing on the reduction of inflation and government budget deficits are favored. There is a risk, therefore, that in order to avoid rating downgrades borrowing countries adopt policies that address the short-term concerns of

portfolio investors even when they are in conflict with long-term development needs. However, this is an issue which has not been the subject of systematic research.

## **E. Public Policy Concerns**

### **1. Recent Regulatory Initiatives**

In view of the critical role played by CRAs in the modern financial architecture, policy-makers have recently focused on some short-comings arising from the following concerns:

- Barriers to entry and lack of competition;
- Conflicts of interest;
- Transparency;
- Accountability.

These concerns have been raised by the International Organization of Securities Commission, (IOSCO), the United States Securities and Exchange Commission, (SEC), the European Commission Committee of European Securities Regulations, (CESR), and by the United States Congress and Senate.

On the basis of Section 702 of the Sarbanes-Oxley Act of 2002 the United States Congress mandated the SEC to issue a Report on the Role and Function of Credit Rating Agencies in the operation of the Securities Markets. This was to address several issues pertaining to the current role and functioning of CRAs including the information flow in the credit-rating process, barriers to entry artificially created by the Nationally Recognized Statistically Rating Organizations (NRSRO) designation in the United States, and conflicts of interest or abusive practices.

A review of the concept of NRSRO was already underway at the SEC. In June 2003, the SEC issued a Concept Release seeking comments with respect to whether CRAs' ratings should continue to be used for regulatory purposes, and if so, whether the NRSRO certification procedure was appropriate as well as more generally what should be the adequate level of regulatory oversight for CRAs. In April 2005, the SEC released a Proposed Rule aiming at insuring a higher level of transparency with respect to the NRSRO concept.

The technical committee of the IOSCO issued three reports in September 2003: (i) Report on the Activities of Credit Rating Agencies; (ii) Statement of Principles Regarding the Activities of Credit Rating Agencies; (iii) and Report on Analyst Conflicts of Interest. These reports highlighted the important role CRAs play in financial markets, and aimed at ensuring greater reliability for their ratings. In December 2004, the IOSCO published its Code of Conduct Fundamentals for Credit Rating Agencies (the IOSCO Code) which aimed at developing "governance rules" for CRAs to ensure (i) quality and integrity of the rating process, (ii) independence of the process and avoidance of conflicts of interest and (iii) greater transparency in the methodology of ratings and adequate treatment of confidential information. However, the IOSCO Code did not address the issue of enforcement of the Code, recommending that CRAs adopt these rules voluntarily.

In response to IOSCO's Code of Professional Conduct, Moody's and S&P published their own Code of Professional conduct in the second half of 2005, thus aligning their policies and procedures with IOSCO's Code. In the spring of 2006, Moody's and S&P published their first report on the implementation of the Code of conduct. Here it was stated that, even before the SEC and IOSCO had recommended new rules of conduct in 2003, the two agencies had already established internal

codes of conduct and procedures to prevent and manage potential conflict of interest and to safeguard the independence and objectivity of their rating processes.

Consideration of the issues related to CRAs by the United States Congress eventually culminated in the Credit Rating Agency Reform Act which was signed into law in early September 2006. This amended the Securities Exchange Act of 1934 to redefine an NRSRO as any CRA that has been in business for at least three consecutive years and is registered under the Act. It also prescribed procedural requirements for mandatory NRSRO registration and certification. It granted the SEC exclusive enforcement authority over any NRSRO and authorized the SEC (i) to take action against an NRSRO that issued credit ratings in contravention of procedures, criteria and methodologies included in its registration application, and (ii) to censure, or limit, suspend or revoke the registration of an NRSRO for violations of the Act.

In the EU, the Enron and Parmalat collapses prompted discussions on CRA reliability. In response to a call by Commission for advice the CESR released in March 2005 “CESR’s Technical Advice to the European Commission on possible Measures Concerning Credit Rating Agencies”.

## 2. Issues of Concern

### *(a) Barriers to entry and lack of competition*

In the United States there are only 5 CRAs designated by the SEC as NRSROs: A.M. Best., Dominion Bond Rating Service (DBRS), Fitch, Moody’s Investors Service (Moody’s) and the Standard & Poor’s (S&P) division of McGraw Hill. DBRS is Canadian-based with a regional scope and the only non-U.S. NRSRO designated agency. A.M. Best is a global agency which rates the debt only of insurance companies. Thus there are three global NRSROs providing a comprehensive service in the United States, of which two agencies, Moody’s and S&P, control over 80 percent of the market. The mean number of CRAs recognized among the BCBS’ member countries is around six and there are between 130-150 credit rating agencies in the world. However, only a small number of CRAs are recognized internationally and the number has not changed much since the 1970s (BCBS, 2000).

According to the United States Department of Justice, the NRSRO designation has acted as a barrier to entry in a catch-22 manner<sup>108</sup>. A new rating agency cannot obtain national recognition without NRSRO status and it cannot obtain NRSRO status without national recognition. In the words of the Rapid Ratings testimony before the Committee on Financial Services ( H.R. 2990 (2005b, p.8)), “the effect of this catch-22 has been to preserve a duopoly that has thwarted competition and innovation”.

In an effort to increase competition and improve the quality of credit ratings Representative Fitzpatrick introduced H.R. 2990, The Credit Rating Agency Duopoly Relief Act of 2005. He believed that the SEC NRSRO designation constituted an “insurmountable and artificial barrier to entry ... [...] Lack of competition in the industry has led to inflated prices, stifled innovation, lower quality of ratings, and unchecked conflicts of interest and anticompetitive practices.” (H.R. 2990 (2005a), p. 4-5)). This bill was the basis of the Credit Rating Agency Reform Act of 2006 (H.R. 2990 (2005b)).

In its 2005 report to the EU Commission mentioned above the CESR also stated that new CRAs face a number of barriers to entry and existing CRAs face a number of natural barriers to expansion. Issuers usually only desire ratings from those CRAs that are respected by investors and which tend to be only those with a long performance record (CESR (2005), paras. 247-248). The CESR report

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<sup>108</sup> [http://www.sec.gov/rules/concepts/s71203/rapid110603.htm#P69\\_8177#P69\\_8177](http://www.sec.gov/rules/concepts/s71203/rapid110603.htm#P69_8177#P69_8177).

concluded that “the impact of regulatory requirements on competition is not clear and therefore it cannot conclude that any regulatory requirements would either increase or decrease the entry barriers to the rating industry. Thus CESR does not recommend the use of regulatory requirements as a measure to reduce or remove entry barriers to the market for credit ratings” (CESR (2005), para. 252). The CESR recommended a “wait-and-see” attitude and implementation of IOSCO’s “Code”.

In a response to such initiatives Moody’s stated that it “has supported eliminating regulatory barriers to entry”. But, with regard to competition issues, Moody’s argues that the “costly nature of executive time” would not allow issuers to have many different ratings. Because of network externalities, only a small number of CRAs would be favored by investors, who would desire “consistency and comparability in credit opinions”. Newly established CRAs would need time to gain credibility in the market.

S&P also recommended its support to “a more open and transparent process to designate NRSROs, reduce barriers to entry and ensure that the markets remain the ultimate judge of the rating process” (Standards and Poor’s (2003)). However, S&P did not believe that the whole NRSRO process should be withdrawn.

### ***(b) Potential conflicts of interest***

In its September 2003 “Report of Analyst Conflicts of Interest”, IOSCO highlighted potential conflicts of interest facing the industry that can interfere with the independence and objectivity of its analysis. Conflicts of interest may arise when a rating agency offers consulting or other advisory services to issuers it rates since issuers could be unduly pressured to purchase advisory services in return for an improved rating. The report also drew attention to the issue of “notching” by CRAs, i.e. lowering ratings for issues which they had not rated, and that of “solicited” versus “unsolicited” ratings, where aggressive tactics might be used to induce payments for a rating an issuer did not request.

The IOSCO Code addresses the first of these issues with the following recommendation: “ The credit rating a CRA assigns to an issuer or security should not be affected by the existence of or potential for a business relationship between the CRA (or its affiliates) and the issuer (or its affiliates) or any other party, or the non-existence of such a relationship” (IOSCO Code (2004), Section 2, para. 2.2). This principle has been integrated into Moody’s and S&P own Codes of Professional Conduct (Standards and Poor’s ( 2003)).”

### ***(c) Transparency***

Many market participants have expressed concern over the lack of transparency over CRAs’ ratings methodologies, procedures, practices and processes. In this context the IOSCO Code stresses the following : “In order to promote transparency and improve the ability of market participants and regulators to judge whether a CRA has satisfactorily implemented the Code Fundamentals, CRAs should disclose how each provision of the Code Fundamentals is addressed in the CRA’s own code of conduct. CRAs should explain if and how their own codes of conduct deviate from the Code Fundamentals and how such deviations nonetheless achieve the objectives laid out in the Code Fundamentals and the IOSCO CRA Principles. This will permit market participants and regulators to draw their own conclusions about whether the CRA has implemented the Code Fundamentals to their satisfaction, and to react accordingly” (IOSCO Code (2004), p. 2).

IOSCO requires the CRAs’ methodologies to become public to enhance transparency in an industry which is very opaque in nature. CESR goes further and proposes, as an alternative to self-regulation, “the need to introduce some specific rules on fair representation which would establish a minimum

level of disclosure on those elements and assumptions which make clear for market operators and investors to understand how a specific rating was determined by a credit rating agency” (CESR (2005), para. 117).

The nature and extent of information made available to the public still varies from agency to agency. Since the publication of the IOSCO Code and its integration into the CRAs’ own Code of Conduct, the CRAs have increased the number of lengthy research reports and publications on their web sites and published some of the criteria used to assess credit risk in their bid to improve transparency. However, the view is still widespread that CRAs’ methodologies, the variables and weights which they employ, and the criteria used in the deliberations of ratings committees remain opaque to both investors and borrowers. The CESR summed up the continuing problem when it stated that: “Credit rating agencies should aim for transparency as the best way forward to enable investors and issuers to understand the quality and objectivity of the credit rating. Credit rating agencies should therefore implement measure 2.7 of the IOSCO Code”.

#### ***(d) Accountability***

There is no mechanism to protect investors and/or borrowers from mistakes made by CRAs or any abuse of power on their part. This is true even if reputational interests and competition provide incentives for generating quality financial information. In order to promote transparency and improve the ability of market participants and regulators to judge whether a CRA has satisfactorily implemented what it pledges it is doing, the IOSCO Code recommends only that CRAs give full effect to the Code by publishing their own, adhering to it and justifying publicly any deviation between this code and their activities.

There remains the need for more formal regulation to address market failures in the form of imperfect competition and principal-agent problems in the credit rating industry. The CESR technical report clearly puts its finger on the issue involved: “The reason for having a regulatory mechanism should rather be that there exists some market failure that has to be dealt with. In essence all the issues discussed in the previous chapter arise because the existence of conflicts of interests between the CRAs and the issuers and/or the users of ratings (the investors). These types of conflicts of interests between professional players on the financial markets are natural and exist in numerous areas of the markets. They become especially apparent in the rating market because of the lack of balance of power between the different players. Issuers are relatively weak compared to the CRAs because of their dependence on the ratings they get. Investors have not historically invested large resources in improving rating agencies behavior, perhaps because there was insufficient transparency on the way CRAs operated to facilitate this. This meant that CRAs historically have a very strong position. What the IOSCO Code is trying to do is to rebalance the interests between the different players” (CESR (2005), para. 260).

Rousseau (2005) – not in references - sums up concerns over the resulting “accountability gap” as follows: “This accountability gap is worrisome for CRAs as well as market participants. For the former, the accountability gap may affect their credibility in the marketplace. For the latter, it is of particular concern given the role that CRAs play in capital markets...There is a need for a [...] mechanism to take over if reputation fails.”

For the first time in the history of ratings in the United States the Credit Rating Agency Reform Act of 2006 has clearly designated the SEC to monitor CRAs’ compliance with new securities laws and regulations. The SEC will be able to act as deemed necessary and to study and report to congressional committees any problems faced in the future with anything relating to the credit rating industry.



## **F. Conclusions**

CRAs play a key role in financial markets by helping to reduce the informational asymmetry between lenders and investors, on one side, and issuers on the other side, about the creditworthiness of companies (corporate risk) or countries (sovereign risk). CRAs' role has expanded with financial globalization and has received an additional boost from Basel II which incorporates the ratings of CRAs into the rules for setting weights for credit risk.

In making their ratings, CRAs analyse public and non-public financial and accounting data as well as information about economic and political factors that may affect the ability and willingness of a Government or firms to meet their obligations in a timely manner. However, CRAs lack transparency and do not provide clear information about their methodologies.

Ratings tend to be sticky, lagging markets, and then to over-react when they do change. This over-reaction may have aggravated financial crises in the recent past, contributing to financial instability and cross-country contagion. Moreover the actions of countries which strive to maintain their rating grades through tight macroeconomic policies may be counter-productive for long-term investment and growth.

The recent bankruptcies of Enron, WorldCom, and Parmalat have prompted legislative scrutiny of the agencies. Criticism has been especially directed towards the high degree of concentration of the industry, which in the United States has reflected a registration and certification process in the form of NRSRO designation biased against new entrants. The effect of such concentration has been the absence of the discipline enforced by competition and a low level of innovation.

In the United States policy action has included the 2006 Credit Rating Agency Reform Act which has overhauled the regulatory framework by prescribing procedural requirements for NRSRO registration and certification and by strengthening the powers of the SEC.

At the international level the main initiative has been the publication by IOSCO of its Code of Conduct. This Code aims at developing governance rules for CRAs to ensure the quality and integrity of the rating process, the independence of the process and the avoidance of conflicts of interest, and greater transparency. In its 2005 Technical Advice to the European Commission on possible Measures Concerning Credit Rating Agencies the CESR recommended the implementation of the IOSCO Code and adoption of a "wait-and-see" attitude.

Definitive assessment of these initiatives would still be premature. The industry will receive a fillip from implementation of Basel II. The major CRAs will undoubtedly seek a substantial share of the new business which will result. The promotion of competition may require policy action at the national level to encourage the establishment of new agencies and to channel business generated by new regulatory requirements in their direction. Regulatory action at the national level may also be necessary to ensure that the agencies operate in accord with levels of accountability and transparency matching the recommendations of the IOSCO Code.

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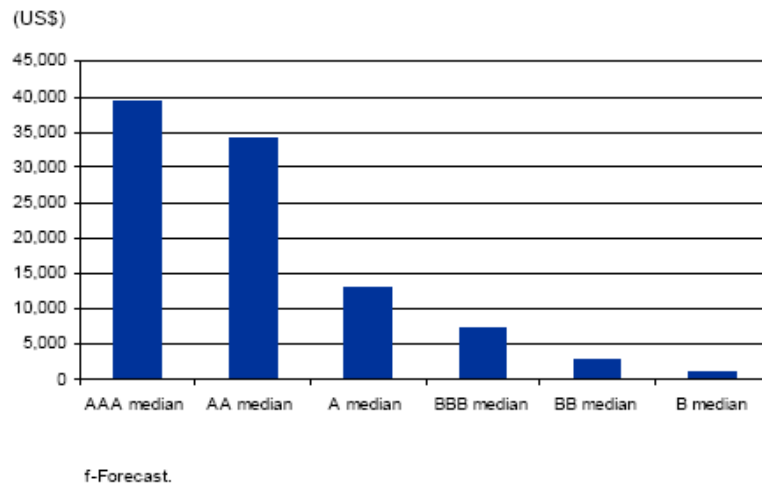
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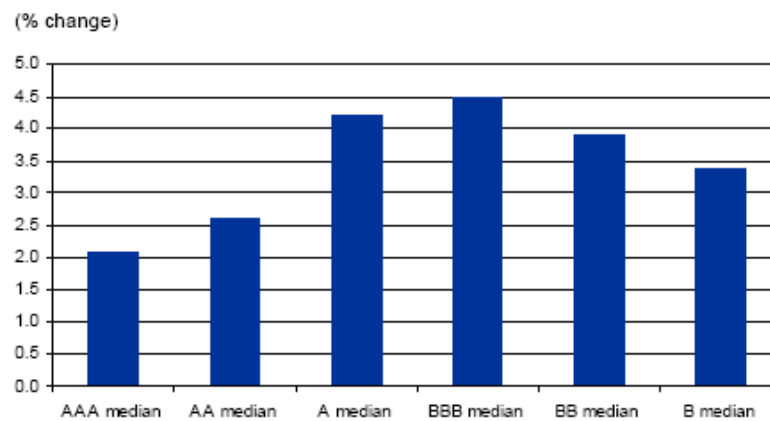
## Annex I. Sovereign Ratings Methodology Profile

Figure 1. GDP per Capita



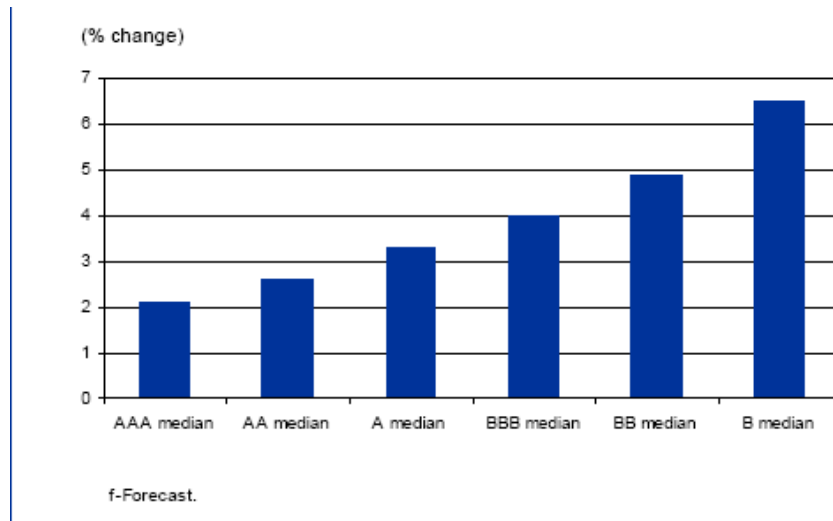
Source: S&P, Oct. 2006, "Sovereign Credit Ratings: A Primer".

Figure 2. Real GDP Growth per Capita



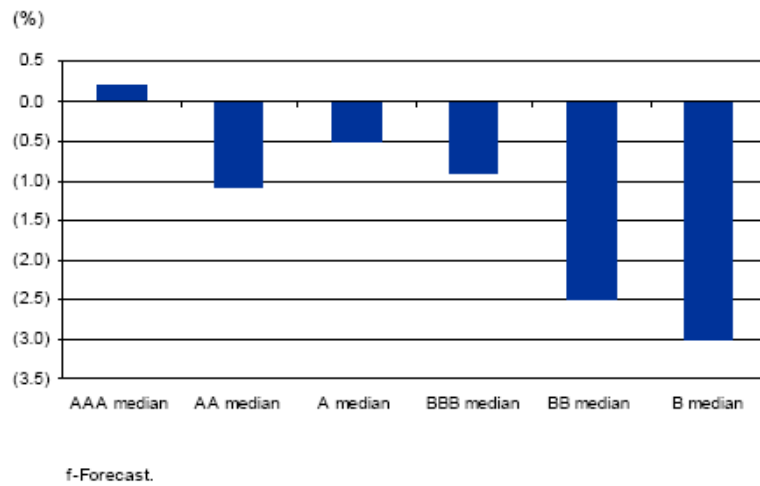
Source: S&P, Oct. 2006, "Sovereign Credit Ratings: A Primer".

**Figure 3. Consumer Price Index (CPI)**



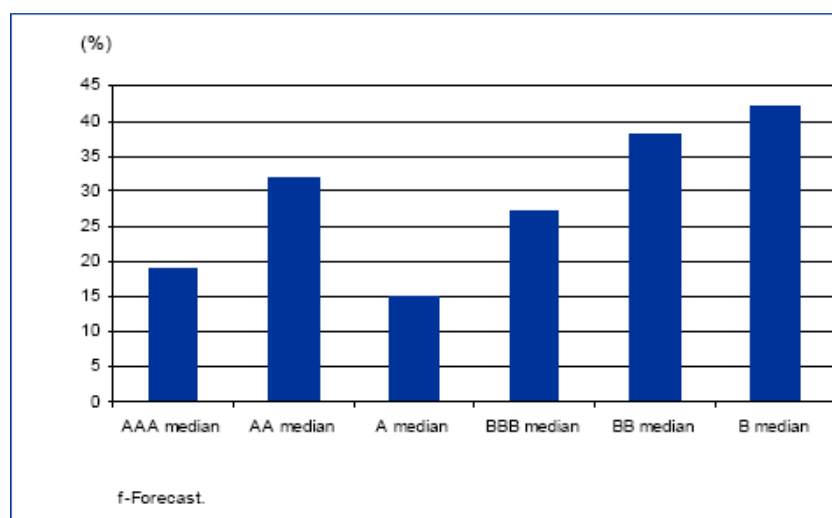
**Source:** S&P, Oct. 2006, "Sovereign Credit Ratings: A Primer".

**Figure 4. General Government Balance as Percentage of GDP**



**Source:** S&P, Oct. 2006, "Sovereign Credit Ratings: A Primer".

**Figure 5. Net General Government Debt as Percentage of GDP**



**Source:** S&P, Sept. 2005, "Sovereign Credit Ratings: A Primer".



**Annex II**

**Table 1. Rating Symbols**

RATING SYMBOLS FOR LONG-TERM AND SHORT-TERM DEBT						
Interpretation	Moody's		S&P		Fitch	
	Long-Term	Short-Term	Long-Term	Short-Term	Long-Term	Short-Term
<b>INVESTMENT-GRADE RATINGS</b>						
Highest Credit Quality	Aaa		AAA		AAA	
High Credit Quality	Aa1	Prime-1	AA+	A1+	AA+	F1
	Aa2		AA		AA	
	Aa3		AA-		AA-	
Strong Payment Capacity	A1	Prime-2	A+	A1	A+	
	A2		A		A	
	A3		A-		A-	
Adequate Payment Capacity	Baa1	Prime-3	BBB+	A2	BBB+	F2
	Baa2		BBB		BBB	
Last Rating in Investment-Grade	Baa3			BBB-	A3	BBB-
<b>SPECULATIVE-GRADE RATINGS</b>						
Speculative credit risk developing due to economic changes	Ba1	Not Prime	BB+	B	BB+	B
	Ba2		BB		BB	
	Ba3		BB-		BB-	
Highly Speculative, credit risk present with limited margin of safety	B1		B+		B+	
	B2		B		B	
	B3		B-		B-	
High Default Risk, capacity depending on sustained, favorable conditions	Caa1		CCC+	C	CCC+	C
	Caa2		CCC		CCC	
	Caa3		CCC-		CCC-	
			CC		CC	
<b>Default,</b> although prospect of partial recovery	Ca, C		C, D	D	C, D	D

**Source:** Based on S&P, Moody's and Fitch.

**Table 2. Rating Agencies Recognized in Various Countries**

	Canadian Bond Rating Service (CBRS)	Dominion Bond Rating Service (DBRS)	Duff & Phelps Credit Rating Agency	Fitch IBCA <sup>1</sup>	Ital Rating DCR SPA	Japan Credit Rating Agency (JCR)	Japan Rating and Investment Information <sup>1</sup>	Mikumi & Co	Moody's Investor Service	Standard & Poors' Rating Services	Thompson Bank Watch	Total number of rating agencies recognised
<b>Members of the Basel Committee on Banking Supervision</b>												
Belgium			T	T					T	T	T	5
Canada	T	T		T		T			T	T		6
France	T	T	T	T		T	T		T	T	T	9
Italy			T	T	T <sup>2</sup>				T	T	T	6
Japan			T	T		T	T		T	T	T	7
Luxembourg				T					T	T		3
Netherlands	T	T	T	T		T	T		T	T	T	9
Sweden				T					T	T		3
Switzerland		T		T				T	T	T	T	6
UK	T <sup>2</sup>	T <sup>2</sup>	T <sup>2</sup>	T		T <sup>2</sup>	T <sup>2</sup>	T <sup>2</sup>	T	T	T <sup>2</sup>	10
USA			T	T					T	T	T	5
<i>Total BCBS</i>	<i>4</i>	<i>5</i>	<i>7</i>	<i>11</i>	<i>1</i>	<i>5</i>	<i>4</i>	<i>2</i>	<i>11</i>	<i>11</i>	<i>8</i>	<i>69</i>
<b>Interesting non-members of the BCBS<sup>3</sup></b>												
Argentina			T	T						T	T	4
Australia	T <sup>2</sup>	T <sup>2</sup>	T <sup>2</sup>	T		T <sup>2</sup>	T <sup>2</sup>	T <sup>2</sup>	T	T	T <sup>2</sup>	10
Chile		T		T					T	T	T	5
Hong Kong				T			T		T	T	T	5
<i>Total non-BCBS</i>	<i>1</i>	<i>2</i>	<i>2</i>	<i>4</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>3</i>	<i>4</i>	<i>4</i>	<i>27</i>
<i>Total</i>	<i>5</i>	<i>7</i>	<i>9</i>	<i>16</i>	<i>1</i>	<i>6</i>	<i>6</i>	<i>3</i>	<i>15</i>	<i>16</i>	<i>12</i>	

**Source:** BCBS (2000), Table 2, p.46.

**Note:** Table 2 shows the rating agencies recognized by the banking supervisors in BCBS countries and selected non-members. The total number of agencies recognized in each country is shown in the right-hand column. It is evident there is considerable disparity in the number of recognitions granted by supervisors. The big three CRAs, S&P, Moody's and Fitch, are recognized by all BCBS members and almost all non-BCBS countries shown.



# **PURSUING SUSTAINABLE DEVELOPMENT STRATEGIES: THE CASE OF THE BALANCE OF PAYMENT RULES IN WTO**

Robert Howse, Alene Smith and Allan F. Smith  
(University of Michigan)

## **A. Introduction**

### **1. Equity**

In Section III of the Millennium Declaration entitled “Development and Poverty Reduction,” United Nations Member States committed themselves to “to create an environment - at the national and global levels alike - which is conducive to development and to the elimination of poverty.” This depends on “good governance within each country”, “good governance at the international level, and on transparency in the financial, monetary and trading systems.” Hence, they “are committed to an open, equitable, rule-based, predictable and non-discriminatory multilateral trading and financial system.”

The concept of equity in international trade and financial rules and institutions has not been explicitly defined and is the subject of debate and speculation among philosophers and political theorists. Economists are often skeptical of whether the trade and financial systems should be understood at all in terms of justice rather than as instruments of economic policy coordination. Nevertheless, it will be observed that the actual rules often do depend, explicitly or implicitly, on a concept of fairness. For instance, one of the rules that will be discussed in this paper, contained in Article IV of the IMF Articles of Agreement required that IMF Members not “manipulate exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members.”

The concept of equity is thus inescapable in the interpretation and application of the law of the international trade and financial systems. The question is whether there are legal and policy sources that allow us to give a definite meaning to this concept as we apply it to particular rules and disputes in the trade and financial systems.

One ingredient of equity that is widely reflected in international instruments concerning trade, finance and development is the notion that rules should be adjusted to the individual situations of countries with respect to their development needs. Thus, there is widespread agreement that formal legal equality, treating everyone the same regardless of their particular situation, is not equitable. At the same time, there is disagreement among states on how much differential treatment is justified in a given situation.

There is an interesting parallelism between the conception of equity as treating “unlikes” *differently* and the recognition in recent economic literature that—contrary to what was implied in the Washington Consensus formula—there is not a single formula or pathway to development that will work for all countries.<sup>109</sup>

Another dimension of equity reflected in international human rights instruments is that of voice and participation. These instruments suggest that people should not have a vision of development forced on them or decided by others. The Declaration on the Right to Development, for example, stipulates that the Right to Development includes “free and meaningful participation in development.”

Closely related to the notion of equity is the concept of social and economic justice expressed in the United Nations Covenant on Social and Economic and Cultural Rights. Article 11 of the Covenant provides: “1. The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.” While not all states - most notably the United States - have embraced the rights in the Covenant as treaty or customary international law, even the United States has participated in the Declaration on the Right to Development, which incorporates to a large extent and affirms these rights. A concrete implication of this notion of equity is that the rules of the international trade and financial system should, at a minimum, not undermine, and ideally should *facilitate*, the ability of states to discharge their obligations under the Covenant to implement social and economic rights.

Finally, equity has been considered by United Nation Member States to imply a fair global distribution of burdens and benefits from the operations of the international trade and financial system. This goes beyond a notion simply that the system(s) should enable states to achieve social and economic justice within their borders to a conception of global solidarity. According to the Millennium Declaration, solidarity requires that “global challenges must be managed in a way that distributes the costs and burdens fairly in accordance with basic principles of equity and social justice.”<sup>110</sup>

In its examination of WTO rules and jurisprudence as they relate to the balance-of-payments and other international financial issues this paper will draw on the dimensions of equity articulated above.

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<sup>109</sup> Rodrik D (2001). *The Global Governance of Trade as if Development Really Mattered*. United Nations Development Programme.

<sup>110</sup> See also Beviglia Zampetti A (2005). *Progressing Towards a Just Future Through the MDGs: What is the Role of an “Equitable” Multilateral Trading System?* Draft:12. October.

The WTO Agreement defines the goal of the multilateral trading system in terms of the principle that “relations in the field of trade and economic endeavor should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world’s resources in accordance with the objective of sustainable development . . .” Clearly, the goals of raising standards of living and ensuring full employment are closely linked to the conception of social and economic justice in the UN Covenant on Social Economic and Cultural Rights.

## 2. Coherence

Arguably coherence is a logical implication of the recognition of equity as a fundamental element of the international trade and financial systems. Coherence refers, firstly, to the rules and policies of the institutions where equity is articulated and defined normatively and, secondly, to the rules and policies of the international trading and financial systems themselves. Inequity may result from *uncoordinated rules between the trading and the financial systems*.

For example, the IMF may require a country to improve its balance of payments. However, the rules of the trading system may not permit the use of certain instruments for doing so. There may be good reasons why these instruments are constrained by the rules of the international trading system. However, in the absence of a broad and palatable range of policy options for trade, the country may pursue the goal specified by the IMF through recourse to policy instruments that threaten social equity, and result in poverty and unemployment.

An early explicit attempt to address coherence at the WTO is the Uruguay Round *Declaration on the Contribution of the World Trade Organization to Greater Coherence in Global Economic Policymaking*.

Paragraph 2 of the Declaration reads:

“Trade liberalization forms an increasingly important component in the success of the adjustment programs that many countries are undertaking, often involving significant transitional social costs. In this connection, Ministers note the role of the World Bank and the IMF in supporting adjustment to trade liberalization, including support to net food-importing developing countries facing short-term costs arising from agricultural trade reforms.”

The most important part of the Declaration is arguably to be found in Paragraph 5:

“The interlinkages between the different aspects of economic policy require that the international institutions with responsibilities in each of these areas follow consistent and mutually supportive policies. The World Trade Organization should therefore pursue and develop cooperation with the international organizations responsible for monetary and financial matters, while respecting the mandate, the confidentiality requirements and the necessary autonomy in decision-making procedures of each institution, and avoiding the imposition on Governments of cross-conditionality or additional conditions. Ministers further invite the Director-General of the WTO to review with the Managing Director of the International Monetary Fund and the President of the World Bank, the implications of the WTO’s responsibilities for its cooperation with the Bretton Woods institutions, as well as the forms such cooperation might take, with a view to achieving greater coherence in global economic policymaking.”

Paragraph 2 draws attention to the significant social costs of trade liberalization and economic reform. But the Declaration does not extend the idea of coherence to cooperation with those

international institutions whose mandate is development policy such as UNCTAD and UNDP nor to those concerned with social equity and justice such as the United Nations human rights institutions. Instead, the need for coherence is limited to those international institutions “responsible for monetary and financial matters”. However, according to Paragraph 5 these institutions are to avoid “cross-conditionality,” under which a Government is forced to pursue harmful or inconsistent policies to meet uncoordinated conditions or restrictions imposed by different international economic institutions.

In 1996, the WTO entered into a cooperation agreement with the IMF, which provides for consultations and the exchange of information between the two organizations. Paragraph 10 of the agreement provides:

“The Fund’s staff shall consult with the WTO Secretariat on issues of possible inconsistency between measures under discussion with a common member and that member’s obligations under the WTO Agreement. The WTO Secretariat shall consult with the Fund’s staff on issues of possible inconsistency between measures under discussion with a common member and that member’s obligations under the Fund’s Articles of Agreement.”

This provision is important for coherence since it appears to strengthen and implement Paragraph 5 of the Uruguay Round *Declaration on Coherence* by requiring consultations about possible inconsistency while measures are still “under discussion”. As discussed below, in at least one prominent WTO dispute it is clear that this consultation requirement had not been followed, a circumstance to which unfortunately the Appellate Body of the WTO did not attach much importance.

The WTO Doha Declaration provided for the establishment of a new Working Group on Trade, Debt and Finance:

“36. We agree to an examination, in a Working Group under the auspices of the General Council, of the relationship between trade, debt and finance, and of any possible recommendations on steps that might be taken within the mandate and competence of the WTO to enhance the capacity of the multilateral trading system to contribute to a durable solution to the problem of external indebtedness of developing and least-developed countries, and to strengthen the coherence of international trade and financial policies, with a view to safeguarding the multilateral trading system from the effects of financial and monetary instability.”

The Working Group has examined a number of the issues discussed below but has been unable to make any concrete recommendations. A 2005 report<sup>111</sup> summarizes the views of individual Members of the Working Group but concludes only with the recommendation that the Group continue its activities into the future.

## **B. Exchange Controls and Convertibility**

The GATT rules on exchange controls and convertibility reflect the international financial and monetary system designed at Bretton Woods at the end the World War II. The post-war Bretton Woods arrangements contemplated a system of fixed exchange rates tied to gold. When a temporary imbalance of payments occurred (i.e. where a country could not meet payments for imports with its receipts of foreign currency from export sales without selling gold for foreign

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<sup>111</sup> World Trade Organization (2005). *Report of the Working Group on Trade, Debt and Finance to the General Council*. (WT/WGTDF/4), October.

currency), this would be financed by borrowing from the International Monetary Fund. In the case of a structural or persistent imbalance, a country would devalue its currency under the supervision of the IMF, which might recommend domestic policy adjustments to ensure that further devaluations were not required subsequently in order to maintain the balance of payments.

The Bretton Woods system broke down in 1971 when the United States unilaterally opted out of the system when it announced the suspension of convertibility of the dollar into gold. The result is well-summarized in a 2004 UNCTAD document:

“Unfortunately, after the breakdown of the Bretton Woods system at the beginning of the 1970s, the world monetary system slipped back into the kind of “monetary chaos” that had characterized the pre-war period and its dismal economic and political outcomes. Nevertheless, the liberalization of the trading system, even after the end of the Bretton Woods system, was pushed forward by policymakers as if a consistent approach on the monetary side, i.e. a coherent monetary order, would have existed. Only recently, with the Asian crisis as well as with the Latin American currency turmoil, have the shortcomings of the “monetary chaos” and its repercussions on the trading system been acknowledged, even by mainstream economic theory and the WTO. But instability is only part of the story. . . . if changes in the international value of money are in no way related to the fundamentals of countries with open markets for goods and capital, traditional trade theories quickly lose their grasp on reality and trade liberalization loses much of its alleged justification.”<sup>112</sup>

In the case of developing countries progress towards convertibility and the removal of exchange controls was a major feature of the economic orthodoxy in the 1980s and 1990s. Such reforms were thought to have the effect of encouraging foreign investment and creating domestic financial systems as well as access to the global financial networks that would underwrite growth and development.

The Asian and Latin American financial crises of the 1990s led to rethinking of this orthodoxy. Well known economists such as Jagdish Bhagwati and Joseph Stiglitz maintained that too rapid financial liberalization contributed to the crises, which led to widespread human misery in a number of countries, expressed their support for capital controls as an instrument for stemming a panic flight of short-term capital.<sup>113114</sup>

The GATT rules concerning exchange measures and convertibility are contained in Article XV of the General Agreement:

- Article XV:4 states that “Contracting parties shall not, by exchange action, frustrate the intent of the provisions of this Agreement, nor by trade action, the intent of the provisions of the Articles of Agreement of the International Monetary Fund.”
- According to the Interpretative Note Ad Article XV: “The word “frustrate” is intended to indicate, for example, that infringements of the letter of any Article of this Agreement by exchange action shall not be regarded as a violation of that Article if, in practice, there is no appreciable departure from the intent of the Article. Thus, a contracting party which, as part of its exchange control operated in accordance with the Articles of Agreement of the International Monetary Fund, required payment to be received for its exports in its own currency or in the currency of one or more members of the International Monetary Fund will

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<sup>112</sup> World Trade Organization (2004). *Economic Policy Challenges in an Open Economy: Coherence between Trade and Finance*. Communication of UNCTAD to the WTO Working Group on Trade, Debt and Finance (WT/WGTDF/W/27), November.

<sup>113</sup> Bhagwati J (2004). *In Defense of Globalization*. Oxford, Oxford University Press, 199-200.

<sup>114</sup> Stiglitz J (2002). *Globalization and Its Discontents*. New York, W. W. Norton.



not thereby be deemed to contravene Article XI or Article XIII [of the GATT on quantitative restrictions]. Another example would be that of a contracting party which specifies on an import license the country from which the goods may be imported, for the purpose not of introducing any additional element of discrimination in its import licensing system but of enforcing permissible exchange controls.”

- Article XV:9 of the GATT provides: “Nothing in this Agreement shall preclude: (a) the use by a contracting party of exchange controls or exchange restrictions in accordance with the Articles of Agreement of the International Monetary Fund or with that contracting party’s special exchange agreement with the CONTRACTING PARTIES, or (b) the use by a contracting party of restrictions or controls on imports or exports the sole effect of which, additional to the effects permitted under Articles XI, XII, XIII and XIV, is to make effective such exchange controls or exchange restrictions.”
- According to Article XVI:2 of the GATT, there shall be deference to “the determination of the Fund as to whether action by a contracting party in exchange matters in accordance with the Articles of Agreement of the International Monetary Fund, . . .”

Taken together, these provisions suggest that, where measures have been taken with respect to exchange controls or restrictions, even if such measures would otherwise be considered trade restrictions because of their effect on import and export transactions, *the intent of the GATT is not to impose disciplines beyond those required by the IMF.*

It is inaccurate to view these provisions, as some commentators have, essentially *ceding jurisdiction* to the IMF. According to this view, when an exchange measure is not consistent with the IMF Articles, the “safe haven” of Article XV disappears and the measure may well then fall afoul of a provision of the GATT such as Article XI. Thus, when a country disagrees with the Fund on the best course for solving a financial crisis, including one that does not worsen the plight of the least advantaged, the GATT permits country to be “punished” through being found in violation of GATT rules. In such cases the GATT/WTO would become a residual enforcer for the IMF.

Arguably this was not the intent of the GATT framers. First of all, prior to the WTO the GATT dispute settlement system contained many diplomatic safety valves. Secondly, the original IMF Articles were premised on a world of largely fixed exchange rates adjusted through IMF supervision. However, in today’s world of speculation-driven currency markets and the widespread liberalization of capital controls (generally endorsed by the IMF) there is no agreed international standard against which a currency can be viewed as over- or under-valued, thus triggering a reasonable obligation to adjust economic fundamentals through means that do not impose unreasonable costs on other countries.

In this world recourse to exchange restrictions may be a justifiable option for a country seeking to avoid a currency crisis or to protect itself from the contagion effects of a crisis elsewhere. This can be illustrated with the case of Malaysia.

In September 1998 Malaysia decided to defy the IMF’s advice and to impose selective capital controls in order to help to resolve its financial crisis as well as to enable the maintenance of a fixed exchange rate. Kaplan and Rodrik conclude that, in comparison with other countries that follow IMF prescriptions, and taking into account differences in those countries’ situations, “the Malaysian policy was more successful in accomplishing an immediate reduction in interest rates, stabilizing the currency, and stemming financial panic. This eased, for the short term at least, worries that the banking system would go under and that there would be a devaluation spiral. The turnaround in market confidence was correspondingly more rapid. In addition, fiscal policy was on balance more

expansionary. All these in turn spurred consumption and economic activity.”<sup>115</sup> From the perspective of equity, the observation of Kaplan and Rodrik that the Malaysian approach resulted in employment and incomes falling less in other Asian countries which followed IMF prescriptions is particularly relevant.

Malaysia’s capital controls would not, on their face, have violated the original IMF Articles of Agreement, which the drafters of the GATT had in mind when they linked the safe haven for exchange measures to IMF disciplines. Only current-account restrictions are clear violations of these Articles, and IMF Member States retain the right to maintain controls on capital account transactions. As Upakbi explains: “When read together, . . . [Article VII:3(b) and Article XIV:2 of the IMF Articles of Agreement] suggest . . . [w]hereas, in respect of what is regarded as current international transactions (current account transactions), restrictions are *ab initio* disallowed (subject to limited exceptions); in respect of the capital account, the reverse is the case—restrictions are maintainable (again, subject to limited exceptions). Given this difference in the treatment of the two accounts, a distinction between what falls within their respective ambits appears crucial. . . In part, [current transactions, according to Article XXX of the IMF Articles of Agreement] envisage “all payments due in connection with foreign trade.”<sup>116</sup>

A difficulty with these provisions is their assumption of a clear-cut distinction between capital and current account controls. They do not strictly speaking address current account, trade-related measures aimed at preventing circumvention of capital controls, such as artificial or over-invoiced trade transactions within multinational enterprises.

With respect to exchange rates, the IMF Articles of Agreement provide that an IMF Member shall not “manipulate exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members.” (IMF Agreement Article IV, Section 1(iii)). Currency manipulation as such is defined in the surveillance provisions of the IMF Articles as “protracted large-scale intervention in one direction in the exchange market.”

However, the concept of an “unfair” competitive advantage is not defined. Recently the United States has put considerable pressure on China to either revalue or “float” its currency, on the theory that the exchange rate was “unfair” - rigged through official intervention to keep Chinese exports artificially cheap. The implication is that a “fair” exchange rate would that determined by the currency markets. However, in a world of floating exchange rates, where there is no objective standard, the concept of a “correct” exchange rate is an illusive one.

However, in this case the international community may require a broader benchmark which includes a relevant conception of “equity.” Should China’s purchase of dollars with Renminbi be evaluated solely in the context of the objective of maintaining an exchange rate that constitutes an “unfair” competitive advantage? Arguably, under an approach to fairness influenced by conceptions of sustainable development and the right to development, one essential aspect of the question would be whether China’s exchange-rate policy represents a legitimate exercise of its right to development, and thus the way in which the policy figures in its development needs and strategies. For example, as Erik Denters argues, pegging the Renminbi to the dollar may well have encouraged foreign investment, a crucial part of China’s development strategy.<sup>117</sup> At the same time, one would have to

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<sup>115</sup> Kaplan E and Rodrik D (2001). Did the Malaysian Capital Controls Work? *NBER Working Paper*, 8142:27.

<sup>116</sup> Upakbi UC (2004). Juridical Substance or Myth over Balance-of-Payments: Developing Countries and the Role of the International Monetary Fund in the World Trade Organization. *Michigan Journal of International Law*, 26 (2):710.

<sup>117</sup> Denters E (2003). Manipulation of Exchange Rates in International Law: The Chinese Yuan. *ASIL Insights*, November.

ask how far China's exchange-rate measures undermine the development policies of other WTO Members.

In GATT/WTO practice and jurisprudence, the justifiability of measures under Article XV has been considered on a number of occasions in relation to management of the balance of payments.

- According to the GATT Analytical Index, "During the Review Session in 1954-55, Italy brought a complaint concerning action by Turkey providing export bonuses for certain agricultural products and levying special import taxes on certain goods deemed less essential in order to provide the necessary funds for the bonuses. Italy stated that the export subsidies had not been notified as required by Article XVI:1 and that the import taxes were inconsistent with Article II:1(b). Turkey stated that as part of a reform of its foreign exchange system, it had established an Equalization Fund which was financed by the sale of import permits, and that this system had been approved by the International Monetary Fund. A representative of the Fund confirmed that the practices under question were multiple currency practices under the Fund Articles of Agreement and that in a Decision concerning Turkey the Fund had stated that it did not object to the temporary continuance of these practices and would remain in consultation with Turkey on these practices."<sup>118</sup>
- In 1998 in the *Argentina-Textiles and Apparel case*, Argentina argued that a 3 per-cent ad valorem tax that it collected was for purposes of funding the collection of accurate statistical data on import and export transactions as part of its overall understanding with the IMF on stabilization and adjustment.<sup>119</sup> In its ruling the panel held that there was no exception under the GATT that would, for these reasons, limit Argentina's obligations under Article VIII with regard to customs fees. The panel did not consider whether, given that Argentina was maintaining the tax in the context of its arrangements with the IMF, the tax could be deemed to be an exchange measure within the meaning of XV:9 of the GATT. The fact that the tax applied to all imports indicates that it was not intended as a protectionist measure to shelter Argentine industries from competition while lending plausibility to its connection to Argentina's exchange arrangements. The Appellate Body upheld the panel's approach. Argentina had argued that the Declaration on Coherence and the subsequent Agreement between the 1996 IMF and the WTO, referred to above, were "legislative developments" in the WTO which had the effect of creating a meta-norm of avoidance of "cross-conditionalities," such that its relations with the IMF would require a state to engage in conduct that would violate WTO law. The Appellate Body first of all observed that Argentina had not shown to the panel's satisfaction that the tax had been requested of it by the IMF or there was a conflict of legal obligation, i.e. that Argentina had a legally binding agreement with the IMF that would be violated if it did not impose the tax.

The findings of the Appellate Body in the *Argentina-Textiles and Apparel case* suggest a narrow and formalistic view of the problem of coherence and conflicting conditionalities. In many cases the IMF's requirements are of a general nature, and linked to the achievement of certain results. The IMF leaves the instrumentalities to the country's Government. That the IMF has not requested "x" policy does not mean that "x" policy does not result from requirements imposed by the IMF—the policy in question may be one of the only feasible ways of satisfying the IMF demands at reasonable social cost. Moreover the notion of legal conflict suggested by the Appellate Body is equally problematic. It reduces the challenge of coherence to a notion of avoiding conflicting treaty requirements. However, international law is not the only or even the primary lever that the IMF uses

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<sup>118</sup> World Trade Organization (1995) *Guide to GATT Law and Practice*. Geneva, 1:439.

<sup>119</sup> World Trade Organization (1998). *Argentina-Measures Affecting Imports of Footwear, Textiles, Apparel and Other Items*, Report of the Appellate Body. (WT/DS56/AB/R), (adopted 22 April 1998), paras. 69-74.

to “enforce” conditionality; rather, the IMF will simply not disburse further funds to a country that does not meet its conditions, regardless of whether those conditions are formalized as legal requirements or expressed as is typically the case in “memoranda” or “letters of intent”.<sup>120121</sup>

In its decision the Appellate Body placed considerable emphasis on the notion that neither the Declaration on Coherence nor the subsequent Cooperation Agreement between the WTO and the IMF added to or diminished the rights and obligations contained in the WTO Agreements. The Appellate Body noted that the effect of cross-conditionalities or possible conflicts between measures that might result from IMF programs and WTO obligations was specified as “consultation” between the Fund and the WTO. Yet when it considered whether the panel’s failure to consult with the Fund constituted a violation of its obligation to make an objective assessment of the matter, the Appellate Body *ignored* the consultation requirement as set out in the Paragraph 10 of the Agreement between the IMF and the WTO. The thrust of the Declaration on Coherence and the subsequent Agreement between the IMF and the WTO is that issues that arise from possible inconsistencies between measures taken in relation to Fund programs on the one hand and WTO obligations on the other ought, at least in the first instance, to be addressed through consultations and cooperation between the WTO Secretariat and the Fund.

In summary, as interpreted in the practice of WTO dispute settlement in the cases discussed here and in others, the WTO rules on exchange actions are likely to be permissive regarding any macroeconomic policy intervention that has the explicit blessing of, or is specifically required by the IMF. However, where a WTO Member takes an action that the Fund is not prepared to endorse explicitly, or that it has not required, and such an action falls generally with the kind of exchange measures covered by Article XV, there is something close to a presumption that the WTO rules have been *violated*. Yet, a complete reading of the agreement establishing the WTO and of IMF rules and procedures suggests that they do not necessarily justify this presumption.

### C. Trade Restrictions for Balance-of-Payments Purposes<sup>122</sup>

Articles XII to XIV of the GATT elaborate a complex code designed to govern and discipline the use of import restrictions for balance-of- payments purposes. Article XII:1 states the basic right of any Contracting Party to impose quantitative restrictions in derogation from Article XI “in order to safeguard its external financial position and its balance of payments”. Article XII:2 establishes that such restrictions shall be limited to what is “necessary: (i) to forestall the imminent threat of, or to stop, a serious decline in monetary reserves, or (ii) in the case of a Contracting Party with very low monetary reserves to achieve a reasonable rate of increase in its reserves”. Such restrictions must be progressively relaxed as the balance of payments improves.

Furthermore, Contracting Parties “undertake, in carrying out their domestic policies, to pay due regard to the need for maintaining or restoring equilibrium in their balance of payments on a sound and lasting basis” (Article XII:3). At the same time, no Contracting Party is obligated to take domestic balance-of-payments measures that would threaten the objective of full employment). A process of consultations is envisaged with the GATT Council concerning any new restrictions or increase in

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<sup>120</sup> See Eldar O (2005). Reform of IMF Conditionality; a Proposal for Self-Imposed Conditionality. *IILJ Working paper*, 10. New York University Law School, Centre Global Administrative Law Series.

<sup>121</sup> Siegel DE (2002). Legal Aspects of the IMF/WTO Relationship: The Fund’s Articles of Agreement and the WTO Agreements. *American Journal of International Law*, 96:561-581.

<sup>122</sup> The following draws from Michael J, Trebilcock and Howse R (2005). *The Regulation of International Trade*. Third Edition, Routledge, London and New York, ch. 5 “Trade, Exchange Rates and the Balance of Payments.”

restrictions, with periodic review of the necessity of the trade measures and their consistency with Articles XII–XIV. In addition, Article XII contains provisions on dispute settlement, including the authorization of retaliation where a Party persists in trade restrictions that have been found by the Contracting Parties to violate the GATT.

Articles XIII and XIV contain, respectively, the requirement that measures taken pursuant to Article XII:1 be implemented on a non-discriminatory basis and certain narrow exceptions to this non-discrimination requirement, e.g. where discriminatory exchange controls have been authorized by the IMF (see the discussion of substitutability below).

In the case of developing countries, there is a much broader exemption from GATT disciplines for trade restrictions undertaken for balance-of-payments reasons. Article XVII:2(b) states the principle that developing countries should have additional flexibility “to apply quantitative restrictions for balance of payments purposes in a manner which takes full account of the continued high level of demand for imports likely to be generated by their programs of economic development”.

This suggests that even though a developing country could address its balance of payments difficulties through exchange-rate adjustments or tighter macroeconomic policies, it should not be expected to do so in view of the harm to development that may come from the resultant decline in needed imports. It is recognized that quantitative restrictions will allow a developing country to conserve its limited foreign currency resources for purchases of imports necessary for development – whereas a devaluation of its currency would result in all imports becoming more expensive. In this connection it bears emphasis that balance-of-payments restrictions in general may be discriminatory with respect to products although not with respect to countries. Indeed, it is explicitly stated that “the contracting party may determine (the) incidence (of restrictions) on imports of different products or classes of products in such a way as to give priority to the importation of those products which are more essential in the light of its policy of economic development” (Article XVIII(10)).

In 1979 the Contracting Parties, without formally amending the General Agreement, made the “Declaration on Trade Measures taken for Balance-of-Payments Purposes”, which expanded the ambit of Articles XII–XIV and XVIII beyond quantitative restrictions to include “all import measures taken for balance of payments purposes”.

The Understanding on the Balance of Payments Provisions of the General Agreement on Tariffs and Trade 1994 (BOP Understanding), incorporated in the Uruguay Round Final Act, is aimed at improving GATT/WTO discipline regarding trade measures taken for balance-of-payments purposes. Members commit themselves to publish, as soon as possible, time-schedules for the removal of such trade measures. Furthermore in perhaps the most important modification of the existing GATT regime Members commit themselves to give preference to trade measures of a price-based nature, such as tariff surcharges, and to only resort to new quantitative restrictions where “because of a critical balance-of-payments situation, price-based measures cannot arrest a sharp deterioration in the external payments position” (Articles 2, 3).

Pursuant to the Understanding, on 31 January 1995 the WTO General Council established the WTO Committee on Balance-of-Payments Restrictions. From its inception through 2003, the Committee has conducted consultations with numerous Members concerning the existence and possible reduction and phase-out of their balance-of-payments restrictions. In some instances, with respect for example to India and Tunisia, there was controversy within the Committee itself as to how rapidly the balance-of-payments situation of the country could reasonably permit the removal of measures.

Dissatisfied with the lack of consensus on India's use of balance-of-payments based trade restrictions the United States challenged India's continued use of trade restrictions for balance-of-payments reasons in dispute settlement, claiming violations of the GATT and the BOP Understanding. A key issue here was the relationship between the mandate of the BOP Committee and the jurisdiction of the WTO dispute settlement organs. India argued that, given the explicit role of the Committee in the surveillance of the challenged measures, the dispute panel should defer to that process. The panel below found that the competence of the BOP Committee and that of the panel were not mutually exclusive in these matters. India appealed this finding.

The Appellate Body (AB) first observed that, according to Article 1.1 of the Dispute Settlement Understanding (DSU), the dispute settlement procedures in the DSU apply generally to disputes brought under the dispute settlement provisions of the covered agreements (in this case Article XXIII of the GATT 1994). Moreover one could not infer any limitation on the rights of access to dispute settlement under the DSU, or on the competence of panels to interpret and apply the balance-of-payments provisions of the GATT, from the grant of competence to review Article XVIII:B justifications for such restrictions to the CONTRACTING PARTIES.

India, however, had argued that GATT practice with respect to Article XXIII precluded access to dispute settlement regarding trade restrictions maintained for balance-of-payments purposes. The BOP Understanding limited the competence of the dispute settlement organs in balance-of-payments disputes in favor of that of the Membership, sitting as the BOP Committee. The distinction that India drew was between disputes about the "application" of balance of payments measures and those that concerned the substantive justification of the measures.

There were also differences between India and the AB over the scope of development policies which could justify Trade restrictions for balance-of-payments reasons.

India argued that under Article XVIII balance-of-payments restrictions are to be removed as the conditions to which they were addressed improve only so long as the removal was not likely to provoke the return of those conditions. Moreover under a further proviso of Article XVIII a developing country should not be required to remove balance-of-payments import restrictions, if doing so could require a change in that country's development policies.<sup>123</sup> India's reliance on this provision required the AB to determine what is a development policy and whether removal by India of its balance-of-payments restrictions would require a change in these policies.

In its ruling the AB relied on a judgment of the IMF that India did not need to change its development policies because it could address the consequences of removing its import restrictions through "macroeconomic" policies. However, this ruling is questionable on various grounds.

Had the AB considered development policy informed by a conception of equity that includes the notion that development policy is a matter in the first instance for participation of those who are affected, it would have analyzed the legal issue quite differently.

- Firstly, the AB would not have accepted that one institution, particularly the technocrats in that institution, have "ownership" of the meaning of a "development" policy.
- Secondly, the AB would not have embraced the stark contrast between development policy and macroeconomic policy. This contrast implies that development policy is restricted to a series of techniques that "experts" view as formulae for "development," rather than

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<sup>123</sup> The following draws on Howse R (2004). Mainstreaming the Right to Development into International Trade Law and Policy at the World Trade Organization. (E/CN.4/Sub.2/2004/17), 3-20. United Nations, Geneva.

including all those policies that people—in this case, those of India—view as affecting the fulfillment of their approach to development. From the perspective of equity, as informed by the social and economic rights recognized in the UN Covenant on Social, Economic and Cultural Rights, macroeconomic policies are clearly “development policies.”

- Thirdly, on the question of whether India should be required to change its development policy in order to be able to remove the balance-of-payments restrictions without a return to crisis conditions, for the purposes of both equity and coherence the AB ought to have solicited the views of a broader range of institutions and social actors—at a minimum the international organizations with express mandates regarding development such as UNCTAD and the UNDP.
- Finally, the AB might have taken account of the self-declaratory character of Article XVII.B, i.e. that it empowers India to chart its own course in development policy. This implies that the provision is not intended to invite the dispute settlement organs to examine *de novo* India’s judgment that removal of the restrictions would require a change in its development policy.

#### **D. Trade Financing and Equity**

Increasing exports is recommended as part of policy packages for addressing indebtedness and balance-of-payments difficulties since, unlike macroeconomic deflation, it actually increases employment and reduces poverty. Trade financing is crucial to many export transactions. Yet the very economic conditions that export receipts are needed to address may make access to such financing difficult, particularly for developing countries that have suffered financial crises. This issue is broached in the 2005 Report to the WTO General Council of the Working Group on Trade, Debt and Finance.<sup>124</sup> In a 1999 WTO study Finger and Shulnecht explain the importance of government-backed export credit agencies in trade financing as follows: “the commercial and political risk of international trade transactions is often much larger than for domestic transactions. . . . well-functioning ECAs [Export Credit Agencies] are probably even more important for developing country exporters [than for industrial country exporters in developed countries]. [Developing- country exporters] (and their banks) are often relatively small and, therefore, less able to generate their own information on commercial and political risk abroad. They are also often likely to obtain less favorable financing terms because of mistrust by importers from other countries.”<sup>125</sup>

WTO rules, however, are not concerned with facilitating developing country exports through export financing, but rather with disciplining or curbing such financing to the extent it is viewed as an export subsidy. The relevant provisions are paragraphs (j) and (k) of Annex I (“Illustrative List of Export Subsidies”) to the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement). Paragraph (j) states that the following would be examples of prohibited export subsidies: “The provision by Governments (or special institutions controlled by Governments) of export credit guarantee or insurance programs, of insurance or guarantee programs against increases in the cost of exported products or of exchange risk programs, at premium rates which are inadequate to cover the long-term operating costs and losses of the programs.”

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<sup>124</sup> World Trade Organization (2005). Report of the Working Group on Trade, Debt and Finance to the General Council. (WT/WGTDF/4). 10 October.

<sup>125</sup> Finger KM and Schulknecht L (1999). Trade, Finance and Financial Crises. *World Trade Organization Special Studies*. World Trade Organization, Geneva. 9-10.

Further examples are to be found in paragraph (k) of Annex I: “The grant by Governments (or special institutions controlled by and/or acting under the authority of Governments) of export credits at rates below those which they actually have to pay for the funds so employed (or would have to pay if they borrowed on international capital markets in order to obtain funds of the same maturity and other credit terms and denominated in the same currency as the export credit), or the payment by them of all or part of the costs incurred by exporters or financial institutions in obtaining credits, in so far as they are used to secure a material advantage in the field of export credit terms”.

This characterization is subject to following important exception in paragraph (k): “Provided, however, that if a Member is a party to an international undertaking on official export credits to which at least twelve original Members to this Agreement are parties as of 1 January 1979 (or a successor undertaking which has been adopted by those original Members), or if in practice a Member applies the interest rates provisions of the relevant undertaking, an export credit practice which is in conformity with those provisions shall not be considered an export subsidy prohibited by this Agreement.” The international undertaking referred to here is the OECD Export Credit Arrangement. By incorporating this Arrangement in paragraph (k) the WTO SCM Agreement essentially draws a line between prohibited and permissible forms of export financing based on an Agreement negotiated by and for developed countries in a developed-country forum, the OECD.

The benchmarks in paragraphs (j) and (k) for deciding whether or not a trade financing measure should be classified as an export subsidy presuppose the mature capital markets and sophisticated risk-spreading and allocation-vehicles typical of fully developed economies. Whether they are also appropriate for developing countries, especially ones that have had access to private capital severely limited due to debt and/or other financial crises is questionable. The Center for International Environmental Law notes concerning the OECD Arrangement: “The Arrangement can be understood as a cartel-like, price-fixing mechanism, where the largest lenders of export credits establish limits on competition...It is an agreement by the richest countries in the world, and therefore its provisions are tailored for their needs.”<sup>126</sup>

Implications in practice of the SCM Agreement can be illustrated by the *Brazil-Aircraft case*, where the issue was the sale for export of commuter jets supported by export credits by both Brazil and Brazil’s competitor Canada.

In the *Brazil-Aircraft case* Brazil argued that “due to the high level of risk perceived by international markets with respect to Brazilian borrowers, the cost to EMBRAER and to Brazilian financial institutions of raising funds to finance exports of Brazilian regional aircraft is higher than the cost to Bombardier and Canadian financial institutions of raising funds to finance exports of Canadian regional aircraft. Because PROEX payments merely offset in part that higher cost of funds, allowing export credit financing for Brazilian regional aircraft on terms that are closer to, but still less favorable than, those available for competing Canadian regional aircraft, those payments are not in Brazil’s view used to secure a material advantage in the field of export credit terms.” In other words, Brazil was arguing that the particular financing barriers faced in developing countries should be used to determine the benchmark against which an export credit is assessed to decide whether it is an unfair export subsidy. (Para 7.21)

The panel curtly and almost scornfully rejected Brazil’s approach. Most disturbingly, it suggested that Brazil’s argument that the baseline of the “marketplace” in paragraph (k) be adjusted to the circumstances and needs of developing countries had to be rejected because the paragraph was not

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<sup>126</sup> Center of International Environmental Law (2003). Export Credit Agencies and the World Trade Organization. *Draft Issue Brief*. November: 4-5.



a provision concerning special and differential treatment (for developing countries) (Para. 7.32). Article 27 of the SCM Agreement does provide limited relaxation of WTO disciplines applying to export subsidies for developing countries. Nevertheless, the interpretative approach of the panel suggests that, even where special and differential treatment exists in a WTO Agreement, the other provisions should be interpreted in a manner that is blind as to the equities as between developed and developing country members.

Article 27.1 of the SCM Agreement states a general principle much broader than the specific exceptions and limitations of Article 27.2-15: “Members recognize that subsidies may play an important role in economic development programs of developing country Members.” However, the panel tendentiously characterized Brazil’s approach to the meaning of “used to secure a material advantage” in para. (k) as a “general lowering” of SCM disciplines, which might be harmful to developing countries as a whole. But on a more reasonable interpretation Brazil’s argument was not intended to lead to an across-the-board lowering of disciplines, but rather to take into account the difference in financial market conditions of a particular developing country in relation to those of its developed-country competitors. It is hard to see how such an approach could be harmful to other developing countries, many of which face much more serious structural disadvantages in terms of access to financing than Brazil.

The Appellate Body compounded the indifference to developing-country concerns and challenges shown by the panel. Although paragraph (k) refers only to the OECD Arrangement as a “safe haven” in terms of the disciplines of that paragraph, the Appellate Body used the benchmarks of the Arrangement as the appropriate methodology for determining in Brazil’s case whether the rates of interest on its export credits were such as to lead to the conclusion that they “are used to secure a material advantage”.

In the aftermath of this decision, some developing countries have justifiably put paragraph (k) of the SCM Agreement on the agenda of the present Doha Round of negotiations.<sup>127</sup>

## **E. The General Agreement on Trade and Services (GATS), Balance of Payments, and Debt Sustainability**

The regulation of banks and other financial institutions is critical to management of debt and financial crises, especially from an equity perspective. The collapse of financial intermediaries can destroy the savings and jobs of ordinary citizens. Thus, the WTO has a special set of rules that apply to liberalization of financial services within the general context of GATS.

Before considering these special rules, it is important to understand the provisions of the general WTO framework for services liberalization, the GATS, which may apply to the management of debt and financial crises. The GATS applies to trade in services through four modes: (1) cross-border delivery; (2) presence of the consumer in the territory of the vendor (e.g. tourism, education, and health care); (3) commercial presence of the vendor in the consumer state; and (4) cross-border movement of workers engaged in providing services. Certain obligations in the GATS apply to all services trade in these four modes. There are also general exceptions, including in relation to balance-of-payments measures (which are examined below). Many of the most important obligations in GATS, such as the rules applying to the granting of Market Access to foreign suppliers

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<sup>127</sup> CIEL, *supra*. n. 20.

and according them the National (i.e. non-discriminatory) Treatment obligation apply only where a specified service sector is listed in a WTO Member's schedule of specific commitments.

Article XI:1 of GATS creates a general rule that "a Member shall not apply restrictions on international transfers and payments" applicable to sectors where a Member has made specific commitments Article XI:2 states: "Nothing in this Agreement shall affect the rights and obligations of the Members of the International Monetary Fund under the Articles of Agreement of the Fund, including the use of exchange actions which are in conformity with the Articles of Agreement, provided that a Member shall not impose restrictions on any capital transactions inconsistently with its specific commitments regarding such transactions, except under Article XII [of GATS] or at the request of the Fund."

The language of XI:2 indicates an extremely important difference between GATT and GATS. However narrowly or restrictively interpreted, the relevant provisions of the GATT, as we have seen, contain only disciplines on *current-account* measures. However, under the GATS a Member's specific commitments may prevent it from instituting capital- account controls. To understand the flexibility under the GATS with regard to capital controls it is therefore necessary to look carefully at Article XII, the balance-of-payments exception. This exception can only be utilized after satisfying a very complex and long series of conditions. This can be illustrated from the text of Article XII is as follows:

*Article XII: Restrictions to Safeguard the Balance of Payments*

1. In the event of serious balance-of-payments and external financial difficulties or threat thereof, a Member may adopt or maintain restrictions on trade in services on which it has undertaken specific commitments, including on payments or transfers for transactions related to such commitments. It is recognized that particular pressures on the balance of payments of a Member in the process of economic development or economic transition may necessitate the use of restrictions to ensure, inter alia, the maintenance of a level of financial reserves adequate for the implementation of its program of economic development or economic transition.
2. The restrictions referred to in paragraph 1:
  - (a) shall not discriminate among Members;
  - (b) shall be consistent with the Articles of Agreement of the International Monetary Fund;
  - (c) shall avoid unnecessary damage to the commercial, economic and financial interests of any other Member;
  - (d) shall not exceed those necessary to deal with the circumstances described in paragraph 1;
  - (e) shall be temporary and be phased out progressively as the situation specified in improves.
3. In determining the incidence of such restrictions, Members may give priority to the supply of services which are more essential to their economic or development programs. However, such restrictions shall not be adopted or maintained for the purpose of protecting a particular service sector.
4. Any restrictions adopted or maintained under paragraph 1, or any changes therein, shall be promptly notified to the General Council.

5. (a) Members applying the provisions of this Article shall consult promptly with the Committee on Balance-of-Payments Restrictions on restrictions adopted under this Article.

(b) The Ministerial Conference shall establish procedures<sup>128</sup> for periodic consultations with the objective of enabling such recommendations to be made to the Member concerned as it may deem appropriate.

(c) Such consultations shall assess the balance-of-payment situation of the Member concerned and the restrictions adopted or maintained under this Article, taking into account, inter alia, such factors as:

- i) the nature and extent of the balance-of-payments and the external financial;
- ii) difficulties;
- iii) the external economic and trading environment of the consulting Member;
- iv) alternative corrective measures which may be available.

(d) The consultations shall address the compliance of any restrictions with paragraph 2, in particular the progressive phaseout of restrictions in accordance with paragraph 2(e).

(e) In such consultations, all findings of statistical and other facts presented by the International Monetary Fund relating to foreign exchange, monetary reserves and balance of payments, shall be accepted and conclusions shall be based on the assessment by the Fund of the balance-of payments and the external financial situation of the consulting Member.

6. If a Member which is not a member of the International Monetary Fund wishes to apply the provisions of this Article, the Ministerial Conference shall establish a review procedure and any other procedures necessary.

A number of features of Article XII are worthy of special attention.

- First of all, XII:1 gives developing or transitional economies a clear right to take measures that provide a level of financial reserves “adequate” for the Member’s program of economic transition or development. Thus, Article XII:1 affirms that development goals are the legitimate basis for a WTO Member determining the kinds of balance of payments measures it needs.
- Whereas the measures must “not exceed those necessary” to deal with “serious balance-of-payments and external financial difficulties or threat thereof,” Article XII:3 affirms that a Member “may give priority to the supply of services which are more essential to their economic or development programs.”
- More generally, the concept of “necessity” ought to be interpreted in the context of Article XII as a whole, which gives considerable emphasis to an individual Member’s approach to development. Article XII can be read as not requiring a Member to use alternative policy measures, even if these are less restrictive of services trade, where such measures would undermine the concept of equity implicit or explicit in the Member’s development program.

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<sup>128</sup> It is understood that the procedures under paragraph 5 shall be the same as the GATT 1994 procedure.

Unlike the provisions of the GATT, Article XII of the GATS specifies that deference to the IMF extends *only* to statistics and facts and conclusions drawn from such statistics and facts. Therefore, a judgment about the consistency of measures with the IMF Articles may be made independently at the WTO.

Article XII envisages consultations on balance-of-payments measures in the Committee on Balance of Payments Restrictions. However, according to the logic of the *India-Balance of Payments case* discussed above, since the GATS provides no exception from dispute settlement for Articles XI and XII of the GATS, the existence of the Committee on Balance-of-Payments would not lead to removal or restriction of panel and AB jurisdiction.

It is important to appreciate the extent to which GATS specific commitments may imply limits to the ability to impose capital account controls. Footnote 8 of Article XVI:1 reads: "If a Member undertakes a market-access commitment in relation to the supply of a service through [mode 1] and if the cross-border movement of capital is an essential part of the service itself, that Member is thereby committed to allow such movement of capital. If a Member undertakes a market-access commitment in relation to the supply of a service through [mode 3], it is thereby committed to allow related transfers of capital into its territory." Situations where "movement of capital is an essential part of the service itself" would apply most obviously to certain kinds of financial services (for example, mutual funds), but the other kind of situation mentioned in Footnote 8 is much broader, applying to all cases where the service is being supplied through a commercial presence in the WTO Member. Nevertheless, in such circumstances, the requirement of liberalization seems limited to *inward* movement of capital.

Some kinds of controls over (outbound) capital might be viewed as conditions on who can supply services (number of service suppliers) in violation of XVI:2(a), or as "limitations on the total value of service transactions or assets" in violation of XVI:2 (b) or "total number of service operations or the total quantity of service output" in violation of XVI:2(c). This possibility would follow from an extremely broad interpretation of XVI:2(a) and (c) by the AB in the US-Gambling case. Essentially, the AB suggested that to violate either provision, measures need not take the explicit forms described in those provisions, provided that they have comparable effects on restricting market access and are quantitative in nature (Report of the Appellate Body, paras. 232, 247). Since capital controls are clearly measures that are quantitative in nature, they may well have effects on the number of service suppliers or the total value of services transactions or assets under Article XVI.

Commitments with respect to financial services are governed by the Annex on Financial Services. The Annex contains the following provision:

#### *Domestic Regulation*

(a) Notwithstanding any other provisions of the Agreement, a Member shall not be prevented from taking measures for prudential reasons, including for the protection of investors, depositors, policy holders or persons to whom a fiduciary duty is owed by a financial service supplier, or to ensure the integrity and stability of the financial system. Where such measures do not conform with the provisions of the Agreement, they shall not be used as a means of avoiding the Member's commitments or obligations under the Agreement.

The first sentence of this provision appears to allow any measure "to ensure the integrity and stability of the financial system" without the need to show that the measure is necessary or the least restrictive of trade in services. The second sentence, however, seems drafted in a manner to

undermine the regulatory flexibility granted in the first sentence, in that it qualifies the use of the provision as an exception to GATS commitments and obligations. Thus, where a measure is not in conformity with GATS, it “shall not be used as a means of avoiding the Member’s commitments or obligations under the Agreement.”

It is difficult to discern the exact implication of this qualifying or conditional language. One possible reading would be that it imports an intent requirement into 2(a), namely the notion that the measures must be genuinely intended to “ensure the integrity and stability of the financial system” rather than to protect domestic financial industries. Such an intent requirement might be difficult to apply in the case of a financial crisis, where ensuring the survival of domestic financial institutions may well be part and parcel of ensuring the “integrity and stability of the financial system” itself.

Finally, any commitment or obligation under GATS is subject to the general exceptions in Article XIV of GATS. Thus, whether or not a Member’s measure meets the criteria set forth in Article XII of the GATS or the Annex on Financial services, the measure may still be justified if “necessary” for the protection of human life or health or of public moral or public order. According to footnote 5 of Article XII, The public order exception may be invoked “only where a genuine and sufficiently serious threat is posed to one of the fundamental interests of society.” In this context it is noteworthy that in the *United States-Gambling case* the AB upheld the panel approach that suggested there must be some deference to a WTO Member’s own determination of the meaning of public morals and public order (Appellate Body Report, paras. 296-297).

As a general matter other policies such as exchange-rate stabilization, depreciation or appreciation undertaken in response to a financial crisis may be unsustainable in the absence of capital controls. Experience with applicable parts of the GATS will thus eventually play a role in determining the range of macroeconomic policy responses.

## F. Conclusions

WTO rules on exchange actions and the balance-of-payments justifications for trade restrictions clearly reflect a conception of equity that takes into account the particular needs and situations of developing countries. In certain, carefully defined matters the WTO rules entail deference to judgments of the IMF.

However, in actual dispute settlement elements in the rules that reflect equity towards developing countries have been minimized or ignored. Moreover, the dispute settlement organs have gone well beyond the explicit limits of deference to the IMF, deferring such to the IMF even in such a matter as the meaning of a country's "development policy" (*the India-Balance of Payments case*). Since developing countries have limited representation and voice in the IMF, from the perspective of equity as participation in decision-making concerning development these tendencies of the dispute settlement organs seem difficult to justify.

More generally, the concept of coherence reflected in relevant WTO instruments and activities directed towards balance-of-payments and exchange matters is too narrowly focused on relations between the IMF and the WTO, and does not include cooperation with other international institutions concerned with equity in development. The concept of coherence should be revised to accommodate the relationship with equity implied in the Millennium Declaration and related instruments.

Moreover even within the narrow conception of coherence embraced in the WTO, the agreed mechanism for avoiding cross-conditionalities, namely obligatory consultations between the WTO Secretariat and the IMF prior to either taking decisions that could result in cross-conditionalities, has not been closely followed. A review should be undertaken of the justification for not using this process and of the extent to which avoidance of cross-conditionalities has been achieved in experience so far.

In the case of the General Agreement on Trade in Services (GATS), there is a real possibility that a WTO Member's specific commitments combined with the general obligations of the GATS could mean that a Member's adoption of capital controls constitutes a GATS violation, even though such controls may be necessary to address a financial crisis in a manner consistent with social and economic justice. In view of the exceptions and limitations in the GATS that could none the less justify such measures there is a case for the drawing up of guidelines in this area which take account of equity in the trade and financial system in the interpretation of such limits and exceptions. This task should be undertaken by international institutions with a mandate related to equity in development.

As exemplified by the *Brazil-Aircraft case*, the rules on export subsidies in the SCM Agreement appear to limit the capacity of developing countries to provide support for export transactions through export credits. This reflects the use of market benchmarks devised for and by developed countries in the OECD Arrangement for the assessment of export credit arrangements. Consideration should be given to an alternative approach which would take into account structural differences between the financial markets of developed and developing countries as well as the special challenges regarding access to capital markets for export financing facing countries that have faced financial or debt crises.



# **RISK ASSOCIATED WITH TRENDS IN THE TREATMENT OF SOVEREIGN DEBT IN BILATERAL TRADE AND INVESTMENT TREATIES**

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## **A. Introduction**

There is a growing trend in Free Trade Agreements for the inclusion of provisions that subject policy towards the financial sector to legal disciplines enshrined in trade and investment agreements and to the associated dispute- settlement mechanisms. This trend places limits on the use by developing countries of several tools designed to build and preserve stable and healthy financial sectors responsive to national development priorities and supportive of trade. The limits are capable of increasing developing countries' vulnerability to financial and debt crises.

## **B. Sovereign Debt in Bilateral Trade and Investment Treaties**

In bilateral Free Trade Agreements recently negotiated by the United States Government a controversial issue has been the insistence of the United States on pursuing inclusion of clauses that would apply to sovereign debt issued by the parties principles such as National Treatment and Most-Favored-Nation (MFN) Treatment which are part of bilateral investment treaties and of GATT/WTO rules for trade in goods and services.

A review of some recent treaties reveals at least two different approaches to the treatment of sovereign debt.



## 1. Sovereign Debt Explicitly Excluded from Application of the Principles

Under NAFTA, investment covers a sweeping array of types of ownership interests, including loans and securities. However, in conformity with Article 1416 in the section on Financial Services, “investment means “investment” as defined in Article 1139 (Investment Definitions), except that, with respect to “loans” and “debt securities” referred to in that Article: (a) a loan to or debt security issued by a financial institution is an investment only where it is treated as regulatory capital by the Party in whose territory the financial institution is located; and (b) a loan granted by or debt security owned by a financial institution, other than a loan to or debt security of a financial institution referred to in subparagraph (a), is not an investment;”

To this is added the following: “for greater certainty: (c) *a loan to, or debt security issued by, a Party or a state enterprise thereof is not an investment*” (author’s italics).

Therefore, under NAFTA, sovereign debts are explicitly excluded from the definition of investment.

## 2. Sovereign Debt Explicitly Included within the Scope of Application of Investment Principles

In the 2003 United States-Chile Free Trade Agreement (FTA) specific principles on investment are explicitly applicable to sovereign debt. The United States-Chile FTA contains a broad definition of investment based on the following standard adopted by the United States in its most recent Bilateral Investment Treaty (BIT) Model.<sup>129</sup>

“Investment means every asset that an investor owns or controls, directly or indirectly, that has the characteristics of an investment, including such characteristics as the commitment of capital or other resources, the expectation of gain or profit, or the assumption of risk. Forms that an investment may take include:

- An enterprise;
- Shares, stock, and other forms of equity participation in an enterprise;
- Bonds, debentures, loans, and other debt instruments;
- Futures, options, and other derivatives;
- Rights under contract, including turnkey, construction, management, production, concession, or revenue-sharing contracts;
- Intellectual property rights;
- Rights conferred pursuant to domestic law, such as concessions, licenses, authorizations, and permits; and
- Other tangible or intangible, movable or immovable property, and related property rights, such as leases, mortgages, liens, and pledges; but investment does not mean an order or judgment entered in a judicial or administrative action...”

This definition generally includes “bonds, debentures, loans and other debt instruments”.<sup>130</sup> In what represents a significant departure from NAFTA, the treaty explicitly makes the agreement’s

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<sup>129</sup> This definition has become standard blueprint for the US negotiating position in treaties. See United States 2004 Model BIT, Art .1

<sup>130</sup> Usually with a footnote that clarifies “Some forms of debt, such as bonds, debentures, and long-term notes, are more likely to have the characteristics of an investment, while other forms of debt, such as claims to payment that are immediately due and result from the sale of goods or services, are less likely to have such characteristics.”

provisions applicable to sovereign debts issued by the Chilean Government.<sup>131</sup> The same rules are contained in the Central America Free Trade Agreement (CAFTA).<sup>132</sup> Thus, the United States-Chile FTA and CAFTA make National Treatment and MFN Treatment applicable to sovereign debts issued by the Governments of the countries involved.

### 3. The “Elliptic” Inclusion of Debt in the United States- Uruguay FTA

The United States-Uruguay FTA (signed in 2004) raises an interesting question because its provisions could lead to re-interpretation of previous treaties. The FTA contains the standard definition of investment as including “Bond, debentures, other debt instruments and loans” It also contains, in Annex F, a clause with language similar to the first part of the NAFTA article above.<sup>133</sup>

Up to this point of the text, although there is no explicit exclusion as in the NAFTA supplementary clause, the agreement seems to imply that sovereign debt is excluded from the definition of investment.

However, this does not appear to be the case. Annex G of the United States-Uruguay FTA headed “Sovereign Debt”, reads as follows:

“1. No claim that a restructuring of a debt instrument issued by Uruguay breaches an obligation under Articles 5 through 10 may be submitted to, or if already submitted continue in, arbitration under Section B, if the restructuring is a negotiated restructuring at the time of submission, or becomes a negotiated restructuring after such submission.”

This would appear to mean that sovereign debt is, indeed, included in the scope of the definition of investment for the purposes of the Treaty. It also would open the way for the interpretation that, absent an explicit exclusion, sovereign debt is considered to fit into the scope of the definition of investment. This could have the consequence of leading to an expansion of the scope of the term, “investment”, in treaties worded similarly to the United States-Uruguay FTA, such as the United States-Singapore FTA.

## C. Implications for Sovereign Debt Problems of Including National Treatment and MFN Treatment in FTAs

What are the possible implications of applying National Treatment and MFN Treatment to sovereign debt?

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<sup>131</sup> See Annex 10-B (Annex to the chapter of the treaty that deals with investment): “The rescheduling of the debts of Chile, or of its appropriate institutions owned or controlled through ownership interests by Chile, owed to the United States and the rescheduling of its debts owed to creditors in general are not subject to any provision of Section A other than Articles 10.2 and 10.3” Articles 10.2 and 10.3 in the Treaty refer to National Treatment and Most-Favored-Nation Treatment.

<sup>132</sup> See also Ugarteche (2004, 14-18 and 34-35).

<sup>133</sup> Art. 4 reads:

“(b) Investment means “investment” as defined in Article 1, except that, with respect to “loans” and “debt instruments” referred to in that Article: (i) a loan to or debt instrument issued by a financial institution is an investment in a financial institution only where it is treated as regulatory capital by the Party in whose territory the financial institution is located; and(ii) a loan granted by or debt instrument owned by a financial institution, other than a loan to or debt instrument of a financial institution referred to in subparagraph (b)(i), is not an investment in a financial institution”.

These principles were originally developed in different historical contexts. National Treatment featured from the first half of the twentieth century onwards in treaties of friendship, commerce and navigation (FCN treaties), i.e. bilateral treaties covering miscellaneous subjects such as access to ports, tariffs, the powers and responsibilities of consuls, and protection against appropriation. The last of these headings typically included provisions concerning national treatment, i.e. guarantees of non-discriminatory treatment of foreign firms. MFN clauses were included in reciprocal trade agreements negotiated between the United States and various countries under a program legislated in 1934. Under the MFN clauses included in these agreements each of the parties bound itself to extend to the other tariff concessions at least as great as those extended to the most favored nation with which it traded. Both National Treatment and MFN Treatment were included in the GATT as principles applying to trade in goods.

The extension of National Treatment and MFN Treatment to other subjects is neither straightforward nor uncontroversial.<sup>134</sup> Indeed, their extension to sovereign debt raises issues that could be more harmful to developing countries than those considered under their traditional application to foreign investment. A discussion of a number of these issues follows:

## 1. Dismantling Tools Needed for the Recovery of the Local Economy in Post-Crisis Situations

The application of National Treatment to sovereign debt would restrict the ability of the debtor Government to take certain policy measures aimed at the recovery of the local economy in the aftermath of financial crises. National Treatment in this context means that foreign creditors are offered treatment in debt restructurings no less favorable than that offered to domestic creditors.<sup>135</sup>

However, there are several reasons why a country restructuring its sovereign debt after a financial crisis might need to resort to offering preferential conditions to domestic creditors.

- In a financial crisis, domestic creditors often suffer a *double adjustment*. First, they are typically forced to accept a “haircut” on their claims, which means that the value of their loans are reduced by a certain percentage. Secondly, they often suffer costs related to the internal adjustment, such as high interest rates. In fact, the impact of debt restructuring on domestic capital markets and, in turn, on the resumption of growth and repayment capacity needs to be taken into account in assessing the consequences of debt crises (Machinea, 2004: 188).”
- Dealing with domestic before foreign debt might also allow the Government to return rapidly to domestic capital markets during what is likely to be a sustained interruption in its access to international capital markets (IMF, 2002: 13).
- The debtor may also need to accord priority to domestic debt in order to protect the financial system. The IMF has said that “the restructuring of certain types of domestic debt may have major implications for economic performance, as a result of its impact on the financial system and the operation of domestic capital markets” (IMF, 2002: 13). Sovereign debt restructuring typically has a double impact on the financial system. On the one hand

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<sup>134</sup> See Khor (2002), who states: “It is certainly not clear that the principles of the WTO (including National Treatment and Most-Favored-Nation treatment) that apply to trade in goods should apply to investment, nor that, if applied, they would benefit developing countries.” See also Chang and Green (2003), Action Aid (2003), Oxfam International (2003).

<sup>135</sup> This is important in the context of the developing country signatories of CAFTA, since, with the exception of Honduras, an important share of public debt in all these countries is owed to domestic creditors. In some of them, like Costa Rica, domestic debt is actually higher than external debt.

financial institutions are weakened by the impact on their capital levels of the reduction in the value of bonds. On the other hand, debt restructuring is associated with a general increase in uncertainty, which can inflict widespread damage on the creditworthiness of firms (Machinea, 2004: 188-189). Thus, in such cases special treatment to domestic debt may enable the debtor to protect “a core of the banking system by ensuring the availability of assets required for banks to manage capital, liquidity and exposure to market risks” (IMF, 2002: 13).

- A sovereign debtor may also need to accord special treatment to domestic debtors for the same reasons that can lead it to accord special treatment to national sectors and industries as part of a national development strategy and the achievement of development goals.
- In the IMF’s view sheltering domestic investors from the full impact of debt restructuring may be necessary in order to “garner support for an ambitious adjustment program” (IMF, 2002: 13).

## **2. Preventing the State from Paying Salaries and Pensions in Debt Crises**

The application of National Treatment to sovereign debt means that the Government will be unable to prioritize domestic debt associated with meeting wages, salaries and pension obligations. In other words, the Government is bound to treat these debts in the same way as foreign debts held by transnational banks and institutional investors. If its resources are enough to cover only a portion of its debts, the state will not be able to choose to direct those funds to meeting these priorities, at least not as long as it does not devote equal amount for payments to foreign creditors.

Unlike an indebted private company, an indebted sovereign has human-rights obligations and social responsibilities towards its people. This means that, in dealing with sovereign debt, there are issues that cannot be addressed by strict analogies with bankruptcy principles applicable to the private sector. Thus proposals of civil society for a rules-based framework have typically called for recourse to analogies with frameworks which accommodate the overall mission that the state is expected to fulfill. Such frameworks include Chapter 9 of United States Bankruptcy Law applicable to municipalities. Even the IMF’s much-criticized Sovereign Debt Restructuring Mechanism proposal excluded “Wages, salaries and pensions” from its application (IMF, 2003: 24).

## **3. Reducing the Leverage of Debtors in a Debt Restructuring**

By first gathering the support of domestic creditors a Government can acquire substantial clout for the negotiations over debt restructuring with other creditors. The offer of preferential conditions to these domestic creditors can be critical in this context. Thus if the principle of National Treatment is applied to sovereign debt, this avenue for the indebted country to strengthen its negotiating position is effectively foreclosed.

The offer of preferential conditions to domestic creditors was crucial to enhancing the Government’s leverage in Argentina’s negotiations with its creditors after its December 2001 default. In September 2003 the Government released its initial proposed conditions for debt restructuring, which included a 75-per-cent haircut for bond holders. The Government contended that this was the size of the reduction that would enable it to recover sustainable economic growth, while ensuring that its promises of payment were kept. Some groups of bond-holders quickly rejected this offer, claiming that it was woefully insufficient and, in the light of the country’s most recent growth figures, below the capacity of the country to repay. The creditors also strongly lobbied the G7 which, directly and

through the IMF, put pressure on Argentina to improve its offer.<sup>136</sup> With pressure mounting from these quarters, Argentina turned to domestic pension funds with an offer of inflation-linked bonds that represented an improvement over the offer made to the other bond holders. By thus granting these institutions preferential conditions, Argentina was able to reach agreement with creditors holding more than 17 per cent of its total debt. This was a critical first step in garnering the support of a majority of creditors that eventually totaled 76 per cent. However, the offer of preferential treatment to domestic pension funds would not have been compatible with the principle of National Treatment.

#### **4. Creation of a Privilege for the Debt Owned (or Acquired) by Creditors from the Party**

Application of National and MFN Treatment only to creditors of countries that are parties to bilateral investment treaties (which have in recent years largely replaced the FCN treaties mentioned earlier) would have the discriminatory result of granting seniority to creditors from such countries over those from other countries. This would affect the rights of bond-holders from non-party countries without their consent since they are, by definition, excluded from intervening in the negotiations under the bilateral agreement. For these bond-holders such treatment might be equated to an involuntary debt swap under which they find themselves holding a downgraded instrument.

### **D. Investor-State Lawsuits and Sovereign Debt**

One effect of applying the principles of investment treaties to sovereign debt is that Governments that violate investor protections can face expensive lawsuits. As under NAFTA and numerous bilateral investment treaties, CAFTA grants private foreign investors the right to bypass domestic courts and sue Governments in international tribunals (Peterson, 2004: 3).

Such “investor-state lawsuits” are highly controversial for a number of reasons (Peterson, 2004 and 2004a). Many arbitration tribunals operate with a lack of transparency, having no obligation to disclose relevant documents or allow any form of public participation. The system for choosing arbitrators has also drawn criticism as the arbitrators can be drawn from the ranks of practicing investment lawyers and there is no obligation to appoint arbitors who will be independent in the sense of not having a stake in how the treaty is interpreted.

Moreover, arbitral tribunals do not have to pay regard to legal precedents (Peterson, 2004: 6). This feature, which creates a lot of uncertainty in the investment arena, could become particularly troublesome when applied to sovereign debt crises. Indeed, the main rationale for more systematic arrangements for handling sovereign debt defaults has been the need to provide greater predictability for both debtors and creditors in the messy process of exiting sovereign debt crises. Clearly, the existing system of arbitration tribunals would do a poor job at addressing those concerns and would inject additional uncertainty into existing arrangements for the following reasons:

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<sup>136</sup> In its IMF agreement the Argentine government had promised to “negotiate in good faith” and was singled out in some G7 statements as not complying with such a pledge. Private creditors maintained that negotiations in good faith required the agreement of 80 per cent of creditors, while the government of Argentina claimed that a figure above 65-70 per cent would suffice. It was incongruous that the IMF and G7 countries, which were themselves amongst the creditors, should have unilaterally attempted to define the conditions of an acceptable debt restructuring.

- The application of the principles of National Treatment and MFN to sovereign debt might give these arbitral tribunals the authority to define difficult questions that arguably belong to the domestic jurisdiction of states.
- The application of these principles might also open the way for the application of other more general principles that are becoming common in investment treaties, such as “minimum standard of treatment” or “fair treatment. As illustrated above in the discussion of Argentina’s debt renegotiation, there is no rules-based framework to determine what is an “acceptable” level of repayment or “negotiation in good faith”, etc. in debt negotiations and restructurings. Nor is there any certainty that principles or rules originally formulated in the context of bankruptcy law will be applied by an arbitration tribunal.
- These general principles are contentious even in the context of investment treaties. That minimum or fair standards of treatment apply only to investors, while considerations involving workers and other human rights as well as the environment, which might counterbalance them, are not given equal weight is a source of controversy.
- Closely related to points raised in section C.2 is the point that application of these general principles to sovereign debt would not take account of the responsibility of the Government of the debtor country to its population.

## **E. Concluding Remarks**

The existing regime for dealing with sovereign debt crises lacks a rules-based, multilateral framework. This leaves debtors vulnerable to power asymmetries as compared with creditors. These asymmetries would be reinforced by extension of the definition of the investment instruments covered in bilateral investment treaties to include all or most debt instruments, particularly those for sovereign debt. There have already been moves towards a more inclusive definition of investment in some recent treaties. This has the consequence that debt instruments are subject to principles such as National Treatment and MFN Treatment which were originally developed to handle problems arising under bilateral investment treaties and goods trade under the GATT, and not debt crises. A notable exception to the recent tendency for extending such principles to debt is the NAFTA, which explicitly excludes sovereign debt from the definition of investment. In view of the dangers to developing countries from the extension of principles designed for foreign investment and goods trade to debt instruments, the NAFTA approach furnishes a superior model for the future.

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