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The "Building Blocks" of Effective Government Debt Management

Paper written following a UNITAR Sub-Regional Workshop on Effective National Debt Management for eastern and Southern African Nations (Harare – Zimbabwe, 20 to 24 September 1999)



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PREFACE

This paper presents a synthesis of presentations and discussions at a UNITAR Sub-Regional workshop held recently in Harare, Zimbabwe (September 1999) for debt managers coming from Eastern and Southern African countries. The paper, moreover, expands significantly on the workshop discussions. The theme of the workshop was 'Effective National Debt Management' and it drew on the expertise of resource persons from Austria, Denmark, Ireland, and Sweden to share with their African counterparts the latest developments in debt and financial management of the Organisation for Economic Co-operation and Development (OECD) countries.

As part of this initiative, UNITAR had the privilege of collaborating with the Eastern and Southern African Management Institute (ESAMI, Arusha) for which it is grateful.

This paper, which has been written for UNITAR by Mr. Michael Horgan, deals with a range of issues to be considered by any developing country or economy in transition for effective national debt management. Some factors, no matter how extraneous they may be to a debt management unit within a particular country, will nonetheless have a bearing on sound financial management. Furthermore, special consideration is given to factors of direct interest and concern to debt managers. An attempt is also made to expound on the debt management and institutional aspects in selected OECD countries with a view to drawing some parallels and seeing how African economies may evolve in this particular area.

We certainly hope that this paper will be useful to the readers.

Marcel A. Boisard
Executive Director of UNITAR

THE "BUILDING BLOCKS" OF EFFECTIVE GOVERNMENT DEBT MANAGEMENT

by Mr. Michael Horgan

1. INTRODUCTION

1.1 A workshop on effective government debt management was sponsored by United Nations Institute for Training and Research (UNITAR) and Eastern and Southern African Management Institute (ESAMI) on 20th to 24th September 1999 at Harare, Zimbabwe. Participants invited to the workshop were government officials from the countries of Southern Africa, who were in a position to devise and operate debt management policies. The purpose of the workshop was two-fold:

- i) To enable African sovereign debt managers to hear at first-hand from their colleagues in the West about the latest developments in the field of sovereign debt management and how these developments can influence effective debt management; and
- ii) To afford the participants an opportunity of teasing out the extent to which the African debt managers might be in a position to start adopting some of these developments.

1.2 The workshop agenda is in APPENDIX to this paper. Lead speakers at the workshops were Michael Horgan, Ireland - the Workshop Director - Per-Olf Jonsson, Sweden, Lars Jessen, Denmark, and Paul Kocher, Austria.

1.3 This paper is produced as a follow-up to the workshop. Its aim is to act as an aide memoire to the workshop participants and also the wider African audience involved in national debt management of the essential "building blocks" that need to be put in place in order to develop the foundations for effective national debt management.

1.4 While the paper draws heavily on national debt management practices in the countries of the Organisation for Economic Co-operation and Development (OECD), the views expressed in the papers are those of the author only.

The author, Mr. Michael Horgan, is Head of National Debt Management Consultancy, Ireland. He is former Deputy Director of the Irish National Debt Management Agency. Throughout the 90s, he was Chairman of the OECD Group of Experts on Government Debt Management. He has undertaken debt management consultancy assignments on behalf of the authorities in China, India and Eastern Europe.

2. ISSUES OF IMPORTANCE FOR INVESTORS

2.1 Globalisation of markets: Investment decisions are clearly no longer limited by national boundaries. Global asset allocation by investment managers increasingly is a familiar feature of the fixed interest management process. Within Europe, for example, the internationalization of bond markets has been largely prompted by interaction of:

- a) the removal of exchange controls across the European Union as a part of economic and monetary union;
- b) the move to the euro itself, i.e. a single currency, with no exchange risk;
and
- c) the competitive pursuit by investment managers of higher investment returns and more efficient portfolios.

Monetary systems generally are less subject to administrative regulation, as free movement of capital has become a powerful reality, not just in Europe but throughout the developed economies. In Europe, because of the Maastricht Treaty, governments of the European Union have ceased to enjoy privileged access to their respective capital markets, nor can they have recourse to their central banks for monetary financing. In sum, western governments must now compete for mobile international capital. Accordingly, to retain domestic investors and, critically, to attract foreign investors, governments must pursue responsible anti-inflationary fiscal and monetary policies; and, as debt issuers, they have had to put in place streamlined capital market structures and issuance procedures. At the same time, debt managers are free to pursue opportunities for cost-effective borrowing, (see 2.9 below). To enable this opportunity to translate into reality, the following areas outside the remit of debt management proper need to be addressed.

2.2 Economic fundamentals and credit rating: A country's economic fundamentals, over which the debt manager may have little or no direct influence, bear heavily on the cost of government borrowing. A country's economic, and political, fundamentals will be, in turn, a key influence on how international credit rating agencies rate the country in terms of the relative likelihood that it will (as a borrower) default on its obligations. Governments seek credit ratings on their foreign currency borrowings since they were likely to be placed with international investors. As international investors increase their demand for government bonds issued in currencies other than the traditional global currencies, more governments are obtaining ratings as regards their domestic currency bonds also. Governments do so in order to smooth access by foreign investors into domestic bond markets, thereby reducing their borrowing costs.

2.3 Criteria used by credit rating agencies: Moody's, Standard and Poor's and Duff and Phelps - the three main international credit rating agencies - list numerous economic, social and political factors that underlie their sovereign credit rating ratings. Identifying the relationship between criteria and the actual rating is difficult because many of the criteria are not quantifiable. Moreover, the agencies provide little guidance as to the relative weights they assign each factor. Consequently, this paper

restricts itself to identifying the principal economic factors that could affect a country's ability to service its debt:

- Gross domestic product: the higher the rate of growth the easier it should become for a country to service over time its *existing* debt burden.
- Per capita income: the wider the potential tax base of the borrowing country, the greater the ability of a government to repay debt.
- Inflation: points to disequilibrium in the public finances, i.e. unwillingness by government to pay for public expenditure other than by inflationary monetary financing. High inflation can lead also to political instability. (Under the Maastricht Treaty, European Union countries target not more than 3 per cent annual inflation).
- Fiscal borrowing: large budgetary deficits crowd out the private sector investment and suggest unwillingness by government to raise taxation sufficient to cover current expenditure, including debt service costs. (Under the Maastricht Treaty, European Union countries target fiscal deficits not exceeding 3 per cent of GDP).
- Foreign currency borrowing: the higher the foreign currency debt burden, the higher the risk of default, in particular as a country's external debt increases relative to its foreign currency earnings. (European countries within the "euro" currency zone have relatively little foreign currency borrowing and their total government debt to GDP must be approaching 60 per cent).
- Balance of payments: a large current account deficit that persists will result in growth in foreign indebtedness, which may become quite unsustainable.
- Economic development: the level of development is measured already by per capita income; but the rating agencies appear to allow of a relationship between the general level of economic development and risk.
- Default history: a country that defaulted on debt in the recent past is widely perceived as high credit risk.
- Political considerations: these are not quantifiable - but are clearly very important.

2.4 The ordering of risks implied by a country's credit rating is broadly consistent with that country's economic fundamentals - which are a key building block in developing a market in government securities. Since sovereign credit ratings receive considerable attention in financial markets, a change in a credit rating is likely to be followed by corresponding changes in the bond yields of the country involved. In particular, an international rating or domestic rating of government securities will enhance foreign investor interest in the government's securities.

2.5 An African Experiment: An interesting and relevant development in the field of credit rating analysis was reported in Market Intelligence, business and finance journal, in its September 1999 issue. Duff and Phelps have announced the establishment of a branch in Kenya, for the purpose of rating the country's corporates. Credit rating will be carried out from a strictly domestic currency perspective, with

corporates benchmarked off an implied Kenyan government rating of AAA. To source the necessary inputs for the analysis in respect of local market practices, as well as macroeconomic developments within Kenya, Duff and Phelps have entered a strategic relationship with a local entity to produce these inputs. This initiative could act as a catalyst for similar developments in other African countries.

2.6 International Bond Market Indices: An important building block to put in place in order to support investor interest in a country's bond market is to have the bonds included in the international bond indices. The most notable indices are published by J.P. Morgan and Salomon Smith Barney. Inclusion in one or more of these indices will generate international investor participation in a country's bonds. The broad criteria for inclusion in an index are as follows:

- Credit rating: in practice, a high credit rating is required;
- Market value: the market value of outstanding bonds should exceed a threshold: 100 million US dollars is a target. However, countries with outstandings as low as 25 million US dollars have accessed the international bond indices; but, in such cases, the number of bonds outstanding may be relatively low and, as such, the outstandings per bond in issue are high, and therefore liquid, even for a small market.
- Market characteristics of the bonds: these include coupons and bond maturities - which are broadly similar among the countries included in the indices.

2.7 Taxation: of government securities differs widely at international level. Some countries apply a withholding tax on interest (coupon) payments; but, in the case of foreign investors, the withholding tax may be reduced to zero under the terms of double taxation agreements. Other countries - and this, it is suggested, is the preferred course - do not apply a withholding tax on coupon payments to government bond-holders, so that foreign investors in particular are particularly incentivised to invest in domestic bonds. In general, no capital gains tax applies to individual government bond-holders. Pension funds are, in effect, largely exempt from taxation.

2.8 Domestic Savings Market: Obviously, the market in government securities, in particular long-term bonds, can only be developed in the context of an efficient domestic savings market. It is desirable, therefore, that governments should promote through their taxation and regulatory systems an institutional market in government securities. The core of such a market is mutual funds and pension funds. Successful promotion of these funds requires a comprehensive code of trustee law, satisfactory custodial facilities, a robust regulatory framework and simplicity of tax treatment which ensures that investors in mutual/pension funds incur only one tax charge when saving through a pooled fund arrangement.

2.9 Pursuit of opportunities for cost-effective borrowing: The peak and valley of interest rates varies throughout the economic cycle and indeed from cycle to cycle. A widely held view has emerged in recent year in western economies that we have moved into an era of less volatile economic cycles, low inflation and consequently a low absolute level of interest rates. Nevertheless, no matter whether the current level of interest rate is 4 per cent or 24 per cent, as long as the debt/GDP ratio and the budget deficit are significant the debt manager has scope, through active management, to positively influence the annual budget cost and the long-run economic cost of

servicing the debt. While an upward sloping yield curve is the norm, markets can experience periods, sometimes quite long, in which the yield curve is inverted. In planning funding strategy it is necessary for the debt manager to be aware of the implications for his task of the current yield curve and to have a view on the likely evolution of the curve over the next year or so. Having such a view aids decision-making on how to fund (floating, fixed, maturities, duration variation via swaps, etc.); and to do so in a cost-effective manner, which is the primary - but not exclusive - purpose of national debt management.

3. LEGAL AND INSTITUTIONAL ARRANGEMENTS FOR GOVERNMENT BORROWING

3.1 General legal position: The starting point for any study on legal arrangements for state borrowing is to ascertain the body with financial power. The obvious source is the country's Constitution, which regulates the division of powers between the Head of State, the Government and the Parliament. In modern democratic states, most power is vested in Parliament which, as the body with the right to authorise taxation measure, should also decide in principle on state borrowing, including the issue of financial guarantees. Nevertheless, since only the government may initiate proposals for taxation and for borrowing, and then under the statutory remit of the Minister for Finance, Parliament may delegate by law to the Minister for Finance the power to undertake borrowings to cover the Government's expenditure needs, as reflected in its budget presented to Parliament. Thus, in many western countries borrowing authorisation by Parliament is not limited in amount but to purpose.

3.2 A more restrictive approach to that at 3.1: Parliament to determine on a yearly basis the maximum amounts that can be borrowed in (i) domestic currency and (ii) foreign currency. It may be considered advisable also to limit the amount of general government debt (i.e. central government, local government and non-commercial semi-state bodies): for example, under the Maastricht Treaty, the ratio of such debt to GDP among countries of the European Union must be approaching 60 per cent. The problem with restrictions on the absolute amount of fresh borrowing in any year is that it is difficult to forecast accurately in advance the total government borrowing requirement for the year. Due to economic and social developments during the course of the year, both the revenue side and the expenditure side of the budget might be adversely affected. Also, the Central Bank might have a sudden need to replenish the foreign currency reserves to protect the currency, which will again increase the foreign currency element of the borrowing requirement above the limit set by Parliament.

3.3 Only the Minister for Finance should be legally authorised to borrow: Notwithstanding, in economies in transition, absolute borrowing restrictions may be still desirable for control purposes - subject to the Minister for Finance being (i) the sole person entitled to borrow or issue financial guarantees on behalf of the state, and (ii) having flexibility during the year to choose the borrowing instruments likely to be most cost-effective, including interest rate and foreign currency swaps. Moreover, the Minister for Finance should have power also to carry forward any surplus funds, in the government account at the Central Bank, from one year to the next in the interests of cash-flow management. The framework outlined above should be clearly established in law. If in the event persons other than the Minister for Finance sought

to bind the state with extra borrowing and/or financial guarantees, the matter should be reported by the Controller and Auditor General to Parliament; and the government should refuse to honour any purported, illegal, agreement.

3.4 In southern Africa: Foreign currency loans are usually negotiated by the Ministry of Finance, while domestic debt issuance (mainly Treasury Bills) is carried out by the Central Bank. This division of function is in some cases laid down in legislation; but in other cases it is not clear that there are any formalised arrangements, with clear policy and operational guidelines. Whatever about the merits or otherwise of such an institutional arrangement, it should in every case be grounded in legislation, with clearly defined objectives.

3.5 Institutional aspects of government debt arrangements: It will be clear that the starting position is that the Minister for Finance should be vested with the legal power to borrow for the purpose of funding the government's annual borrowing requirement (including refinancing of maturing debt) and to do all things necessary for the efficient management of the national debt, subject to appropriate restrictions (paragraph 3.2 above refers). A question for consideration, in the first instance, is the location of the debt management unit: should it be inside or outside the Ministry of Finance?; and, if outside, where? Whichever organisational framework is adopted, it should be such that enables the debt manager to carry out his functions smoothly and efficiently under an adequate legal mandate acceptable to investors.

3.6 Historically, national debt arrangement is a function of the Minister for Finance; but in some countries, this function is delegated to the Central Bank, viz in Denmark, Germany and Italy. In recent times, however, in order to distance the operation of debt management and monetary policy and in recognition of the complexity of active national debt management and monetary policy and in recognition of the complexity of active national debt management, as well as the need to manage the debt in a professional manner, conducive to producing savings on debt service costs, special debt agencies were established outside of the Ministry of Finance (and outside the central bank). What such agencies have in common is varying degrees of autonomy from political influence in carrying out borrowing and debt management operations.

3.7 Why at least some autonomy is desirable: In the short run, anyone can borrow relatively cheaply, viz in a currency with a low interest coupon rate and for a short interest fixing period, since on average yield curves tend to have positive slopes. The borrowing can possibly be made even cheaper with the help of derivatives, such as swaps. In a pressing political situation, any head of funding (in the Ministry of Finance) can be "persuaded" to choose such a borrowing strategy in order to soften, temporarily, the government's budgetary constraints. However, everyone with experience of government funding will know that this type of borrowing is very risky, and in the long-run can prove very costly for the taxpayer: for example, due to domestic currency devaluation in the case of foreign borrowing.

3.8 Over the last ten years the possibilities for borrowers have increased substantially. More markets have opened up and there has been a constant flow of new instruments, especially in the field of derivatives. The other side of the coin is that the risks and temptation to reap the immediate cost benefits have equally increased. Within debt

agencies, staff are now - as compared to some years back - almost daily speaking about interest rate risks, refinancing and other liquidity risks, credit risks, currency risks, legal risks, administrative and other operational risks. In such an environment it is essential for the government to have a clearly defined objective and an effective organisation for its debt management. If the loan portfolio contains high risks it will be highly vulnerable to external shocks. Sound management of sovereign liabilities, especially when the state debt is substantial, is therefore an important element in safeguarding a country's economic stability. In order to do that one needs both knowledge and experience in risk-management techniques and sophisticated support systems. For this purpose, professional staff need to be recruited, who are not subject to civil service conditions of employment, including salaries.

3.9 Professionalism and accountability can best be achieved when debt management is assigned to an agency that is separate and autonomous from the political process. Under this approach, the Ministry of Finance formulates the annual strategy or *guidelines* for the conduct of borrowing and debt management, such as, proportion of foreign borrowing, proportion of short-dated and floating rate borrowings, performance measurement, risk evaluation, auditing and reporting. The debt agency implements this strategy in the most long-term cost effective manner and manages the risks involved, *subject to control and general superintendence of the Minister for Finance*. At the same time, developments in information technology and the creation of debt data bases, which are accessible to central banks as well as the debt agency, have enabled central banks to be kept fully informed of the debt agency's day-to-day operations virtually in real time. (See Chapter 9).

3.10 Countries with debt agencies: When the Swedish National Debt Office, a statutory state body, was established some 200 years ago it was, clearly, a unique structure. New Zealand, Ireland and Portugal followed the Swedish model in the 1990's, viz each debt office or agency has delegated to it by the Minister for Finance, in legislation, his statutory borrowing and debt management functions, subject to specific guidelines. In other words, as far as the market is concerned, the debt agency is, for debt management purposes, the Minister for Finance. Austria has also an analogous debt agency, with the notable exception that it is incorporated, under company law, as a company. In order to separate monetary policy and debt management decisions - so that debt management decisions could not be perceived to be influenced by inside information on interest rate decisions - the UK, for example, recently established a separate executive agency of the Treasury to conduct funding operations. This particular agency is of a non-legislative category and does not have the same degree of autonomy as, for example, the debt agencies in Ireland and Sweden. Finally, debt units are located within the Ministry of Finance in, for example, Belgium and Finland, with even less autonomy. In all cases, skilled personnel with private sector asset management experience were recruited into the debt units. Debt agencies are in general organised along conventional lines, viz

- front office - devising strategy, conducting borrowing and debt management activities;
- middle office - risk control and performance assessment;

- back office - making payments, settlement of accounts, accounting and reporting.

The information technology unit may operate from either middle or back office. Finally, in the case of debt agencies established outside the Ministry of Finance, it is customary for all the above operations to be subject to audit by an internal auditor reporting directly to the chief executive, as well as by external auditors.

3.11 Location outside or inside the Ministry of Finance: Experience shows that the existence of debt agency outside and autonomous from the Ministry of Finance brings unique benefits in terms of professionalism and performance, that is, cost savings vis-à-vis risk management trade-off in debt management. Thus, establishment of such an agency is the preferred choice. While it is also an option to establish a debt unit within the Ministry, the head of the unit should in such a case have a direct reporting line to the Minister for Finance. In other words, he/she would not report to the Secretary General of the Ministry of Finance. If this were not done, then it must be doubted whether the debt unit would have the status to conduct its day-to-day operations in an effective, professional manner. In short, it is difficult to reconcile the interests of a professional day-to-day debt management function operating with autonomy from the Ministry of Finance while locating that function within the Ministry. This course would, while probably representing an improvement in the status quo, be very much in practice suboptimal.

3.12 Debt Unit in Central Bank: Central banks, on the other hand, may have a wide role to play in relation to the development of financial markets generally, that is, in addition to money market and foreign exchange market - which affords the bank experience of financial markets that may not be available to Ministry of Finance. This may be particularly true of economies in transition, where debt management is integrated with money management and treasury bills are used for open market operations. In paragraph 3.4 above we refer to the fact that central banks in Southern Africa in general issue treasury bills but that foreign currency borrowing is conducted by the Ministry of Finance. This overlapping of borrowing functions between two different organisations is difficult to justify. All the state's borrowings, domestic as well as foreign, ought to be conducted through the same governmental agency, preferably a debt office. **It will then be much easier to coordinate the borrowings and risk management.** If, however, a separate debt agency outside of the Ministry of Finance is, for whatever reasons, not immediately preferred, then the **second best option would probably be to centralise the government's debt issuance and management in a designated unit within the central bank.** Such an arrangement would be governed by legislation; and it should operate within the framework of strategic guidelines set, and published, by the Minister for Finance following consultation with the central bank. Long-term, the aim would be to transform the debt unit within the bank into an autonomous debt agency outside the central bank (and outside the Ministry).

3.13 Debt Manager to advise Budget Manager on Debt Sustainability: Before leaving the institutional aspects of debt management, particular stress is laid on the necessity for close links between the debt manager - wherever located - and the budget office, allowing the debt manager to assess current and future gross borrowing needs, and the budget manager to be appraised of the financial flows relating to debt

operations and the sustainability of budgetary developments in terms of national debt management. Accordingly, the debt manager should also have the capacity and status to fully participate in the planning stage of the budgetary process. He should do so because the size of the debt and consequent interest payments are a key influence on the size of the budget deficit. The debt manager can make a unique contribution to the process by way of a debt sustainability analysis: he calculates the medium and long-term consequences for the debt and the interest payments if current fiscal policy were to continue without proper correction. The debt manager would make a number of assumptions about the likely evolution of the budget based on past trends and calculate the debt and interest rate consequences of the different fiscal policy stances. In determining these consequences, the debt manager would simulate a range of alternative borrowing strategies and different interest rate scenarios, thereby enabling him to calculate debt stock and interest rate payments for each borrowing strategy interest scenario. Both the debt and interest rates resulting from these simulations would be expressed as a proportion of GDP (calculated cautiously for future years). An explosion in either or both of these ratios would be clearly unsustainable. It is the duty of the debt manager to bring this message forcefully to the attention of the budget manager and, if needs be, to the Minister for Finance. In this connection, it may be noted (see section 2) that countries of the European Union are required by the Treaty of Maastricht to limit their budgetary deficits to 3 per cent of GDP and national debt must be approaching 60 per cent of GDP. Deficits/debt rising above these levels would warrant urgent action to reduce public expenditure and/or increase taxation. This is essential for macroeconomic stability - which is a prerequisite for sustained domestic financial sector reform, including development of the market in government securities.

4. PRIMARY MARKET: SYSTEMS FOR ISSUING GOVERNMENT DEBT

4.1 Definition: New issues of government securities, in particular bonds, together with sales of stock tranches, to cover redemptions and net new borrowing can be regarded as the distribution system for government bonds, commonly called the primary market. In terms of annual turnover, the *primary market* accounts normally for but a small proportion of total bond market turnover. The great bulk of turnover takes place in the *secondary market*, which is the market between stockholders. In developed economies, secondary market trading takes place between institutional holders of government bonds. It should be noted that the debt manager may support the secondary market by enhancing liquidity of the market. (The market is liquid if it is possible for an investor to dispose of his holdings without causing prices to move to any significant degree). The secondary market is more fully addressed in section 5 below.

4.2 Stage of market development: The natural progression of markets is to start with a money market and then move on to development, in turn, of short, medium and long term bond markets. At the initial development stage of a market the government will normally be a dominant influence, in particular, if it raises sizeable funding from treasury bills. Over time, it is in the interests of the government debt manager to encourage and stimulate the development of the bond market via a profile of bonds along the maturity spectrum. For purposes of market development and ease of

funding, it is desirable to build up a few large **benchmark** bonds, (for example, but not conclusively, 3, 5 and 10 years). The development of a **primary dealer system** can also greatly assist liquidity provided the dealers are committed to making continuous two-way prices and the existing bonds are sufficiently large. The ease with which a liquid bond market can be developed depends greatly on economic conditions. If inflation is high, investors will have a preference for short-term products such as treasury bills or floating rate bonds. Even though government influence will diminish as the market develops, it will, as long as funding needs are significant, need to have a formalised structure, such as an auction calendar for executing its funding. In small or less developed markets, it may have to actively support the market by having a pro-active role designed to assist in underpinning liquidity. It is in the government's interest that the market be efficient as such a market will bring benefits via reduced funding costs. The government can promote market efficiency through its activities; it should minimise, as far as possible, the market impact of its debt operations and be conscious of the need to maintain an orderly market, as this gives confidence to investors and should be reflected in lower yields.

4.3 Three types of bond issuance systems are (a) auctions (b) taps (c) auction syndication.

4.4 Auctions: In a well-developed market, the debt manager will try to create greater transparency for investors - mainly institutional investors - in relation to future auctions of government bonds. This can be done by means of a published calendar of auctions, in which the dates of each auction for the year ahead are announced, together with the total amount to be raised in the auctions as a whole and, in some instances, an indication of the range of amounts to be issued for each auction. The purpose of the auction calendar is to enable institutional investors to organise their cash resources so that they are in a position to bid at each auction. A number of days before an auction, the debt manager will announce the bond to be auctioned and the actual amount involved. Needless to state, the debt manager always reserves the right not to proceed with a previously announced auction in exceptional market conditions.

Access to the auctions may be universal or restricted, for practical reasons, to a limited number of large institutional investors or to recognised dealers. Acceptance of bids may be on a competitive basis or a uniform price basis: under the former each bidder pays at his own bid price (if it is accepted by the debt manager), while under the latter every successful bidder pays at the lowest price accepted by the debt manager.

After the announcement of the auction results via Reuters, etc. (i.e. highest accepted price, lowest accepted price, average price "cover" of the auction), the debt manager may accept, for a short time, bids in a non-competitive auction from recognised dealers in government bonds at the average price in the competitive auction.

A clear advantage of the auction system, which is used in most western countries - in particular those with recognised primary dealers in government bonds - is that the price of bonds being sold is competitively determined by the market. The disadvantage is that the debt manager needs to determine, in advance of the auction, the amount of stock to be sold - but on the auction day he may fail to sell this amount or even perhaps a sizeable element of this predetermined amount. For this reason, it is

not clear that an auction system for the sale of sizeable amounts of government bonds is most suited to an economy in transition - although treasury bill auctions (intended to smooth out short-term fluctuations in the government's day-to-day funding needs) may well be a useful system where there is in place a developed money market and banking system.

4.5 Taps: This system involves the debt manager opening "the tap" on a particular bonds which, in turn, means that the bond is open to the market to bid for amounts of the bond at the price announced by the debt manager. Since the price fixed, in advance of the tap, by the debt manager may be lower than the market is willing to pay, demand for the tap at the price may be commensurately high; and, in that event, he is free to refix the price at higher level - and so on until the requisite amount of stock is sold. This may involve an extended period of time. All tap-issued bonds are fungible with the bonds issued earlier in the series. It is important to note that for a tap system to operate efficiently, the bonds must be opened in a regulated market, such as, the Stock Exchange.

The advantage of the tap system is that it allows the market to determine the amount of stock to be bought; but the weakness in this system is that the debt manager must set the price in advance of "opening" a tap. However, for an economy in transition the interactive process entailed with the tap system may prove useful since that system allows of modest amounts of stock to be sold opportunistically into good market conditions, thereby avoiding failed attempts to over-issue. However, as already stated, a tap system will operate efficiently only if there is already in place an organised market, e.g. Stock Exchange.

4.6 Auction/Syndication: This system involves selling a proportion of bonds by conventional auctions and, at other times, selling or placing bonds with a recognised syndicate of banks/dealers, who underwrite the issue. Normally, the syndication method may be availed of when opening a new bond - in order to guarantee the issue of a sizeable initial tranche of the bond, thereby speeding-up the build-up of higher outstandings in the bond for liquidity reasons. Syndication may also be used in volatile market conditions and where it is essential to undertake funding, since the syndication method enables the debt manager to choose the best timing in albeit difficult market conditions, and, if conditions are simply too difficult, he may cancel the placement without adverse public commentary. It should be noted, however, that under syndication the debt manager pays an effective fee to the banks/dealers that underwrite a bond issue, which increases borrowing costs.

4.7 Benchmark bond issues: Regardless of which method is adopted by the debt manager to issue government bonds, what is essential is that in the interests of building up liquidity in individual bonds, he restricts the number of bond issues to key areas of the yield curve (e.g. three, five and ten year benchmark bonds) and builds up higher outstandings in each such bond. A year or so before maturity, the holders of the maturing bond can be offered switching terms out of the old bond into a new benchmark bond.

4.8 Floating/Fixed: Government securities may issue securities, hi the first instance, with floating interest rates determined periodically by reference to money market rates. As the market develops the debt manager will strive to issue fixed interest rate

debt, i.e. "bullet" bonds, over progressively longer maturity periods, in order to reduce liquidity risk inherent in a situation of short-term floating debt. As the market further develops, in which the government may be one of the few payers of fixed rate interest, the debt manager may seek to vary the duration of the debt by entering into interest-rate swap agreements (the terms of which are governed by the international Master Swaps Agreement published by the ISDA (International Swap and Derivatives Association)).

5. DEVELOPING A SECONDARY MARKET FOR GOVERNMENT SECURITIES

5.1 What is a secondary market? it enables the original investor in new government debt securities to sell his securities before maturity, and to do so with ease and without undue cost. In an active and efficient secondary market, it is possible for investors to buy and sell existing issues on demand, at mutually acceptable prices, and to effect exchanges rapidly and with low transaction costs. Such a market requires a clear structure and clearly established rules so that the parties to each transaction know their responsibilities. The efficient operation of a secondary market also needs a system by which buyers and sellers can become aware of each other, and through which the prices of securities can be advertised. Finally, a secondary market needs a way of ensuring that the transfer of securities against money takes place efficiently, at the correct time and between the correct participants, which is the function of a settlement system.

5.2 Benefits of a secondary market: An active and efficient secondary market for government securities adds greatly to the attractiveness of government bonds to investors, at no cost to the government. Investors will be more ready to buy government securities if they know that they can reduce (or increase) their own holdings quickly, inexpensively and at a time of their choosing by trading in the secondary market. Thus the liquidity and efficiency of the market contributes towards the successful sale of primary securities and hence towards achieving financing of government by ensuring the government's continued access to the financial market in the long run. Broad and well-functioning secondary markets are particularly important where the government's borrowing needs are substantial.

5.3 Secondary markets also contribute towards achieving objectives other than funding the government's borrowing needs. These include obtaining the best possible issue terms in each operation, and hence minimising the cost of the outstanding amount of government debt in absolute terms. Investors will be willing to pay a higher price for government debt where the secondary market is liquid than otherwise. Other objectives, including minimising the market impact of government debt operations and co-ordination between the authorities' monetary policy and debt management, are also facilitated if the government debt manager is able to operate in an efficient secondary market in government securities. Finally, a liquid government debt market contributes to financial market development in general, through familiarising the financial community, and ultimately the broader community, with the use of longer-term debt instruments as a means of financing and investment.

5.4 In short, the sovereign debt manager will not leave the development of the secondary market in government bonds to the private sector only since,

fundamentally, such an approach would be likely to conflict with the normal goal of minimising over the long-term the cost of government funding.

5.5 Market structure: In considering the organisation of a secondary market for government securities it may be possible to use the market organisation which exists for trading securities generally. They might be traded in an organised and regulated market, i.e. a Stock Exchange, or in a more informal, bilateral "over-the-counter" market. One important consideration in developing a new market is whether there is a need to provide from the outset some assurance of liquidity by establishing market-makers - called primary dealers - in government securities to enhance secondary market liquidity. Primary dealers exist in many countries: Belgium, Finland, France, Ireland, Italy, Netherlands, Norway, Portugal, Sweden, Spain, UK and USA.

5.6 In a developing market such specialists may be charged with the task of setting up an adequate trading system and starting secondary market operations. In an active wholesale government bond market, the presence of well-established primary dealers providing continuous two-way price quotes will ensure that operators wishing to buy or sell large amounts can always do so (through these dealers) without delay. Primary dealers earn a return by selling at a price higher than that at which they buy. The spread between the dealer's selling and buying prices covers their costs; and it is a form of compensation for the risks they take, including the risk that prices on their inventory of securities may fall below the prices paid before they can be sold. It is important to relate the risks of their business to the capitalisation of the firms and to ensure close prudential supervision.

5.7 Selection of dealers: How should such specialists be selected? In an infant market, it would be quite impractical to establish specialist primary dealers whose activities would be constrained, and their capital dedicated, to the government securities market. In such a situation it makes more sense to identify existing institutions, most obviously banks, but perhaps also other well-established financial institutions, who may be willing to take on the market-making obligation in return for being granted certain facilities or privileges.

5.8 A newly recognised primary dealer will be subject to a formal review by the debt manager after an initial twelve months' probationary period to ensure that it has met all of the terms and conditions set. In the event that the debt manager is of the view that the dealer has not met the terms and conditions, recognition of the primary dealer by the debt manager could be withdrawn. In making a decision on whether or not to recognise a particular institution as a primary dealer, the debt manager will have regard to its suitability by reference to the prospective primary dealer's management depth and experience, its dealing capability, marketing strategy, including demonstrated geographic distribution capacity, its capital adequacy and its ability to support the government's funding. In particular, a prospective primary dealer must be committed to developing, through its marketing strategy, new client investment in government bonds. To do this, the primary dealer should have available dedicated professionals, separate from its market-makers, selling government bonds, and should include coverage in its published research, on a regular basis, of developments in the economy and capital markets.

5.9 Obligations: An example of the principal obligations that might be specifically imposed on primary dealers are as follows:

- i) **Market-making:** Primary dealers are commonly obliged to quote buying and selling prices to customers on request. But it is not possible to say in advance in what amounts they should be obliged to quote. The appropriate amounts will depend on the particular security in question, the nature of the dealer's business and the state of the market at the time. It would be unreasonable to expect them to quote prices to other market-makers. Accordingly, in order that positions acquired by primary dealers may be traded with other primary dealers on a confidential "no names" basis, an inter-dealer broker, or IDB should be established. The IDB would not have principal positions nor trade with non-primary dealers, thereby avoiding conflicts of interest. Restricting access to an IDS screen to primary dealers only helps them unwind their positions in different bonds that arise from their market-making activities and also helps to compensate them for the added risk they take in making continuous two-way prices.
- ii) Dealers would be required to bid at auctions for government debt, though not required to do so at any particular price. It might be unrealistic to oblige them to bid strongly enough to acquire any particular minimum percentage of the securities on offer at any auction or series of auctions. Nevertheless, a target figure for funding should be set for each dealer.

5.10 Privileges: In return, primary dealers may be offered certain privileges:

Financing: A dealer who buys securities in the secondary market may need to borrow money in order to pay for them. He can offer the securities he has bought as collateral for the loan. The debt manager/ central bank might be willing to support the market-making function by lending money within predefined limits (determined most obviously in relation to a firm's capital) to dealers, at a dealer's initiative, against the collateral of government securities. In effect, this is an overnight sale-and-repurchase agreement which provides the dealer with cash to finance his inventory.

Borrowing of securities: It will help the secondary market to develop if dealers are able to quote selling prices for securities they do not own. If they are allowed this privilege they need to be able to borrow securities so that they can deliver them to the buyer. Such loans of securities should be collateralised by cash or other securities. In a less mature financial system it would probably help the secondary market to develop if the debt manager held a portfolio of government securities which he was prepared either to sell outright or to lend to primary dealers for a fee and against approved collateral, i.e. a reverse repos.

Switching: Active switching by the debt manager from illiquid to liquid benchmark bonds, as well as switching facilities between benchmark bonds will assist primary dealers in making continuous two-way prices.

Continuous bids: The debt manager could commit to maintain firm bids in minimal amounts, in each benchmark bond, at somewhat below market

clearing levels in order to afford last-resort liquidity in surplus stocks held by primary dealers.

Access to taps/auctions: could, if needs be, be confined to the primary dealers. The foregoing facilities, together with the fact that the debt manager will strive to issue into only a limited number of bonds with high outstandings, i.e. benchmarks, should greatly help to ease the burden of the risk-taken on by primary dealers in meeting their obligations at 5.9 above. Moreover, the combined structures should help to reduce well-known secondary market weaknesses, viz:

- lack of depth continuity of pricing and trading;
- lack of immediacy speed of execution;
- high transaction costs.

5.11 Minimum number of primary dealers required: To ensure competitive pricing, a "*critical mass*" of dealers committed to make continuous two-way prices is essential. The obvious factor governing the willingness of firms to take on this role is the risk involved. Dealers hope to cover their costs and make a profit by the difference between the price they pay (to the debt manager) and the price they receive from resale of the bond to their customers. Risk arises because news may emerge which adversely affects the underlying value of the dealer's position. The risk associated with an adverse price move may, however, be shared among a number of primary dealers, leaving each dealer to bear less risk. Therefore, as the number of committed dealers rise, the risk borne by each should fall; but so also does their expected rate of return.

5.12 Agency Brokers/"dual capacity" Brokers: If a system of committed dealers is not adopted - for example, because the market is not sufficiently developed - the debt manager will be forced to sell into the market, perhaps through the Stock Exchange, where the members would act as agency brokers, or in "dual capacity", that is, at one time as agents and, at another, as principal buying or selling on their own book. Such an arrangement would lack the commitments of the primary dealer system and, as a result, the debt manager's support for the market would be commensurately reduced. He would, nevertheless, retain a vital interest in encouraging the development of a secondary market in government bonds. Thus, it would be necessary for him to provide to some degree the supports listed at paragraph 5.10 above in order to encourage market development and in particular, market liquidity.

5.13 Liaison committees: Regardless of the particular structure adopted, it would be advisable for the debt manager to establish two liaison committees:

- *one* to meet regularly with market intermediaries (dealers/ brokers) to review the working arrangements for the issuance of government debt, in order to enhance liquidity and efficiency of the market in government bonds, to examine trends and to consult with intermediaries on operational changes that appear desirable in the running of the bond market; and

- *two* to meet regularly with an institutional investor representative group (domestic and foreign).

5.14 Trading structure of a secondary market: As to the means by which trades are actually made, the choice of trading and pricing techniques in the secondary market largely depends on the volume of turnover and the market structure, including the types of participants. In a market in which turnover is low and trades are small in value, trading can be carried out and prices determined by an order matching process. It would initially be possible for one price to be fixed for each government issue for each trading session. The price would be set according to the terms and volumes of all the buy and sell orders, and would be the price at which the largest volume of orders could be matched and executed. The price thus obtained could also be used as an "official" price for smaller orders. Order matching is cheap to operate, but can be inflexible and is practicable only if buy and sell orders are concentrated together within a short space of time. Therefore, in the early stages of a secondary market, when there are few trades, it may be sensible to limit the number of trading sessions taking place in each week, so as to enable trades to be executed.

5.15 However, with more sophisticated markets, price fixing of this nature would become unnecessary for large trades and would impede the development of the market. It could continue to be used for retail trades but would probably no longer be appropriate or necessary for participants amongst whom the rate of turnover and the average transaction size were higher. For example, it would not suit a market in which institutional investors wished to trade large volumes rapidly throughout the day. In most developed wholesale government bond markets the trading system is now based, as noted above, on the presence of specialised dealers who make markets - continuously quoting both buying and selling prices for government securities, at which they will always buy or sell specified amounts of particular issues. This continuous price quotation arrangement ensures that investors wishing to buy or sell relatively large amounts of government bonds can always find a counterparty at some price among these market-makers. If there are several competing market-makers then they may or may not all quote prices for all securities.

5.16 Price information: The extent to which market participants have access to current market information, and the speed with which price information is communicated, are also important issues. In shorthand they are frequently referred to as *transparency*, the efficiency of information flows to and from the market. In a truly efficient market the market price of a security at any point should encompass all known relevant information. In terms of a government security the information relevant to its price will embrace the country's economic situation, and expectations of future economic performance - embracing expectations of future inflation. The market price may be made generally known either through the publication of details of recent trades showing the price and quantity at which the last trade took place (*post-trade transparency*) or by reference to a *firm price quoted* for the next transaction (*pre-trade transparency*). Order-driven markets rely primarily on post-trade publication, whereas market-maker systems are based mainly on continuous price quotation.

5.17 Role of a stock exchange: However a market is structured and prices are set, there is a need for an efficient means of communicating prices of government securities to buyers and sellers. This is one of the functions which a stock exchange can perform. Furthermore, even in a new market a stock exchange will provide a *focal*

point for the market, by ensuring that price information is widely available to market participants, search costs will be minimised, and the accessibility of the market, particularly to foreign investors, thereby increased. Having securities quoted on the stock exchange may also be useful if, in the longer-term, the government wishes to broaden the investor constituency and to sell securities to the public in general. The stock exchange may also be well placed to carry out an important market surveillance role, particularly in ensuring that the rules of the market are observed and unfair trading practices prevented.

5.18 If, for these reasons, a requirement was made that longer-term government securities are traded only on the stock exchange, it is important to ensure that this requirement does not in practice inhibit trading. It could do so if membership of the stock exchange were not readily available to those institutions most anxious to deal in government securities - e.g. because of rules requiring individual members of staff to have specialist knowledge related to dealing in equities. It is important that banks and others who wish to deal in government securities should be able to join the stock exchange if they need to - even if their membership is restricted to dealing in government securities.

5.19 The importance of secure settlement: In a securities market, where high value payments are commonplace and the securities often in dematerialised form, certain features are required of the payments and settlements system - normally a centralised system, often operated by the central bank. It is essential that users of the system trust the operator both as regards honesty and as regard efficiency. Risk of loss or delay will discourage some trades and may at the margin lead some potential participants to stay out of the market altogether. A secure settlement system is, therefore, needed to support transactions in government bonds. Ideally, a settlement system should ensure that when a transaction is settled - that is, cash is exchanged for title to the securities - the two sides of the transaction are simultaneous and irrevocable. There are a number of choices to be made in setting up such a system - whether for example it should be electronic or paper, real-time or batch. But in essence the attraction of any financial market will be enhanced if a settlement service can be offered to investors which is secure, fast and cheap, so as to minimise transaction costs (and attract the maximum number of participants). The Group of Thirty has set out a number of principles to which settlement systems should ideally conform. It is only necessary here to say that efficient settlement makes an important contribution to the speed and volume of secondary market activity. In an economy in transition, there would be much to commend an approach whereby the bond market dealers, brokers and institutions banded together with the central bank and the debt manager to operate a settlement system in government bonds.

5.20 Linked to secure settlement is the use of securities as collateral, and of registration and custody arrangements: If securities can easily be used as collateral - both legally and in terms of the operation of the payments and settlements system - then this may, especially in a developing or transitional economy, help the development of the money markets, as lenders will be able to take good security with (relatively) low price risk; and this in turn should increase the demand for securities. As regards registration and custody, this may be straightforward for wholesale market participants, who will normally have their own accounts in the (centralised) settlements system. But for retail participants the costs and/or complexity of using the centralised settlement system may be off-putting. In market economies it is

commonplace for financial intermediaries (such as the large banks) to offer *custody (or nominee) services*. Here, the intermediary holds the securities on its account in the centralised payments system (and is therefore the legal owner) and manages its own register of the beneficial owners of the securities. In such cases, the retail participant needs to trust the intermediary, since the intermediary will take money as payment for the purchase of a security, but will retain legal ownership. In some countries the government effectively offers a custodial service to retail customers. This service may be slower than the centralised settlement system; but for most retail customers speed is not essential.

5.21 Supervision and regulation is of such importance that the following section 6 is devoted to this topic.

6. SUPERVISION AND REGULATION OF THE MARKET IN GOVERNMENT SECURITIES

6.1 Introduction: Supervision and regulation of market participants is essential for a number of reasons. The primary purpose of prudential supervision is to create confidence among the debt manager and the market participants, including investors, that firms operating in the market are *financially sound*. A second function is to guard against malpractice by ensuring that the *conduct of business rules* are adequate and are being fully observed. Without confidence in the financial soundness of the firms operating in the market, such as dealers, other buyers and sellers (e.g. institutions) will not use them, and they (the dealers) may be unwilling to trade amongst themselves. Moreover, confidence that the business conducted in the market is being transacted according to the rules of the market is also essential. This means knowing that sellers have title to the securities they sell and that all trades will be correctly recorded. As a back-up to these rules, there must be adequate sanctions against those who break them.

6.2 International comparisons: Central banks are normally responsible for the prudential supervision of credit institutions. Moreover, in most European countries, banks and investment firms share a common prudential regulator, i.e. the central bank. In relation to consumer protection, the general pattern is that prudential regulators do not have wide-ranging mandates. Thus, in carrying out its supervisory functions, the central bank has two specific objectives, i.e. the protection of the banking and financial system as a whole and the protection of depositors with banks and client of investment firms. The rationale underlying these objectives is that the structures are required to help limit runs on financial institutions where the cost to the general public of institutional failure would exceed any losses borne by the shareholders and creditors of that institutions. In addition, there is a need for public intervention to ensure to a reasonable degree that financial institutions are safe repositories for depositors' and investors' funds.

6.3 Economies in transition: It would appear advantageous that central banks with prudential supervisory roles in relation to credit institutions should also be empowered, in law, with supervision of investment firms. The central bank could be empowered to delegate its functions in respect of conduct of business rules to, say, the Stock Exchange.

6.4 Single Regulatory authority: Protecting the interests of clients can be operated on two levels. The first addresses the protection of consumers' interests in the context of solvency of the regulated entity and is of particular relevance to prudential regulation by central banks. The second concentrates on the individual consumer and his relationship with a particular financial institution. Problems arising are the fact that central banks have no statutory function in relation to the second level of protection; and, under law, a central bank, as a regulator, is normally prohibited from disclosing to the relevant authorities, information on issues for which it has no statutory function and which it may come across in the course of its duties. A solution to this problem may lie in setting up a single regulatory authority for all financial services, that is, separate from the central bank. This approach raises the important issue of the implications of such an authority for monetary policy. One could argue that responsibility for regulation should not be located in the monetary policy authority since, as lender of last resort to the banks, it could, arguable, face a conflict situation if it were also the regulator. However, combining the two functions in the central bank increases the power, influence and synergy of the monetary authority, which would be positive in terms of maintaining stability in financial markets.

6.5 Conclusion: Establishing a single regulatory authority outside the central bank may be a step too far for economies in transition. Rather, the single regulatory authority could be established, with consumer protection functions, within the central bank. This framework should provide also for a high level of accountability for regulation to the Minister for Finance and to parliament. Thus, the Minister for Finance could, under law, oblige the board of the central bank or the governor on behalf of the board to consult with him in regard to the execution and performance by the bank of its non-monetary policy functions, i.e. regulatory and consumer issues, thus emphasizing the accountability to the Minister of these functions. As regards parliament, both the governor and the person appointed (by the board with the consent of the Minister for Finance) for regulation of the financial system could each be required to appear before relevant parliamentary committees to answer questions in relation to regulatory and consumer matters in the context of the bank's annual report. The person appointed for regulation of the system (within the bank) would have autonomy insofar as the operation of the regulatory system would be concerned and would report directly to the board of the bank only in respect of policy aspects of his regulatory and consumer affairs functions; and he would report to the governor only as respects organisational issues. There would be free flow of information between the regulatory and consumer affairs divisions within the bank.

7. RISK MANAGEMENT AND GOVERNMENT DEBT MANAGEMENT

7.1 The debt manager of government debt will face six well-defined risks:

- **Operational Risk:** is managed by the implementation of a comprehensive control environment within the debt unit. Specific controls include the strict segregation of duties between dealing, processing, payments, reporting, and risk control; control and the adherence to bank mandates for funds, transfers, strong IT systems; an internal audit reporting directly to the head of the debt unit.

- **Counterparty Credit Risk:** arises in derivative product transactions such as interest rate or cross currency swaps as well as in foreign exchange transactions and deposits. Counterparty credit limits must be established for each approved institution (which would, in the normal course, have to have an acceptable credit rating - of at least an A rating) although domestic banks may, initially at any rate, have a lower acceptable rating. The debt unit's credit exposure to each counterparty should be measured and reported on daily.
- **Liquidity Risk:** A major requirement of the debt unit is to ensure that current and future funding needs, arising from refinancing maturing debt as well as fresh government funding, can always be met. Ultimately, the protection of liquidity is one of the debt manager's most basic tasks. The debt manager may manage this risk by controlling the amount of debt maturing in any particular period of time: it should be as constant as possible; and by further developing a well-informed diversified international investor base, through maintaining its presence in all major capital markets and by extending the range of debt instruments which it issues; and also by limiting the exposure to debt with short-term maturity.
- **Interest Rate Risk:** See 7.2 next.
- **Market Risk:** See 7.6 next.
- **Exchange Risk:** See 8.9 next.

7.2 Interest Rate Risk: The debt manager must ensure that debt service costs are contained within the budgetary provision. The risk to the budget is, inter alia, that the cost of borrowing, which can represent a high proportion of central government current expenditure, is determined by unknown future development in interest rates. Thus a short-term debt will normally entail a higher interest-rate risk than a debt with a longer maturity.

7.3 A reduction in interest rate risk can be effected by *adopting a duration target*; and ensuring that the stock of debt is not dangerously "front-loaded" but extends in maturity over a number of years. To this end, for example, Denmark has a duration target for domestic debt of some 4 years, while Ireland's is about 5 years. However, duration does not indicate how redemptions are spread: a 4 year duration could be achieved by a single loan of 4 years' duration or by a combination of loans, say, 75 per cent of 2 years' duration and 25 per cent of 10 years' duration. The smoother the redemption profile, the lower the interest rate risk (and also the liquidity risk). Thus, as well as targeting duration, the debt manager must try to *keep the proportion of debt redeeming each year as constant as possible*. This process may at times prove difficult to attain where there is a policy of building up large liquid benchmark issues in certain areas of the yield curve. Moreover, foreign borrowing may be undertaken opportunistically in order to take advantage of market openings, and in such cases the principles governing constant distribution of maturing debt may have to be attenuated.

7.4 Cost-at-Risk (CaR): is a quantitative measure of the maximum rise in nominal interest costs that can be expected with a high probability over a given time horizon. Thus, the CaR system produces for the Minister for Finance an actual number which enables him to assess with high accuracy the risk of the provision in the budget to meet the cost of debt service over the medium term being exceeded. CaR should be

used by the debt manager as a supplement to other measures of interest rate and refinancing risk in government debt management, i.e. targeting duration and a target for the shape of the redemption profile.

Car is closely related to the risk measure VaR (Value-at-Risk), which is normally used as a risk measure for asset portfolios. VaR is the maximum amount the market value of a portfolio will fall with a given probability over a given time period. VaR differs from Car by focusing on the change in the market value of the portfolio (see 7.9 below); whereas Car focuses on changes in financing costs.

Car is based on models of the development in interest rates etc., and is subject to the same limitations, i.e. dependence on model-specific assumptions. Thus the results depend on assumptions concerning the volatility and correlations of the interest rates and the time horizon.

To calculate Car for the government the inputs listed below are needed:

- Complete description of cash-flows for existing debt;
- Scenarios for future primary (excluding interest payments) budget deficits and borrowing in different maturities (and currencies);
- Scenarios for future interest rates (and exchange rates).

The output is distributions of future costs. The number of simulations - generations of future cash-flows - should be at least 500.

If the amount of foreign debt is substantial, the effects on costs of changes in exchange rates can also be included in the Car calculations. This can be done making simplified assumptions about the development in future exchange rates (for example assuming random walk or mean reversion).

A way of introducing a concept like Car could be to set up a few scenarios for future borrowing. Combining these with, for example, three different interest scenarios, the resulting cost scenarios could be used as a basis for discussions on the effects of government borrowing.

7.5 Interest-rate modelling: The results of Car-simulations depend to a very large extent on the modelling of interest inputs. One possibility is to use random sampling from historical interest term structures. Alternatively a theoretical model of the interest term structure can be used. An example is the one-factor model of Cox, Ingesoll and Ross¹ (CIR). If no historical data is available, a number of different approaches can be used:

- "Borrowing" interest-rate histories from comparable countries;
- Using implicit interest rates from informal credit-markets (if such data are available);
- Using numerical model based on simple assumptions, e.g. modelling the 2 and 10 year interest rate and "binding" them together to get a curve.

Focus should be on using simple models that captures specific aspects of a given market (e.g. rising interest-rate curve, falling volatility curve).

7.6 Market risk: While most countries do *not* have regard to market risk, nevertheless, where a debt agency is established by law *with a relatively high degree of autonomy from the Ministry of Finance*, it may be considered essential not to rely solely on conventional cash accounting to evaluate the agency's performance. While "accounting cost" is important, given the size of the debt in terms of the economy and the fact that annual debt service costs may account for, say, 15-25% of government current expenditure, it is at best an incomplete measure of cost. For example, it is heavily dependent on the precise timing of specific cash flows; it omits certain cost elements (e.g. the rate of accrual of interest on "small savings" products); it does not recognise in a timely manner the impact of exchange movements; and it deals less than fully with other elements of cost such as issuance premia, discounts, and the foreign exchange effects on maturities of certain types of transactions. For this reason, the debt agency may also be required to be assessed based on the mark to market valuation of all future cash flows of the actual debt portfolio vis-à-vis those of a benchmark portfolio. This should give a more realistic measure of the real cost in the net present value - NPV - terms to the government from servicing the debt.

7.7 The purpose of a Benchmark: A benchmark is essentially a point of reference or yardstick for the management of an asset or liability portfolio. The range of benchmarks that exists is quite considerable, including specified cost or return objectives; a market index or a combination of particular indices (eg FTSE, Dow, government bond index or money market rate of return); or a shadow or dummy portfolio.

Benchmarks are increasingly being used in a wide range of situations and types of business. Although traditionally used most frequently in the financial asset management sector, benchmarks have now become more widely used in liability management by sovereigns, multinationals, utilities and other major borrowers. They are also used in corporate treasury management where their application may cover not only asset and liability management but also other areas of exposure such as commodity price risk.

A major issue, probably the most important issue, in all these applications of benchmarking if they are ultimately to be successful is that the objective of the benchmarking exercise needs to be clearly understood, agreed at a senior management level and properly incorporated in the design of the benchmark in question.

Benchmarks affect behaviour and the more a benchmark is used as "the" measure of performance the more that benchmark can be expected to affect that behaviour. The danger of "formula driven" behaviour therefore becomes increasingly real the greater the attempt to represent the complexities of the real world with the artifice of a benchmark, however refined. Obviously this risk varies greatly from situation to situation, some being much more suitable to benchmarking than others.

A key question, therefore, is the purpose of having a benchmark in the first place. In some cases the purpose is to set out, in operational terms, a strategic framework or strategic direction in order to provide a guide for operational decision-making. In other cases, the emphasis may, consciously or otherwise, be primarily on measuring

performance with less emphasis on the strategic content of the measurement yardstick. The benchmark, in such situations, can become autonomous and divorced from overall corporate strategy and risk management. In such situations management behaviour and decision-making, while entirely rational from a "benchmark perspective", can become sub-optimal from the broader perspective of the key strategic objectives and policy considerations. **These considerations do not necessarily undermine the usefulness of benchmarks but they do serve as a reminder that the use of a benchmark comes with a material health warning.**

7.8 An example of the operation of a benchmark: The National Treasury Management Agency of Ireland (NTMA) is taken as a reference point. Assessing the real economic value of debt management transactions is done by comparing performance against a benchmark portfolio. The benchmark consists of a computer based notional portfolio devised by an international investment bank in consultation with the Department of Finance and the NTMA. The composition of the benchmark *must* be such that its debt service costs will remain within the budget. Performance of the actual portfolio against the benchmark is measured annually, in NPV terms, by the international investment bank and reported to the NTMA and to the Minister for Finance. The notional benchmark portfolio is essentially a "duration" benchmark, which reflects a low risk medium term view and is not driven by short term market expectations. In contrast, the duration of the actual portfolio is varied in accordance with a tactical interest rate view. Each portfolio is measured at end-year in net present value terms: under this approach all future cash flows (both interest and principal) of the notional benchmark debt portfolio (designed by the international investment bank) and of the actual portfolio are marked to market at the end of each year and discounted (based on the zero coupon yield curve) back to their respective net present values. This process captures the economic impact of the Agency's decisions. If the net present value of the liabilities in the Agency's actual portfolio is lower than the net present value of the notional benchmark portfolio's liabilities, then the Agency is deemed to have added value in economic terms. However, **while the benchmark is being used by the Agency as an instrument of debt management policy and also as a reference point for the measurement of value added, it should be recognised that there are aspects of value added by the Agency which cannot fully be measured by the benchmark, requiring its use to be supplemented by reference to other parameters.**

7.9 Some operational aspects of the Benchmark: At an operational level an important requirement, particularly when the benchmark is being relied on to give a measurement of value added, is that the benchmark portfolio be constrained to "live in the real world"; by this is meant that in so far as is possible the pricing and issuance activities of the benchmark portfolio are such that the real world portfolio can fully match the benchmark transactions if the portfolio managers so wish. For this reason, a detailed benchmark "roadmap" must be prepared each year which sets out, in advance, all the transactions that the benchmark portfolio will do during the course of the year. The roadmap will set out the type, size and date of all such transactions, with the market pricing of those transactions being the only element to be determined at the time the benchmark transactions are actually done.

An important practical aspect of having a benchmark, particularly when used for performance measurement purposes, is that it should operate in a timely, accurate and flexible manner. This may be difficult to achieve due to the fact that the debt

manager's systems may well be designed more from the perspective of transaction processing and historical reporting rather than portfolio management. Thus, the debt manager's risk management and IT groups will need to work together to effect an automated downloading of portfolio and transaction data from the core IT systems to the models that measure benchmark performance and risk. As a result, detailed performance and risk management information can be calculated and networked daily to the desktop PCs of both portfolio managers and senior management. In addition, through feeds to live market price data on Reuters, an ongoing real time mark to market performance valuation is similarly networked to dealers and management via PCs.

The flexible and transparent design of these new systems also allows for considerable detailed analysis on the sources of both performance and risk in the different portfolios on a fully up-to-date basis. Risk is measured first in terms of the mark to market value sensitivity to a ten basis point move in any of approximately a dozen different segments of each currency yield curve or to a movement in foreign exchange rates. In addition to this "micro" sensitivity information, risk is also measured in terms of value at risk (VaR). The VaR measurement provides a useful additional perspective, both to portfolio managers and to senior management, on the debt agency's market risk by providing a measure of the amount by which performance would not be expected to deteriorate over a specified period (eg 1 month) with a chosen degree of confidence (eg 95%).

All benchmark procedures, pricing rules and benchmark transactions are documented in a detailed manual. This manual, prepared with input from the debt agency's internal control and financial control functions, must be approved by senior management and be subject to audit.

Concluding remarks: It is possible to manage both interest rate risk and market risk in a more pragmatic way to that outlined above, but still in a prudent way, by using simple targets or measures for (i) the average maturity of the debt, (ii) the redemption profile and (iii) a benchmark distribution of currencies (see 8.9 below). These measures can be supplemented over time with the more advanced risk measures described above.

8. FOREIGN CURRENCY BORROWING VIS-À-VIS DOMESTIC BORROWING

8.1 Traditionally, countries have contracted external debt to finance a balance of payments gap, either on their current balance (imports of goods and services cost more than exports) or on their capital balance (in order to borrow and invest in, say, physical infrastructure beyond the limits set by the volume of domestic savings). While there is agreement that only an increased flow of foreign currencies can finance such a gap, it is not clear that government debt in such currencies must be contracted - at least not to the full amount of the gap - as there may be other ways that the government can follow, such as to create incentives to promote more inward direct investment, or to attempt to sell domestic debt instruments to foreign investors.

8.2 But many countries cannot avoid using the government's creditworthiness to raise external debt. Among the *advantages* are (1) comparatively low interest rates which make loans in foreign currency look cheaper to the budget manager than domestic

loans; (2) seemingly limitless international markets in which the government runs little risk of crowding out other borrowers from its own country; (3) the chance of gaining international experience and make valuable personal contacts in the financial world. For governments which accept the offer of export or suppliers credit there is also the satisfaction of knowing that such credits usually contain an element of subsidy from the taxpayers of the lending country. This is, of course, even more the case with very soft aid credits, e.g. of the IDA type. Both kinds of loans are usually accompanied by a transfer of technical know-how from the lender which may be of great value to the borrower.

8.3 Position of Africa: Compared with other developing regions, Africa was largely by-passed by the surge in capital flows in the 90's. While foreign direct investment (FDI) flows to Africa did increase in 1998, the Asian crisis has led to a reduction in net private capital flows to emerging markets as a whole. Africa remains particularly vulnerable due to its concentration in primary commodities. Moreover, the global flight to quality and liquidity has made it difficult for emerging markets issues to tap international bond markets. In addition, several African countries were forced to raise domestic interest rates to curtail capital outflows. The African Development Bank, in its 1999 African Development Report, puts the position pithily as follows:

"These influences are likely to reduce the flow of direct and portfolio investment to Africa in 1999, while offshore borrowing in international capital markets will become more difficult and more expensive.

8.4 The dangers and disadvantages of external debt are of course well known by now; it can turn out to be very expensive for the country if raised in the wrong currency, and even more expensive for the budget, if the local currency has to be devalued; the exchange rate risk is difficult to calculate and not so easy to hedge against over a prolonged period; foreign loans require special expertise, computer systems and communications networks, all of which are expensive to acquire and tend to become rapidly obsolete. In Africa, the burden of external indebtedness is extremely high; such debt averages 50 per cent of GDP - equivalent to two-and-a-half times exports.

8.5 Domestic debt as a priority - international trend: The opposite to the foreign exchange loan from a development bank or an export credit institution, or an issue in the international market is, of course, the loan raised in the national market and denominated in the local currency. Again, there are no pros and cons. The downside on domestic debt is that the pool of investible funds may be limited and the risk of crowding out the private sector therefore not insignificant; interest rates may be already very high; confidence in government's anti-inflationary policies may be low making it extremely difficult to raise medium to long term funds on the domestic market. In favour of domestic borrowing speaks the absence of exchange risk, the ability to use tax measures to attract local investors (alternatively, to use legal means to force them to invest in government securities), and above all the very important goal of building up the national money and capital markets and - more generally - to develop the financial sector. Most governments, whether inside or outside the OECD, accord high priority to that goal and will push domestic debt in its many varieties to achieve it. The emphasis today in policy-making is to move from the external to the domestic debt side in treasuries and central banks, supported by better statistics,

economic research and more information to and from the domestic financial markets. The role of Debt Offices is being widened to include more activities in domestic debt, e.g. to establish primary dealers networks (if that has not already been done by the central bank) and to upgrade existing debt management system to enable it to provide reports with the same degree of sophistication as for external debt. In the process, instead of foreign currency denominated debt, domestic debt is sold to foreign investors without exchange risks.

8.6 Governments may also have other means at their disposal to reach at least some of the goals which domestic debt instruments were designed to meet: money market management can be effected by the central bank with swaps/repos etc rather than open market operations using treasury bills; and households and, if needs be, institutional sources can be offered non-tradeable government products (see section 11 below). These sources are almost certain to be insufficient to meet the government's developmental needs. **There is no choice, therefore, but to develop the domestic market in government securities, particularly in medium to long dated securities.**

8.7 It may be argued that domestic interest rates are too high, especially in economies in transition, and the question is posed: should foreign borrowing not be undertaken to force down domestic interest rates? There are two strong, and indeed compelling, reasons why such a course of action would not be prudent:

- i) ***the international interest rate constraint:*** a country's interest rates must bear a reasonable relationship with those in other countries with which it has economic ties. At times of exchange rate pressure the country's interest rates have to rise above foreign rates so as to assist in the process of currency adjustment. If foreign borrowing by the government is excessive, domestic interest rates will fall too far. This will lead in turn to an outflow of funds, necessitating more foreign borrowing to support the country's external reserves at the central bank. The outflow will continue so long as it is financed by higher borrowing and in the end it will be necessary to stop the drain by allowing domestic liquidity to be tightened, to the point where domestic interest rates again rise back to their market determined relationship with international rates.
- ii) ***the constraint imposed by uniquely high foreign debt:*** if external debt as a proportion of GDP exceeds 20-25 per cent, there is no luxury of increasing foreign borrowing, particularly in circumstances where it is likely to be counterproductive. Further foreign borrowing, in order to achieve what would be a temporary interest rate advantage, would question the country's credit standing; would increase the drain on the economy from foreign debt service payments; and expose the country to any sudden change in international sentiment.

8.8 Conclusion: Most, if not all, governments in the OECD have arrived at the conclusion that it is preferable, indeed absolutely necessary, to devote more attention and resources to the development of the domestic capital market and, in particular, the means with which the public sector can fund its borrowings cost effectively in that market. This consideration would apply to most African economies in transition,

where the external debt/GDP ratio can be as high as 200 per cent! For such countries, further external debt would be unsustainable. Government domestic borrowing, together with tight budgetary policy, is the only option to free resources for capital investment.

8.9 In managing outstanding foreign borrowings of countries in transition, the existence of partially offsetting portfolio of foreign currency assets (ie the official external reserves) should be taken into account. The aim is to ensure that on a net basis the risk in foreign currencies is contained. This does not require centralisation of the management of the two portfolios - in particular if an independent debt agency were to be established. **Pending this development, it would be logical for the management, on a net basis, of the two foreign currency portfolios to be centralised in the central bank. To assist in exchange risk management, a mean variance model (ie the "efficient frontier") could be developed by the central bank in order to derive a benchmark foreign currency debt portfolio.** Swaps would be used by the bank to optimise the actual portfolio (ie after allowing for foreign currency assets in the reserves); and in this connection, it is understood that the World Bank is actively considering the establishment of a swaps "warehouse", through which governments of economies in transition could do swaps to alter the profile of their foreign currency debt.

The above recommendation is given added point by the following extract from African Development Bank's 1999 "African Development Report".

"The emergence of the Euro as a major currency in which foreign exchange reserves can be held has ramifications on reserve composition and on foreign exchange management by African central banks. At present, the US dollar is the main currency in which most central banks hold their foreign exchange reserves. As the Euro gains ground to become an international currency, African countries, given their close trade relationship with Europe, are likely to diversify their foreign exchange reserves. While such a diversification may not have economic effects, it means that African central banks need to prepare for it by strengthening their foreign reserve and portfolio management."

9. INFORMATION TECHNOLOGY (IT)

9.1 An integral part of building an effective debt management operation is development of an IT system, which can be among a debt manager's most important assets.

9.2 The choice of information system should ultimately be dictated by the demands of the approaches adopted to debt issuance and risk management. As management philosophy develops, so too does the demand on the IT system, not only as a means of supporting risk decisions, but also as a necessary means of reducing risk. If the debt manager's focus is on funding and liquidity risk, without reference to portfolio management, the IT system required will be somewhat of a less complicated nature. A more sophisticated IT system is required with portfolio management, since it has to handle heavy analytical requirements, cash flow tracking, middle office portfolio

evaluation on a daily basis, risk management, performance assessment and all back office operations, including settlement, accounting and reporting.

9.3 The general aim should be for a fully integrated information system, automated to the maximum extent, to meet the requirements of the front office (debt issuance and trading), middle office (strategy risk management and performance evaluation) and back office (settlement, accounting and reporting). The entire debt unit should be based on a comprehensive centralised database: segmented databases make it difficult to generate and to monitor a comprehensive risk management strategy. Without an adequate flow of accurate and timely information of dealer, back office and management reporting, there will be little hope of the debt manager being in a position to monitor risk levels or to implement risk management strategies.

9.4 As an example of the development of a fully integrated IT system reference is made to the case of the National Treasury Management Agency (NTMA), Ireland, with which the writer is most familiar.

When the NTMA was established in 1990 it inherited from the Department of Finance different stand- alone IT systems, for example,

- A back office software package for processing the foreign debt. This package ran on an IBM mid-range machine AS/400.
- A local area network (LAN) consisting of IBM 386 PCs: LAN was designed for file and print sharing, and the running of word processing and spreadsheet applications.

To deal with this problem, a detailed Information Needs Study was completed in-house by the Agency in early 1992. The objectives of the study may be summarised as follows:

- Identify and document existing information flows;
- Identify and document required and future information flows;
- Identify possible integrated solutions for processing our information needs;
- Develop a medium/long term IT strategy.

The study identified a multiplicity of systems within the Agency, with no integration between them and with a potential margin for error. As a result of the study it was decided to integrate, with one corporate database, the trades of the front office with settlement by the back office.

9.5 An analysis of available package IT software available in 1992 revealed that there was no system in the market that would meet the NTMA's primary requirements. A decision was, therefore, taken *to custom-build an IT system that would hold all transactions in one corporate database*. For this purpose, the NTMA's then existing IT skills were complemented by those of consultants and temporarily recruited IT personnel. Nowadays, with the advance in computer technology, buying in the software may be a more realistic option.

9.6 The NTMA's main system has been developed over the past seven years using the Oracle tool-set. In-house IT applications were specifically designed, in-house, in order to process and report on all trades/ transactions by the NTMA. Key features of the present IT system, called "SPRINT", are as follows:

Key Features

- On line dealer entry of trades;
- Automatic assignment of settlement instructions to trades;
- Generation of future payments and receipts out to maturity (including interest-fixed/floating, principal, fees, discounts premiums etc.);
- Automatic work flow for authorising and back office confirmation of trades;
- Production of settlement documentation;
- Production of work diaries;
- Portfolio and sub-portfolio reporting;
- Dealer position reporting;
- Counterparty credit limit reporting;
- Built-in controls to minimise operational risk;
- Automatic interface of general ledger, performance and risk management and SWIFT;
- Automatic interest rates loading facility;
- Management reporting.

Products

The products currently catered for in SPRINT are as follows:

- ***Bonds***
 - Primary auctions
 - Secondary trades
 - Bond sale and repurchase (Repos)
 - Reverse Repose
- ***Short Term Commercial Paper***
 - Short term paper/commercial paper

- Treasury bills
- Functionality includes buy backs and rollovers and registry maintenance
- ***FX Contracts***
 - Spot
 - Forward
- **Medium and Long Term Loans**
 - Public bond issues
 - Euro/US medium term notes
 - Multi currency loans
 - Revolving credit
 - Private placement
 - European Investment Bank loans
 - EMS loans
- **SWAPS**
 - Interest rate
 - Cross currency
- **Deposits**
 - Installation
The system, when installed, comes complete with a significant amount of pre-loaded data, e.g. countries, currencies, product types and cash flow types. It also comes complete with a 20-year database of non-dealing days covering major world business centres. This is essential for payments value data generation. Upon installation, the NTMA has developed a number of software modules to help customise elements of the system including the product set, accounts, default accounts, dealer and dealer assignments to meet a particular country's needs.

10. MANAGEMENT OF GOVERNMENT GUARANTEES

10.1 Since government guaranteed debt represents contingent liabilities of the state, the issue of guarantees should be controlled as tightly as debt issuance by the

government. For that reason only the Minister for Finance - in particular in an economy in transition - should be authorised in legislation to issue government guarantees. Moreover, the actual issuance of the guarantees should be vested, by the Minister for Finance, in the body responsible for national debt management.

10.2 Government guarantees are issued to state-owned entities borrowing in capital markets in order to reduce the cost of the borrowing, while keeping the borrowing outside the government budget. In order to help "ration" the issue of such guarantees, a fee - equivalent to a number of basis points - should be charged to the state entities to which the guarantees are issued.

10.3 To formalise the structure of state guarantees, each state entity seeking a guarantee should enter a formal agreement with the Minister for Finance, together with any other Minister involved in the state entity. The agreement would enumerate the acceptable types of loans to be entered into. In particular, loan transactions should be of a standard type and, to circumvent speculative practices, options and swaps should be linked to specific loans. The agreement will, nevertheless, make it clear that the board of the state entity will remain responsible for borrowings undertaken by it and for risk management for which they should be required to put in place a satisfactory measurement system. Consequently, subject to the guidelines set out in the agreement, the state entity will not be required to obtain prior approval of every transaction; but it will be required to obtain approval, say once a quarter, of the debt strategy that it is pursuing. Finally, the *external* auditor of the state entity shall sign, annually, a declaration that internal rules and guidelines set out in the agreement, including risk management, were satisfactorily complied with.

11. DEVELOPING A RETAIL MARKET FOR GOVERNMENT SECURITIES

11.1 The main question for the authorities is whether by issuing government securities to the retail investor they can *cheapen the cost* of financing the deficit. This is essentially because accessing a wider market should bring down the cost of funding and retail investors will often accept a lower rate of return than wholesale investors, because of security, tax incentives, lack of competing retail products, convenience of access etc., which offsets any increased overhead costs for the authorities. However, if wholesale markets are already competitive, the scope for undercutting them by opening up the retail market is reduced. Although development of a retail market clearly brings incidental benefits, e.g. the contribution it has to make to the development of capital markets generally, governments are unlikely to think it worthwhile to take the trouble to do this if their financing costs in the retail market are higher.

11.2 Experience in many *developed* economies is that when allowance is made for the cost of tax exemptions for retail products, together with the extra administrative costs involved, securities issued at retail level are more costly for the government than securities sold into the wholesale market. As a result, retail products normally account for only a small proportion of government funding in a developed economy. And yet, all such economies retain retail products, often in non-marketable form, in order to increase total savings and to afford the "small" investor an opportunity, which he might not otherwise have, of buying government paper for example in the wholesale

market.

11.3 It is a difficult question whether to concentrate on adapting the standard product to the retail investor or to devise new products. In a developing market economy there is a lot to be said for initially taking the route of developing a range of standard securities with different maturities issued by the government, which are first class in every respect and available to everyone. At a second stage new types of (marketable) government securities could be introduced with features likely to interest individual investors. A cautiously incremental approach is to be preferred, testing new types of security or new features of existing securities, and promoting the successful ones or dropping the less popular.

11.4 In devising government securities which are particularly attractive to retail investors the government has two peculiar advantages:

- a) inflation proofing, and
- b) tax exemption.

Particularly when used in combination, these can ensure that the government's offerings are superior to what is commercially available. But:

- a) inflation linking should only be granted if the government thinks it can bring down the rate of inflation. In any event there may be a case for limiting such securities to certain sectors of the population, or in total amount;
- b) similarly tax exemption, though the psychological stimulus to invest in a tax free instrument may result in very cheap finance, there is a danger of simply encouraging switching into the tax exempt security.

The choice for the authorities is the extent to which they wish to dominate the market: there is a case for allowing some competition with the commercial sector.

11.5 The authorities will need to consider early on how their own products are to be ***sold and distributed*** to the individual investor. Most will use existing agencies, e.g. State Savings Bank or Postbank or even hi branches of commercial banks. One possible solution is for a department of the Ministry of Finance to retain overall policy responsibility but to sub-contract the distribution arrangements to one of the commercial banks on a performance contract and perhaps also set up a fixed cost/fair price secondary market for small investors in that bank or in another. The alternative is to set up a government-run central processing capability using post offices simply as marketing outlets. The choice will depend partly on the state of development of financial markets generally and the extent to which it is desired to encourage competition, maybe by favouring the development of securities firms as distinct from continuing the dominance of the old commercial banks. Whichever solution is adopted, the overhead costs of the operation and/or any fees and charges need to be closely watched, otherwise the operation can become expensive for the government.

APPENDIX

WORKSHOP AGENDA

Joint ESAMI/UNITAR Sub-Regional Workshop on Effective National Debt Management in Eastern and Southern Africa (Harare, 20 - 24 September 1999)

Monday, 20 September 1999 (Day 1)

Panel of Speakers: Mr. Michael Horgan; Mr. Per-Olof Jönsson; and Mr. Lars Jessen

MORNING SESSION:

- 8:30-9:00 Registration of Participants
- 9:00-9:15 Workshop Opening and Welcome Address
- 9:15-9:30 Purpose of Workshop and Introduction of Speakers and Participants (by Michael Horgan, Workshop Director)
- 9:30-10:30 Outline of Role of Western Governments in the development of Government securities market (Lead Speaker: Michael Horgan)
- 10:30-11:00 Coffee/Tea Break
- 11:00-11:30 Outline of significance for investors of a country's: economic fundamentals/credit rating; international bond indices; taxation of government securities; and foreign investors. (Lead Speaker: Michael Horgan)
- 11:30-12:30 Discussion
- 12:30-14:00 Lunch Break

AFTERNOON SESSION:

- 14:00-15:30 Outline, by a representative of each African country at workshop, of:
(a) Summary of legal and budgetary requirements relating to government borrowing; (b) how the Government's gross funding requirement (i.e. debt maturing and new borrowing) is funded; (c) liquidity of (i) Government securities secondary market and (ii) money market; and (d) Cost of borrowing (e.g. yield to redemption) in different instruments
- 15:30-16:00 Coffee/Tea Break
- 16:00-17:30 Discussion

Tuesday, 21 September 1999 (Day 2)

Panel of Speakers: Mr. Michael Horgan; Mr. Per-Olof Jönsson; Mr. Lars Jessen; and Mr. Paul Kocher

MORNING SESSION:

9:00-10:30 Outline of basic Western systems for issuing Government securities:
(i) Auction (by Michael Horgan) (ii) Tap (by Lars Jessen)

10:30-11:00 Coffee/Tea Break

11:00-11:30 (iii) Auction/Syndication (by Paul Kocher)

11:30-12:30 Discussion

12:30-14:00 Lunch Break

AFTERNOON SESSION:

14:00-14:30 Sovereign debt management objectives (Lead Speaker: Michael Horgan)

14:30-16:00 Analysis of Risk and performance management (Lead Speakers: Per-Olof Jönsson, Paul Kocher, and Lars Jessen)

16:00-16:30 Coffee/Tea Break

16:30-17:30 Discussion

Wednesday, 22 September 1999 (Day 3)

Panel of Speakers: Mr. Michael Horgan; Mr. Per-Olof Jönsson; Mr. Lars Jessen; Mr. Paul Kocher; and MEFMI

MORNING SESSION:

9:00-9:45 Organizational Structure of Government Debt Management, including question of setting-up a specialized debt unit or agency for that purpose (Lead Speakers: Lars Jessen and Paul Kocher)

9:45-10:00 Discussion

10:30-10:45 Coffee/Tea Break

10:45-12:00 Debt structure organization among the African participant countries (Lead Speakers: African participants)

12:00-12:30 Discussion

12:30-14:00 Lunch Break

AFTERNOON SESSION:

- 14:00-15:30 Overview of the Legal and Institutional Arrangements for Debt Management in MEFMI member states (by MEFMI, Harare)
- 15:30-16:00 Coffee/Tea Break
- 16:00-17:30 Discussion

Thursday, 23 September 1999 (Day 4)

Panel of Speakers: Mr. Michael Horgan; Mr. Per-Olof Jönsson; Mr. Lars Jessen; and Mr. Paul Kocher

MORNING SESSION:

- 9:00-10:00 Foreign Borrowing and Coordination with Domestic Borrowing (Lead Speaker: Paul Kocher and Per-Olof Jönsson)
- 10:00-11:00 Discussion
- 11:00-11:15 Coffee/Tea Break
- 11:15-11:45 Outline of Information Technology developments in the area of Government debt management (Lead Speaker: Michael Horgan and Per-Olof Jönsson)
- 11:45-12:30 Discussion
- 12:30-14:00 Lunch Break

AFTERNOON SESSION:

- 14:00-15:30 Development of the Secondary market in Government securities, including the market participants and how trading is carried out (Lead Speaker: Lars Jessen)
- 15:30-16:00 Coffee/Tea Break
- 16:00-16:30 Settlement and Supervision of transactions in Government Securities (Lead Speaker: Michael Horgan)
- 16:30-17:30 Discussion

Friday, 24 September 1999 (Day 5)

Panel of Speakers: Mr. Michael Horgan; Mr. Per-Olof Jönsson; and Mr. Lars Jessen

MORNING SESSION:

- 9:00-10:30 Clarification of issues arising from workshop or not addressed in the workshop (Lead Speakers: African participants)
- 10:30-10:45 Coffee/Tea Break
- 10:45-12:30 Summary of possible changes that might be adopted in African Sovereign Debt Issuance/Management (Lead Speaker: Michael Horgan)
- 12:30-14:00 Lunch Break

AFTERNOON SESSION:

- 14:00-15:30 Discussion on these possibilities
- 15:30-15:45 Coffee/Tea Break
- 15:45-17:00 (continued)
- 17:00-17:30 Workshop Evaluation
- 17:30-17:45 Workshop Closing



About UNITAR

UNITAR is an autonomous body within the United Nations which was established in 1965 to enhance the effectiveness of the UN through appropriate training and research. UNITAR's programmes in the legal aspects of debt, financial management and negotiation are among a wide range of training activities in the field of social and economic development and international affairs carried out, generally, at the request of governments, multilateral organizations, and development cooperation agencies. UNITAR also carries out results-oriented research, in particular research on and for training, and develops pedagogical materials including distance learning training packages.

UNITAR's **Training and Capacity Building Programmes in the Legal Aspects of Debt, Financial Management and Negotiation** are conducted for the benefit of over 35 partner countries mainly from sub-Saharan Africa and Vietnam. These programmes aim at meeting the priority training needs of senior and middle-level government officials through a wide range of seminars, workshops, and training of trainers workshops. In parallel to training activities, the programme also assists in strengthening local capacities of governmental and academic institutions through distance learning training packages, up-to-date publications as well as networking activities.

During 2001, the programme will focus on :

- Training government officials through short-duration regional seminars and workshops on various aspects of debt, financial management and negotiation ;
- Developing On-line Training Courses (in parallel with its traditional regional training) with a view to tapping a wider audience and reducing cost of training per participant ;
- Strengthening existing ties with regional training centres and offering joint courses with partners in the field ;
- Creating awareness among senior government officials of the importance of the legal aspects in the borrowing process and of putting together a multidisciplinary team for loan management and public administration;
- Providing in-depth training and skills development for accountants, economists, financial experts and lawyers coming from government ministries and departments involved in negotiation, financial management and public administration ; and
- Developing and disseminating training packages and 'best practice' materials directly related to the practicalities of legal aspects of debt and financial management, with a view to strengthening existing human resources and institutional capacities at the national level.

A description of UNITAR's latest activities and training programmes in the area of debt and financial management is available on its website at: www.unitar.org/dfm.

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