

Institutional Arrangements for Public Debt Management

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April 2003



Abstract

This paper analyzes institutional arrangements for public debt management by reviewing the experience of OECD countries during the late 1980s and 1990s. It discusses principal-agent issues arising from the delegation of authority from the Minister of Finance to the debt management office and describes how countries have designed governance structures and control and monitoring mechanisms to deal with these issues. The paper also discusses what lessons emerging market countries and transition countries can draw from the experience of advanced OECD countries.

The OECD experience clearly indicates that—regardless of whether the debt management office is

located inside or outside the Ministry of Finance—four issues are of vital importance:

- Giving priority to strategic public policy objectives rather than tactical trading objectives.
- Strengthening the institutional capacity to deal with financial portfolio management and with the public policy aspects of debt management.
- Modernizing debt management.
- Creating mechanisms to ensure successful delegation and accountability to the Ministry of Finance and Parliament.

This paper—a joint product of the Office of the Senior Vice President and Chief Economist, Development Economics, and Public Debt Management Group, Banking, Capital Markets, and Financial Engineering Department—is part of a larger effort in the Bank to analyze the institutional dimensions of effective government policy. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Martha Rosenquist, room MC7-152, telephone 202-458-2602, fax 202-522-3264, email address mrosenquist@worldbank.org. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The authors may be contacted at ecurrie@worldbank.org, jdethier@worldbank.org, or etogo@worldbank.org. April 2003. (53 pages)

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SUMMARY

This paper analyzes institutional arrangements for public debt management by reviewing the experience of OECD countries during the late 1980s and 1990s. It discusses principal-agent issues arising from the delegation of authority from the Minister of Finance to the debt management office (DMO) and describes how countries have designed governance structures and control and monitoring mechanisms to deal with these issues. The paper also discusses what lessons emerging market countries and transition countries can draw from the experience of advanced OECD countries.

In the 1980s, public debt/GDP levels and financial risks in the debt portfolio of various OECD countries rose considerably and this generated a strong impetus toward modernizing and reforming government debt management. DMO functions were consolidated and gradually public debt management was separated from the implementation of monetary policy. Debt management was increasingly seen as an instance of portfolio management having distinct objectives in terms of cost minimization within risk limits. In an attempt to increase the efficiency of debt management, a number of governments delegated the operational dimensions of debt management to separate debt management offices (SDMOs).

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Other OECD countries did not see the need for a separation between DMO and Ministry of Finance and questioned whether it was advisable to operationally isolate public debt management from public policy. These countries favor a balance between public policy focus and focus on financial portfolio management in their approach to debt management. Though debt management functions remained in the Ministry of Finance, existing departments were consolidated and modernized and clear objectives, guidelines and accountability mechanisms were adopted.

Both DMOs within the Ministry and SDMOs have to deal with principal-agent issues arising from delegation of authority, but these problems are more acute in separate offices since agency risks increase—and agency agreement and control mechanism must be specified more formally—with the degree of autonomy and separation of the DMO from the Ministry. Cross-country experience shows that successful agency arrangements depend in part on the degree to which the principal-agent problems arising from delegation of authority can be resolved. Key considerations are (a) how well the objectives of the DMO can be specified; (b) whether the agent is offered an incentive-compatible contract; and (c) to what extent the agent can be monitored and performance can be measured. The paper describes and discusses governance structures set up by various OECD countries that have been successful in resolving these issues.

Emerging market economies and transition economies generally have four major characteristics: developing domestic debt markets, problems in coordinating debt management with monetary policy, problems in analyzing and controlling the impact of debt servicing on the budget, and in controlling contingent liabilities. These countries generally do not have the control and accountability mechanisms needed for establishing a separate debt management office, and there is a high degree of interdependence between debt management and macroeconomic policies. Given these characteristics, modernization of the DMO-within-the-MoF model would seem to be the most appropriate. However, other constraints, such as extremely low salaries in the Ministries and the consequent inability to attract staff with the right skill set under existing civil service structures are also important considerations. Establishing a separate DMO is attractive for some countries because it allows them to recruit and retain competent staff. Establishing a separate DMO also has the advantage of forcing the rationalization of public debt management, and of setting up clear governance and reporting structures. The type of institutional arrangements for public debt management that are best suited for each specific country situation and the trade-offs that are involved need to be analyzed carefully.

The OECD experience clearly indicates that—regardless of whether the DMO is located inside or outside the Ministry of Finance—four issues are of vital importance: giving priority to strategic public policy objectives rather than tactical trading objectives; strengthening the institutional capacity to deal with financial portfolio management and with the public policy aspects of debt management; modernizing debt management, and creating mechanisms to ensure successful delegation and accountability to the Ministry of Finance and Parliament.

INTRODUCTION

The impetus for writing this paper was a proposal by an Eastern European government to create a separate debt management office outside of the Ministry of Finance. The Minister of Finance viewed it as the best arrangement to strengthen public debt management given the dynamism of financial markets, to entrust debt management to highly qualified specialists, to optimize the cost of debt servicing and to make the process of debt management more transparent. The proposal also included the suggestion that the office actively manage the debt vis-à-vis a benchmark established by the government, and that cost savings versus the benchmark be reflected in salary rewards for the staff.

The governments of many emerging market and transition countries seeking to improve their debt management have made similar proposals. They were elaborated in a context of growing awareness of the need to reduce their country's vulnerability to international financial shocks, following the debt crises that have affected several emerging market countries.² An issue which arises in this context is where to locate the debt management office, and whether it is necessary to create a separate debt management office (SDMO).

The World Bank and the IMF have published, in 2001, Guidelines for Public Debt Management. They summarize the areas in which there is widespread agreement on elements of sound debt management practice and are designed to help governments strengthen the quality of their public debt management. The institutional framework for public debt management is one of the topics addressed in the Guidelines. The latter stress the importance of a clearly specified organizational framework, the need for coordination and sharing of information among macroeconomic advisors, and the need for clear mandates for the respective players. With regard to the location of debt management office (DMO), however, the Guidelines mention the multiplicity of arrangements that exist around the world:

Experience suggests that there is a range of institutional alternatives for locating the sovereign debt management functions across one or more agencies, including in one or more of the following: the ministry of finance, central bank, autonomous debt management agency, and central depository.

In the 1990s, several OECD governments established separate debt management offices outside of the Ministry of Finance. At the time, this type of arrangement was considered best practice by some authors. For example, Cassard and Folkerts-Landau (1997) argued that

An efficient, transparent and accountable debt management policy necessitates an organizational structure independent from political influence, with clearly defined objectives and performance

² The emerging market debt crises of the 1990s—characterized by vulnerabilities arising from poor debt structures and realization of contingent liabilities—include the 1994 Mexican crisis, the Asian crisis of 1997-98, the Russian crisis of 1998 and the Brazilian crisis of 1998-99.

criteria, and run by qualified staff, according to sound risk management principles. A number of countries (e.g. Austria, Belgium, Ireland, New Zealand, Portugal and Sweden) have concluded that, to achieve such objectives, debt agencies with some degree of autonomy from the political sphere should be set up. Specifically, the formulation of debt policy (e.g., level of the debt, limits on domestic- and foreign-currency borrowing) is a political decision and therefore should rest in the hands of the government. The actual management of the sovereign debt, however, can be extracted from the political domain and assigned to a separate and autonomous debt management office (DMO). Under this arrangement, the Ministry of Finance defines the medium-term strategy for debt management – based on its objectives and risk-preferences, and the macroeconomic and institutional constraints of the country – while the DMO implements that strategy and administers the issuance of the domestic and foreign-currency debt.

Strictly speaking, Austria, Ireland, Portugal, Sweden, Germany, Hungary, and the United Kingdom have a public debt management office that is separate from—but in a principal-agent relationship with—the Ministry of Finance.³ We refer to such offices as separate debt management offices (SDMOs),⁴ i.e., government agencies responsible for the operational management of the government debt, located outside of the Ministry of Finance.⁵ In turn, Belgium and New Zealand together with Australia, France, the Netherlands, USA, Canada and Poland have DMOs that are located *within* the Ministry of Finance, even though in some cases they bear the name of ‘agency’.⁶ They have an institutionally consolidated and specialized debt management office with a clear system of delegation of authority from the Minister to the Head of the unit in charge of the debt.

A recent OECD publication documents the multiplicity of institutional locations and arrangements and argues that DMOs should primarily be responsible for the operational aspects of debt management.

³ Finland has a somewhat similar arrangement, but the debt management functions are placed within the larger State Treasury, which is a multiple service bureau that handles the State’s internal finance and treasury administration, including operational fiscal responsibilities.

⁴ We prefer to use the term ‘separate’ rather than ‘independent’ or ‘autonomous’ (both terms are often used interchangeably) because the autonomy of these offices is limited to a strictly operational dimension. The Ministry of Finance is always the entity responsible for developing and recommending an overall public debt management strategy. The Council of Ministers approve the strategy and the SDMO must follow it. In some cases the SDMO is given some leeway for deviating from those guidelines in order to seek greater cost efficiencies, but these deviations are usually limited and strictly controlled.

⁵ This was first described by Magnusson (2001) who refers to the SDMO as the “Autonomous Debt Office” and to the DMO within the Ministry of Finance as the “Debt Office”.

⁶ The term Ministry of Finance is used here to designate the government’s principal economic advisor. It is the body responsible for preparing the budget and coordinating fiscal policies, for supervising the implementation of the budget and for rendering accounts on national revenue and expenditure, assets and debts. We reserve the term Treasury to refer to an agency whose mandate is to optimize the financial management of government operations. This can include cash and debt management, accounting, maintenance of government financial information systems and other functions. The exact mandate of the Treasury in a particular country depends on the economic situation of the country, its historical and cultural traditions, and the balance of powers between different government agencies responsible for economic management.

“An increasing number of OECD governments are giving the *operational arm* for debt management greater independence. The emphasis is on more autonomy for the execution of debt management policies by debt management offices. In spite of the diversity in terms of location and other institutional features of DMOs, there is general agreement that DMOs should have sufficient autonomy from the political sphere and that they should be principally concerned with the operational aspects of the management of sovereign debt” (OECD 2001).

While the benefits of giving the operational arm for debt management greater independence have been discussed in that paper, existing literature does not refer to its implications for organizational arrangements. In particular, when operational independence is accompanied by institutional separation between the DMO and the MOF, there needs to be in place a clear medium term strategy, performance indicator and strict monitoring and control functions in place, particularly if the DMO is to engage in tactical trading. The SDMO of Sweden has recently argued that debt must be seen as part of the government’s balance sheet, where strategic decisions are closely linked to fiscal and budget policies and therefore, that a debt office with independence similar to that of an autonomous central bank may not only lack the necessary information to make such assessments, but may not be held accountable for decisions that are ultimately political in nature (World Bank/IMF 2002). Most SDMOs in OECD countries have been successful in implementing those safeguards. This helps explain why there are multiplicity of organizational arrangements and why DMOs located in the Ministry of Finance is as good as the SDMOs in OECD countries.

Others have questioned the desirability of granting the debt management office greater independence and/or separation in developing countries. They argue that, in developing countries, the establishment of separate debt management offices would complicate rather than facilitate the development of the various debt management functions. For example, Blejer (1999) argued that for countries in which financial markets are just beginning to develop, it was advisable to keep the main debt management functions in the Ministry of Finance in close collaboration with the central bank. Kalderen (1997) also suggested that, under such conditions, a separate debt office may complicate rather than assist the coordinated development of the broader debt management functions, including development of the domestic debt market.

This paper takes one step back and examines the rationales that are put forward to justify the choice of location of DMOs and other institutional arrangements for public debt management. Section 1 describes the evolution of objectives, priorities and institutions of public debt management in the last two decades in selected OECD countries. Section 2 describes the principal-agent issues that arise from the management of the public debt and describes the various institutional arrangements that OECD countries have adopted to ensure that effective delegation of authority takes place. This tends to be a more critical issue when the debt management office is separate from the Ministry of Finance since their greater autonomy and separation require more formal agency agreement and control mechanisms. Implications for governments in emerging market and transition economies that are considering upgrading their debt management organization are also drawn. Finally, conclusions are presented in the last section.

1. EVOLUTION OF PUBLIC DEBT MANAGEMENT AND INSTITUTIONAL IMPLICATIONS

Growing public debt levels, the trend towards greater independence of central banks and changes in the objectives and priorities of public debt policy in OECD countries over the last two decades have influenced the choice of institutional arrangements for managing the public debt. Although there are recurring policy issues that these governments may have had to address, the evolution has not been identical for all countries inasmuch as organizational arrangements and the process of organizational change was influenced by local institutions and traditions, economic conditions, and circumstances such as the creation of the European Union.

Until the late 1980s, public debt management tended to be considered an extension of monetary policy, and was dispersed throughout the public sector. During the 1990s, debt management was increasingly recognized as a separate public policy having separate objectives based on cost-risk trade-offs. Some OECD countries opted for separate debt management offices as the most appropriate institutional arrangement to improve operational efficiency. Other OECD countries sought a more explicit balance between public policy and financial management considerations, and opted for keeping the DMO within the Ministry of Finance.

DEBT MANAGEMENT AS AN OPERATIONAL EXTENSION OF MONETARY POLICY

Expansionary macroeconomic policy of the late 1960s and 1970s led to rising fiscal deficits and high debt levels, and OECD governments became increasingly concerned about inflation and fiscal sustainability. By the late 1980s and early 1990s, the debt/GDP ratio of Ireland, Belgium and Italy had exceeded 100%. In Sweden, the central government debt level increased from 46% of GDP in 1991 to 82% in 1995, while in Denmark it rose from 64% in 1991 to 80% in 1993. At its peak in 1992, the public debt level of New Zealand reached 63% of GDP.

As debt levels rose, their implications for inflation became the central topic. In the early days, inflation financing was an option and debt management was often seen not only as a choice between different debt instruments, but also between debt issuance or inflation

financing.⁷ Those who expressed concern that high debt levels would cause high inflation argued that, were current fiscal policy to continue, the gap between current and future deficits on the one hand and current and future primary surpluses on the other hand, would have to be somehow financed. If sustainability became an issue, a cap would be placed on debt issuance and the central bank would eventually be forced to fill this financing gap through seigniorage. Thus, if central banks stopped financing the government, the argument went, the linkage between high debt levels and inflation would be cut off and the government would be forced to fill the financing gap by changing its fiscal policy stance and reducing the deficit.

This thinking led to clear and narrow price stability objectives for central banks, to their greater independence from the government and to the prohibition for central banks to finance the fiscal deficit. Debt issuance to parties other than the central bank became the sole formal way to finance the deficit. This was also the logic under which the Maastricht Treaty forbade overdraft facilities and other types of credit facilities for governments, or the direct purchase of government securities in the primary market by the future ECB or EU central banks.

Central bank independence did not necessarily entail debt management independence. Debt management was still being used in some countries to achieve monetary goals. For example, in Sweden, from the Second World War until the mid-1980s,

debt management was, to a large degree, part of the monetary policy of the Riksbank and the economic policy of the government [in an environment of repressed domestic financing and controlled interest rates]. Banks and insurance companies were forced to invest a substantial part of their assets in bonds issued by priority sectors, that is, the state and the mortgage institutions. The interest rates on these loans were determined by the Riksbank at a level lower than the prevailing market price. In practice, debt operations and more precisely the setting of interest rates on state bond loans, were regarded as one of the most important tools in monetary policy as borrowing from the large domestic institutions formed a part of the priority credit system. (Crona 1997)

This kind of intervention by the central bank in public debt management also created distortions in the debt market.

In New Zealand, central bankers saw the potential for using government debt management to strengthen the credibility of monetary policy. For example, the central bank promoted the issuance of foreign currency debt in order to send signals on its commitment to defend the domestic currency. However, such actions created greater financial risk for the government, which derived the bulk of its revenues in domestic currency, and this was in conflict with the cost/risk objectives of debt management.

⁷ See for example, Sargent (1986). Decisions about the composition of the debt—between bonds of different maturities and currency or high powered money—are, at each point in time, under the control of the monetary authority.

The literature discussing the interface between monetary policy and debt management discusses possible conflicts of interests when the central bank is responsible for both.⁸ In theory, a central bank with dual mandate for conducting monetary policy and debt policy

- may be reluctant to increase interest rates to control inflationary pressure since it would have an adverse effect on its domestic liability portfolio.
- may be tempted to manipulate financial markets to reduce interest rates at which government debt is issued or to inflate away the value of nominal debt.
- may be tempted to inject liquidity in the market prior to debt refinancing, or to bias the maturity structure or the currency composition of the debt portfolio according to the stance of its monetary policy.

Even if debt management is handled by a separate department within the central bank, there is a risk that debt management decisions could be perceived as being influenced by inside information on interest rate decisions. In that case, neither monetary policy nor debt management policy would be optimal.

For example, in the UK prior to 1997, debt management was carried out by the Bank of England. The publicly stated objective was to support and complement monetary policy while avoiding distortions in financial markets, and to fund public expenditures at least cost and risk. The need to avoid possible conflicts of interests—and the appearance of possible conflicts of interests—between debt management and monetary policy led the government to take debt management out of the central bank and to give it separate objectives.

Thus, it became an accepted fact that a separation of responsibilities between the central bank and the MoF was desirable because the two institutions had different concerns with regard to debt. However, this was a gradual process in most countries. In New Zealand, for instance, when the Debt Management Office was created in 1988, the central bank continued to intervene in debt management policy until the mid-90s as a way of signalling its monetary policy. The process of preventing the central bank from influencing debt management policy in order to further price stability objectives took place at different paces in different countries. In some cases, it was a very slow process and there remained an overlap in responsibilities and policies. The UK has been one of the clearest cases of separation (Box 1).

⁸ For a detailed description of the potential conflict of interests, see Jensen and Wheeler (forthcoming), Blejer (1999) and Sundararajan, Dattel and Blommestein (1997).

BOX 1. Transferring Debt Management out of the Central Bank in the United Kingdom

The Bank of England has been traditionally responsible for the Government's cash and debt management. In May 1997, the Chancellor of the Exchequer announced that these responsibilities would be transferred to the Treasury while the operational responsibility for setting interest rates would be transferred to the Bank of England. This decision followed the 1995 Debt Management Review which, in a distinctive break from past policy, indicated that debt management was not a major tool of monetary policy.

A DMO was established on 1 April 1998 as an executive agency of the Treasury, and was given operational responsibility for debt management, working within a policy framework set by the Treasury. The transfer of responsibility for cash management to the DMO was completed on 3 April 2000. The Treasury offered three reasons for the transfer of debt management from the Bank of England to the DMO:

1. *The need to prevent inside information, particularly on monetary policy, from influencing debt management policy.* Policy decision and implementation "should be, and should be seen to be" unaffected by short-term monetary policy considerations. The subsequent decision to establish the DMO as an executive agency ensured that it did not have advance access to other policy decisions or the output of the Office for National Statistics (except in relation to the Government's financing needs).
2. *Possible conflicts of interest* between debt management and monetary policy which could undermine the achievement of the debt management objective of minimizing the cost of Government financing subject to risk.
3. *A need to create a clearer allocation of the responsibilities for debt management and monetary policy* was a "key factor in shaping the new ... arrangements".

The decision to transfer debt management from the Bank of England to the DMO was not the result of suspicions in the markets that actual conflicts of interest with monetary policy had arisen, or that debt management policy were being driven by inappropriate short-term considerations. The primary reasons for the change were the need for debt management to be seen to be separate from monetary policy, and for accountability and responsibility for debt management to be crystal clear.

The reasons given for transferring cash management from the Bank of England to the DMO were similar to those cited in relation to the transfer of debt management. In particular, the Treasury believed that "money market operations need to be distinguished from those involving Government cash management to avoid confusion over monetary policy signals". Thus, as with the transfer of debt management, an important consideration was the need for cash management arrangements to be seen to be free of conflicts of interest or of influence from inside information.

Source: HM Treasury, Select Committee Report (2000)

DEBT MANAGEMENT AS PORTFOLIO MANAGEMENT

Even after central banks stopped expressing views on debt policy, in many OECD countries debt management lacked guidance and had no explicit, structured debt management strategy. While there was a general awareness of refinancing risks (e.g. the bunching of maturities) and of the impact of floating rate debt and foreign currency debt, there was no systematic approach to deciding on the overall portfolio structure of debt. Debt management was effectively limited to the narrow operational areas of debt issuance and debt servicing—corresponding to front and back office functions, respectively.⁹ These functions were often dispersed among different institutions and/or among different departments within the Ministry of Finance.

As high debt levels became a central political concern, fiscal rules were also introduced to limit deficit and debt. In Europe, this was considered essential to lend credibility to the introduction of the new European currency, the Euro. For instance, a 60 percent debt-to-GDP stock target and a 3 percent deficit-to-GDP flow target were enshrined in the 1992 Maastricht Treaty. New Zealand adopted in 1994 the Fiscal Responsibility Act which made the government responsible and accountable for reducing the debt to GDP ratio to prudent levels over a defined time horizon. In many OECD countries, the volatility of debt service payments, which represented a large share of the budget, became a major issue and thus, improving the management of currency and interest rate risks, as well as reducing the cost of debt servicing, became high priorities.

The high-risk profile of various OECD debt portfolios led to a re-definition of the mandate and objectives of debt management, from performing passive debt issuance and servicing functions, towards systematic management of the risks inherent in the debt structure so as not to jeopardize the achievement of the fiscal targets and to reduce the vulnerability to shocks of government finance. This shift in thinking was pioneered by New Zealand, Ireland, Denmark, Finland and Sweden—a set of countries which redefined debt management in important ways.

This new orientation initially led debt managers in these countries to mimic portfolio management practices in the private sector. These practices indicated that cost and risk reduction was possible through diversification of the foreign currency portfolio. Furthermore, active trading of the foreign currency liability portfolio was viewed as a viable alternative that did not affect the market (this was the “little fish in a big pond” theory – see Sullivan 1999). It was therefore felt that this dimension of debt management should be carried out by portfolio management professionals. However, these countries found it hard to attract professionals with such skills to work as civil servants when they

⁹ There are usually three main types of functions in a DMO, each with distinct accountabilities and separate reporting lines (World Bank/IMF 2001). The front office is typically responsible for funding and, sometimes, trading operations. The middle office is responsible for analysis and advice on the debt management strategy, as well as for the more operational role of implementing risk controls, especially important if the front office is involved in active trading or taking speculative positions vis-a-vis the government guidelines. The back office is responsible for settlement of transactions and for debt registration and payments.

could find employment in the private sector at salaries that were much higher than what the public sector could pay.

Ireland, Sweden and Denmark therefore opted for the SDMO model, placing it outside the Ministry of Finance and staffing it with financial specialists with experience in portfolio risk management.¹⁰ SDMOs, with operational autonomy and better paid professionals, were thought to be better than ministerial departments at achieving cost savings. The latter would be generated through efficient funding operations and the active trading of government debt (e.g. using buy-backs and swaps). It was assumed that they would operate better because they followed private sector, market-oriented principles and that, since they did not have to comply with bureaucratic procedures, they would create an environment appropriate for quick decision-making. The government would retain the principal's function of choosing the general strategy for debt management—though the latter would be based on risk management models prepared by the middle office of the SDMOs.

In Ireland, based on recommendations from private sector banking consultants, an entity separate from the Ministry of Finance was created by legislation enacted in 1990. The National Treasury Management Agency (NTMA) was established because “debt management had become an increasingly complex and sophisticated activity, requiring flexible management structures and suitably qualified personnel to exploit fully the potential for savings” (NTMA 2002). It was argued that an organization which could operate along commercial lines and with the freedom to hire experienced staff would exhibit a more professional management than would be possible within the constraints of the civil service system.¹¹

Ireland was practically the only country where the SDMO had active trading in the domestic debt market (Irish pounds) vis-à-vis a performance benchmark. Other countries felt that it was not meaningful to outperform a domestic debt benchmark since the government's overwhelming presence in its own domestic currency market would affect the outcome of the benchmark itself.¹² While Sweden and Denmark also actively traded against a benchmark, they did so only with foreign currency debt.¹³

¹⁰ The case of Denmark is unique in that the central bank has taken over all debt management functions.

¹¹ The main reasons behind the decision to establish the NTMA were outlined as follows by the MOF when the legislation was presented to Parliament in 1990: “It has become increasingly clear that the executive and commercial operations of borrowing and debt management require an increasing level of specialization and are no longer appropriate to a Government Department. Also, with the growth of the financial services sector in Dublin, the Department [of Finance] has been losing staff that are qualified and experienced in the financial area and it has not been possible to recruit suitable staff from elsewhere. ...[in the agency] there will be flexibility as to pay and conditions so that key staff can be recruited and retained; in return, they will be assigned clear levels of responsibility and must perform to these levels: the agency's staff will not be civil servants.”

¹² This has changed for some European countries with the introduction of the Euro, since these countries have now become small players in a large market, but the point is still valid for countries that are in the process of developing their own domestic market.

The Swedish National Debt Office (SNDO) – or *Riksgäldskontoret* – has traditionally been outside of the government, reporting directly to Parliament since 1789. Governance arrangements were modified in 1989 so that the SNDO would report to the Minister of Finance. This was followed by changes in operational policy with the objective of reducing the burden of Sweden’s external debt following the EMS crisis in 1992. Cost savings from management of the foreign currency portfolio were measured by comparing real performance to a benchmark.

In the early 1990s, SDMO arrangements were viewed as best practice. The justification for SDMOs was framed in terms of technical efficiency, professionalism and accountability which, it was argued, would materialize if the SDMO could be separated from “the political process.”¹⁴ It was argued that separating operational debt management from government decreased the risk that politicians use debt management as a vehicle for opportunistic reductions in debt servicing costs—and therefore in the budget deficit—in the short term. The need for isolation from the politicians arose from the possibility of political pressures on the DMOs to fund cheaply in the near term, even if this implied greater risk (e.g. short term, floating interest rate and/or in a currency with low coupon rate), and it also arose from the need for greater flexibility and efficiency.

In Denmark, the decision was taken in 1991 to move the debt office out of the Ministry of Finance to the Central Bank acting as agent for the MOF, while the accountability to Parliament for central government borrowing remained with the MOF. The decision followed the release of a report from the Auditor General which indicated that most of the assignments related to central government debt were already being carried out by the central bank – and that a stronger coordination between the management of the foreign exchange reserves and foreign currency debt would be advisable. The Auditor General’s report suggested that, from an Assets-Liabilities Management (ALM) perspective, it made sense to try to match the currency composition of the debt with the currency composition of the currency reserves since this nets out the currency risk (see Box 2).¹⁵ The report also suggested that attracting and maintaining staff with the skills relevant to the debt office would be easier if it were located in the central bank. As a result, the central bank, *Danmarks Nationalbank*, was made responsible for all functions related to government debt management. The division of responsibility was set out in a formal agreement between the Ministry of Finance and the *Nationalbank*. By power of attorney,

¹³ Active trading in the domestic market to “beat the benchmark” is an additional reason why separation from the MOF is needed so as to not be associated with “insider trading” and not take away transparency from the domestic market (see section 2 below).

¹⁴ Cassard and Folkerts-Landau (1997) contain a detailed description of the benefits of SDMOs.

¹⁵ A more detailed discussion of the ALM framework is provided in the next section.

officials from the *Nationalbank* authorized to sign loan documents on behalf of the Minister of Finance.¹⁶ This was a unique case of a SDMO located in the central bank.

Box 2. Coordinated Management of Exchange Rate Risk in Denmark

In Denmark, the purpose of foreign borrowing is to maintain an adequate level of foreign exchange reserves and to refinance existing foreign debt. Budget deficits are financed solely by domestic borrowing.

Prior to the introduction of coordinated management in 1992, situations could arise where the central government borrowed in one currency and the Nationalbank made placements in another. Since the purpose of foreign borrowing is to ensure adequate foreign exchange reserves, the central government's foreign borrowing is offset by an equivalent increase in foreign exchange reserves. If the currency distribution of the central government's foreign debt and foreign exchange reserves are not coordinated, the consequence may be that for certain periods the central government and the Nationalbank taken as one are exposed to a large and fluctuating exchange-rate risk. The Auditor General thus remarked in his 1991 report that "in the management of the foreign debt by the Government Debt Office, it appears that no consideration is given to the composition of the Nationalbank's foreign-exchange reserve".

Between 1992 and 2000, the exchange-rate risk on the central government's foreign debt and Danmarks Nationalbank's foreign exchange reserves was subject to coordinated management with the objective of limiting total exchange-rate risk.

With the reduction of gross exchange rate exposures in currencies other than the Euro, and thereby of gross exchange rate risk by the central government and Danmarks Nationalbank, it was decided that, starting in 2001, the central government's foreign debt would be exposed exclusively to the Euro, and the Nationalbank's exchange rate risk exposure via the foreign exchange reserve would be predominantly in Euro—thus continuing to minimize the net debt exposure to movements in foreign currency.

Source: Danmarks Nationalbank 2000, Chapter 8.

During the decade of the 1990s, various countries including Portugal, Austria and Hungary followed the example of Ireland and Sweden, creating what can be called "second generation SDMOs" with debt offices outside the Ministry of Finance. The cases of Portugal and Hungary are discussed in Boxes 3 and 4.

¹⁶ Part of the reason that it has been possible for Denmark to have an efficient debt management operation within the central banks rests with the objective of monetary policy which essentially is to keep a stable exchange rate vis-à-vis the Euro. This fixed exchange rate policy, which have been in place since 1982, implies that the monetary policy is strongly connected to the monetary policy of the European Central Bank (and previously to the Bundesbank). This *de facto* fixed exchange rate policy has been the main reason why debt policy has not interfered with monetary policy. To support the separation of monetary policy and debt policy, a funding rule has been in place since 1982 according to which the funding need of the state have to be covered by borrowing in the financial markets. Finally, there is a very strong tradition of openness regarding all aspects of debt management.

BOX 3. Debt Management and EMU: The Case of Portugal

Between 1995 and 1998, debt managers in Portugal were concerned with managing convergence to join the Economic and Monetary Union, then with preparations to join the single currency. The management of convergence attempted to reconcile several objectives: positioning the debt portfolio to take advantage of the expected reduction of interest rates, particularly in the domestic market (due to the narrowing of the differential between foreign and domestic rates); protecting the portfolio and the Budget from domestic money market turbulence linked to the exchange rate stabilisation process; and promoting the domestic capital market and ensure a more active and flexible management of the debt portfolio. In order to take advantage of the decline in interest rates, the strategy was to maintain a short financial duration and to resort whenever possible to external financing in EMS core currencies.

The preparations to join "Euroland" led to the creation in 1996 of the Portuguese Government Debt Agency (IGCP), a separate agency structured according to the model of a financial institution. In this, Portugal followed the pioneering example of Sweden and Ireland. All the functions connected with public debt management and State financing, formerly assigned to the Directorate-General of the Treasury (DGT) – responsible for external debt and for short-term domestic debt except for savings certificates – and to the Public Credit Board (JCP) – responsible for the remaining government debt – were transferred to the IGCP.

The transition between both institutional systems and the full operation of IGCP was pursued gradually over three years in order to avoid disturbances in debt management or in the operation of the relevant markets. The first year, 1997, witnessed the physical installation of the agency, the definition of procedures and of the management framework, the promotion of the image of the new institution, and the gradual transfer of the functions formerly assigned to DGT and to JCP. The second year, 1998, saw the reorganization of the internal structure of the Agency, taking the different operational "pieces" inherited from the former structures and attempting to transform them into an organizational model as close as possible to the "ideal" institutional model. The last year, 1999, coincided with joining the competitive environment brought about by the introduction of the Euro. Having reached cruising speed, the emphasis was on optimising internal efficiency, leading to the introduction of an Integrated and Automated Information System, the creation of a benchmark to evaluate debt management, and the clarification of the terms of the "management contract" with the Government, materialized in the publication of Guidelines which set boundaries on the autonomy of debt management by the IGCP.

Source: Bento (2000)

BOX 4. Public Debt Management Reforms in Hungary

In 1996, Hungary reformed its public finance management system creating two important institutions to improve budget execution and debt operations: the Treasury and the Debt Management Agency (*Allamadósság Kezelő Központ*, ÁKK). The ÁKK prepares the financing strategy of the Treasury, which is approved by the Ministry of Finance, and carries out the borrowing decisions. It has two other important functions: organizing the domestic market and providing information for market participants. The management of the foreign portion of the public debt was transferred from the National Bank of Hungary (NBH) to the ÁKK in 1997, after one year of discussions and preparations.

The Hungarian State Treasury started functioning on January 1, 1996. It is an independent organization operating under the supervision of the Minister of Finance. In practice, the Treasury and its branch network was built around budget implementation functions which were carried out by the State Development Institute and the NBH. The ledger system of NBH, containing the accounts of government agencies, was transferred to the Treasury. To facilitate the recruitment and retention of qualified staff, the Treasury obtained a special salary scale for its public employees and absorbed experienced professionals from the State Development Institute, the NBH and its 19 county directorates.

In March 2001, in a move to modernize debt management, ÁKK was established as a joint stock company, organizationally independent but under the supervision of the Ministry of Finance. The tasks of the new agency include, among others, the fine-tuning of instruments for the issuing of public debt, and the systematic use of benchmarking in order to minimize risk and costs associated with securities, both denominated in HUF and in foreign exchange. The ÁKK monitors debt risks in order to ensure the long term sustainability of the Hungarian debt.

Sources: Hungarian Government Debt Management Agency Ltd., <http://www.allampapir.hu> and Búzás, Hungarian Public Debt Management, http://www.worldbank.org/pdm/pdf/buzas_debt.pdf

New Zealand also overhauled its public debt management. Its objectives and functions will be presented in the following section to show its preoccupation with balancing portfolio management with clearly defined public policy objectives. However it is useful to illustrate at this point how, by creating the New Zealand Debt Management Office (NZDMO), the government consolidated and coordinated functions that had been dispersed in different parts of the Treasury—a common situation in many countries seeking to upgrade their public debt management (see Box 5).

In other countries, front and back office functionalities for debt management were spread out not only within the Treasury, but typically scattered among different departments and organizations, and domestic and foreign currency debt management was also dispersed under different management. For example, in Ireland and in Denmark, prior to the creation of NTMA and consolidation of debt management functions in *Danmarks Nationalbanken*, respectively, external and domestic borrowing were split between the Ministry of Finance and the central bank.

BOX 5. Dispersion of Functions and Responsibilities before DMO Consolidation in New Zealand

In New Zealand during the 1980s, debt and cash management decisions were taken by three different parts of the Treasury. The debt management functions consisted of three loosely coordinated sub-functions and were contained within groups that had other responsibilities. The group responsible for foreign currency debt and cash management also had responsibility for a number of public policy issues; the group responsible for NZ dollar debt and cash management also had responsibility for advising on monetary policy; and the group responsible for monitoring the Treasury's bank accounts and arranging disbursements to Government departments also had responsibility for the Government's financial statements and accounting operations.

Reporting responsibilities vis-à-vis the Minister were also unclear. The groups sought the Minister's approval for the strategy to be followed with respect to currency, interest rate, credit and liquidity risks of the portfolio, but not on a systematic basis. This meant that, while debt management always had risk management guidelines to follow, it did not have clear responsibility to seek approval for a new strategy at regular intervals or when market movements or other factors warranted a change in approach. The uncertainty as to the basis for seeking Ministerial approval for any modified strategy made accountability very unclear in this regard.

Moreover, there were some significant gaps in Ministerial approvals. For example, credit limits were not defined clearly, especially with respect to the aggregation of credit risk for different instruments. These gaps created uncertainty as to the extent and nature of the portfolio's exposure and how it should be interpreted. This, in turn, made it difficult for risk management to be clear and decisive.

As a result of the above, the debt management groups made decisions in an environment in which both accountability relationships within the Treasury and overall accountability to the Minister were unclear.

Perhaps the most important problem with New Zealand's sovereign debt management functions in the early 1980s was the fact that its strategy and reporting process were not clearly focused and articulated. This meant that all those involved were uncertain, in various degrees, as to what they were supposed to do, what they actually did, why they undertook certain activities, and what the value of those activities was. This gave rise to wide differences in expectations regarding performance.

Since debt management functions were dispersed among three different groups in the Treasury, a mission statement did not exist as such and there was no formal business plan.

Source: Zohrab (1993)

In principle, it should matter little whether debt management functions are dispersed as long as debt management objectives were clearly defined and conveyed, and coordination between the different departments is effective. But, in practice, as discussed in Box 5, organizational dispersion often reflected the lack of a coherent debt management objective or mission statement, as well as bureaucratic rivalry between different departments, and results in poor coordination. Furthermore, dispersion implied higher operational risk since accountability and responsibility are not aligned. Finally, organizational dispersion tends to be reflected in a lack of overall strategic risk

orientation among debt managers, as the different units involved focused narrowly on their particular responsibilities.

In several countries, such lack of clarity in the objectives and the existence of inter-departmental and inter-institutional rivalry have been major obstacles in carrying out debt management reforms. There is now increased consensus that consolidating debt management functions into one office is one of the most important steps that can be taken to improve the overall quality of debt management, and pave the way for a more strategic management.

DEBT MANAGEMENT AS A STRATEGIC COMPONENT OF PUBLIC POLICY

A different group of OECD countries—including New Zealand, France, the Netherlands and Australia—framed debt management in terms of containing fiscal risks and pioneered the strand of thinking which places portfolio management within a broader context of public policy. This strand of thinking gives a more explicit emphasis to public policy objectives in public debt management including the development of the domestic debt market. It has often tended—though not always—to be reflected in a different institutional model than the SDMO. New Zealand, France, the Netherlands and Australia have kept the DMO within the Ministry of Finance or Treasury.¹⁷

In the late 1990s and early 2000s, debt management strategy started to be effectively formulated in a number of countries within an Assets and Liabilities Management (ALM) framework.¹⁸ Under such a framework, *budgetary risks* are identified as the primary risks facing government. Rather than analyzing the liability portfolio in isolation, several governments found it useful to consider debt management within the broader framework of the government's balance sheet. This implies that the nature of government revenues and cash flows needs to be examined. Identifying and managing *market risks* (currency and interest rate risks) therefore involves analyzing the financial characteristics of the revenues and other cash flows available to the government to service its debt and then choosing a debt portfolio which, as much as possible matches, these characteristics. In most countries, government revenues are mainly tax revenues denominated in local currency. In this case, the government's balance sheet risk would be reduced by mainly issuing debt in long-term, fixed-rate, domestic currency securities.¹⁹

¹⁷ The correlation between ALM/fiscal risk approach and DMO institutional model should not be exaggerated. For example, the UK also puts a very strong emphasis on the public policy elements and yet has given its agency significant operational autonomy from the UK Treasury.

¹⁸ See Jensen and Wheeler (forthcoming) and World Bank/IMF (2001).

¹⁹ The DMOs of Denmark, France, Sweden and the United Kingdom are working on strategies which analyze debt structures' relationship with government revenues, thus placing debt management within a broader financial analysis of the government balance sheet. Sweden is an interesting case of a SDMO with some active trading, but which is simultaneously working on models of debt structures and of how debt costs co-vary with government revenues, within an explicit ALM framework. A first step towards such an

The ALM approach has been extended to include explicit contingent liabilities, such as guarantees on debt contracted by sub-national governments or state-owned entities, as well as on-lending to these entities through the central government.²⁰ Poor management of contingent liabilities has led to significant losses for governments, and many now seek to manage them in a more prudent and systematic fashion. Some governments have given the DMOs an important role in managing contingent liability risks, often in close coordination with the Budget Office. The latter can promote budget transparency and discipline, while the DMO can contribute with risk quantification and management, and together they can contribute to the government's design of a general contingent liability policy. For example, in Sweden, New Zealand, Canada and Colombia, DMOs monitor and manage risks from explicit contingent liabilities. In some countries, debt managers have been made responsible for the oversight of potential exposures due to off-balance sheet claims on the central government.²¹ In Sweden, for instance, the political issues arising out of financial guarantees to promote projects in the public interest are referred to Parliament, which makes decisions on guarantees on a case-by-case basis. The central government evaluates whether it should itself borrow and on-lend, or whether it should issue a guarantee on the beneficiary's debt. The Swedish National Debt Office (SNDO) is in charge of managing state guarantees and has taken over the responsibility for several thousand guarantees which had been given by country administrative boards.²²

New Zealand was the first country to create a modern debt management office along the lines discussed above. The debt management office was located within the Ministry of Finance, albeit with elements of private sector ethos and an identity of its own within the Ministry. The reform of debt management led to a gradual consolidation of the DMO's

analysis is to relate all costs to GDP, which is being used as a measure of government revenues. The UK DMO manages risk in the debt portfolio by determining the resilience of cost and tax smoothing properties for different debt structures to a range of economic conditions and shocks. The optimal debt portfolio, made up of different types of securities and maturities, depends primarily on which type of risk the fiscal authorities are trying to contain, and their preferences over any cost implications of a risk-reducing strategy. The focus could either be upon volatility of the debt servicing alone, or to government spending as a whole. The Treasury will shortly be producing work that will look at the linkages between fiscal policy and the debt portfolio.

²⁰ Implicit contingent liabilities, such as systemic risks arising from vulnerabilities of the financial sector or from the pension system, are not the responsibility of the DMOs.

²¹ It is convenient to have the DMO manage explicit contingent liabilities (guarantees) for at least two reasons. First, lenders have the same credit risk exposure on a loan to a sovereign than on a loan to another beneficiary that has a sovereign guarantee, and therefore the pricing of the two loans should be the same. The DMO should monitor and manage this pricing, as it can affect the pricing of its own foreign borrowing. Second, the DMO should also coordinate access to international markets by both central government and guarantee beneficiaries and ensure an orderly coordination that will not increase costs. Moreover, the central government may wish to control the market access of some weaker beneficiaries, in order not to send wrong signals of the sovereign's own credit status (Magnusson 1999b).

²² Magnusson (1999b).

authority, with a clear separation from monetary policy, clearly defined objectives, sound organizational structures allowing internal control, better management information systems and more technical staff. The NZDMO was established in 1988 to improve the management of risks associated with the government's debt portfolio, and to provide debt-servicing forecasts to the budget as well as a range of capital markets advice to other sections of the Treasury. The government argued that locating the office within the Treasury allowed close monitoring of NZDMO's effectiveness in managing the government's portfolios. Debt management was implemented within the framework of the government's balance sheet, with strong public policy considerations. More recently, a heightened emphasis on the government's aggregate balance sheet led to a closer integration of the NZDMO into the Treasury's branch structure. Since 1997, NZDMO is part of the Asset and Liability Management Branch.²³ Staffing within the Treasury was less of an issue in New Zealand because the civil service pay structure had been restructured and improved as part of an overall public sector reform program, but further flexibility was given to the NZDMO to provide higher salaries based on performance (See Box 6).

The NZDMO grappled with the issue of incorporating private sector practices into its financial management operations, while simultaneously giving priority to public policy considerations. For example, its first consideration was that the reduction of net foreign liability positions and the development of the domestic debt markets were more vital policy issues, than to manage the risks of the foreign currency liability portfolio through currency diversification strategies. However, NZDMO also introduced some active trading (although only in foreign currency debt) to maintain contact with the market and to keep information flowing.

Likewise, the Australian Office of Financial Management (AOFM) was established towards the end of the 1990s as an agency within the Treasury, adopting a comprehensive financial risk management approach, but with a clear awareness of public policy issues and the Government's risk preferences. The fact it was created as an agency gave it greater resources, and thus the capacity to recruit and retain highly specialized staff (see Box 7).

²³ Activities of the Branch that are outside of the responsibility of NZDMO include managing the government's contingent liabilities and advising on the financial management of departments, state-owned enterprises and other institutions in which the government has an ownership or balance-sheet interest.

BOX 6. The New Zealand Debt Management Office

The New Zealand Debt Management Office (NZDMO) was created as a branch of the Department of Treasury responsible for managing the government's debt, overall net cash flows, and some of its interest-bearing assets within a risk management framework. The Secretary to the Treasury is directly responsible to the Minister of Finance for the actions of the NZDMO. An Advisory Board provides the Secretary to the Treasury with quality assurance of the NZDMO's activities, risk management framework and business plan.

Even though it has no corporate existence independent of the Treasury, NZDMO has a separate culture and identity, based on a corporate treasury approach, with senior officers skilled in debt management being retained with relatively competitive salaries. However, as part of the Treasury it has clear links with the rest of public policy and its perspective is one of managing the debt portfolio as part of the government's balance sheet. Moreover, it coordinates with other parts of the Treasury that advise the Minister of Finance on the content of the government's annual budget and prepares budget documents and on the government's financial statements. There is also a close working relationship with the Reserve Bank, which is formalized in agency agreements.

The objective is to maximize the long-term economic return on the government's financial assets and debt in the context of the government's fiscal strategy, particularly its aversion to risk. This requires that the likely risks incurred in minimizing cost be balanced. The risk aversion of NZDMO is based on the average tax-payers' risk-aversion, their incapacity to avoid costs imposed by losses incurred in the government's portfolio and the fact that the government does not have competitive advantage over other market participants in attempting to derive excess returns from its portfolio management.

NZDMO has analyzed and managed the government's debt within the structure of the government's assets and liabilities, namely, its balance sheet. The guiding principle is to reduce financial risk for the government by matching the financial characteristics of its liabilities to those of its assets.

The Minister of Finance approves the strategic parameters of the portfolio, and the annual borrowing program, on the recommendation of the NZDMO, and the latter is also permitted to carry out tactical trading in its foreign currency operations around the benchmark, subject to performance evaluations.

Source: Anderson and Horman (2002)

BOX 7. The Australian Office of Financial Management

The Australian Office of Financial Management (AOFM) was established on 1 July 1999 as an agency within the Treasury, responsible for Australia's debt management activities. The latter were previously undertaken by a Debt Management Office within the Department of the Treasury. The basic organizational structure, staffing numbers and skills, financial resources and accountability arrangements had not changed in 20 years. This led Australia to undertake a major review of existing debt management arrangements in other countries.

Australia chose to adopt a comprehensive financial risk management approach for debt management. The fact that AOFM was created as an agency within the Treasury generated significant additional resources, since the agency had its own appropriations, financial accounts and annual report, and the capacity to recruit and retain specialist skills. A doubling of the staff was envisaged, with significant investment in debt management systems and information technology.

However, a direct reporting line to the Treasurer via the Secretary to the Treasurer was maintained, and an Advisory Board established with both Treasury and private sector representation. This meant that although the new setup provided both additional resources and significant day-to-day independence, there was simultaneously a clear institutional awareness of public policy issues and the Government's risk preferences, and awareness as to the public policy constraint threshold in a wide range of transacting and relationship management situations.

Source: Peter McCray (1999)

Moreover, some governments were of the opinion that for reasons of democratic accountability and governance, and because of the interconnections between public debt management and other public policy areas, taking the DMO out of the Ministry was pointless. In this line of argument, the Agence France Trésor also questioned whether the State should be considered a financial intermediary and be instructed to take market positions. Instead, it has made the case that the DMO should build and manage a basic desired position, and that priority should be given to the links between debt management and the rest of public policy (see Box 8).

Recently, the NTMA of Ireland, that had gone down the route of a SDMO and had been given the mandate to pursue active trading to beat the benchmark (with performance-based salaries as incentives) has recognized that part of the price that was extracted by the Department of Finance for setting up an SDMO was an excessive emphasis on performance measurement rather than on the more fundamental issue of defining a public debt strategy. They have instead recommended that greater emphasis be placed on the strategic dimensions of debt management. Thus, the role of the benchmark should be to serve as a tool for debt management strategy design and implementation, instead of a tool for measuring extra value added, as all the emphasis in the organization would be given to the latter. This was the case of the first nine years of the NTMA (Sullivan, 1999).

Finally, in countries which also experienced high debt levels, such as the United States, there has been no portfolio management element in their debt management, and the focus has been placed on market development, transparency and efficiency to achieve long term cost minimization objectives.

BOX 8. The Agence France Trésor

In France, the debate on whether to create a separate debt management agency was opened and closed several times during the 1990s. Finally, in July of 2000, the decision was taken to create Agence France Trésor (AFT), an agency located within the Treasury Department responsible for debt management, cash management and back-office operations.

Various factors weighed in the final decision including issues of democratic accountability, of corporate governance and of the degree of integration between debt management and other public policies. The State's potential role as financial intermediary taking market positions was discarded. The final choice was one of institutional capacity building within the Ministry of Finance (the Treasury).

Controls of various types were instituted, including controls internal to AFT, controls by the Budget administration and by external auditors. All reports are transmitted to the Treasury Select Committees of the Senate and the National Assembly.

The AFT's objectives include smoothing the government's debt maturity profile, fostering liquidity on secondary markets, lowering the cost of debt service over the medium term and dealing with risk. Since all French government debt has been transformed into Euro, AFT no longer has to deal with currency risk, and is now working on a model to determine a tolerable level of interest rate risk. Risk is viewed in terms of cash flow volatility and its impact on the budget. AFT has developed its own risk quantification model, defined in terms of a full asset and liability management model, with a holding period of 10-15 years, and linking GDP, inflation, the government's primary surplus and interest rates with debt. The model generates an annual funding strategy which, in turn, results in a specific duration. It is expected that a formal unit will be established for monitoring risk versus the benchmark, based on the cash flow model. However, there are no intentions to do active trading: AFT believes that it should not take market views, that they are not traders and are not able to have a "beat a benchmark" strategy. Instead, they aim at achieving an average yield, using frequent issuance to "average in".

Sources: Sylvain Forges, Presentation at an OECD Workshop, Rome 2001, and Elizabeth Currie "Update on European DMO" 2000, mimeographed

In sum, public debt management has changed very significantly over the past fifteen years in a number of OECD countries. From representing merely operational dimensions of fiscal and monetary policy, it has become an activity having its own objectives of portfolio management in terms of cost and risk, coordinating with other key areas of public policy. Institutional arrangements have differed, as governments addressed the issues of strengthening institutional capacity in different ways, and giving different emphasis to private sector portfolio management skills and integration with the rest of public policy. Like many institutional questions, what constitutes an appropriate arrangement depends very much on the particular circumstances in the country, e.g., the depth of the domestic financial market, whether monetary policy and debt management policy are separated or not (e.g., whether the debt managers are funding in the primary market and the central bank managing monetary policy through the secondary market), the systems and human resource capacity within the debt office and the central bank, etc. Each institutional choice of location and organization has advantages and disadvantages. The commonality between all these OECD countries is that when they started implementing a major overhaul of their debt management policy, procedures and organizational arrangements, it gave rise to "modern" debt management.

2. GOVERNANCE OF DEBT MANAGEMENT OFFICES

This section discusses the problem which results from the delegation of authority to the DMO by the Ministry of Finance and describes governance structures and control and monitoring mechanisms used by different OECD countries to deal with this principal-agent problem.²⁴ The latter exists whether the DMO is located within or outside the Ministry. However, the agency risk is greater—and the more formally the agency agreement and control mechanisms must be specified—the greater the autonomy and separation of a DMO from the Ministry. After discussing governance issues, this section discusses whether DMOs located inside the Ministry of Finance or SDMOs are better choices for countries where debt management policy cannot reasonably be carried out independently of monetary policy, and where debt management and fiscal policy inter-linkages are critical to the stability of the overall economy.

THE PRINCIPAL-AGENT PROBLEM AND THE GOVERNANCE OF DMOS

The Minister of Finance is ultimately responsible for government borrowing and for approving a debt management strategy, but typically the responsibility of the day to day operation of debt management is delegated to a DMO.²⁵ Delegation of authority gives rise to the principal-agent problem: in the presence of asymmetric information, moral hazard may result since the principal cannot verify the actions of the agent. In other words, the principal cannot distinguish whether the pre-defined mandate is not achieved due to lack of effort/skill of the agent, or due to conditions outside of the agent's control. Hence, for example, if the DMO is mandated to beat the performance benchmark and was unable to meet those targets, it is unclear whether this was not achieved due to poor

²⁴ Governance structures are characterized by agency relationships. The general idea is that the interests of the parties to a transaction are at least partially in conflict, and the agent has some action or information advantage over the principal. The standard model of operation of an agency is one where the principal devises a scheme of incentives or penalties, such that the agent's action is altered at least partially in the direction that favors the principal's interest. This typically requires a trade-off between efficiency and risk-sharing, and the result is a second-best (Dixit 1996).

²⁵ The legal authority to borrow is typically granted to the Minister of Finance who borrows on behalf of the government. This authority is granted to the Minister by the parliament. This is usually defined by the legislation. In addition, in many countries, an annual funding remit or appropriation bill approved by the parliament specifies the funding mandate for the year. On the legal framework for public debt management, see Magnusson (1999a) and Jensen and Wheeler (forthcoming).

effort/skills of the DMO officials, or was due to poor market conditions outside the control of the DMO.²⁶

Although the principal-agent problem exists regardless of whether DMOs are located inside or outside the Ministry of Finance, the requirements for effective delegation of authority are more stringent for SDMOs because agency risks are greater the farther way the debt office is from the Minister of Finance. More formal agency arrangements need to be established, and stronger accountability and transparency frameworks are required, for SDMOs.

Whatever the location, in order to establish effective agency arrangements, five important considerations need to be taken into account in order to design the appropriate governance structure. These include

- (1) the DMOs needs to be identified as a consolidated entity, either as part of a department within the Ministry of Finance or outside, with clear responsibilities;
- (2) the objectives of the DMO need to be clearly specified, further defined through strategic targets and, if active trading takes place, performance benchmarks;
- (3) the agent needs to be offered an incentive-compatible contract so that desirable levels of effort/skill are applied or revealed;
- (4) the actions of the agent need to be monitored and risk control functions need to be in place and
- (5) the principal must have the capacity to carry out its monitoring functions.

When institutional safeguards take into account these considerations, then the principal-agent problem between the Minister of Finance and the DMO can be resolved. This partly helps explain the existence of the multiplicity of organizational arrangements and why the SDMOs can be as good as DMOs located in the Ministry of Finance in OECD countries. We now discuss these considerations in turn.

²⁶ This example implies that there is an element of hidden action as well as hidden information. Actions are hidden because the principal does not know whether enough effort has been made to outperform the benchmark. Hidden information can also exist because it is debatable whether portfolio managers can have the skill set to beat the market. For a debate on whether or not active portfolio management adds value, see for example, Riley (2000). While it is at best unclear whether debt managers' ability/skills can be used to outperform the market, the evaluator must distinguish whether good performance is attributable to those ability/skill or to mere (consecutive) realization of good 'states of nature'. Two additional source of moral hazard can be identified. First, the DMO can issue state contingent debt which the government can then affect its outcome, such as government expenditure contingent debt. Thus, Bohn (1990) suggested that government activity on markets designed to provide hedges against budgetary uncertainty may be particularly problematic, because of incentive and asymmetric information problems. However, as long as conventional debt is used, this problem does not arise. Also, the moral hazard is not in relation to the principal-agent problem discussed here. Second, if the DMO is allowed to trade in the domestic market, it can influence the direction of the market due to its sheer size, and thereby influence the benchmark portfolio as well.

Status of the Debt Management Office

First, where debt management functions are scattered across different institutions and departments, it is difficult for the Minister to delegate his authority in a coherent manner. Hence it is important that debt management functions be consolidated into a single office and established with a formal status/identity with a clearly designated Head of the DMO so that the responsibility can be delegated. The degree of formality in establishing debt offices as agencies reporting to the Minister of Finance depend on whether they are SDMOs or DMOs located within the Ministry of Finance. Some SDMOs are established by statutes which defines their legal status, responsibility, reporting line and organization. Others may be created by Ministerial decision without a special legal status, and their responsibilities, reporting line and organization are outlined in a separate document. A good example is provided by the UK Executive Framework Document (Box 9).

BOX 9. The United Kingdom's Executive Agency Framework Document

The separate responsibilities of the Chancellor of the Exchequer and other Treasury Ministers, the Permanent Secretary to the Treasury, and the DMO's Chief Executive are set out in an Executive Agency Framework Document. This document also sets out the strategic objectives of the agency and the lines of accountability to Parliament of its Chief Executive concerning agency performance and operations. Accountability applies both in respect to administrative expenditure and to the Debt Management Account which records all its issuance and trading transactions.

The Framework Document outlines the following:

- status, aim and objectives;
- accountability and relationships with the Treasury;
- accountability to Parliament;
- role of Permanent Secretary to the Treasury as the principal accounting officer;
- role of the Chief Executive responsible for day to day management of the DMO. The CE is responsible to the Chancellor and accountable to Parliament for the DMO's performance and operations;
- internal management of the Office. The Chief Executive is assisted by the Managing Committee that will consider all strategic and management issues;
- responsibility for the preparation of an annual Business Plan, as well as a corporate plan that will develop a strategic framework over the following three years;
- responsibility for the preparation of the Annual Report and Accounts;
- financial arrangements of the DMO;
- internal and external auditing of the DMO;
- responsibility for setting the DMO's human resource policies and for managing staff; and
- review arrangements for the framework document and publication.

Source: United Kingdom (1998)

DMOs located within the Ministry of Finance may be created by Ministerial decision and do not have a separate legal status, although they too benefit from a clear identity with published documents specifying responsibilities, accountabilities and reporting line. The Head of DMO is responsible for the day to day operation of the DMO. The Head is directly answerable to the Minister of Finance who is, in turn, answerable to the Parliament.

Debt Management Objectives

It is essential that the debt management objectives be clearly specified and that, where possible, these be translated into medium term strategic targets which reflect the government's risk preferences, including policy guidelines for risk-management. The risk preference of the government reflects the mandate given by the Parliament to the Minister which should reflect the median voter's taste for risk. Table 1 provides examples of debt management objectives in selected countries.

Table 1. Debt Management Objectives in Selected Countries

Country	Debt Management Objectives
Australia	The principal objective of the AOFM is for Commonwealth debt to be raised, managed and retired at the lowest possible long-term cost, consistent with an acceptable degree of risk exposure.
Denmark	The overall objective of the government debt policy is to achieve the lowest possible long-term borrowing costs. The objective is supplemented by other considerations: <ul style="list-style-type: none"> - To keep the risk at an acceptable level - Overall to build up and support a well-functioning, effective financial market in Denmark - To ease the central government's access to the financial markets in the longer term.
Ireland	The debt management objective for the NTMA is to fund maturing debt and the annual borrowing requirement of the government in such a way as to protect both short term and long term liquidity, contain the level and volatility of annual fiscal debt service costs, contain the government's exposure to risk and outperform a benchmark or shadow portfolio.
New Zealand	To maximise the long-term economic return on the Government's financial assets and debt in the context of the Government's fiscal strategy, particularly its aversion to risk.
Portugal	The IGCP mission is to raise funds and to execute other financial transactions, on behalf of the Republic of Portugal, in such a way as: <ul style="list-style-type: none"> - To fulfill the borrowing requirements of the Republic in a stable manner; - To minimise the cost of the government debt on a long-term perspective subject to the risk strategies defined by the Government. While providing a service of public interest, the IGCP develops its activities based on principles of efficiency and transparency.
Sweden	The objective in managing the central government debt is to minimize, on a long-term basis, the costs of the debt with due regard to the risks associated with debt management. However, the management must always be conducted within the framework of the requirements imposed by monetary policy, and the guidelines determined by the Council of Ministers.
U.K.	To meet the annual remit set by Treasury Ministers for the sale and purchase of gilts, with high regard to long- term cost minimisation taking account of risk. In doing so, the Office will take account of wider policy considerations which may constrain strict cost minimisation (for example, providing for retail holdings of gilts).

Strategic Targets

Having defined a clear set of objectives, these need to be translated into an implementable debt management strategy expressed in terms of strategic targets.²⁷ Following analytical work in the DMO, a range of possible targets can be proposed to the Minister who would then approve a strategy which is consistent with the sovereign's risk preference.²⁸ The approved target then becomes the strategic target. With this approval, the DMO becomes responsible for implementing the debt management strategy with the aim of reaching the strategic targets. Publication of the debt management strategy reinforces transparency and accountability of the DMO. This becomes important if the DMO is far removed from the control of the Minister since this constitutes a key part of the formal agency arrangement. Table 2 illustrates strategic targets for selected countries where these are published.

For example, in Sweden, in order to increase accountability, the Parliament was requested to set clear goals for the debt management and a guideline-based steering was introduced which specifies the strategic targets. This is published on the SNDO website. It increases transparency and predictability, allowing the DMO to focus on its task, and results in a political commitment to a clear strategy for public debt management.

²⁷ We use the term strategic targets to distinguish from benchmarks used for performance measurement purposes. Strategic targets are derived from risk cost trade-off analysis based on long term cash flow simulation exercises and are long run goals. Performance benchmarks are marked-to market values of the shadow portfolio that would have resulted if the DMO executed the transactions following the pre-determined targets. Strategic targets and performance benchmarks can be identical if the current portfolio can be transformed instantaneously through the use of swaps and buybacks. If this is not possible, the strategic target and the performance benchmark will look very different.

²⁸ See Jensen and Wheeler (forthcoming) for a description of the analytical work that needs to be performed in order to derive the strategic benchmark.

Table 2. Published Strategic Targets for Selected Countries

Country (As of date)	Gross Debt to GDP ²⁹	Strategic Targets and Debt Management Policy				
		Currency composition	Currency sub- portfolio	Interest rate		Refinancing
		Domestic:Foreign		Fix:Float	Modified Duration (years) ³⁰	Max ceiling on debt maturing in next year (% total outstanding)
Australia (6/01)	10%	90:10 to 85:15	D	-	3.25 ± 0.25	-
			F		1.25 ± 0.25	
Belgium (12/01)	107.6%	97:3 to 100:0 ³¹	D	-	4 ± 0.30	10-15% and smoothen redemption profile
Colombia (12/01)	61%	67:33	F	70:30	3.50	15% in 12 months, 30% in 36 months
Denmark (12/01)	38%	88:12 ³²	D & F	-	3.5 ± 0.5	Smoothen redemption profile of total debt
France (12/01)	57.3%	100:0	D	10% in inflation indexed	-	Average maturity of 5.5 years
Ireland (12/01)	38%	94:6	D	-	3.7	-
Italy (12/01)			D	75:25	3.5	Increase average life and smoothen redemption profile
New Zealand (12/01)	34%	100:0 ³³	D	80:20 – 70:30	-	Maintain an even maturity profile
Portugal (12/01)	56%	100:0	D	68:32	3.0	25% in 12 months, 35% in 24 months, 45% in 36 months
Sweden (11/01) ³⁴	52%	73:27	D	-	2.9 ± 0.3	25% in 12 months and to have a disperse maturity profile
			F		2.3 ± 0.3	
United Kingdom (12/01) ³⁵	31%	100:0				Issue debt across a variety of instruments
United States (8/02) ³⁶	42%	100:0	D	-	-	Issue securities across a wide range of maturities

²⁹ Outstanding of central government debt. (UK and US are net debt).

³⁰ Modified duration = Percentage change in market value arising from a one percentage point change in nominal interest rates. Denmark and Sweden use the Macaulay duration which is defined as: weighted average of the length of period to each payment, where the weights are the relative size of the individual payments.

³¹ The government's policy is to repay in full as soon as possible its foreign currency debt.

³² The norm for domestic borrowing states that the issuance of domestic krone-denominated government securities within a year shall match the gross central government borrowing requirement less redemptions on the foreign debt. The norm for foreign borrowing states that the central government's redemptions on the foreign debt are refinanced by foreign borrowing.

³³ Foreign debt is incurred only to finance international reserves hence NZ and the UK has zero net foreign currency debt.

³⁴ The benchmark only covers nominal debt; inflation indexed debt is not covered. Benchmark to be achieved by 2004. Long term goal is to reduce the proportion of foreign currency debt and increase the share of domestic currency inflation indexed debt.

³⁵ The UKDMO does not publish its strategic targets.

³⁶ The US Treasury does not have a strategic target as they predominantly issue fixed rate debt and the priority is to enhance efficiency and transparency of the market.

Sources for Table 2 :

- Australia (2001) Australian Office of Financial Management Annual Report 2000-01. <http://www.aofm.gov.au/>
- Belgium (2002) Administration of the Treasury Ministry of Finance, Kingdom of Belgium Annual report 2001. <http://treasury.fgov.be/>
- Colombia (2002) Presentation to the Seminario Sobre Manejo de Riesgo de Deuda Pública Colombiana, April 3-4, 'Gestion de Riesgo DGCP – Parte II'. <http://www.minhacienda.gov.co/>
- Denmark (2002) Danmarks Nationalbank, Danish Government Borrowing and Debt 2001. <http://www.nationalbanken.dk/>
- France (2002) Agency France Tresor 2001/2002 Annual Report <http://www.francetresor.gouv.fr/>
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- Italy (2001) Public Debt Department, Dipartimento del Tesoro, 'Guidelines for public debt management for 2002-2003'. <http://www.tesoro.it/>
- New Zealand. <http://www.nzdmo.govt.nz>
- Portugal (2002) Instituto de Gestão do Crédito Público Government Debt Management Annual Report 2001. <http://www.igcp.pt/>
- Sweden (2001) Swedish National Debt Office, Guidelines for Central Government Debt Management in 2002. <http://www.rgk.se/>
- United Kingdom (2002): <http://www.dmo.gov.uk/dmodomain.htm>
- United States (2002): <http://www.publicdebt.treas.gov/>

Some countries, notably Australia and the UK, have broader public policy objectives for public debt management which are more difficult to express as a measurable target. In turn, these countries have devised ways to overcome this difficulty of encompassing broader public policy objectives into measurable targets by separating measurable and observable outcomes (e.g., to provide high quality and efficient service to investors, to make information available to the public, to develop policy and promote advances in new instruments, issuance techniques and structural changes to the debt and Treasury bill markets that may help to enhance the efficiency and lower the cost of debt and cash management) from non-measurable objectives related to outputs (e.g. debt management). While accountability for outcomes (which may be characterized as the actions of the agent) can be exclusively given to the DMO, thereby partially resolving the problem of moral hazard arising from lack of effort,³⁷ the responsibility and accountability for the output (which may depend on the actions of the agent and/or the state of nature, between which the principal is unable to distinguish) rests on the Minister himself.³⁸

³⁷ This obviously presumes that effort/ability will result in higher chances of better outcomes, while leaving the possibility that states of nature can play a role in an uncertain world.

³⁸ The output is the responsibility of the Minister, and therefore he/she is responsible for designing a policy strategy such that there is policy coordination with other public sector departments, and taking into account policy interactions.

Performance Benchmarks

Where active trading takes place, strategic targets are reinforced through the establishment of performance benchmarks. The trading is carried out vis-a-vis a performance benchmark, which enables the principal to measure the performance of the debt managers, holding them accountable for their actions.³⁹ In many OECD countries, strategic targets may be synonymous with performance benchmark where the existing portfolio can be transformed into the desired portfolio in a relatively short period of time. Where this is not possible, the distinction is important.

The extreme case was perhaps that of Ireland since, as mentioned above, beating the benchmark was built into its objectives when it was created. Sweden and Denmark also engaged in active trading. Portugal's benchmark initially focused on strategic objectives, and its main purpose was to improve the consistency between day to day management and the long-term portfolio goals; however, for accountability reasons, the benchmark also came to be used for evaluation purposes which naturally led to the expectation of out-performing the benchmark.⁴⁰ Austria has active trading vis-à-vis a performance benchmark.

Most debt managers tend to abstain from engaging in active trading in the domestic market and beating the benchmark is carried out only in the foreign currency market where the government is a price taker, and where it cannot influence the outcome of the benchmark itself. The Guidelines for Public Debt Management highlight the risks involved in engaging in active trading (see Box 10).

³⁹ The need for performance measurement is not confined to SDMOs and would also be essential if there was active trading by a DMO within the Ministry.

⁴⁰ See World Bank / IMF (2002). Accompanying Document to Debt Management Guidelines, chapter on Portugal.

BOX 10. Scope for Active Management

Debt managers who seek to manage actively the debt portfolio to profit from expectations of movements in interest rates and exchange rates, which differ from those implicit in current market prices, should be aware of the risks involved and accountable for their actions. These risks include possible financial losses, as well as conflicts of interest, and adverse signaling with respect to monetary and fiscal policies. In order to be able to lower borrowing costs without increasing risk by taking market views, debt managers require information or judgment that is superior to that of other market participants (and must also be able to transact in an efficient manner).

Debt managers may have better information on financial flows in the domestic market and the financial condition of market participants due to the government's privileged role as supervisor or regulator of the financial system. However, most governments consider it unwise and unethical to try and capitalize on such inside information, especially in the domestic market. In particular, debt managers and policymakers should not engage in tactical trading on the basis of inside information with respect to future fiscal or monetary policy actions. This is because the government is usually the dominant issuer of debt in the domestic market, and it risks being perceived as manipulating the market, if it buys and sells its own securities or uses derivatives for the purpose of trying to generate additional income. Moreover, if the debt managers adopt interest rate or currency positions, their actions could also be interpreted as signaling a government view on the desired future direction of interest rates or the exchange rate, thereby making the central bank's task more difficult.

In foreign capital markets, debt managers generally have little or no information on the nature of financial flows beyond that available in the market generally. Even so, some governments actively manage their foreign currency debt in the hope of generating risk adjusted returns, or to enable their portfolio managers to accumulate greater market knowledge, in an attempt to generate cost savings on major borrowings. Many governments do not consider it appropriate to undertake such tactical trading. In cases where such trading is permitted, it should be conducted under clearly defined portfolio guidelines with respect to position and loss limits, compliance procedures, and performance reporting. In countries where government debt managers undertake tactical trading, it normally comprises only a small fraction of a government's portfolio management activities.

Source: World Bank / IMF (2001) Guidelines for Public Debt Management

Performance Incentives

In order to resolve the problem arising from the difficulty to distinguish between the efforts and ability of the agent on the one hand, and the outcome of 'the state of nature' on the other hand, the principal must establish an incentive-compatible contract so that the agent will make the necessary efforts and perform well. This is especially true when there is active trading which involves taking market positions to beat the performance benchmark and providing rewards for good results.

In order to reward performance and devise an incentive compatible contract, pay systems and other incentive schemes need to be established where rewards are linked to performance, as opposed to being limited by a rigid civil service pay structure. Under a rigid civil service pay structure, the incentive to take on risk in order to minimize cost may not exist as public servants do not get rewarded for saving costs, while they may be

penalized if they lose public money. In contrast, incentive compatible contract links cost-reduction objectives to a private-sector ethos involving salary bonuses for achieving cost-reductions versus the benchmark. This pay system was introduced in countries such as Ireland.

Regardless of performance measurement, however, debt managers provide high value to the economy and a competitive salary should be secured in order to attract and retain skilled staff. In New Zealand, an overall public sector reform was underway when the NZDMO was created and a separate pay scale system was established within the Treasury that is different from the rest of the civil service.

Monitoring and Control

The actions of the agents must be monitored and controlled. The farther removed the DMO is from the principal, the more formally this must be carried out in order to reduce agency risk. Monitoring and control functions may be carried out by setting up an independent risk control department with “fire walls” to prohibit front office personnel from manipulating back office information, and internal auditing department reporting directly to the Board or CEO. This function can be very expensive due to system requirement and human resource allocation, but is extremely important if trading is carried out in light of the operational risks that can potentially bring down the country’s finances to ruins.⁴¹

Several governments have established Boards of Directors for the SDMOs. The Board of Directors generally has a fiduciary responsibility to monitor, ratify and sanction the decisions of the SDMO. The Board of Directors proposes debt management guidelines, lays down the principles as to how the guidelines will be implemented and establishes limits for the management of the risks associated with the DMO’s activities. The Board meets periodically to analyze the general orientation of the DMO and evaluate the Office’s performance vis-à-vis the guidelines and the principal risk/cost objective.

In Portugal, the Board of Directors is much more involved and is responsible for all the organizational and operational matters of the DMO, such as defining its internal management policy, the structure and functions of its departments, managing the human resources and assets of the DMO, etc. Its Advisory Board, by contrast, gives its opinion on the annual financing plan and similar technical matters. Members of both Boards are chosen by the government and can be government officials or members of private institutions.⁴²

In order to ensure transparency in accounting for financial transactions and internal management, sometimes an Audit Committee or the full Board guides the internal Audit

⁴¹ The collapse of Barings bank and financial ruins of Orange County illustrate the potential damage poor operational risk management can cause.

⁴² Annex Table A.1 shows the roles played by Boards of Directors and Committees in selected countries.

Department in overseeing and controlling the accounts and books of the SDMO. This is the case in countries such as Australia and New Zealand.

When the DMOs is located within the Ministry of Finance, there is no Board of Directors to oversee the activities of the head of the DMOs but the latter may benefit from the expertise of an Advisory Board to ensure technical quality of the outputs of the DMOs.

To ensure accountability of their staff and transparency of their activities, both SDMOs and DMOs have set up other types of controls and monitoring mechanisms. These include strengthened reporting on a regular basis to the Minister, reporting annually to the Parliament, being subjected to parliamentary scrutiny and to internal and external audits, and making regular reports public. This also assists in warding off political pressures to focus on short term cost reduction, since debt managers will be protected by the publication of the agreed mandate to pursue the objective of long term cost reduction subject to risks.

Can the Principal Carry Out its Monitoring Function ?

A final key consideration in establishing an effective agency agreement is the question of whether the principal can carry out its monitoring function. When all the debt management know-how is located outside the government, the result is that sometimes the MOF lacks the technical capacity to evaluate a debt management strategy. The Advisory Board and Committees are formed to discuss technical and management issues, albeit with different degrees of authorities empowered to them. Typically, Advisory Boards do not have any executive power. These committees are staffed by DMO employees or by staff from the government or the private sector. However, the policy-makers in the Ministry of Finance are those who ultimately decide on the general debt management strategy and, if they are to fulfil this role, they must, in a broad sense, have the same competence in these matters as the SDMO. This is even more important if a guideline based steering of the debt management is adopted.

Officials from some OECD countries with SDMOs acknowledge that the oversight given to them by the MOF is relatively weak because the staff dedicated to this oversight is small in numbers and insufficiently trained in debt management, having little contact with the markets, etc.

Where policy coordination is important, the Advisory Board and the Committee perform crucial functions in achieving this goal.

IMPLICATIONS FOR EMERGING MARKET ECONOMIES

The previous section has described the principal-agent problem and discussed key considerations that need to be addressed in order to make the delegation of authority from the principal to the agent effective. It described how both DMOs located inside the Ministry of Finance and SDMOs in OECD countries have dealt with these issues.

How transferable is the experience of advanced OECD countries for emerging market economies? If their governments are considering improvements in public debt management, what institutional arrangements are most appropriate? Would it be sufficient to set up safeguards in order to deal with the agency risks of SDMOs or are there other compelling reasons that favor DMOs located inside the Ministry of Finance over SDMOs? Are there other issues that they should take into consideration in making this decision?

Many emerging market economies face a similar situations to that of advanced OECD countries: high fiscal deficits and high levels of indebtedness, and the need to control the risk of increases in debt servicing and its impact on the government budget. However, their government balance sheets are more exposed to the possibility of financial shocks because their economies are less diversified than advanced OECD countries, have a smaller base of domestic financial savings and less developed financial systems, and are more susceptible to financial contagion through the relative magnitude of capital flows. The governments of many of those countries do not have the low-risk option of having domestic debt with long maturities and fixed interest rates because they lack well-developed domestic debt markets. Thus these governments are often faced with a choice between issuing short-term or indexed domestic debt, and issuing long term foreign currency debt. The transition countries of Central and Eastern Europe can be categorized as emerging market economies with special characteristics (see Box 11).

Box 11. Debt Management in Central and Eastern Europe

Transition countries differ from other emerging market economies in that major reforms in the structure, organization, and methods of financing of the public sector were necessary to create a government sector adapted to a market economy. The countries of Central and Eastern Europe are relatively advanced in this process, compared with some countries of the former Soviet Union. In terms of initial institutional setup for debt management, these countries shared similar traits:

- The role played by the Ministry of Finance was inadequate. In particular, its policy formulation capacity was weak and as a result, it often pursued unsustainable borrowing targets.
- The coordination between the Ministry of Finance and the Central Bank was weak, resulting in frequent and harmful lack of harmonization between the monetary and fiscal policy.
- Middle office functions to carry out risk analysis and risk control were limited or nonexistent.
- State-owned foreign trade banks were borrowing in foreign markets on behalf of the government and state-owned enterprises in many countries. Most of the trained cadre were concentrated in these banks and they managed the government debt portfolio under poorly structured agency agreement. Risk management was poor. Non-transparent portfolio management practices and weak supervisory capacity in some cases turned these foreign trade banks into a major institutional risk.
- Government debt management institutions generally had a very inadequate human and physical capital endowment, were unable to attract and retain high-quality staff and thus unable to manage risks arising from volatile markets
- Debt management systems were fragmented, debt records were very unreliable, and information systems were not connected across departments.
- Institutions for the management of contingent liabilities were absent. The issuance of guarantees was poorly structured. State owned enterprises and banks had little risk management practice and there was little monitoring of contingent liabilities by the central government.

During the 1990s, the countries of Central and Eastern Europe reformed their public debt management institutions at varying speeds and with varying degrees of success. Two groups can be distinguished. One “legacy” group which includes former CMEA countries that had governmental structures to manage sovereign debt, i.e., Poland, Hungary, Romania and Bulgaria. Another group consists of “clean slate” countries that did not exist as sovereign entities before the transition, i.e. the three Baltic states, Slovenia and Slovakia. Countries of the second group had to build their sovereign debt institutions from scratch. In the case of Czechoslovakia, one successor state (the Czech Republic) inherited the sovereign borrowing institutions of the state that ceased to exist and belongs in the “legacy” group while the other successor state, Slovakia, is a “clean slate” country.

The experience of individual countries has been very varied — ranging from positive (as in Latvia, Poland or Hungary) to very traumatic (as in Bulgaria in 1995, or Romania in 1999). The main strengths of the legacy countries is their cadre of trained debt managers, even though they lacked some essential skills, particularly in policy formulation. The main weakness of the legacy countries has been that their debt management institutions have had great difficulty to contain the pressures for over-borrowing. Bulgaria started with high levels of external debt in the early 1990s and the realization of massive contingent liabilities thereafter from state owned enterprises combined with poor fiscal management led to a financial meltdown in 1995-96. In the clean slate countries, starting from scratch made it easier to introduce sound practices. In Estonia, low initial debt was maintained thanks to a policy of minimal government borrowing and no issuance of guarantees. In Latvia, Slovakia and Slovenia—which started from a position of no or little debt—the growth of the public debt has been rapid and significant. In the Czech Republic, poor management of contingent liabilities and over-generous privatization schemes left the government with massive increases in debt levels. Measured against the situation in 1990, all ten countries have strengthened their public debt management institutions, introduced more efficient and modern methods of monitoring debt and managing its risks, and generally achieved more manageable debt levels, progressively putting them in a position to meet the Maastricht criteria. While these countries are not expected to opt for the Euro immediately upon their accession to the EU, the need to make progress in the fulfillment of the convergence criteria with regard to deficit and debt levels is now one of the major drivers of their economic policies including public debt management policies.

Source: Sergei Shatalov, personal communication.

Typically, emerging market economies will be vulnerable to public debt crises. Major externalities are attached to the government's debt portfolio since it is usually the country's largest financial portfolio, and it can generate risk not only for the government's balance sheet but also for the country's financial stability as a whole. Private sector entities—in particular the financial sector—can face major problems when inadequate public risk management increases the vulnerability to a liquidity crisis. Debt portfolios with significant interest rate, currency and refinancing risks have been important in inducing or propagating economic crises in several countries. While risky debt management is often the result of inappropriate economic policies, the feedback effects go in both directions.

Perhaps one of the key factors that distinguishes advanced OECD economies from emerging market economies (including transition economies) is the degree to which debt management policy can reasonably be implemented independent of other policy making bodies, notably the monetary authorities, and the challenges facing the government in developing the domestic debt market. This has important implications for the governance and location of DMOs because, in the context of achieving the stated objectives and strategic targets, if the debt manager is unable to influence the composition of the debt portfolio—or if its actions are significantly compromised by the actions of other policy making bodies—then the degree to which the debt manager can be held accountable for its own actions becomes questionable.

In advanced OECD economies, since debt management functions have been taken away from the central banks, DMOs have been given *policy* independence to carry out debt management. While coordination between DMOs and the monetary authorities continues to be important—for example to ensure that the timing of debt issuance does not coincide with seasonal peaks when liquidity in the system is tight—the DMO and the central bank in OECD economies also have *instrument* independence in the sense that each operate with different policy instruments, in different segments of the market or in the primary and secondary markets, to implement their policy objectives.⁴³

In these countries, each policy-maker can take fuller control of its own actions to achieve their respective objectives without jeopardizing each other's future policy actions. Under such circumstances, debt managers cannot blame the monetary authorities or vice versa for the outcome of its own policy actions. Although the outcome can still be a result of 'the state of nature', it is the case that each policy-maker has *a priori* ability to implement its own policy.

⁴³ In countries such as France or the United States, the central bank and the Ministry of Finance try to avoid conflicts by issuing different types of instruments (central bank bills and treasury bills). In other cases, the government debt is utilized by both the central bank and the Ministry of Finance but the institutions operate on different maturities. In general, monetary operations are conducted with instruments of shorter maturities than debt financing. If markets are sufficiently developed, best practices are oriented towards the use of the same instruments for both monetary and debt purposes, but limiting the central bank to conduct its operations only in secondary markets, leaving issuance in the primary market solely to the Ministry of Finance. (The points about policy and instrument independence were raised by Fred Jensen).

For developing and transition countries in which the domestic debt market is underdeveloped, debt management and monetary authorities may have to operate in the same segments of the market, typically in the short maturity range. The central bank intervenes in the market to signal tightening of monetary policy, but this may constrain the debt management authority's ability to roll over its debt at reasonable cost or may force it to issue debt in foreign markets instead.

Indeed, in countries with a history of high and volatile inflation, a large share of the total debt tends to be indexed to inflation or short-term interest rate, or to foreign exchange, as investors expect future inflation or devaluation and demand hedges from the government. Indexation to monetary targets increases the sensitivity of debt servicing cost to shifts in central bank policy variables, and this can jeopardize the government's effort to manage the risk-cost tradeoffs. If the debt manager cannot deliver its policy objective, then an agency agreement may be difficult to implement since their actions will be closely inter-related with the actions of other policy makers.

In the same vein, if the fiscal authorities continue to build up primary deficits or if contingent liabilities are not under control, the effect of the debt managers' actions are compromised as fiscal sustainability becomes an issue. Debt management is not a substitute for poor fiscal policy: where fiscal policy is poor, debt management outcomes may be poor because of deteriorating macroeconomic conditions, not because of poor ability or lack of effort by the debt manager.

Because of the interdependencies of policies, many developing countries find it difficult to implement medium term strategy, as high debt levels or a history of high inflation impede their progress toward their target. This is particularly true during a crisis situation. This may leave the DMOs reluctant to publish their strategic targets because of their inability to implement them.

The interdependencies of policy instruments—and of the policies themselves—highlight the importance of policy coordination, rather than an emphasis on independence and autonomy which they cannot attain in the first place. This points to the desirability of establishing the DMO inside the Ministry of Finance. Furthermore, if accountability cannot be firmly defined, it is difficult to establish a formal agency agreement, as required in the case of a SDMO.

There are other considerations that distinguish emerging and transition countries from advanced OECD economies. For example, whether an effective agency agreement can be established depends on the tradition of democratic culture of transparency and accountability. Advanced OECD countries, such as the Scandinavian countries, have a tradition of transparency and accountability rooted in a strong democratic history that made the management of the public debt by an independent agency less risky.⁴⁴ This is far from being the case in all emerging market countries. Institutional arrangements to

⁴⁴ Sweden has a long history of delegation of authority outside Ministries (the latter being traditionally minimally staffed).

ensure accountability and transparency of public borrowing policy were totally inadequate until very recently. Parliaments and independent audit institutions played a very limited role, and there was poor public disclosure and reporting.

It is also common that, in emerging and transition economies, existing contingent liabilities are not accounted for and new ones are not controlled or managed. This can present significant complications to carrying out public debt management. In several transition countries—for example, Poland, Hungary and the Czech Republic—state enterprises (especially utilities) and banks were allowed to shift their losses to the budget. The transition led to an increase in the central government debt and to a mushrooming of implicit and explicit liabilities including guarantees (see Box 11). For instance in the Czech Republic in 1997-98, the budget deficit was 1.3% of GDP but the hidden deficit was almost three times as large. Loss of control over fiscal policy meant that increasing debt levels, high refinancing risk and low government credibility which, in turn, implied major constraints for financing in the long-term and with fixed interest rates.⁴⁵ For many transition countries, contingent liabilities such as guarantees to support large public enterprises in difficulty (e.g., railways) increases their vulnerability to shocks.

Another important challenge that emerging and transition economies face is that, typically, the salaries of staff in Ministries of Finance are significantly lower than those in the central banks or the private sector and, consequently, there are chronic difficulties to recruit staff with the appropriate skills. In some economies, the salary differential between officials in the Ministry of Finance and the central bank can be ten-fold and very often, Ministry officials have second jobs. Where governments have been successful in attracting highly skilled staff, they have come for the experience and after gaining the know-how of debt management they quickly move on to the private sector where they can get higher pay. Therefore, staff retention is also a serious issue. This is critical in countries where finance skills required for debt management are scarce overall.

Some governments in emerging market economies have been able to make progress in confronting these problems and have devised ways to attract skilled workers, with reforms in the salary scale away from the civil service structure, and to create other incentives such as training programs and improving promotion prospects inside the Ministry of Finance.⁴⁶ In many countries, such a reform may be very difficult to implement without a broader public sector reform program and the temptation to create a SDMO in order to resolve this problem is very high.

Where does this leave governments in emerging and transition economies endeavouring to upgrade the debt management capacity and building institution with adequate governance structures? The following are implications that may be drawn for these governments:

⁴⁵ While the refinancing risk is minor for these countries, it is a vital public policy issue for transition countries.

⁴⁶ See Jensen and Wheeler (forthcoming).

- Given the greater vulnerability of these economies to financial shocks and to crises in public debt management, their debt management should focus primarily on the public policy dimensions, particularly the development of the domestic debt market, and coordination with fiscal and monetary policy.
- In order to ensure a strategic debt management which addresses the risks of the aggregate debt portfolio, it is necessary to consolidated functions in one single DMO, and to give it clear objectives and have it develop strategic benchmarks.
- One of the important steps that can be taken is to remove debt management responsibilities from the central bank so that conflict of interest between monetary and debt management objectives can be avoided. This includes the suspension of debt issuance in the name of the central bank.
- When the DMO does not have an independent instrument to implement its policy (debt management is engrained with broader public policy), then delegation of the operational dimensions of debt management functions to a SDMO may be difficult because the DMO cannot be held accountable for its own actions.
- There is no apparent need to place the DMO outside of the Ministry of Finance, except to pay more competitive salaries. Instead, the greater need for closer coordination and information sharing with other government bodies and departments suggest that governments can learn from the experiences of advanced OECD countries that have opted for a DMO located within the Ministry of Finance/Treasury.
- Countries can have different degrees of separation of the SDMO, and also different arrangements of the DMOs located inside the Ministry of Finance. Countries may wish to create DMOs in the form of specialized agencies, without having to establish SDMOs.
- To ward off political pressure to lower costs in the short term at the expense of greater risk, DMOs have emphasized on the creation of clear long-term objectives and cost-risk guidelines and benchmarks, combined with periodic reporting to Parliament, and enhancing transparency in the debt management process.
- Consideration should be given to creative ways to enhance incentive compatible pay structures in line with the skill needs. Salary levels should take into account the importance of the job in terms of managing the largest liability portfolio in the country which can have significant impact on the overall economy if poorly managed.
- Rather than developing capacity both inside the SDMO and within the Ministry of Finance for monitoring purposes, where skilled workforce is scarce and public funds limited, it would be more efficient to concentrate capacity building efforts inside the Ministry of Finance.

Drawing lessons from the experiences of advanced OECD countries who have opted for locating their DMOs inside the Ministry of Finance may result in more prudent arrangements for many emerging and transitions economies. Eventually, when the economies have become less vulnerable to external shocks, when contingent liabilities are more under control, when domestic debt market development is well underway, these countries may wish to revisit the issue of location and decide whether the models followed by such countries as Sweden, Portugal and the U.K, or the models followed by New Zealand, Australia and France are more suitable for their economies. Meanwhile, however, these countries should seriously consider an overhaul of their debt management policies and practices, in order to put in place what can be considered “modern” public debt management—this will greatly reduce their exposures to various shocks. Not doing so is taking a large risk.

CONCLUSIONS

Public debt management implies complex interactions between public policy and financial transactions within a strategic risk-management framework—and this has important implications for the choice of institutional arrangements.

In emerging market countries, including transition countries, the economy is typically more exposed to financial shocks and is more vulnerable to crisis in public debt management, which implies that the public policy aspects of risk reduction should be emphasized. Institutional arrangements should promote these public policy elements of debt management, in terms of facilitating coordination with monetary and fiscal policy, the development of the domestic debt market, the control of the possible impact of risky debt structures on the Budget, and the monitoring and possible management of contingent liabilities. Strictly financial efficiency considerations (cost savings) are also important, but they should be placed within the context of broader government priorities.

All these functions can, in principle, be carried out by a consolidated and technically proficient DMO located within the Ministry of Finance, so there would be no apparent reason to place the DMO outside of the Ministry.

However, civil service salary restrictions has frequently led to inability to attract and recruit staff with the necessary mix of financial and public policy know-how. This is especially true in emerging market and transition countries where the pool of highly specialized labor is small, and where the private sector gives much higher compensation for financial skills.

Moreover, sometimes policy-makers in these countries do not realize the importance of reforming and upgrading public debt management – partly because the area of expertise itself is quite new. There is nothing inherently forcing institutional change, and sometimes a major debt crisis is needed to bring attention to the need for institutional capacity-building, often required in order to complement macroeconomic reforms.

This is not the case when a separate DMO (SDMO) is established, as its creation forces the definition of objectives, a governance structure, accountability and reporting, staffing issues, IT infrastructure, etc. More likely than not, it will involve a major overhaul of public debt management.

However, a SDMO is not a panacea, inasmuch as it puts it at a distance from the rest of the public sector and aggravates the principal-agent problem. Risks arise that it can become more of an island and have less of a public policy “culture”. Accountability may be difficult to enforce in environments where there are many linkages and interdependencies between debt management and monetary policy, for example.

Risks may be aggravated if the SDMO is given incentives to trade actively vis-à-vis a benchmark, particularly so if salary incentives are attached. It is vital that active trading seeking to “beat the benchmark” operate in an institutional framework with clear objectives, strict controls, and sound reporting, accountability and transparency, and other governance elements. The experience of advanced OECD countries shows it takes years to develop such a framework and requires important investments in checks and balances.

Thus, countries may have to weigh the relative costs and benefits of the different institutional arrangements, and eventually arrive at some kind of trade-off. Ideally, public debt could be managed within the Ministry of Finance in a consolidated unit, with clear governance arrangements and a highly technical and dedicated staff showing little rotation. If this is not possible, countries may have to consider “agency” figures within the Ministry, or even a separate DMO, and then consider how to deal with the principal-agent issues that become more pressing alongside with greater separation from the Ministry.

Although gradual progress has taken place in the last decade in the area of public debt management in many emerging and transition countries, there is still a great need for institutional capacity building to improve debt management in these countries. Resources should be provided to train specialized staff, promote the development of the domestic debt market, develop the capacities of the middle office, create risk quantification models with links to the budget, and implement contingent liability monitoring and management. Incentives should not be given at these relatively early stages to obtain marginal cost savings. The priority is to create an incentive structure which leads to a focus on the “government balance-sheet risk management” aspect of debt management and much less so on marginal cost efficiencies.

In sum, the experience of advanced OECD countries suggests that transition and emerging market economies may have to carry out a very careful analysis of the type of

institutional arrangements best suited for their public debt management. This is because they tend to have an economic situation where public policy elements are vital (e.g. development of domestic debt markets, coordination with monetary policy, impact of debt servicing on the budget, control of contingent liabilities) and because the lack of independent policy instruments severely hampers their ability to align responsibilities with accountabilities so that simultaneously the government may have difficulties in establishing the control mechanisms needed for a separate debt management office. If they decide to maintain debt management functions within the Ministry, the OECD experience shows the necessity of updating and modernizing debt management, consolidating debt management functions in one location, establishing a strategic approach, strengthening the institutional capacity to deal with both the financial portfolio management aspects and the public policy aspects of debt management, creating mechanisms for assuring successful delegation and accountability, and last but not least, solving the issues of adequate salaries and staffing.

ANNEX

Annex Table A.1. below summarizes the governance structures of the DMOs, and Annex Box B.1. discusses corporate governance arrangements for public debt management by describing how boards and committees function in selected countries.

Annex Table A.1. Debt Management and ALM Committees in Selected Countries

<i>COUNTRY</i>	<i>Board of Directors</i>	<i>Advisory Board</i>	<i>Committee(s)</i>
Sweden (indep.agency)	Yes		
Portugal (indep.agency)	Yes	Yes	
Ireland (indep.agency)		Yes	
New Zealand (agency in MoF)		Yes	
Belgium (agency in MoF)			Yes
South Africa (Dept in MoF)			Yes
Colombia (Dept in MoF)			Yes

Note: Committees and Boards reporting to the Minister of Finance

Annex Box B.1. Corporate Governance for Public Debt Management: Examples of Boards and Committees

In *Australia* an **Advisory Board** was established in December 2000. The accountability of the Board is to the Secretary to the Treasury, the Chair of the Board. Its role is to provide advice to the Secretary to the Treasury. Although the Board does not possess executive powers or decision making authority in its own right, the Board advises the Secretary on matters relating to corporate governance, strategic planning, financial risk management strategy, business and planning. The Board also provides advice to the Secretary with respect to monitoring the performance of the AOFM generally. The Board meets on a monthly basis. The six member Board comprises the Secretary to the Treasury, the Executive Director of the Economics Group in the Department of the Treasury, a Senior Executive from the Department of Finance and Administration (representing the Secretary of the Department), the CEO of the AOFM and two representatives from the private sector. Three committees have been established for AOFM internal governance. A **Liability Management Committee** has primary responsibility for establishing policy and programs governing debt management operations and reviewing liability performance; an **Audit Committee** has responsibility for statutory financial reporting and for monitoring internal financial controls; and a **Management Committee** has responsibility for oversight and reviewing the overall strategic management of the organisation.

Source: AOFM Annual Report 2001. <http://www.aofm.gov.au/>

Sweden's DMO Board of Commissioners is made up of eight members, all appointed by the Government, including the Director General of the DMO as chairman, four members of Parliament, and the remaining members including academics and heads of think tanks. The Board normally meets six times a year and decides on the proposal to the Government for debt management guidelines, the principles guiding the implementation of the Government guidelines, the data to be presented to the Government for its evaluation of the Debt Office's activities, and the limits and guidelines for the management of the risks associated with the DMO's activities. In addition, the Board takes decisions with respect to the DMO's annual reports to the Government, budget data, audit reports and internal audit plans (source: <http://www.rgk.se/aboutthesndo.htm>)

Portugal's DMO Board of Directors meets once a week and includes the head of the DMO and two other members, all appointed by the Council of Ministers for a 3-year mandate. Its responsibilities include all organizational and operational matters of the DMO such as defining its internal management policy, as well as the structure and functions of the departments, preparing the annual budget for the Minister, managing the human resources and assets of the DMO, etc. The **Advisory Board**, on the other hand, is made up of the head of the DMO, one member of the central bank's Board of Directors, and four persons having recognized expertise in economic and financial matters, also appointed by the Council of Ministers. The AB meets at least once every quarter, and must express its opinion on the annual financing plan of the State, on the annual report on financing and the public debt and any other matters solicited. (<http://www.igcp.pt/>)

New Zealand's DMO has a three member **Advisory Board**, comprising private sector representatives, which assists the Secretary to the State in providing quality assurance on the management of the NZDMO. It meets a minimum of four times a year, and provides oversight and advice across a broad range of operational and strategic risk management issues and procedural controls. (<http://www.nzdm.govt.nz/aboutnzdm/>)

Ireland's DMO has an **Advisory Board**, composed mostly of private sector executives from the banking and corporate sector, and the Secretary of the MoF. (source: <http://www.ntma.ie/>)

France's DMO's Strategic Committee is made up of leading experts from different backgrounds providing Agency France Trésor with advice on government issuing policy. The purpose of the SC is primarily to offer its own interpretation of the principles underlying government issuing policy and treasury management and to state its views on existing practices and contemplated developments. The SC meets twice a year. The **Market Committee** is chaired by the Treasury Director, and is made up of top bond managers from the most active French and foreign primary dealers. This committee discusses developments on bond markets in Europe and the rest of the world from the viewpoint of investors, issuers and intermediaries, to make sure that Agency France Trésor's issuing policy and the organization of the French government securities market continue to reflect strict application of public finance management rules and to meet the expectations of all market players. The Market Committee meets two or three times a year. (Source: www.francetresor.gouv.fr)

In the **United Kingdom**, the Chief Executive and the heads of two business areas and main functional teams constitute the **Managing Committee** which is the senior decision making body for the DMO. All strategic operational and management issues must be considered by the MC. The MC is guided by an **Advisory Board** which comprises the Chief Executive, the Deputy Chief Executive (and head of policy and markets) and the head of operations and resources, together with non-executive members from outside the DMO. The MC is supported by a **Credit and Risk Committee** and **Strategy Groups** for each key business area (debt, cash and investments). <http://www.dmo.gov.uk/>

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