



OECD Journal on Budgeting

OECD 
OECD PUBLISHING

Volume 6, No. 1

OECD Journal on Budgeting

Volume 6 – No. 1



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

This work is published on the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

© OECD 2006

No reproduction, copy, transmission or translation of this publication may be made without written permission. Applications should be sent to OECD Publishing: rights@oecd.org or by fax (33-1) 45 24 99 30. Permission to photocopy a portion of this work should be addressed to the Centre français d'exploitation du droit de copie (CFC), 20, rue des Grands-Augustins, 75006 Paris, France, fax (33-1) 46 34 67 19, contact@cfcopies.com or (for US only) to Copyright Clearance Center (CCC), 222 Rosewood Drive Danvers, MA 01923, USA, fax (978) 646 8600, info@copyright.com.

Foreword

The OECD Journal on Budgeting is a unique resource for policy makers, officials and researchers in public sector budgeting. Drawing on the best of the recent work of the OECD Working Party of Senior Budget Officials, as well as special contributions from finance ministries of member countries and others, the Journal provides insights on leading-edge institutional arrangements, systems and instruments for the effective and efficient allocation and management of resources in the public sector.

We are anxious to receive feedback from our readers. Your views on how to improve the Journal are welcome and can be sent to:

The Editors, The OECD Journal on Budgeting, OECD, 2 rue André-Pascal, F-75775 Paris Cedex 16, France. Fax: (33 1) 44 30 63 34; e-mail: sbo.news@oecd.org.

The Editors

Public Governance and Territorial Development Directorate, OECD

Odile Sallard

Director

Barry Anderson

Head of Budgeting and Public Expenditures Division

Andrea Uhrhammer

Head of Communications

OECD Journal on Budgeting

Jón R. Blöndal

Editor-in-Chief

Board of Advisors

Ian Watt (Chair)

Permanent Secretary, Department of Finance and Administration, Australia

Gerd Ehlers

Director of the Budget, Federal Ministry of Finance, Germany

Richard Emery

Former Assistant Director for Budget, Office of Management and Budget, United States

Mike Joyce

Adjunct Professor, School of Policy Studies, Queens University, Canada

Mogens Pedersen

Deputy Permanent Secretary, Ministry of Finance, Denmark

Iain Rennie

Deputy Secretary, The Treasury, New Zealand

Table of Contents

Budgeting in Norway <i>by Barry Anderson, Teresa Curristine and Olaf Merk.....</i>	7
Budgeting in Singapore <i>by Jón R. Blöndal.....</i>	45
Top-down Budgeting as a Tool for Central Resource Management <i>by John M. Kim and Chung-Keun Park</i>	87
Assessing Fiscal Risks through Long-term Budget Projections <i>by Pál Ulla</i>	127

Budgeting in Norway

by

Barry Anderson, Teresa Curristine *and* Olaf Merk*

Norway is a prosperous country with a healthy economy and a very high standard of living. Norway provides a truly unique example of long-term budgetary planning through its successful management of oil assets by means of the Government Pension Fund – Global. This article examines the annual budget process which is an important factor in the health of Norway's public finances. The cabinet has a central role in formulating the budget via the annual budget conferences. Parliament has a strong formal position, and the Ministry of Finance has a long tradition of providing objective and unbiased information to Parliament. The article also describes the high degree of managerial flexibility, the system of accountability for results, human resource management, financial management and reporting, the use of performance information, and the role of local and regional governments.

- * Barry Anderson is Head of the Budgeting and Public Expenditures Division, Public Governance and Territorial Development Directorate, OECD. Teresa Curristine is a Senior Analyst in the same division. Olaf Merk is Project Manager in the Regional Competitiveness and Governance Division of the Directorate.

Executive summary

Norway is a prosperous country with a healthy economy and a very high standard of living. This prosperity has been promoted by the presence of large oil reserves and Norway's very successful management of its oil assets. The budget process plays an important role in promoting healthy public finances. The Norwegian budget process has a number of distinctive features, listed below.

The fiscal rule has extensive political support. The fiscal guidelines imply that petroleum income should be phased into the economy on par with the expected real return of the Government Pension Fund – Global (previously known as the Government Petroleum Fund), estimated at 4%. Over the last four years, due to market forces and a slowdown in the economy, government deficits have exceeded this limit. There is widespread political consensus on this rule, and the government continues to support it. With an improved economy, the expectation is that further deviations from the rule can be avoided.

Norway has successfully managed its oil assets. It has avoided many of the mistakes of other oil-rich nations. Norway provides a truly unique example of long-term budgetary planning. In order to help pay for the costs of ageing, it transfers petroleum revenues to the Government Pension Fund – Global and seeks to anchor the public deficit to the expected real return on the Fund.

The cabinet plays a strong role in the budgetary process with a central role in formulating the budget via the annual budget conferences. Through extensive cabinet meetings, it is able to exert considerable influence on budget execution. The budget is settled by the cabinet in plenary meetings. In comparison with many OECD countries, the formal role of the Minister of Finance is weak. He/she does not negotiate directly with the individual ministers on budget proposals, and there are no spending reviews that allow him/her to propose medium-term policy reforms. The cabinet has more responsibilities and influence in the budget process than in most OECD countries.

Parliament has a strong formal position. The Storting has unlimited power to propose amendments to budgets and may approve them by a simple majority. In practice this power is curbed by party discipline and depends on the type of coalition government (minority or majority). The initial budget proposal of a minority government will always be changed to some extent due to the intervention of Parliament to ensure the passing of the budget proposal.

The Ministry of Finance has a long tradition of providing objective and unbiased information to Parliament. However, there are calls from some members of the opposition for Parliament to receive more independent information. Although Parliament has a wide range of powers, there is concern among some representatives of the opposition that it is too dependent on government information. This could hinder its ability to consider alternative proposals. Statistics Norway might be able to provide unbiased information, but building up the capacity of a research section of parliamentary staff may be a more practical way of balancing government information.

A more meaningful medium-term framework could be helpful. Similar to other OECD countries, Parliament appropriates expenditures for only one year. Although Norway's current system does take into account demographic changes and investment programmes, the figures for additional years are mostly mechanical extrapolations. A more meaningful medium-term framework – one done more on a programmatic basis and less using mechanical extrapolations – might help to control pressure for new mandatory spending programmes and otherwise maintain fiscal discipline. In the government's view this is unnecessary, as the fiscal rule constitutes a meaningful short-term, medium-term and long-term framework for budgeting.

Norway has a decentralised system of public administration in which ministries and agencies have a high degree of managerial flexibility. This removal of detailed input controls should give agencies the freedom to improve efficiency and performance. The control and monitoring of the spending activities of agencies is largely left to individual ministries. The Ministry of Finance has only a few formal controls over spending ministries. Thus, it has limited capacity to provide incentives or to put pressure on spending ministries to improve efficiency, make reforms, or implement government-wide initiatives.

There has been slow progress with a government-wide system of performance measures, especially with respect to developing and using performance information. Although the Ministry of Finance requires all ministries and agencies to set goals and monitor performance, many ministries and agencies seem to only talk about using performance information, without indicating full understanding of its importance and without showing real interest in promoting it. For real progress to take place, a stronger push is needed, either by the Minister of Finance or by Parliament.

There are limitations on the flexibility of local governments. The central government sets many standards for sub-national spending that limit the

flexibility of local governments. All local revenues are subject to some form of central control: grants are set by the central government, fees and charges can only cover costs, and local taxes are subject to a maximum rate from which no local government deviates in practice. Sub-national governments frequently turn to the central government and Parliament to ask for additional funding.

1. Background

Norway is a large country with a small population of only 4.6 million inhabitants, who mainly live in the southern part of Norway. On average, there are 14 Norwegians per square kilometre. The distance from the most southern point to the most northern point of the country is comparable to the distance from Oslo to Rome. Norway is a relatively homogeneous society.

Norway became an independent nation in 1905 when it peacefully dissolved the union it had with Sweden. It is a constitutional monarchy and a unitary state. Norway is a member of several international organisations, including NATO. Norway rejected joining the European Union in referenda held in 1972 and in 1994. Since 1994, Norway has been a member of the European Economic Area and as such is included in the common market in the EU.

Norway has a bicameral Parliament elected by a system of proportional representation. There are a large number of political parties. In the 2005 parliamentary election, seven parties were elected to Parliament. The large number of parties makes it more difficult to find stable majorities. Since 1965 Norway has been mostly governed by minority governments. These governments have tended to foster consensus-style politics, and relatively strong party discipline has helped them to be generally stable. The government formed in 2005 is exceptional because it is a majority government made up of a coalition between the Labour Party, the Socialist Left Party and the Centre Party.

1.1. Norwegian economy

Norway is a very prosperous country. In 2004, its GDP per capita was USD 38 765, ranking third among OECD countries after Luxembourg and the United States. This prosperity could be linked to the petroleum reserves found in 1969. Since extraction began in 1971, Norway has grown into one of the world's largest oil producers. Norway has a relatively open economy: exports account for 44% of GDP, imports for 30% of GDP. The main export

goods, besides oil and gas, are base metals, machinery, transport equipment, and fish.

Unlike other countries that derive substantial revenues from natural resources, Norway has managed to avoid the so-called Dutch disease: it prevented massive domestic public spending of petroleum revenues, avoiding periods of excess demand in the economy that could have resulted in exchange rate disadvantages and the crowding out of other productive economic sectors. An element in this success has been the establishment of the Petroleum Fund (renamed the Government Pension Fund – Global in 2006), to which the petroleum revenues are transferred. The investments for the fund are made by a separate unit within the Norwegian central bank that invests only outside Norway.

The peak in petroleum production will be reached by about 2010. The estimated depletion of oil fields will take place in ten to twenty years. After that the Norwegian energy resources will mainly consist of gas reserves which, according to estimates, will last well into the end of the 21st century.

Norway has a relatively large public sector: public sector expenditure makes up 41% of GDP (2005), which is in line with the average in OECD countries. Public sector performance is mixed: education results are average, while health care performance is good. According to the United Nations human development index, Norway was the most livable country in 2005. This indicator is based on real income, educational attainment and life expectancy.

2. Budget formulation process

This section examines the budget formulation process in Norway. It includes discussions on the legal framework for the budget process, the fiscal rule, the annual budget process, budget documentation, economic models, and fiscal risks.

2.1. The framework

2.1.1. The legal framework

The legal framework for the budgetary process is based on the budgetary regulations adopted by Parliament. In addition, there are budgetary rules decided by the administration within the legal framework of the budgetary regulations. The budgetary regulations in force today were adopted on 1st January 2006, replacing the regulations dating from 1959. The new regulations define the current one-year budgeting system and

require that the budget be presented comprehensively, on a cash and gross terms basis.

Box 1. Investment strategies of the Government Pension Fund – Global

The Pension Fund plays an important role in the Norwegian economy. The Pension Fund Act defines the fund's objective as follows: the Government Pension Fund shall support central government saving to finance the National Insurance Scheme's expenditure on pensions and safeguard long-term interests through the use of the central government's petroleum revenues.

The Ministry of Finance is responsible for the management of the Fund. There has been a broad political consensus on the Fund's investment strategy. This requires the Pension Fund to be managed in a prudent manner with the aim of achieving high return subject to moderate risk. The operational management of the Fund has been given to Norges Bank (the central bank). A unit within the Norges Bank manages the Fund's capital in accordance with provisions laid down by the Ministry of Finance. This separate unit, Norges Bank Investment Management (NBIM), was established in 1998. There is no political involvement in the NBIM. There are institutional barriers that separate the NBIM from the rest of the central bank. The Fund manages around USD 210 billion in assets and employs 130 people in Oslo, London and New York.

The Ministry of Finance's choice of investment strategy is the key driver of the Fund's risk/return profile. The strategy is enshrined in a benchmark portfolio composed of equity and bond indices from the majority of countries in which the Fund is invested. The indices contain representative selections of securities, and movements in the indices reflect to a large extent market development in the countries in question. The regulations governing the management of the Pension Fund state where, and in what types of securities, the Fund can be invested. According to the regulations, 50-70% of the Fund's overall portfolio is to be invested in fixed income securities and 30-50% in equities. Where equities are concerned, 40-60% is to be invested in currencies and markets in Europe, the remainder in other regions. Where fixed income securities are concerned, 45-65% is to be invested in currencies and markets in Europe, 25-45% in the Americas and the Middle East/Africa, and 0-20% in Asia and Oceania.

There are only two limitations in terms of investments. First, certain companies are excluded because it is not considered ethical to invest in them. Second, the maximum share that can be taken in a company was fixed at 3%, although it was increased to 5% beginning in 2006. The Ministry of Finance reports to Parliament on the rates of return on investments of the Pension Fund.

2.1.2. *The fiscal rule*

The fiscal guidelines imply that petroleum income should be phased into the economy on par with the expected real return of the Government Pension Fund – Global, estimated at 4%. Considerable emphasis is also put on stabilising the economy, which permits the government to use this fiscal rule with some flexibility. In practice this means that there is a medium-term deficit rule, stating that the structural non-oil budget deficit should be kept at 4% of the assets in the Fund at the beginning of the budget year. As such the budget is prevented from being subject to fluctuations connected to short-term oil price changes. Moreover, the use of oil income is measured in terms of the structural non-oil budget deficit to avoid cyclicity.

The aim of this fiscal policy guideline was to provide a plan for the use of oil income in reaction to the rapid accumulation of petroleum revenues in the Fund. A 2001 White Paper prepared by the government showed that, beginning around 2010, the costs of ageing will push up public expenditures, while the petroleum revenues will start to decline. Norway's fiscal policy guidelines thus promote the smoothing of the growth in public expenditures over a long-term time period. Net petroleum revenues and return on investments are transferred to the Fund, but only the non-oil budget deficit is financed from it. The Pension Fund has grown steadily; in 2001 it contained almost NOK 20 billion. In the Revised National Budget 2006, the Pension Fund was estimated to contain NOK 3 000 billion in 2010. The deficit rule enjoys broad political support, although there are pressures to circumvent it.

In reality, the 4% path has never actually been adhered to. From its first year in operation in 2002 the level of spending has been higher than 4% of the capital in the Fund. Rationalisations for the initial deviations included a stock market crash, an economic downturn, and a revision of the national accounts, implying higher structural deficit. After the cyclical downturn in 2001-02 it was decided to use expansionary fiscal policy as a stabilisation tool, and the fiscal policy guidelines allow for this action. However, excess spending was considerably reduced in the 2006 budget. With restrictive use of oil income and a rapid increase in the Fund, the budget deficit is expected to be back on the 4% path in the near future.

The deviations from the fiscal rule do not necessarily indicate its inefficiency, since it is not known what the deficit would have been without the rule. It is important that Norway has a rule guiding the use of oil income. It stabilises market expectations and creates a budgetary framework comparable to other countries.

2.2. Annual budget process

Every new round of budget formulation starts with a circular letter from the Ministry of Finance to the line ministries. This letter is sent in December of year t-2 and aims at preparing for the budget conference that is held in March. In the circular letter the Minister of Finance asks line ministries to make proposals on expenditure projections for the following four years based on unchanged policy, and proposals for new policies. In January, ministries send suggestions to the Ministry of Finance on baseline projections for the next four years, and in February they provide their proposals for new policy initiatives. Although it is not part of the circular letter, in recent years line ministries have also been asked to produce proposals for 4% spending cuts to help the Ministry of Finance with suggested spending cuts for the budget conference.

Box 2. Budget formulation timetable

Fiscal year = calendar year

December in t-2	A circular letter from the Ministry of Finance is sent to line ministries requesting expenditure projections for four years based on unchanged policy (baseline projections) and proposals for new policy initiatives.
January in t-1	Ministry of Finance receives the different ministries' projections of baseline expenditures.
February in t-1	Ministry of Finance receives proposals for new policy initiatives.
March in t-1	The first budget conference decides on ceilings for each ministry and ceilings for new policy initiatives.
August in t-1	The second budget conference decides on new policy initiatives and the final allocation of the ministries' budgets. Tax policy is finalised.
October in t-1	The budget bill is presented to Parliament.

The first budget conference takes place in March of year t-1. This meeting decides on the total spending and revenue limits, the total limit for new policy initiatives, and the expenditure and revenue limits for each ministry. These ministerial limits are decided upon in a two-step process: technical baseline projections and specific spending cuts. The baseline projections of unchanged policy are taken as a starting point. In this

projection, demographic changes and other information (such as developments in social security and investment projects) are taken into account. The baseline projections form a technical starting point for political discussions.

To adjust the ministries' budget ceilings to the recommended economic and fiscal policy and to make room for new policy initiatives, the Ministry of Finance proposes spending cuts for each ministry. The cabinet as a whole decides on the spending cuts for each ministry. The spending cuts, together with the baseline projection, form each ministry's budget ceiling. Between the two budget conferences, each ministry can reallocate money within its budget ceiling.

The second budget conference takes place in August of year $t-1$. At this meeting, new policy initiatives are decided and the final allocation of the ministries' budgets is made. In October, the budget bill is presented to Parliament.

2.2.1. Spending cuts

The Ministry of Finance proposes spending cuts in each ministry's budget for the cabinet. In recent years, in order to help with this exercise, ministries have been asked to present proposals for 4% spending cuts. The ministries usually adhere to the Ministry of Finance's request and provide these proposals. Most of the proposals offered, however, lack political feasibility, making it hard to actually pursue them. Moreover, ministries have an incentive to save feasible spending cuts for August instead of proposing them early in the process. The Ministry of Finance considers the suggested spending cuts from the line ministries and, if necessary, prepares other suggestions to the cabinet.

This type of exercise can help prompt ministries to prioritise within budget frames. However, after a few rounds, line ministries learn how the strategy works, and it becomes increasingly hard for the Ministry of Finance to find realistic spending cuts among the ministries' proposals.

2.2.2. The budget conference

During the budget conference in March, the whole cabinet meets for three consecutive days, usually outside Oslo. Senior civil servants from the Ministry of Finance and the Office of the Prime Minister also attend the conference. This is a closed meeting for ministers in which communications with the outside world are restricted. The Ministry of Finance prepares all

the papers for the budget conferences. The line ministries receive the information five days in advance.

Budget negotiations do not take place bilaterally between the Minister of Finance and individual ministers. The main conflict resolution takes place in the cabinet. All decisions are made collectively. No formal voting takes place. In many other OECD countries, the negotiations on the budget as well as conflict resolution are the responsibility of the Minister of Finance. In Norway, the budget conference is an indication of the strong role that the cabinet plays in policy making and in budgetary policy.

Box 3. Decision making dominated by cabinet

The cabinet consists of 19 ministers, including the Prime Minister. There are frequent cabinet meetings every Monday and Thursday for around 3-4 hours. In addition the cabinet meets the King every Friday in a formal meeting (the King in Council). In the cabinet meetings, substantial political discussions take place, and the cabinet decides on all matters on the agenda (typically 10-30 matters in each meeting). Every cabinet proposal must be submitted with a summary of two pages maximum, accompanied by the opinions of the Ministry of Finance and other ministries that are considered to have an interest in the matter. The Prime Minister meets the Minister of Finance just before cabinet meetings in order for them to know their room for maneuver. This collective process of decision making is a means of ensuring that individual ministers feel responsible for the cabinet policies and decisions as a whole.

2.3. Budget documents

The budget documents that are normally submitted to Parliament are the national budget (White Paper), the budget proposal (called the “Yellow Book”), one budget document per ministry (presented as annexes to the Yellow Book), and the proposed tax bills. In the national budget the development of the economy is presented, including projections for the future. The Yellow Book includes the proposals for appropriations as well as a presentation of the main items in the new budget. On tax issues, there is one bill with the required changes in the tax laws and one proposal that addresses other tax issues, such as tax rates.

2.3.1. Multi-year budgeting

Similar to most OECD countries, Parliament appropriates budgets for one year. It is useful for policy makers to have information on multi-year budget consequences which provides insight into risks in the budget. The

budget documents contain multi-annual projections for the following three years. Although these projections take into account expected budgetary consequences of demographic changes, investment programmes and new policy initiatives, they are usually based on relatively mechanical extrapolations.

Before a new government takes office, and after having finished the negotiations for forming a government, a political platform containing the main objectives of the new government is made public. In addition, upon taking office, the cabinet makes a declaration to Parliament on the issues that will be addressed in that cabinet period. This declaration is usually not specific on multi-year budgetary commitments, but can contain several explicit proposals with budgetary consequences.

In 2003 a government committee was asked to advise on multi-year budgeting. This committee pointed out that many plans and initiatives have a timeframe longer than four years, but at the same time it mentioned that there is considerable uncertainty connected with the projections when the timeframes are longer. The committee recommended not introducing a general multi-year budgeting system. The conclusions of the government were that the present fiscal policy guidelines form a good foundation for a balanced economic development and that it does not consider multi-year expenditure ceilings an appropriate tool.

2.4. Economic models

Macroeconomic forecasts on the basis of economic models are made three times a year. They feed into the budget process. The model simulations are conducted by the Ministry of Finance, on the basis of information from other ministries and directorates. The model of the Norwegian economy is called MODAG; it contains empirically based behavioral relations within a relatively detailed input-output framework. The overall properties of the model emphasise the importance of demand conditions in the short and medium term as well as the need to maintain profitability in sectors exposed to foreign competition in the longer term.

The model is developed and updated by Statistics Norway. There is no competition in economic modeling as provided by Statistics Norway. There is no debate on the economic model, although a debate could improve the transparency and the quality of the predictions. In the 1990s an investment bank tried to launch an alternative model, but it did not succeed.

However, the central bank, independent research institutes, private organisations and investment banks present independent analyses and forecasts for the economic outlook. In the budget documents to Parliament,

central estimates concerning GDP growth, wage increases, prices and unemployment from different national and international institutions are presented along with the assumptions used by the Ministry of Finance. The Ministry of Finance and Statistics Norway also put great emphasis on maintaining comprehensive and accessible documentation in MODAG. This could facilitate an informed debate on the characteristics and the shortcomings of the analytical framework for baseline projections and policy analysis.

Box 4. Statistics Norway

The Research Department in Statistics Norway was founded in 1950. The intellectual basis for its econometric modeling was provided by Ragnar Frisch and Jan Tinbergen. Compared to most other statistical bureaus in the world, Statistics Norway is exceptional since it not only collects data, but also has a large economic research department that runs macro, micro, and tax models. As such, it is comparable to the French statistical bureau and the Dutch central planning bureau.

Statistics Norway is independent from the government. Some of its research is requested by the government, but most of it is done independently. Part of the research of Statistics Norway is funded by the Research Council where Statistics Norway competes with other research institutions for support. Another part is financed through general grants from the budget and from appropriations for research assignments by the Ministry of Finance. Since 1990, Statistics Norway is also obliged to serve political parties in Parliament, who can ask for calculations and model simulations of certain policy proposals.

A new project of Statistics Norway is the collection of performance data for the public sector. For local governments this is in the KOSTRA database. For the central government it is called Statres. Examples of the performance data published include the value added of an individual school and the efficiency of local courts.

Demographic data are important both for the economic models and for projections in the budget. A prognostication group, composed of civil servants from the different ministries concerned, is responsible for making prognoses of social security spending. Prognoses are usually decided upon in consensus and are not subject to political steering. Demographic issues, as well as issues related to managing the petroleum wealth, are also central in analysing long-term developments in government finances.

2.5. *Fiscal risks*

Several fiscal risks are reported in the budget documents such as public guarantees on loans, public-private partnerships (PPPs), and tax expenditures. Norway budgets for fiscal risks in a transparent manner. As a result, the losses to date from loan guarantees and PPPs have been small. However, recently the borrowing facility of state-owned hospitals and some use of PPPs in the road sector have been sources of concern.

All existing public guarantees on private loans are reported in an appendix to the government's annual financial statement. New guarantees are presented to and passed by the Storting. An overview of new guarantees is presented in the budget documents. In some cases the government has also given loan guarantees to government enterprises. From 1st July 2002, government enterprises with loan guarantees have been charged a fee by the government to compensate for the lower cost of borrowing. No new loan guarantees have been given to government enterprises since 31 December 2002. The government's annual financial statement currently lists 38 guarantees. Several of these refer to certain groups or specific "guarantee institutions". An example is the Norwegian Guarantee Institute for Export Credits, which manages about 400 individual guarantees.

Public loans are not included as expenditures under the fiscal rule. There are no comprehensive estimates of the annual expenditure flows resulting from the contingent liability of these loans. Loss on loans given by Innovation Norway to private companies is funded up front by funds for loan losses. However, estimated losses on loans made through the state banks (such as the State Educational Loan Fund and the State Housing Bank) are covered by appropriations in the budget, and interest subsidies on these loans are also normally reported as expenditures in the budget.

The Norwegian government engages in PPP projects on a trial basis, of limited scope and relatively recent. Three pilot PPP projects have so far been undertaken or planned, all in the transportation sector. The total cost of these three projects is estimated at approximately NOK 4.5-5 billion. There are no formal rules on the use of PPPs. The pilot projects undertaken are based on the principle that the agent (the private sector partner in the PPP) should bear all risks that the agent can influence (construction, financial risks). This implies that the risk undertaken by the Norwegian Public Road Administration is restricted to risks on planning and on traffic congestion.

Tax expenditures are reported to Parliament annually in the national budget. To identify the various tax expenditures, the existing tax system is evaluated against a reference system which is based on the assumption that similar taxpayers, activities, and commodities are taxed under the same principles and rates. Any deviation from this is seen as a tax expenditure.

Tax expenditures are calculated by a revenue loss method which implies that the tax expenditure is estimated as the revenue loss due to the diverging taxation. Tax expenditures are not subject to annual budgetary scrutiny.

2.6. Conclusion

The cabinet plays a central role in formulating the budget via the annual budget conferences. Through extensive cabinet meetings, it is able to exert considerable influence on budget execution. In comparison with many OECD countries, the formal role of the Minister of Finance is weak. He/she does not negotiate directly with individual ministers on budget proposals, and there are no spending reviews that allow him/her to propose medium-term policy reforms. A more meaningful medium-term framework might help to maintain fiscal discipline and prevent cost overruns. The effectiveness of the current system of requiring ministries to produce proposals for 4% spending cuts is questionable.

3. The role of Parliament in the budget process

This section outlines the parliamentary budget process addressing both the formal constitutional powers and the informal practices and operations, which are influenced by the underlying political context.

Norway has a history of minority governments. The proportional representation electoral system leads to a relatively large number of political parties in Parliament – seven after the last parliamentary election in 2005. The members of the Norwegian Parliament (Storting) are elected every four years. Parliament has 169 members. When the Storting first convenes following an election, it elects one-quarter of the representatives (42) to serve as members of the Lagting. The remaining three-quarters (127) become members of the Odelsting.

The Storting is only bicameral concerning matters of law. Since the budget is not formulated as a law in Norway, the budget is dealt with in plenary sessions and decided upon by plenary votes. Required changes in the tax laws are a matter of law and are therefore dealt with as a part of the bicameral system. The bill on changes in the tax law is handled by both chambers and is decided upon in the Lagting.

Most of the issues for the Storting are first prepared by a committee. Each representative in the Storting serves on one of the 13 permanent committees. The committees are the forum in which the real decisions are made on most matters. Parties are usually proportionally represented in the

different committees. The committees vary in size, normally between 11 and 20 members.

For each item sent to a committee, the committee elects a spokesman who then assumes responsibility for presenting the matter to the committee, obtaining information and seeing the matter through the procedure in committee until a final recommendation has been adopted. The spokesman also formulates the recommendation in writing. Each committee has a permanent secretariat employed by the Storting to assist representatives in performing the work of the committee. In the course of its proceedings, a committee may invite individuals or representatives from ministries or organisations to hearings for the purpose of obtaining information. The parties will usually look for a compromise that will obtain a majority when the issue is submitted to a vote. For budgetary matters unanimous decisions are rare.

3.1. The parliamentary budget process

Parliament has the final authority in matters concerning state finances. It allocates funds and has the power to order expenditures. The budget proceedings are co-ordinated by the Standing Committee on Finance and Economic Affairs (finance committee). This committee consists of 18 members and is one of the most important committees. It is responsible for both the expenditure and the revenue side of the budget, as well as economic and monetary policy.

After gathering extensive information, the finance committee presents its recommendations not later than 20 November, containing 22 spending limits and two revenue limits. Since the budget reform of 1997, Parliament sets these aggregate expenditure ceilings for all the standing committees.

During the annual budget debate, the government's economic policy is discussed and a vote is held on the proposals submitted in the recommendations from the finance committee. The amounts for all the separate spending ceilings are fixed collectively in a single resolution. In the following period, the different sectoral standing committees submit recommendations concerning appropriations within the spending programmes allocated to them.

The sectoral standing committees may only make reallocations within the limits that have been decided. This means that any increases in expenditure must be matched by equivalent decreases in expenditure under the same spending limit. The budget recommendations of the standing committees shall be considered by the Storting by 15 December at the latest.

The amounts for all the separate items within a sectoral spending programme are fixed collectively in a single resolution.

The recommendations of the individual committees are dealt with in plenary sessions. In debates on the individual budget recommendations, strict time limits are observed. The length of the debates varies from four to five hours for the shortest, to nine to ten hours for the longest.

Usually the Storting accepts the government's proposals, making only minor changes. The government's proposal and the Storting's resolution normally differ by less than one per cent. Examples of expenditure programmes that have been increased by Parliament include job training programmes, grants for local governments, and health care spending. The signals given by the Storting by means of its comments and priorities could be considered of greater political significance, since they may influence subsequent budgets. The Storting makes many of its appropriations in the form of block grants or "umbrella appropriations", so that it is up to the government to make the final decisions about how the funds are to be allocated.

Box 5. Parliamentary budget timetable

October	The budget bill is presented to Parliament. It goes first to the Standing Committee on Finance and Economic Affairs.
By 20 November	The finance committee presents recommendations on the 22 spending limits and two revenue limits to the general assembly. The amounts for the separate spending ceilings are fixed collectively in a single resolution.
By 15 December	Budget recommendations of the sectoral standing committees are considered by the general assembly.
1st January	Start of fiscal year.

Parliament enjoys extensive amendment rights. Budget rules can be changed by a normal majority. Parliament has relatively few restrictions on its ability to change the budget. Parliamentary committees do not usually play an independent role in the political process, but are a function of party discipline.

Although the process is meant to provide a structure for new spending proposals, effective consolidation of budgetary proposals does not take place. Many changes in budgets are proposed by Parliament outside the framework of the budget or the revised budget. On average five to ten changes per year are carried through in this way. The *ad hoc* nature of new proposals may be a result of the extensive rights of Parliament. More disciplinary power might result if a qualified majority vote were required for approving budgetary changes outside the framework of the budget and the supplemental budget.

3.2. Resources of Parliament

Parties in Parliament have their own political advisors, and each committee has a permanent secretariat. In addition, Parliament has a research section which was established in 1999 to provide more expert assistance to members. The section takes requests from members, from their political advisors, and from standing committees. Currently the seven researchers employed in the section respond to about 250 to 300 requests for information annually. The responses are only provided to the requestor, although the research section occasionally produces papers that are made generally available.

Having to answer 300 requests with a research staff of seven employees puts limits on the depth and rigor of the analysis that can be made. Although political parties can make use of Statistics Norway as an independent source of information, it is obvious that they cannot be used for all the requests from committees, members, or their staffs.

Other sources of information are available through the hearings that committees organise. The finance committee organises huge open hearings that last for days, in which 80 to 100 sessions are held. Speakers come from lobby groups, non-governmental organisations, and academic institutions. Sessions are clustered according to theme, and speakers are allowed to speak 15 minutes. Parliament and parties in Parliament also organise separate seminars and hearings on topics of interest where they invite external speakers such as non-governmental organisations, researchers and other institutions.

3.3. Conclusion

Parliament has a strong formal position; it has unlimited power to propose amendments to budgets and is able to decide on them with a simple majority. In practice this power is curbed by party discipline and depends on the type of coalition government (minority or majority). The initial budget

proposal of a minority government is always changed to some extent to be able to guarantee passage of the budget bill. The Ministry of Finance has a long tradition of providing objective and unbiased information to Parliament. However, some members of the opposition have called for more independent information to be provided to Parliament.

Box 6. National Audit Office

The right of Parliament to elect auditors-general was established in the constitution of 1814. The first election of five auditors-general was in 1816. In 1822 the Audit Ministry was founded. The Office of the Auditor-General was established in 1918 when the five auditors-general and the Audit Ministry became one institution under the Act on the Auditing of Governmental Accounts. The Office of the Auditor-General currently has 500 employees. Audit reports are produced annually. The content is discussed with the responsible ministry before it is approved. Audit reports contain considerations and assessments, but no specific recommendations. Audit reports are sent to Parliament with the comments of the respective responsible minister. The audit reports are examined in Parliament by the Standing Committee on Scrutiny and Constitutional Affairs.

Besides the regular audit reports, performance audits are also carried out, on average eight per year. The topics of the performance audits are usually chosen by the Office of the Auditor-General, rarely by Parliament. The half-yearly reports made by agencies for the ministries are sent to the Office of the Auditor-General. The Auditor-General sends them to Parliament without any comments.

Three years after a report has been made on a certain topic, a follow-up report is made. The Auditor-General does not have the power to impose any sanctions, but new studies are done when things have not improved. In response to a report, Parliament usually asks for improvements, so an agency or a ministry frequently will have serious problems if it does not make efforts to improve matters.

The Norwegian budget process appears to provide systemic incentives to underestimate costs for capital multi-year projects. Project proponents frequently obtain first-year funding – often based on underestimates – with the goal of getting additional funding in subsequent years, since projects are typically not stopped because of cost overruns. Examples of cost overruns include roads, hospitals, restoration of the royal castle and the new Opera house. The Auditor-General has made reports on this, but underestimation of costs is difficult to prove. As a response to such overruns, the Ministry of Finance has initiated a new system for quality assurance for major investment projects. This scheme was introduced in 2000 and extended from 2005.

4. Managerial flexibility and accountability for results

This section reviews the budget implementation and management processes in Norway. It concentrates on examining the degree of flexibility given to agencies in implementing their budgets. The Norwegian system is characterised by a high degree of managerial flexibility and decentralisation to agencies. This is the result of a combination of factors including the institutional arrangement of public administration, the flexibility of appropriations, and the relaxation of input controls and central management rules in the areas of human resource management, procurement, and internal controls.

In a devolved environment, it is important to have an effective system of financial management and control and to hold agencies accountable for results. While Norway has a modern system of financial management, progress has been slow on developing accurate and meaningful performance measures and using them in decision making.

This section addresses five aspects of budget implementation and management: the organisational structure of government, budget appropriations, human resource management, financial management and reporting, and performance budgeting and management.

4.1. Ministries and agencies

4.1.1. Organisational structure

Similar to other Nordic countries, the Norwegian government is organised into ministries and agencies. There are 17 small central ministries mostly responsible for policy making, and a much larger number of agencies (180) that implement policies. Agencies vary widely in size from two employees in the Norwegian Culture Heritage Fund to thousands of employees. Over 97% of government employees work in agencies.

4.1.2. Roles and responsibilities

The 1986 budget reform called for a greater focus on results and efficiency and delegated extensive administrative authority to line ministries and agencies. This delegation took place in a framework in which ministries are accountable to Parliament for all the operations under their remit. Ministries are formally responsible for ensuring that agency operations are in line with decisions by Parliament, that resources are used effectively, and that agencies operate a sound system of internal control.

The central government has endorsed a Government Decree on Financial Management that regulates management of all administrative central government bodies, all activities in the administration, and all grant, contribution and guarantee schemes. The Ministry of Finance has issued Provision on Financial Management in accordance with the government decree. All together these are referred to as the Financial Management Regulations. The Regulations include measures designed to promote good governance and efficient use of government resources. The ministries' management of the agencies (subordinate bodies), internal management in the agencies, and internal control requirements are covered by the Regulations.

Within this general framework, individual line ministries have the flexibility to establish their own approach for overseeing and managing agencies. In practice most agencies have been given a high degree of autonomy in terms of how they run internal operations and implement their programmes and their budgets.

The letter of instruction (letter of allocation) is the main instrument used by ministries to implement the budget. The letter sets out the appropriations for the agency, the overall goals and steering parameters, the power of authority, reporting demands, and information requests on performance and indicators.

These letters will vary from agency to agency. The details of the letters are the result of a dialogue between the ministries and the agencies that takes place at various stages in the budget process, with agencies having considerable input in terms of budget proposals and performance indicators. The ministries reconcile the input from the agencies with their own strategy, and specify targets and requirements in accordance with the discussions and decisions in Parliament.

Ministries decide on the reporting requirements for individual agencies. For example, the Ministry of Justice and the Police requires a half-yearly report from its agencies detailing any difference between objectives in the letter of instruction and the current status. In addition, agencies are required to produce a special annual report and to inform the ministry of any essential derivation from the plans contained in the letter of instruction.

It is the responsibility of the individual line ministers to monitor and control spending at the agency level. The Ministry of Finance gives assistance by providing monthly reports to the line ministers on spending. It is the responsibility of the individual minister to take action to check overspending.

The Norwegian system entails extensive delegation to agencies. Ministries mainly manage agencies through a dialogue and discussion approach. However, due to the high degree of information asymmetry between ministries and agencies, the agencies will tend to have the upper hand in these discussions. Ministries' management and monitoring capacity will vary depending on size, expertise and experience of staff, and the monitoring systems established. This problem is especially acute for performance information.

4.2. Budget appropriations

The budget consists of lines and sub-lines, where the lines refer to specific purposes (*e.g.* health care, police or education) and the sub-lines refer to objects of expenses (operating expenses, investments, transfers and financial transactions). The budget is binding on the line and sub-line levels. Government agencies can have appropriations covering all types of expenses.

Each ministry and each agency receives one appropriation for all of its wages and operating expenditures. There are few restrictions on the choice of inputs. Agencies have considerable flexibility with regard to the appropriations at their disposal. Ministries only tend to highlight the actions and tasks they expect from each appropriation; they do not state in detail how the money should be spent or define salary ceilings or operating expenditures. Agencies have the flexibility to choose the appropriate mix of inputs to fulfil their mission.

4.2.1. Transfers and capacity to carry over funds

Transfers are possible with the permission of the Ministry of Finance; it can empower ministries and agencies to transfer funds from current expenditure appropriations to appropriations for investment purposes under the same chapter, limited to 5% of the appropriation for current expenses. However, the approval of Parliament is required to transfer appropriations between programmes.

It is possible for agencies to carry over funds. They can transfer up to 5% of an appropriation for current expenses to the following budget period. Exceptions above and beyond this are possible; however, they require special approval by Parliament. This is normally done only for appropriations for expenditures in building and capital, and the funds are only available for the next two budget periods only. In addition, this opportunity to carry over funds is accepted for appropriations where the timing of payments is uncertain.

With the permission of the Ministry of Finance, agencies can overrun operating expenses providing they have corresponding additional incomes. They can also exceed expenditure appropriations by up to 5% for investment purposes, subject to corresponding savings in the following three budget periods. This provision has however not been used in practice. There is no further borrowing against future appropriations.

4.3. Human resource management

Over the past ten years, human resource management in Norway has become more decentralised. In 1997, numerical restrictions on the number of permanent staff that ministries and agencies could employ were removed. There is now no maximum numerical ceiling; however, the budget imposes a *de facto* ceiling. Individual ministries and agencies have the flexibility to recruit and hire their own staff and to dismiss non-senior civil servants.

4.3.1. Recruitment

In the Norwegian government, there are only a small number of political appointees. For each ministry there is normally the minister, one or two under-secretaries, and one or two political advisers. Therefore, nearly all officials are members of the Norwegian civil service. The civil service in the ministries is divided into two levels: senior civil servant and civil servant. In total there are 850 senior civil servants and 3 450 civil servants.

Vacancies for both senior civil servants and civil servants are publicly advertised, and all posts are generally filled through a process of open competition. There are no entry exams. The Ministry of Government Administration and Reform sets central standards and guidelines for recruitment; however, all recruitment of civil servants, except for CEOs of agencies, takes place at the level of the individual ministry and agency. The Freedom of Information Act results in an open system in which the names of all the people that have applied for posts are generally available to the public on request.

4.3.2. Employment contracts

Across OECD countries, there is a trend towards employing civil servants on fixed-term contracts and moving away from jobs for life. In the case of Norway, most officials at both levels are permanent staff. Senior civil servants are officially appointed by the King; they are normally permanent employees who can only be dismissed by the King or by a court of justice.

For non-senior civil servants, while they are permanent, they are not guaranteed a job for life in the traditional sense. Ministries and agencies have the ability to dismiss civil servants if the post is abolished, if the work is discontinued, or if the persons are permanently unfit to carry out their duties (*i.e.* no longer have the qualifications that are necessary or prescribed for the post). The required notice period varies with the length of service. In practice, however, it is not common for agencies to dismiss staff, although the flexibility to do so is available should the need arise.

While most civil servants have permanent appointments, agencies and ministries also have the flexibility to make temporary appointments. It is up to the individual ministry to decide whether or not to use fixed-term contracts for its agency chief executives. Most CEOs are on fixed-term contracts.

4.3.3. Pay negotiations

Civil service pay negotiations take place through a process of collective bargaining between the civil service trade unions and the Ministry of Government Administration and Reform, after the cabinet has decided on a total limit for the wage increase. In Norway, trade union membership among civil servants is high: more than 75% of civil servants are members compared with 50% of the general working population.

The process of negotiation results in a basic collective agreement on pay, which is applied to nearly all civil servants including non-union members. Collective bargaining arrangements have traditionally been very centralised, with most negotiations taking place at the central government and union level. In 2002 and 2004 there has been an effort to introduce a degree of decentralisation into the process, with 20% of wages being set at local level.

Performance pay is not very widely used for civil servants in the central government in Norway; when it is used, it is only applied for top-level senior civil servants in managerial positions and for agency chief executives. Within central guidelines laid down by the Ministry of Government Administration and Reform, the approach varies from ministry to ministry. Top-level senior civil servants have individual contracts with their ministry that contain individual performance goals and the percentage of pay linked to performance. For these senior civil servants, up to 30% of their pay can be performance-related. If the ministry wishes to have more than 30% performance pay, it has to seek the permission of the Ministry of Government Administration and Reform. Performance pay is an established part of the pay package for agency chief executives, as well as for senior civil servants in managerial positions.

Individual ministries will set their own criteria for the evaluation of performance. Generally, pay will be linked to how chief executives perform in relation to the agency goals contained in the letter of instruction from the ministry.

In Norway, human resource management is decentralised, with ministries and agencies having the extensive flexibility to recruit, hire and – despite the permanent employment contract – dismiss non-senior staff under predefined conditions. However, with the possible exception of senior civil servants, there is less flexibility with regard to pay. Pay and pay-related issues remain largely centralised in Norway, notwithstanding recent attempts at decentralisation.

4.4. Financial management and reporting

Norway has a modern financial management system and reporting framework. This section examines cash management, the reporting framework, the administration of financial regulations and control, and the debate about introducing accruals.

Norway operates on a cash accounting and budgeting system. The Ministry of Finance is responsible for the cash system and the state accounts. In 2004, the Ministry created the Norwegian Government Agency for Financial Management to take over the tasks related to the state accounts and the governmental consolidated account systems. The agency also administers the Financial Management Regulations and the framework agreements for banking services, and delivers payroll and accounting services to the government administration.

4.4.1. Cash management

Participants in the bank account system include the different government ministries, the central bank (Norges Bank) and two private banks (DnB Nor and Nordea). The Ministry of Finance has agreements with the Norges Bank about the state account systems, and framework agreements for banking services in the commercial and savings banks.

There is a treasury single account structure in the Norges Bank for operating payment services related to state budget revenues and expenditures and state bond finance. All agencies have a number of sub-accounts at the Norges Bank. Payments are made by the responsible agency from its sub-accounts within the appropriation limits and financial limits authorised by the responsible line ministry. Budget credits are released only at a rate required for payment obligations. All liquidity is transferred daily to

the Norges Bank and all the government cash reserves are placed here; interest is paid on the government's deposits. The rate is stipulated on the basis of the return on the bank's corresponding assets.

4.4.2. Financial reporting

Each agency accounts for its own transactions and reports electronically each month to the state accounts. All reporting to the state accounts is based on the cash principle. The Norwegian Government Agency for Financial Management provides accounting services for two-thirds of all state agencies and provides payroll administration for about three-quarters of all state agencies. This accounts for about 50% of all state employees (excluding the military).

Every month, the Norwegian Government Agency for Financial Management sends details to the Ministry of Finance on expenditures against each appropriation and produces and submits a monthly report showing the status of each ministry in relation to actual and planned spending. These reports are generally available between three to five weeks after the reported period. It is then the responsibility of the line ministry to analyse the figures and to take any future action that is needed to control the spending of its agencies.

All agencies are required to finalise their accounts by 15 January. Then the relevant line ministry is given one month to submit amendments to the accounts to the Norwegian Government Agency for Financial Management and another half month to confirm the accounts and comment on them to the Auditor-General. The Ministry of Finance is required to present its report on the state accounts to the Storting by 1st May. The Auditor-General reviews the accounts and sends letters to all ministries by July requesting comments on his/her findings. The Auditor-General sends a draft final report to all ministries by September. By November – nearly eleven months after the end of the fiscal year – the final audit report on the annual financial accounts is given to the Storting. In Parliament it is sent to the Standing Committee on Scrutiny and Constitutional Affairs which examines it and formulates a recommendation to Parliament. Parliament does not approve the audit report as such, but can ask the government to look closer into some issues of special concern.

4.4.3. Financial regulations and internal control and audit

The Norwegian Government Agency for Financial Management is responsible for the administration of regulations for financial management in central government. In 2004, revised general government financial

regulations were put in place in order to reduce the number and detail of regulations and to move more towards an advisory and guidance role. Line ministries are responsible for ensuring that agencies perform a control of operations; however, agencies have the flexibility to establish their own systems of internal control and auditing. Indeed, many agencies do not have internal audit units, and the revised regulations of 2004 do not mention internal audit. The Norwegian Government Agency for Financial Management advises the central government agencies on internal control and has recently published a guidance document on risk management.

The Ministry of Finance and the Norwegian Government Agency for Financial Management are currently encouraging agencies to strengthen financial management and control, by issuing new sets of documents and recommendations on risk management, efficient management, grant transfers administration, evaluations and socio-economic analysis. Agencies, however, have the flexibility to decide if they wish to follow these recommendations. The Ministry of Finance has limited capacity to put pressure on agencies to implement these reforms.

4.4.4. Cash or accruals

In 2003, an expert committee appointed by the government recommended moving to full accrual accounting and budgeting. The former coalition government expressed strong concerns about moving from cash-based to accrual-based appropriations. In the budget proposal for 2004, the former government stated that appropriations should remain on a cash basis, arguing that this provides Parliament with more precise and unambiguous information and that the fiscal policy role of the budget is better served by cash-based appropriations. Furthermore, the former government argued that a cash system enables better control of entity investments and is more flexible in allowing government entities and organisations to adopt modified solutions. A majority in Parliament supported this view.

Plans for a pilot project to develop and test accrual accounting in the central government based on assessments of cost/benefits throughout the process was described in the budget proposition for 2004, and a majority in Parliament supported these plans. The first step has been to develop standards for accrual accounting and to test them in pilot agencies. In 2005, ten pilot agencies introduced accounting based on the accrual principles. This introduction of accrual accounting is only at the agency level, and all reporting to the state accounts is still in accordance with the cash principle.

This reform aims to provide better cost information and to help establish a baseline for benchmarking costs both between government agencies and between the government and the private sector. The reform also seeks to

provide a more complete overview of the assets and liabilities of central government. In 2006, this pilot project will be evaluated and then the government and Parliament will decide on future steps.

Norway has a modern and efficient system of cash management and in-year reporting. There is, however, a significant time lag (eleven months) before the presentation of the final audit report on annual accounts to Parliament. This is not in keeping with the “OECD Best Practices for Budget Transparency” (OECD, 2002) that recommend the presentation of the government’s audited annual financial accounts six months following the end of the fiscal year.

4.5. Performance information in the budget process

A common reform approach across OECD countries is to give ministries and agencies increased managerial flexibility in order to improve efficiency and performance and to hold them accountable for results measured in the form of outputs and outcomes. For twenty years, Norway has been applying this approach. Extensive improvements have been made in managerial flexibility. However the government-wide system of performance budgeting and management has developed slowly.

There are many government-wide requirements for the development of performance information. The appropriation regulations require that the budget proposal contain information on planned objectives and achieved results for the previous financial year together with financial information. The Financial Management Regulations require ministries to ensure that agencies report relevant and accurate performance information and that they commission evaluations. Performance information is requested by the different ministries in their letter of instruction to agencies. Agencies produce a special annual report.

Despite these formal requirements and processes, many ministries and agencies have made only limited progress in developing meaningful performance measures and using them in the budget process. There are of course exceptions, and progress does vary with individual ministries and agencies.

This slow progress can be attributed to a number of factors: the weak capacity of ministries in this area, poor quality information, and the lack of incentives or pressure for ministries to actively implement this approach.

It is mostly the agencies that decide on detailed goals, priorities, performance measures and targets. Even if there is interest, ministries in many cases do not have the expertise or knowledge to develop performance measures or even effectively monitor performance. Ministries do not tend to

apply any financial rewards or sanctions to agencies that achieve or fail to achieve their goals and targets. In some ministries, failure to achieve a target can promote a discussion between the ministry and the agency, leading to questions about what steps can be taken to improve performance.

Similar to many OECD countries, Norway struggles with problems of defining goals and developing good quality performance measures and data. The character of performance information changes from agency to agency. Some agencies only define a few political goals; others define many goals. The development of output or outcome measurements has been slow, and generally the quality of the data is problematic. Sometimes far too many performance indicators have been developed: the police, for example, use as many as 300 performance indicators.

These problems are compounded by a decentralised system in which there are few incentives and little pressure on ministries to use performance information in the budget process. The Ministry of Finance is not putting pressure on ministries or agencies to actively implement these reforms. There is little systematic evaluation or monitoring by the Ministry of Finance of ministry or agency progress and activities in the area of performance. By 2007, Statistics Norway will develop an Internet-based system for communication of government services, quality, results and resources.

Similar to the majority of OECD legislatures, the Norwegian Parliament has shown only limited interest in performance information. This is despite receiving performance information in the annual budget bills from each ministry. In general, performance information is not used in the annual budget process to any meaningful degree. While there is some use of performance information by individual ministers, it appears sporadic; and they are heavily dependent on agencies for their information, the quality of which is variable. For real progress to take place, a stronger push is needed, either by the Minister of Finance or by Parliament.

4.5.1. Performance formula funding: directly linking performance to results

In some sectors, mainly education and health, funding is directly linked to results. In the area of education, where universities are paid according to the number of students who graduate, expenditures have increased every year after the introduction of performance-linked funding. There has also been some debate about the temptation for universities to let students pass who should have otherwise failed their exams, simply in order to get increased funding.

In the health sector, the performance-based funding has been controversial. In health care, part of the funding is based on Diagnosis Related Grouping (DRG), that is activity-based funding. Since the introduction of this funding system, there have been problems with cost controls, perverse incentives, and cheating.

While this system has resulted in a reduction in waiting lists, health expenditure has risen and a number of regional centres have exceeded spending limits. In one instance the system was manipulated as patients were re-diagnosed into categories that would bring more financial benefits. This incident received huge media coverage. Although no systemic changes have been put through, the media treatment may reduce the most blatant abuses of the system, but it was reported that there are still instances of projects to “improve” the patient categorisation in the system in order to increase income. The Office of the Auditor-General has recently published a critical report showing very poor categorisation of patients in the DRG system.

This system of direct performance funding is generally only suitable for certain functional areas and thus is not widely applied. In particular, care should be taken when adopting this type of performance funding as there can be dangers with perverse incentives and issues about the quality of the service delivered and the performance information itself.

4.6. Conclusion

Norway has a decentralised system of public administration in which ministries and agencies have a high degree of managerial flexibility. Changes over the past ten years in the area of human resource management and control systems have increased that flexibility, although a few areas stay centralised, such as pay negotiations, and certain restrictions remain – for example there is no borrowing against future appropriations.

For the governments of OECD countries, it is important to find an appropriate balance between delegating responsibilities and maintaining adequate systems of accountability and control. If this balance is not maintained, problems can arise with – depending on country context – management failures and financial irregularities, failure to control expenditure, and a lack of information and steering capacity at the centre to introduce change.

In the case of Norway, large-scale financial irregularities have not been an issue. Norway has developed a modern system of financial management and a system of control which permits extensive flexibilities to agencies in developing internal control systems appropriate for their needs.

Cost overruns have occurred occasionally in the past, for example in the Ministry of Defence and with hospital expenditure, especially after introducing activity-based financing. The Auditor-General has pointed out problems with the management of large multi-year capital projects. Generally, however, overspending on current expenditure is fairly rare in Norway.

Individual ministers rather than the Minister of Finance are responsible to cabinet and to Parliament for any spending overruns of their ministry. The fear of censure can act as an incentive for ministers to control spending. The Ministry of Finance has chosen to distance itself from the role of controlling the spending activities of agencies, preferring to leave the control to line ministries. Since there are not many formal controls, the system is predicated on a high degree of trust between the Ministry of Finance and spending ministries and between spending ministries and agencies, reflecting a unique set of contextual factors which appears to work in Norway.

The oversight and steering capacity of the Ministry of Finance over line ministries is limited. While this has not recently posed problems in terms of spending controls, it does raise questions about the capacity to steer government-wide initiatives in relation to policies such as performance or risk management. It also limits the ability of the Ministry of Finance to put pressure on ministries to implement necessary changes.

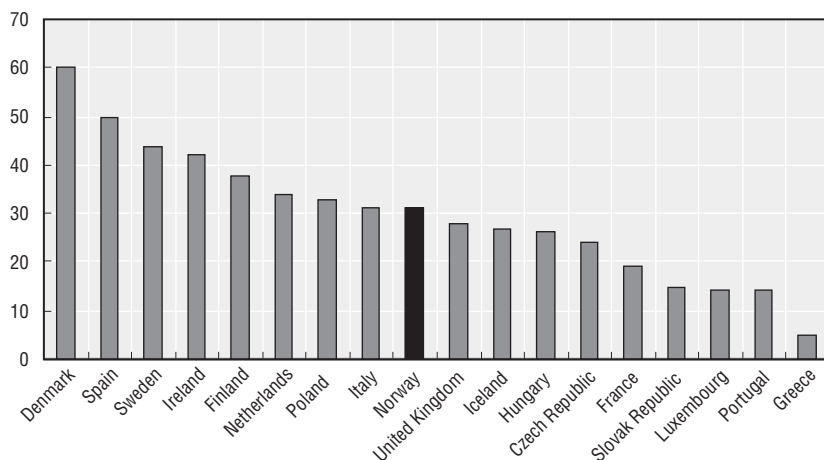
5. The role of local and regional governments

Norway has three tiers of government: the central government, 19 counties, and 431 municipalities. Both the county level and the municipal level have direct elections with popular representatives responsible to their constituents. The municipal level of government is the more substantive level of sub-national government, both in terms of responsibilities and revenues. The budget of municipalities is more than five times bigger than that of the counties.

Local governments, including both the counties and the municipalities, are well-established institutions in Norway. The rights and responsibilities of local governments were first defined in 1837. Local government revenue amounted to 2% of GDP for most of the 19th century but expanded steadily during the 20th century, especially in the 1930s and the 1970s. Recent years have seen a reversal of that trend. At present, local government revenue accounts for around 13% of GDP. The amount of decentralised spending in Norway is comparable to many other OECD countries, but considerably less

than in other Scandinavian countries (see Figure 1). About 20% of the labour force works in the local public sector, mainly teachers and nurses.

Figure 1. Sub-national expenditure as a percentage of total public spending (2003)



Source: OECD National Accounts statistics.

Eight Norwegian municipalities have more than 50 000 inhabitants. Oslo is the biggest municipality with half a million inhabitants. On average, a Norwegian municipality has 10 750 inhabitants. Over half of the Norwegian municipalities have less than 5 000 inhabitants.

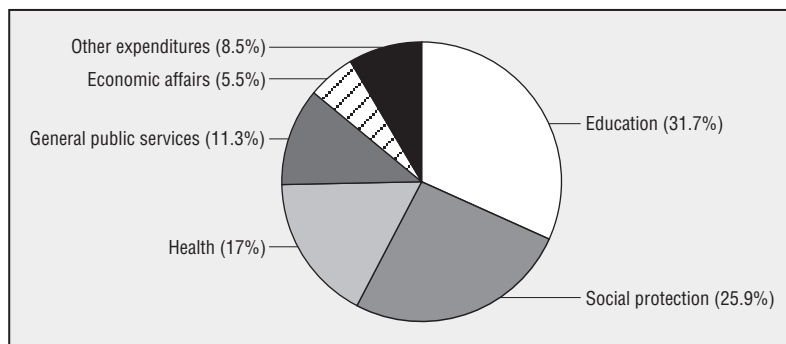
5.1. Sub-national expenditure

Local governments play an important role in public service delivery. The counties are responsible for upper secondary education and regional development, including regional transport, business development, dental health service, and culture. Municipalities have responsibilities within the fields of primary and lower secondary education, kindergartens, and care for the elderly and disabled, as well as classic municipal functions such as fire prevention, local transport, waste collection, sanitation and water. More than half of the budget of sub-national governments is spent on education and social protection (see Figure 2).

The majority of sub-national spending relates to programmes for which the central government sets standards or guidelines. Within these fields, it could be argued that local governments act as an agent for central

government more than as an independent actor. The mandated welfare services represent 70-80% of the budgets of municipalities and 80-90% of the budgets of the counties, while the rest covers local public goods. According to research carried out by the association of local governments, central government regulation hinders the effectiveness of local governments.

Figure 2. Sub-national expenditures by function (2003)



Source: Statistics Norway.

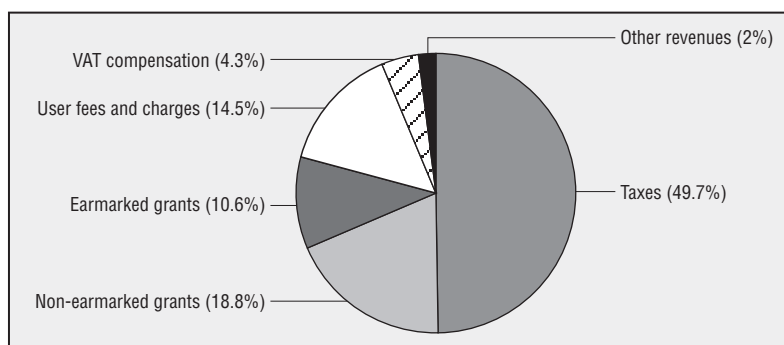
The last decade has seen mixed developments with respect to standardisation by the central government. On the one hand, Parliament has demanded more services from local governments on several issues. Examples are the decision to start education at the age of 6 instead of 7 (in 1997), the increased standards for elderly care, and the ambition to provide kindergarten to all children (in 2004). Furthermore, the central government has transferred the responsibility for hospitals from the county level and given it to five public enterprises (from 2002). On the other hand, there are other examples of increased autonomy for local governments, such as the abolition of regulations on maximum class size and, from 2004, the freedom of local governments to set the wages of their teachers.

5.2. Sub-national revenues

Almost half of the sub-national revenues come from taxes. Other large revenue sources are grants from central government (both earmarked and non-earmarked) and charges and fees (see Figure 3). The most important local tax is the personal income tax: it provides 42% of total municipal revenue. Other local taxes are the property tax and a corporation tax.

Municipalities are free to set their tax rates, but a maximum tax rate is set by Parliament. In practice all municipalities use this maximum rate. One explanation for this might be a fear at the sub-national level that setting a rate below the maximum will invite the central government to cut grants for this municipality. Such a policy has however never been announced by the central government. The central government does give out discretionary grants and can also influence local revenues through matching grants and funds channeled to promote new services. The local income tax can be considered as a tax share where the revenues from the 28% flat-rate tax on personal income are split between the three levels of government. The proposal for 2006 is 13.3% as a maximum tax rate for municipalities, 2.9% for the counties, and 11.8% for the central government. The progressive rate for higher income brackets is reserved to central government. Taxes are collected by the municipalities.

Figure 3. Sub-national revenues by type (2006 budget)



Source: Norwegian Ministry of Finance, 2005.

The property tax is restricted to urban areas and certain facilities, and thus not available to all municipalities. Around 230 of the 431 municipalities collect a property tax. In the revised budget for 2006, the cabinet has proposed changes in the property tax, making it available also for rural areas. If property tax related to electric power production is excluded, about 110 local governments collect property tax, mainly applied to residential property. In practice the number of local governments that collect property tax is quite stable over time and represents historical decisions. The property tax rate is restricted to a narrow band, between 0.2% and 0.7%. Most of the local governments collecting a property tax apply the maximum rate. In the local governments that collect residential property tax, it averages about NOK 1 300 (EUR 160) per standard house per year.

A relatively large part of the local revenues comes from charges and user fees. The most important charges are for utilities, care for the elderly and kindergartens. Charges and fees cannot exceed the production costs of the service. In some cases an additional limit is added by the central government, such as for child care, where the maximum fee is determined at NOK 2 250 per child per month from January 2006. Although user charges are regulated so that they cannot exceed total production costs, the share of costs covered may exceed 100% in a single year, as long as user charges do not exceed total production costs over a period of three to five years. It has been noted that local governments are, to some extent, able to circumvent the national regulation. It is claimed that user charges contribute to cost control in the Norwegian public sector: an increase in user charge financing of ten percentage points is predicted to reduce unit costs by up to 10%.

Most of the grants are distributed as general grants based on objective criteria, but a variety of matching grants and funds for new political initiatives are in place to promote the detailed ambitions of national politicians. The grant reform that took place in 1986 transformed most of the earmarked grants into one non-earmarked grant. The central government aims to minimise the use of earmarked grants.

Part of the sub-national revenues comes from the central government in the form of compensation for VAT that is being paid by sub-national governments for services that could have been provided in-house. The VAT compensation is paid to provide a level playing field to private enterprises for certain services that were formerly done by municipalities. In this way competition by private providers is enhanced.

5.3. Sub-national budget rules

In Norway the main central requirement for the budget of local governments is operational budget balance. Current revenue must be sufficient to cover current expenditures as well as the costs of servicing the local government debt (net interest payments and net instalments on debt). Borrowing can only be used for investment purposes.

The balanced budget rule is imposed *ex ante*, which means that actual deficits can be carried over. A deficit that is carried over has to be “repaid” within two years; that is, the surpluses in the following two years must be sufficient to cover the accrued deficit. Local governments are not subject to specific sanctions if the rule is broken, but budgets and borrowing must be approved by the regional commissioner (*fylkesmannen*), the central government’s representative in the county. The regional commissioners will aim to restore economic balance by being reluctant to approve new

borrowing. In extreme cases, not observed during the last decades, the central government may take control over local finances.

During the period 1991-99, more than two-thirds of the local governments had a net operating deficit at least one year, and nearly 30% had deficits at least three out of ten years. In two-thirds of the cases, the deficit was turned to a surplus after one year. In 80% of the cases there was a surplus after two years. In the period 1991-97, as much as 25% of the local governments violated the balanced budget rule at least once.

Current expenditures and revenues are only affected by deficit shocks to a small degree. The investment level is the main shock absorber. Overall the Norwegian local public sector has not experienced serious problems of deficits and debts since the Second World War. The application of the deficit rule seems to be efficient in keeping the local deficits under control.

5.4. Equalisation

Differences in both tax capacity and expenditure needs are equalised in Norway. There are differences in tax capacity since the tax bases per capita in municipalities differ. Rich municipalities have a tax base per capita that is two and a half times larger than poor municipalities. Expenditure needs differ because of the demographic composition of a municipality and other elements that determine the need and cost of certain services. Equalisation of expenditure needs is intended to provide the same service level in every municipality. Equalisation is provided regardless of the efficiency of service provision and local choices.

Equalisation of tax capacity takes place via the tax system. These differences are partly equalised. Since 2005, the differences between actual tax revenue in a municipality and average tax revenue for all municipalities are equalised at 55%. That means that a municipality with above-average tax revenue has to give away 55% of the above-average revenue. So a municipality with tax revenues of 130% of the average ends up with 116.5%, since 55% of the surplus of 30% is taken away. In the same vein, the municipalities with tax revenues below the average get 55% of the difference between their revenues and the average level.

The equalisation of expenditure needs takes place via allocation criteria of the general grant. These differences are fully equalised. Allocation criteria are manifold and include the number of elderly people, number of young children, number of inhabitants, and population density. Small and sparsely populated areas receive more expenditure needs equalisation than larger, more centrally-located municipalities.

In addition to the equalisation via tax revenues and general grants, regional disparities are also reduced by two earmarked grants: the grant for remote areas and the grant for northern Norway. These two categories can be but are not necessarily overlapping. A remote municipality is defined as a municipality with less than 3 200 inhabitants and tax revenue less than 110% of the national average. Northern Norway is defined as the three most northern provinces.

The comprehensive grant system has created new inequalities. Since regional policy aspects are built into the criteria, the periphery, and in particular small municipalities, have been overcompensated. The result is a divide where urban areas are relatively rich in private income and poor in public services, while the periphery is relatively poor in private income and rich in public services. Since the equalisation system compensates for the high costs associated with decentralised settlement patterns, it rewards cost-inefficient locations. Moreover, it may not give municipalities enough incentive to improve their tax base (municipalities with tax revenues that exceed the average are allowed to keep only 45% of the above-average revenues). It is assumed that the grant system altogether has lowered the emigration from the North. There is however no evaluation of what would have been the population in the north if there had been no equalisation transfers.

A recent report by a government committee suggests reforms of the equalisation system. It proposes simplification and reduction of the amount and weight of regional policy indicators that are currently used for allocating the general grant.

5.5. Sub-national governments and the budgetary process

In its annual budget, the central government presents in its annual budget the desired growth of total revenue of local governments, taking into account the overall economic situation. This is done by setting the level of the general grant and the maximum rate of the local income tax. The growth rate of tax revenues has not deviated much from grant revenues.

The association of local governments (KS) has the opportunity to influence the government's proposal on local finance in consultative meetings with the government. These meetings started in 2000 and take place four times a year at political level (between cabinet ministers and the central executive committee of KS). The meetings that took place in 2005 discussed the economic situations in municipalities and regions (February), the centrally initiated reforms and changes (April), results and productivity in 2004 (August), and a joint document with the effect of the government budget proposal for municipalities and counties (October). Due to the

change of government, there was also a fifth meeting in December 2005. The meetings are not formally binding. KS would like the consultative meetings to develop in the direction of binding negotiations with the government on local government finance, such as those that take place in Denmark.

Local governments used to be subject to detailed reporting requirements on local spending. Currently a more general framework for reporting is used. Indicators on local government expenditure and performance are collected by Statistics Norway in their KOSTRA database. This information is used for both internal planning and external reporting.

5.6. Conclusion

Local government in Norway is characterised by limited autonomy. Most of the expenditure is mandated or subject to central guidelines; most of the revenue sources are determined by the central government. The only revenue sources over which local governments have relative freedom are charges and fees, but they are not allowed to exceed production costs. In addition the property tax has only been levied in some of the municipalities. It is not clear if a trend towards centralisation can be noted, since developments in both centralising and decentralising directions have been taking place.

Limited local autonomy leads to pressure from local governments on central government and Parliament to provide additional funding. Within a context of minority governments, additional funding to local governments has often proved a way of getting the government budget accepted by Parliament. Some argue that limited autonomy thus leads to local expenditure growth that is not efficient. Several OECD countries provide more local autonomy, with the belief that more local autonomy in setting tax rates can bring better incentives for efficiency.

Norway has an ambitious equalisation scheme that benefits remote regions and northern Norway. The scheme provides incentives for living in cost-inefficient locations but might not give municipalities enough incentives to improve their tax base and, thereby, economic growth. The extent to which this has reduced emigration from the North is unclear.

Bibliography

OECD (2002), “OECD Best Practices for Budget Transparency”, *OECD Journal on Budgeting*, Volume 1, Number 3, pp. 7-14.

Budgeting in Singapore

by

Jón R. Blöndal*

The public finance system of Singapore consists of four “pillars”: the budget sector itself; the Central Provident Fund; the government investment agencies; and various special funds not consolidated into the budget. The budget process is characterised by close interministerial co-operation and the use of constitutional fiscal rules, spending ceilings for ministries (“block budgets”), across-the-board budget extractions (spending cuts), endowment funds, central manpower controls, and continual underspending. Parliament has a limited role. The President of the Republic has an important role as “fiscal guardian”. The article describes these particular features of the Singapore budget process, and discusses other elements of budget implementation and government management such as the organisational structure of the government, the execution of budget appropriations, personnel management, financial management and reporting, and performance and results initiatives.

* Jón R. Blöndal is Deputy Head, Budgeting and Public Expenditures Division, Public Governance and Territorial Development Directorate, OECD.

Foreword

In an exchange of letters between the Singapore Ministry of Finance and the OECD in early 2006, it was agreed that the OECD would prepare a profile of Singapore's budgeting process. The profile would offer a general overview of Singapore's system of budgeting as well as highlighting the many innovative features of budgeting in Singapore.

This article is divided into five sections. The first outlines the structure of Singapore's multi-pillared public finance system. The second focuses on the budget formulation process. The third discusses the role of Parliament and the President of the Republic. The fourth reviews various aspects of budget implementation and government management issues. The article concludes with a description of the Central Provident Fund.

An OECD mission visited Singapore in April 2006 to prepare this profile. During its visit, the mission met with senior officials from the various parts of the Ministry of Finance – Fiscal Policy Directorate (Fiscal Strategy unit, Budget Policy unit, Budget Systems and Support unit), Accountant-General's Department – as well as senior officials from the Office of the Prime Minister, the Ministry of Education, and the Ministry of Health. The mission also met with senior officials from the Central Provident Fund.

The views contained in this article are those of the OECD Secretariat and should not be attributed to governments of OECD member countries, or to any organisations or individuals consulted for this profile.

1. The public finance system of Singapore

In order to understand the architecture of Singapore's public finance system, it is useful to think of it as consisting of four "pillars":

- The first is the budget sector itself.
- The second is the Central Provident Fund, which takes on the funding of many social services traditionally undertaken by the budget sector in OECD countries.
- The third is the government investment agencies. They manage the extensive surpluses generated by the budget sector and the Central Provident Fund over the years and yield significant annual investment incomes.

- The fourth is the operation of various special funds that are not consolidated into the government's overall budget position.

1.1. Central Provident Fund¹

The Central Provident Fund (CPF) is a mandatory savings scheme financed by payroll contributions from both employers and employees. The combined contribution rate is currently 33%, with 20% paid by the employee and 13% by the employer. These contributions are credited to the member's personal account at the CPF which pays nominal interest on members' balances. The CPF allows its members to withdraw funds to pay for approved uses such as housing, retirement and medical costs for themselves and immediate family members.

The CPF is the centrepiece of Singapore's "personal responsibility" system for the provision of social services. The individual accounts in the CPF are the property of the member, and any remaining balances form part of their estate upon death. The Central Provident Fund relieves the budget sector from having to finance these social services for the most part.

The CPF generates large amounts of "surplus" cash-flow from members' contributions each year. These funds are invested in government securities. This largely explains why the Singapore government has high levels of domestic liabilities despite the budget sector having accumulated surpluses over the years and not needing debt financing. These surpluses are then invested by the third pillar of the public finance system: the government investment agencies.

1.2. Government investment agencies

The government has two principal investment agencies: the Government of Singapore Investment Corporation and the Temasek Holdings Private Limited Company. Both investment agencies are responsible to the Ministry of Finance. In addition, the Monetary Authority of Singapore – the central bank – maintains extensive holdings in foreign currencies to back the Singapore dollar.

The level of disclosure on the operations of the investment agencies – especially the Government of Singapore Investment Corporation – is very low. The government's view is that releasing such information may lead to speculation in the market and may adversely impact Singapore's economic stability and national security. The differential in the rate of return achieved by the investment agencies and the interest paid on the balances in

individual CPF accounts – which is a principal source of the surpluses invested – may also be sensitive.

The Government of Singapore Investment Corporation acts “as a fund manager for the Singapore government” and focuses on the overseas investment of Singapore’s surpluses. Its corporate profile notes that it invests “in equities, fixed income, money market instruments, real estate and special investments” and that it manages “more than USD 100 billion” in accumulated surpluses. No further information is released – neither the amount of its total assets (some believe that it is significantly “more than USD 100 billion”), nor the composition of its assets (either by types of instruments, geography or currency), nor the rates of return achieved on its portfolio.

The Temasek Holdings Private Limited Company operates “as an independent company separate from the government, but the government holds a 100% equity stake as an investor in the company.” Temasek manages direct corporate shareholdings – both in Singapore and abroad – and its portfolio is wide-ranging. According to its corporate profile, it includes “telecommunications and media, financial services, property, transportation and logistics, energy and resources, infrastructure, engineering and technology, as well as pharmaceuticals and biosciences.” It publishes an annual “Temasek Review” which provides details on its portfolio. Temasek acts as an “active commercial investor”. Several of the companies are listed on the market in Singapore and overseas. It reports that the value of its portfolio is currently “SGD 103 billion² as at 31 March 2005, and has achieved total shareholder’s return since inception (1974) of 18% compounded annually.”

The Constitution contains a fiscal rule that limits the use of investment income generated by the investment of surpluses as well as providing extensive safety mechanisms to guard the reserves. This is discussed in subsequent sections of this article.

As is discussed below, the budget concepts of Singapore are designed to ring-fence part of the investment income generated by these agencies from the budget sector, in order to safeguard the real value of the accumulated reserves.

1.3. Other funds

Singapore operates several special funds that are not consolidated in the reporting of the budget to Parliament. (These funds are governed by specific acts.) The outstanding example is the Government Securities Fund; this is where the Central Provident Fund invests its surplus funds. The interest paid

to the CPF is however netted against the investment income earned by the government investment agencies. As a result, the budget sector of Singapore shows no interest expense for the bonds purchased by the CPF. Similarly, government expenditure for the purchase of land is offset against income received from the sale of land.

There are also endowment funds. The government created special funds and capitalised them at high levels during years of high budget surpluses. The funds in turn yield an annual return that is used to fund various specific social expenses as specified by the acts which govern these endowment funds. These are discussed further in the section on budget formulation. Singapore views this treatment as easing the management and administration of the funds and their underlying transactions.

1.4. Budget sector

The existence of the large accumulated reserves has resulted in the use of unique budget concepts in Singapore. In short, they aim to foster fiscal discipline and sustainability by limiting the use of the investment income earned on the accumulated past surpluses.

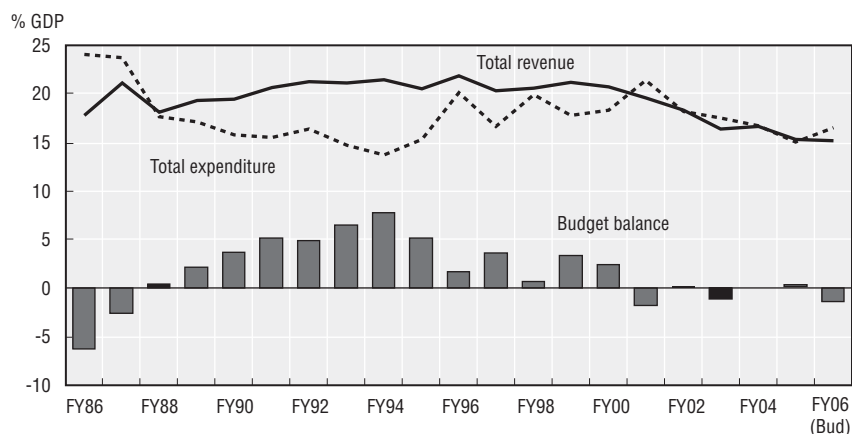
At first, this was accomplished by using the “operating revenue” concept. This meant that investment income was not treated as revenue for budgetary purposes. Only taxes and user fees were considered as revenue. This resulted in the government’s real surplus being substantially higher than its reported surpluses, or even reported deficits.

In 2000, Singapore’s budget concepts were revised, and parts of net investment income derived from the investment of past surpluses were now treated as revenue for budgetary purposes. This was an implicit recognition of the tight fiscal realities going forward and the need to rely on net investment income contributions to fund required expenditure. In accordance with Singapore’s fiscal rule (described in the next section), up to half of the annual realised net investment income could be used by the budget sector. However, this is a maximum amount and the government does not report what share of net investment income it actually used during a given year. The concept is somewhat euphemistically known as “total revenue”. The government’s total surpluses (inclusive of all investment income) continue however to be under-reported in the budget sector with this concept.

As a result, the performance of the budget sector does not give a comparable picture of Singapore’s fiscal performance vis-à-vis OECD countries. The government’s fiscal performance has been better than reported in the budget sector each year. With this caveat, Figure 1 shows the

evolution of Singapore's fiscal performance since fiscal year 1986 according to the "total revenue" concept.

Figure 1. Singapore's budget performance FY1986-FY2006 as a percentage of GDP



Source: Singapore Ministry of Finance.

As can be seen, the budget sector experienced reported deficits in the late 1980s, which was a difficult economic time. In the 1990s, it reported surpluses every year – often very significant surpluses, and even during the Asian financial crisis. Since the millennium, Singapore has experienced both surpluses and deficits, although as a whole it has been roughly in balance. Events such as 9/11 and SARS adversely affected the fiscal performance during this period. During the 1990s, revenue averaged about 20% of GDP. It has shown a decline starting with the Asian financial crisis which brought on both lower economic growth and tax cuts in order to boost Singapore's competitiveness. During this time, Singapore has also been changing the emphasis of its tax system to a greater reliance on indirect (consumption) taxes.

Expenditures have moved in a range between 15% and 20% of GDP during most of this time period. In discussing expenditures, it is important to note that capital expenditures account for a very large percentage of total expenditures in Singapore – about one-third of total expenditures. The timing of individual projects largely explains the differences in individual years, although there was a distinct upward trend in overall expenditures during the 1990s which has since been arrested.

Other noteworthy features of the expenditures of Singapore's budget sector include the near absence of transfer payments (which are funded by the individual accounts at the Central Provident Fund) and interest expenses (which are netted out below-the-line against investment income).

2. Budget formulation

Singapore's budgeting process has evolved over the years from a traditional bottom-up system based on detailed line items to an advanced top-down system which emphasises robust aggregate limits on spending while granting line ministries maximum discretion in their final allocations among their various programmes.

Although similar in principle to many OECD countries, the Singapore budget formulation process incorporate various unique and innovative features. Section 2.1 highlights those features. Section 2.2 outlines the key steps in the annual budget formulation process.

2.1. *Special features*

This section reviews six innovative and unique features of the Singapore budget formulation system:

- Fiscal rules which are contained in the Constitution.
- Spending ceilings for ministries ("blocks") which are multi-year, directly linked with developments in GDP, and fully fungible between all categories of spending.
- Across-the-board budget extractions (spending cuts) to fund reallocations among ministries.
- Endowment funds where budget surpluses are placed which in turn fund various good causes from their annual investment income.
- Central manpower controls (head counts) and a system of surcharges if they are exceeded.
- Continual underspending of appropriations.

2.1.1. *Constitutional fiscal rules*

The Singapore Constitution contains three key fiscal rules. They provide an important anchor that promotes fiscal responsibility and sustainability in Singapore.

First, the Constitution establishes the principle that a government should not draw upon resources accumulated during previous terms of government. This means that deficits in any year must be balanced by surpluses accumulated in earlier years during its term of office. A government is elected for a maximum term of five years. No cyclical adjustments are made for these calculations.

Second, the Constitution establishes that a government may only consider as revenue for these purposes up to half of the annual net investment income from the accumulated reserves. Importantly, this is interpreted to include only realised income; *i.e.* “paper” income from capital gains on the portfolio is excluded from these calculations.

Third, there is an “escape clause” which allows a government to engage in deficit financing and draw on past reserves. In order to do so, the consent of the President of the Republic is required. This is known in Singapore as the “two-key” safety mechanism, *i.e.* both Parliament and the President must agree. In fact, acting as a fiscal guardian is the principal function of the Presidency. This is described in greater detail in section 3.

2.1.2. *Spending ceilings (“blocks”)*

Budget formulation is based on each ministry receiving a multi-year spending ceiling, referred to as “block budgets” in Singapore. Within this ceiling, spending ministries have autonomy in making final allocations among their various activities. The Ministry of Finance takes a hands-off approach and empowers spending ministries to make the final allocations, as they are in the best position to make such decisions.

Box 1. Advances and carry-forwards

Up to 10% of the budget for the current year may be “borrowed” from future allocations within the five-year ceiling. They must be repaid within three years by deducting them from the ceiling in subsequent years. Interest is charged on such advances; currently it is at 3.2%. Ministries can also delay their budget allocations from one year to another. They can be carried forward for a maximum of three years; thereafter budget allocations will lapse.

Both measures **must** be undertaken during the budget formulation process as they are reflected in the budget approved by Parliament. (In-year flexibility is discussed in a subsequent section.)

While this top-down concept is common to many OECD countries, Singapore has applied it since around 2000 on a very unique basis. First, the ceilings are typically made for five years. The objective is to provide greater predictability and a more stable expenditure pattern. Within this five-year time horizon, ministries can borrow in one year against allocations in subsequent years and delay appropriations in one year to a subsequent year. Over the five-year horizon, the spending limit is fixed but each individual year is variable.

A comprehensive review was carried out before the five-year ceilings were established, with analysis of historical spending patterns and forecasts of medium-term outlays being made by the Ministry of Finance. Extensive discussions took place between the Ministry of Finance and line ministries as well. Upon introduction of the budget ceilings, the Ministry of Finance also noted that it was ready to deal with any unusual situations on an *ad hoc* basis; this is however extremely rare, as most requirements can be fulfilled using advances. For example, the SARS crisis is quoted as one of the very few examples that resulted in special additional allocations.

Second, the ceilings are not expressed in nominal amounts, but rather in terms of percentage of “smoothened” GDP (sGDP). For example, the ceiling of the Ministry of Education may be equivalent to 4% of sGDP per year. The nominal amount of each year’s ceiling is determined by the level of sGDP. The percentage of GDP will be the same for all five years but, as noted above, ministries can take advantage of budget flexibilities such as carry-forwards and advances within the five-year period.

“Smoothened” GDP refers to averaging GDP growth rates over a six-year period. It uses the historical values for GDP for the past three years, the GDP assumptions used for the respective year’s budget, and the projections of GDP for the two subsequent years. Smoothened GDP was designed to limit year-on-year volatility and to act as a counter-cyclical element: more money is available in lean years and less in better years than using non-smoothened GDP.

The Ministry of Finance does not make the percentage of GDP each ministry receives publicly available. The ministry views it as a management tool to assist in budget formulation rather than as a public commitment. (Due to the system of advances and carry-forwards, it is not possible to decipher the exact percentages from the amounts in the annual budget.)

Third, the spending ceilings that are assigned to ministries are fully fungible. Ministries receive one total ceiling to cover all of their expenditures: operating, transfer and capital expenditure.³ Similarly, no special expenditures are “ring-fenced” within the ceilings.

2.1.3. Reinvestment Fund

In 2004, a system of across-the-board budget extractions (spending cuts) was introduced in order to make funds available for reallocation through a central Reinvestment Fund. Ministries then make bids for allocations from this fund. The money taken away from ministries may or may not represent a permanent reduction to their budget ceilings; the money “given back” is considered a one-off increase which does not affect their budget ceilings for subsequent years if the funding requirement is less than five years. However, if the funding requirement is more than five years, the money “given back” will increase the budget ceilings for subsequent years. This helps to ensure that the ministries have sufficient money to fund their new standing functions.

In 2004 and 2005, there was a system of across-the-board budget extractions on ministries’ operating budgets, known as “productivity dividends”. The extraction rate was pegged to the moving average of the national productivity growth rate, on the basis that the government should strive to be at least as productive as the rest of the economy.

The new system which was implemented from 2006 onwards, however, does not have any explicit linkage with productivity developments in the private sector. Renamed as “reinvestment dividends”, it is also calculated on the basis of total budgets, *i.e.* including capital and transfers. The annual rate is currently 5%.

In addition to promoting reallocations to promising new areas, the current system of across-the-board budget extractions and the Reinvestment Fund is designed to “right-size” the ministries’ budgets and to promote certain “good behaviours” by ministries.

The first is exemplified by the fact that the Ministry of Finance does not reallocate the full amount of money received through the across-the-board budget extractions and that the cuts are cumulative. This must also be seen in the light of high GDP growth in Singapore whereby GDP growth exceeds the rate of the across-the-board budget extractions; there is concern that ministries may not be able to put to effective or efficient use the annual GDP-linked growth in their budgets.

The second is exemplified by the fact that the criteria for successful bids from the Reinvestment Fund favour projects where two or more ministries co-operate, *i.e.* attempting to break down “silos” between ministries.

Smaller ministries complain the most about this system, though some of the more enterprising ones have benefited considerably from it. The fact that capital investments can be cut in order to meet the budget extractions is also

resented by some ministries. (It should be noted that the Ministry of Defence is the only ministry not subject to this system.)

2.1.4. Endowment funds

During the very high budget surpluses of the early 1990s, the government created a number of endowment funds, whereby the government placed a large amount of money (in the billions of dollars) into stand-alone funds which in turn used their annual investment income to fund various good causes. They were primarily established in the social services area.

Since their creation, the government has used budget surpluses to increase the size of their capital, thus making more money available for annual distribution through their investment income. In addition, the annual budget does in some cases supplement the annual distribution from these funds to good causes.

2.1.5. Manpower controls

Singapore keeps centralised controls on manpower. The budget documentation includes the number of posts for each ministry. This was put in place due to concerns about the growing number of government employees in Singapore, which was especially high during the years of very high budget surpluses in the 1990s.

In 2004, a system was introduced to reduce total manpower by 3% each year over three years. The natural attrition rate for government employees is in excess of 3%, so the policy is effectively not to replace people leaving their posts. (The 3% target was applied on a ministry-wide basis, so internal reallocation of manpower controls is possible.)

In a novel departure from traditional manpower controls, the Ministry of Finance added an element of flexibility to the system. The manpower controls can be exceeded through the payment of surcharges (SGD 10 000) for each employee above the manpower limit. This represents a token amount, but having to pay the surcharge is viewed with some stigma among government agencies.

2.1.6. Underspending

While not a feature of the Singapore system as such, it is most noteworthy that government ministries typically do not fully use all of their

budget allocations. The annual average amount of underspending is about 5% of total appropriations.

Rather than the appropriations to government organisations being simply too high – a situation being addressed by the across-the-board budget extractions which are only partially returned through the Reinvestment Fund – there appear to be three reasons for underspending, all caused by a common risk-averse attitude in government.

First, spending ministries view the top-down budget ceilings as having transferred the “volume of demand” risk from the Ministry of Finance to the line ministries, *i.e.* they need to keep an internal contingency fund in order to meet any unexpected demands on their services.

Second, Singapore’s personnel system entails a large number of variable factors, many of which are not known until the end of the fiscal year. (This is discussed further in section 4 on budget implementation and government management issues.) As a result, it is considered prudent to have enough money available for this purpose, which generally is well in excess of the actual amount needed.

Third, underspending is related to the constitutional fiscal rule whereby a government cannot spend more money than it takes in during its term of office. Governments tend to be especially prudent during the beginning of their electoral terms, with spending increasing towards the end when they know they are secure in not violating the fiscal rule. The attitude of not violating the constitutional fiscal rule has however cascaded down to spending ministries to reinforce frugality at all times.

In response, the Ministry of Finance put in place a system whereby ministries must spend 95% of their budget allocation to encourage better budget “marksmanship” when ministries estimate their budget requirements. If they spend less than 95% of their budget allocations, they will suffer a one-off budget adjustment in the next year. At the same time, anything over 5% can be rolled over to the next year to avoid any end-of-fiscal year expenditure binges to meet the budget “marksmanship” target. As noted above, underspending typically amounts to 5% of total appropriations.

2.2. Annual budget formulation cycle

Singapore’s fiscal year starts on 1st April. The budget formulation cycle begins in earnest the previous June, or ten months prior to the start of the fiscal year.

The “budget season” starts with bilateral meetings between the permanent secretary of the Ministry of Finance and the permanent secretary

of each spending ministry. These are half-day meetings which are also attended by the senior finance staff of each spending ministry and the relevant sectoral staff of the Ministry of Finance. These meetings – known as the **annual strategic review** – focus on going over the respective ministry's key challenges ahead and how they can best be met. The meetings focus on the “big picture” and generally do not go down to the specificities of individual programmes or budget requirements.

At the same time, the economic assumptions for the budget are being calculated. This is crucial for setting the GDP-linked budget ceilings. The calculation of the economic assumptions is carried out by a joint committee of the Monetary Authority of Singapore (the central bank) and the Ministry of Trade and Industry (the economics ministry). The Ministry of Finance participates in this committee only as an observer. There are no official biases in the calculations of the committee, either conservative or otherwise. The committee has no formal independence and its conclusions are not submitted to any formal scrutiny.

The economic assumptions calculated by the committee are then inputted directly into the smoothened GDP model. Budget ceilings (“block budgets”) are issued to ministries in a budget circular in July, together with the amount of the budget extracted from them for the Reinvestment Fund. This is a rather routine operation, as ministries know their parameters (the pre-agreed share of GDP and across-the-board budget extractions) and know that there are no “surprises” in the circular. The budget circular is issued by the Ministry of Finance and is not endorsed by the cabinet. Each spending ministry would only be aware of its own allocation, not those of other ministries.

In August, the Ministry of Finance convenes a meeting(s) of all permanent secretaries (or sometimes groups of permanent secretaries within a sector), known as the **whole-of-government/sectoral meeting(s)**. This meeting is designed to promote coherence across government in budget allocations, *i.e.* avoiding any duplication of work across ministries and exploring how ministries can best work together. In essence, it focuses on practical issues of interministerial co-operation. The meeting comes shortly before the deadline for the submission of bids to the Reinvestment Fund which are due by early September.

In reviewing the bids, the Ministry of Finance favours innovative new proposals, *i.e.* not simply proposals that re-finance current activities. Bids that involve interministerial co-operation are looked upon especially favourably. Spending ministries generally strive to put in bids for amounts at least equal to the amount of their respective across-the-board budget

extractions. In fact, some ministries put in bids for amounts well in excess of their cuts.

There is no correlation between the amount of bids approved for each ministry and the amounts extracted from it for the across-the-board budget extractions. In aggregate, approved Reinvestment Fund bids amount to less than the total amount of the across-the-board cuts. Some ministries are simply on a continual downward “sunset” track. Spending ministries are informed of the decision on their bids in late October, about six weeks after they had submitted them.

Box 2. Annual budget formulation calendar

Fiscal year = 1st April to 31 March

June	Annual strategic review: bilateral meetings with each line ministry. Calculation of economic assumptions.
July	Each ministry’s budget ceiling is established.
August	Whole-of-government/sectoral meetings: joint meeting with groups of line ministries.
September	Ministries submit their Reinvestment Fund bids.
Mid October	Ministries submit the allocations of their budget ceilings.
Late October	Decisions on Reinvestment Fund bids announced.
End October	Budget review meeting: bilateral meetings with each line ministry.
November	Ministries refine their final allocations.
December	Finalisation of the budget.
February	Budget proposal submitted to Parliament.

In the meantime, ministries will have requested the next fiscal year’s allocation within their budget ceilings (“block budgets”) from the Ministry of Finance. The Ministry of Finance gives “maximum discretion” to ministries in this area. Spending ministries do not play budget games by proposing unrealistic cuts in sensitive areas; they take ownership of their decisions on allocations.

Following the decisions on the Reinvestment Fund and the allocations of budget ceilings, bilateral meetings are held between the permanent secretary of the Ministry of Finance and his/her counterparts, accompanied by their

respective staff. These meetings – known as the **budget review meeting** – focus on the ministries’ budgetary performances in the previous fiscal year and any outstanding resource and management issues.

Following this meeting, ministries may alter their final allocation of resources. This is not to say that the Ministry of Finance is second-guessing their final allocations, but rather that they may refine them in the light of the conclusions of the Reinvestment Fund process. Some ministries may also launch formal appeals against their Reallocation Fund allocations which are sometimes successful. This final round finishes by the end of November.

In December, ministries will submit their draft annotations for the Budget documentation which are reviewed by the Ministry of Finance. In January, the budget proposal is presented to the cabinet and later in February to Parliament. There are typically no changes during this stage.

Box 3. Development Planning Committee (DPC)

All capital expenditures – referred to as development expenditure in Singapore – in excess of SGD 50 million must be submitted to the Development Planning Committee (DPC) for approval. This is a three-member ministerial committee composed of the Minister for Finance, the Minister for Trade and Industry, and the respective sectoral minister whose capital project has been submitted for approval. The secretariat for this committee is provided by the Ministry of Finance. Its objective is to vet projects to ensure that they are in line with established norms – for example that new government office buildings are appropriate in size and cost to their function – and that value-for-money alternatives, such as leasing or public-private partnerships, have been considered.

2.3. Conclusion

Singapore’s budgeting system is based on four pillars: the budget sector itself, the Central Provident Fund, the government investment agencies, and the various special funds not consolidated into the budget. The Central Provident Fund is exceptional vis-à-vis OECD countries in that it largely relieves the budget sector from having to fund retirement and various other social benefits. The government investment agencies gave rise to Singapore’s use of different budget concepts than those applied in OECD countries, largely to “ring-fence” the investment incomes from the budget sector. The very low level of disclosure concerning the operation of the government investment agencies is most noteworthy.

Singapore's fiscal rule is based on the principle that a government must have a balanced budget over its term of office, meaning that any deficits in one year must be balanced by surpluses in other years during its term of office. This has *inter alia* contributed to the widespread underspending of appropriations in Singapore, especially in the early years of a government's term of office.

Singapore's fiscal rule allows for up to half of the net realised investment income from past surpluses to be considered as revenue. However, it is not possible to determine what percentage is actually used, due to the transparency issues discussed above. As a result, external monitoring of compliance with the fiscal rule is not feasible. The President of the Republic however has a key role as "fiscal guardian" – distinct from the government – as is discussed in section 3.

Box 4. Performance and results information

Singapore's budget formulation process is informed by extensive information on performance and results. This information is an integral part of the three meetings that the Ministry of Finance holds with spending ministries, in evaluating bids for the Reinvestment Fund and for assessing the programmes of spending ministries overall. Performance and results information is however used mainly by the relevant spending ministries. The current challenge is to move from an output-oriented focus to a more outcome-oriented focus. (This is discussed in detail in section 4 on budget implementation and government management issues.)

The spending ceilings – multi-year, explicitly and directly linked to smoothened GDP, and fully fungible between operating, transfer and capital expenditure – are a unique form of the top-down concept which is not found in OECD countries.

The across-the-board budget extractions (spending cuts) use an unusually comprehensive base (not just operating expenditure), high rate (currently 5%), and prolonged time period (not just one-off) compared to OECD countries. This must however be viewed in tandem with the high GDP growth rates in Singapore – generally higher than the 5% rate – and the fact that a substantial part of the budget extractions are returned via the Reinvestment Fund.

Finally, the Singapore budget formulation process places a premium on interministerial co-operation as witnessed by the whole-of-

government/sectoral meeting(s) and the criteria used for evaluating bids from the Reinvestment Fund.

3. Role of Parliament and the President of the Republic

The Parliament of Singapore has a limited role in the budget process. This is due to specific constitutional restrictions on its power, the nature of Singapore's political environment where one party has historically held nearly all seats in Parliament, and the fact that Singapore follows the Westminster tradition where Parliament's role in the budget process is limited.

The President of the Republic however has an unusual role in that his principal substantive function is to act as a fiscal guardian. The two institutions are discussed in turn in this section, as well as the Auditor-General's Office.

3.1. The Parliament of Singapore

The Parliament of Singapore is a unicameral chamber. There are 84 elected Members of Parliament (MPs). A Parliament sits for a maximum of five years.

MPs are elected into Parliament representing either single member constituencies (SMCs) or group representation constituencies (GRCs). At present, there are nine SMCs, nine five-member GRCs and five six-member GRCs. Both types of SMCs and GRCs operate on a first-past-the-post basis, *i.e.* the party winning a majority of the votes in a constituency will receive all of the MPs. It is not a proportional representation system.

The People's Action Party currently holds 82 of the seats, with opposition parties having only two seats. The People's Action Party has continually and overwhelmingly dominated the politics of Singapore since the founding of the Republic of Singapore, often holding every seat in Parliament. The People's Action Party runs unopposed in many constituencies.

The Constitution also provides for the appointment of other MPs not voted in at a general election: non-constituency Members of Parliament (NCMPs) and nominated Members of Parliament (NMPs).

Up to three NCMPs representing opposition political parties may be appointed from opposition candidates who lost in constituencies with the highest percentage of losing votes. This is to ensure that there will be a minimum number of opposition representatives so that views other than the

government's can be expressed in Parliament. At present, there is one such MP, bringing the total number of opposition MPs to three.

Up to nine NMPs representing “community views” may be appointed. They generally represent respected grass-roots societies in the community and are not to be connected to any political party. They are appointed for a term of two and a half years on the recommendation of a special select committee of Parliament.

The unelected Members of Parliament – the NCMPs and NMPs – do not have the same rights as elected Members of Parliament. For example, they cannot participate in the vote on the budget, although they are able to debate on the merits of the proposed budget.

3.1.1. Parliamentary budget process

The parliamentary budget process starts in early February with the Minister for Finance delivering his/her Budget Statement. Parliament thus has just under two months to deliberate the budget prior to the start of the fiscal year on 1st April. In actuality, its deliberations on the budget take less than two weeks.

Box 5. Parliamentary budget timetable

Mid February	Minister for Finance delivers his/her Budget Statement. Parliament adjourned for seven days following the Statement.
Late February	Minimum two-day deliberations on the Budget Statement. Vote taken on resolution that “Parliament approves the financial policies of the government.” Introduction (First Reading) of the budget bill.
Late February/ early March	Extended deliberations on details of the budget bill.
Mid March	Second and Third Readings of the budget bill. Approval of the budget bill. Budget submitted to the President for assent.

In presenting the Budget Statement, the finance minister will review the country's economic outlook and announce major proposals on both the revenue and expenditure side of the budget. This is a high-profile event lasting about 1-2 hours and broadcast live. At the conclusion of the Budget Statement, Parliament is adjourned for not less than seven days.

When it resumes, two days are allotted for the debate on the Budget Statement. This debate typically consists of the People's Action Party MPs expressing their support for the government's budget proposal, with some also calling on the government to "look into" certain specific areas. Opposition MPs will tend to have more critical commentary on the government's budget proposal.

At the conclusion of the two days, the Minister for Finance will thank the MPs for their comments on the budget statement and respond to the general thrust of the points raised by individual MPs. A vote is then taken on a resolution that "Parliament approves the financial policies of the government." The budget bill⁴ is then introduced for its First Reading.

There is no "committee stage" in the parliamentary budget process whereby specialised committees look at individual aspects of the budget in detail, nor does the Singapore Parliament have any independent analytical capacity at its disposal when scrutinising the budget.

Box 6. Estimates Committee

The Estimates Committee is one of the select committees of Parliament. It is concerned with what economies, improvements in organisation and efficiency or administrative reforms can be implemented as well as suggesting the format in which the government's budget is presented to Parliament. For example, it discussed many of the reforms to the budget formulation process and budget implementation and government management practices as described in other sections of this article. However, it does **not** examine the substantive contents of the budget.

The Second Reading of the budget, which takes place in plenary session shortly following the conclusion of the First Reading, generally lasts from seven to ten days. During this stage, Parliament considers each ministry's request for funds. Members of Parliament may propose nominal cuts of SGD 100 to each ministry's estimates. By proposing a cut, an MP gets a platform to debate on the policies or details of programmes of that ministry. Aside from these nominal cuts, MPs may not introduce any proposal to

increase or reallocate expenditures. Only the government may introduce such measures.

These debates also provide MPs with the opportunity to raise issues with the various ministries' programmes that may not be directly linked with the budget being considered. The respective ministers reply to the issues raised by individual MPs.

At the conclusion of the Second Reading, separate votes are taken on each ministry's budget request. Following their approval, the Parliament then approves the budget in whole, which constitutes the Third and final Reading of the budget.

3.2. The President of the Republic

In 1991, the Presidency of the Republic was transformed from one appointed by Parliament to one directly elected by the people for a term of six years. At the same time, the Presidency assumed a significant role as a fiscal guardian whereby the President enforces the constitutional fiscal rules described in section 2.1.1. His approval is required for any proposal to use past reserves for spending and he can veto budgets if he believes they threaten to use past reserves for spending. This is known as the "two-key" principle, as both Parliament (the government) and the President have to agree in order for past reserves to be used. It was viewed essential that the President had an independent and direct electoral mandate in order to be in a position to legitimately over-rule the will of Parliament (government). In exercising this role, the President must consult a Council of Presidential Advisers which was created concurrently.

Very strict requirements are enshrined in the Constitution in order to be eligible for election to the Presidency. The requirements aim to ensure that the holder of the office has sufficient financial expertise to exercise his role as fiscal guardian. The requirements include:

"A person shall be qualified to be elected as President if he has for a period of not less than three years held office:

- a.) as Minister, Chief Justice, Speaker, Attorney-General, Chairman of the Public Service Commission, Auditor-General, Accountant-General or Permanent Secretary;
- b.) as chairman or chief executive officer of a statutory board ...;
- c.) as chairman of the board of directors or chief executive officer of a company incorporated or registered under the Companies Act...with a paid-up capital of at least \$100 million or its equivalent in foreign currency; or

d.) in any other similar or comparable position of seniority and responsibility in any other organisation or department of equivalent size or complexity in the public or private sector which, in the opinion of the Presidential Elections Committee, **has given him such experience and ability in administering and managing financial affairs as to enable him to carry out effectively the functions and duties of the office of President.**”

The Presidential Elections Commission referred to above is a three-member body including the Chairman of the Accounting and Corporate Regulatory Authority as one of its *ex officio* members. A candidate must also satisfy the Commission that “he is a person of integrity, good character and reputation.” These criteria have resulted in instances where only one candidate was determined to be qualified by the Commission and thus was elected unopposed.

A Council of Presidential Advisers was established in 1991 as well. The Council comprises six members. Its current chairman is the chairman of the Singapore Stock Exchange. It is obligatory for the President to consult the Council before he withholds his approval to the budget. If the President withholds his approval against the recommendation of the Council of Presidential Advisers, then the Parliament may vote to over-rule the President with a two-thirds supermajority.⁵ The recommendations of the Council of Presidential Advisers and the decisions of the President must be accompanied by an explanation of their conclusions.

A White Paper containing extensive provisions on how to operationalise the President’s fiscal guardian responsibilities – specifically the government’s information disclosure requirements – was approved in 1999. Previously, there had been disagreements about the scope and detail of such information disclosures.

The President has never had to use his power as fiscal guardian to enforce the constitutional fiscal rules. The power is however there – both in principle and in practical operational terms – to prevent any future government from acting in a fiscally irresponsible manner.

3.3. Conclusion

As noted above, the Parliament of Singapore has a limited role in the budget process due to specific constitutional restrictions on its power, the nature of the Singapore political environment, and the fact that Singapore follows the Westminster tradition where Parliament’s role in the budget process is limited. The President of the Republic however has an unusual

role in the budget process in that his principal substantive function is to act as a fiscal guardian.

Box 7. Auditor-General's Office

The Auditor-General's Office (AGO) is an independent organ of state which reports to Parliament. It reports on "instances of irregularities, non-compliance with rules, inefficiencies, wastage and extravagance observed during its audits." In addition, the AGO is increasingly concerned with performance and results audits.

An annual Report of the Auditor-General is presented to Parliament and is reviewed by its Public Accounts Committee. In recent years, the Report of the Auditor-General has typically contained 40 audit observations on average. These observations include loss or potential loss of public monies through overpayments and lapses; delay in refunding excess tax, deposits and trust money; late payment to suppliers; and other procedural and accounting lapses. Observations on performance and results are also made.

To review the audit observations, the Public Accounts Committee will generally hold two hearings to which senior officials from the relevant government ministries are called. The Public Accounts Committee then formally calls on ministries to take corrective action or otherwise be held to account. Its conclusions are published in a separate report.

4. Budget implementation and government management issues

This section provides brief overviews of the organisational structure of the government, the execution of budget appropriations, personnel management, financial management and reporting, and performance and results initiatives.

4.1. Organisational structure

The Singapore government consists of 15 ministries. The number of ministries and their respective competencies has remained fairly constant over the years. The government structure is composed of three types of organisation: ministry-headquarters, departments, and statutory boards. In principle, the ministry-headquarters is the core policy-making arm whereas departments and statutory boards are the subsidiary executive bodies that implement government policies. As of January 2006, there were 21 departments and 65 statutory boards in total.

The role of departments and statutory boards has evolved greatly over the years. Originally, departments carried out functions that were of a non-commercial nature whereas statutory boards (which used to be much fewer in number) carried out functions that were more commercial in nature, such as utilities services.

Over time, many of the statutory boards were corporatised and partially or fully privatised. At the same time, more and more departments were transformed into statutory boards. As such, they enjoy more flexibility in financial and personnel management, *i.e.* they are exempt from many of the central management controls which apply to departments. This increased operational independence is cited as the key motivating factor for the transformation of departments into statutory boards.

It is important to note that many of the statutory boards also have their own sources of income, sometimes in the form of novel fee structures: the Inland Revenue Authority of Singapore receives an agency fee based on the amount of taxes it collects.

The decision as to which departments to transform into statutory boards would appear to be based on a series of one-off, case-by-case judgments rather than specific and explicit criteria. For example, Singapore Customs is a department whereas the Inland Revenue Authority of Singapore is a statutory board reporting to the Ministry of Finance.

Each ministry is headed by a permanent secretary. In some cases, there may be a “second” permanent secretary who could be delegated with certain functions of the ministry or be responsible for special projects. Each department is headed by a director-general and each statutory board is headed by a chief executive. The Public Service Commission (see section 4.3 on personnel management) is responsible for nominating individuals to fill these positions. Almost without exception, they are career officials from within the civil service. They are not political appointments.

Singapore employs a “flow-through” mechanism to ensure constant renewal in these most senior positions with officials having a ten-year maximum tenure. Afterwards, they may be moved to another position within government or, more frequently, will join one of the companies linked to the government.

The statutory boards do in fact have boards of directors; they vary in size and are normally composed of relevant outside stakeholders, academics in the field, and government representatives. The boards are most often chaired by the permanent secretary of the “parent” ministry. The roles of the boards are set out in unique legislation governing each statutory board. In general, their roles are limited vis-à-vis traditional corporate boards. For

example – as noted above – the Public Service Commission plays the key role in appointing the chief executives of statutory boards.

Box 8. Public Sector for the 21st Century (PS21)

The PS21 initiative was launched in 1995 to make the public sector more responsive to a growing economy and a better-educated and informed public. In essence, the initiative is designed to promote an attitude receptive to change within the public service.

The three-fold challenge in PS21 is described as:

- anticipating the future with scenario-based strategic planning;
- fostering positive attitudes among staff towards continuous change; and
- executing change as effectively and efficiently as possible.

A number of initiatives were implemented under the PS21 “umbrella”, ranging from the establishment of work improvement teams (WITs) for enhancing work flows and the use of more e-technology in government services to initiatives to promote staff well-being.

A rather unique feature was the establishment of The Enterprise Challenge (TEC), a central fund for funding innovative and promising projects which are “experimental” in nature and which would ordinarily not be funded by public sector organisations.

4.2. Execution of budget appropriations

The budget is divided into 25 “heads”. Each ministry (15) and each organ of state⁶ (8) has its own head, reflecting their respective organisational boundaries. Public debt constitutes a separate head. Another separate head is devoted to “financial transfers”; this is the means by which any surpluses of the government are distributed. For example, the funding for the endowment funds came from this head.

Each head is divided by object of expenditure – *i.e.* running costs (manpower, transfers, and other operating costs) and development (capital) costs. Parliament approves appropriations at the level of heads – *i.e.* there are 25 separate legal appropriations. Virements between heads are not possible, except in instances when there is a transfer of functions between ministries. In such cases, the associated budgets can be transferred subject to Ministry of Finance approval. Virements between objects of expenditures within heads can be made; these are relatively common, reflecting the

principle of “maximum discretion”. In the case of statutory boards, no pre-approval from the Ministry of Finance is required for internal virements.

The budget also presents expenditures by programmes. These reflect the organisational boundaries within ministries (headquarters, departments, and statutory boards). Development costs are divided by individual projects. However, these are only for information purposes.

Singapore has a system of net budgeting, whereby expenditure budgets for services that are financed by user charges can fluctuate in line with amounts collected as user charges. The Ministry of Finance will provide supplemental budget authority in such cases. If the revenues fall short of what was projected, the organisation will have to make up for the shortfall from its own budget. If extra revenues exceed projections, the organisation will keep them. This only has a material effect on a few organisations. It would appear to operate well, reflecting the soundness of the revenue projections.

Appropriations in Singapore are considered “maximum” appropriations; there is no requirement to use them fully. Up to 5% of total appropriations can be rolled over to the next fiscal year. These roll-over provisions are often used in full, reflecting the risk averseness of government organisations described in section 2.1.6 on budget formulation. Rolled-over appropriations lapse if not used within three years.

The Ministry of Finance maintains a Contingencies Fund. It comprises SGD 2 billion in capital contingencies and SGD 1 billion in operating contingencies. Pending parliamentary approval, the Ministry of Finance (with the approval of the President) may extend advances to the ministries from the Contingencies Fund if the need for the supplementary budget allocations is urgent. The advances would have to be returned to the Contingencies Fund once the supplementary budget allocations are approved by Parliament. In addition, as exemplified by the roll-over of appropriations, government organisations generally create their own “internal” contingency funds during budget execution.

4.3. Personnel management

Traditionally, personnel management was exercised on a very centralised basis in Singapore through the Public Service Commission (PSC). The PSC appointed, promoted, transferred, dismissed and exercised disciplinary control over all public officials. These powers do not apply to statutory boards, except for their chief executives as noted in section 4.1.

The PSC is recognised as having been instrumental in instilling the ethos of meritocracy, impartiality, and incorruptibility which are the

hallmarks of Singapore's modern civil service. This centralised model had however become cumbersome as an instrument for presiding over the entire civil service. In response, reforms were implemented in 1995 which created a four-level hierarchy of personnel bodies:

- The PSC itself;
- A Special Personnel Board;
- Senior personnel boards (5);
- Personnel boards (28).

The PSC retained responsibility for the most senior civil servants, including permanent secretaries, heads of departments and chief executives of statutory bodies, as well as the discipline of officers. The PSC is a body established by the Constitution. It presently has nine members. They are appointed by the President upon the advice of the Prime Minister for a five-year term in the first instance, which can be renewed. The secretariat for the PSC is provided by the Public Service Division (PSD) of the Prime Minister's Office.⁷

A Special Personnel Board assumed responsibility for the next level of senior officials. It consists of permanent secretaries, chaired by the Head of the Civil Service.

A set of five senior personnel boards assumed responsibility for the appointment of other professional staff (university graduates) in ministries. The five boards cluster together groups of ministries. Each board consists of the permanent secretaries of the respective ministries.

Each ministry has at least one personnel board responsible for support staff (non-university graduates). Ministries with large numbers of staff may have more than one such board. There are 28 boards in total for the 15 ministries and 8 organs of state. The boards have a total of two to seven members, including one representative from the PSD. Each board is chaired by a senior official of the respective ministry.

With the exception of the bottom-tier boards, this reform did not represent a complete decentralisation of authority from the PSC to each individual ministry. It was in fact a compromise between full delegation and the old centralised model. Over time, however, a practice developed whereby individual board members assumed responsibilities for the devolved personnel actions concerning their respective ministry. The full board then agreed to it as a formality. Later, the legal framework was changed to take account of this practice. The boards now formally nominate

one of their members to deal with the personnel actions of their respective ministry. The system of boards, however, still remains officially in place.

Box 9. Scholarships

Scholarships are an important vehicle for the recruitment of young officials to the civil service. The scholarships are highly competitive. In order to qualify, a student must demonstrate outstanding academic and non-academic achievements, pass a rigorous psychological test, and be successfully interviewed by a scholarship selection panel. The scholarships are offered by the PSC itself, individual ministries, departments, and statutory boards, as well as government companies. Many of the “decentralised” scholarships are administered by the PSC, reflecting its focus on the recruitment and development of civil servants. In total, over 200 public sector scholarships are offered each year. Scholarships are available both for study in local institutions as well as in foreign universities.

The scholarships have two unique features. First, the students commit themselves to work for the government for a minimum time, often six years, in return for receiving the scholarship. This is referred to as a “bond”. Second, there are extensive activities undertaken to “induct” the scholarship-holder into the public sector, including team-building exercises and assignment of mentors.

The scholarships are highly prized in Singapore and are to a great extent responsible for the high caliber of its civil servants.

The PSD sets the overall framework for human resource management decisions – such as promotions and appointments – taken by the personnel boards. Each board has some degree of flexibility, but decisions taken must be in line with a general framework established by the PSC which focuses on adhering to meritocracy, consistency and objectivity in personnel actions. Individuals may appeal against the decisions of the boards to an Appeals Board. If the appellants are still unhappy over the Appeals Board’s decision, they can lodge a further appeal to the PSC. The decision of the PSC is final.

Ministries can hire staff according to a range of employment schemes, including flexible (time-limited) contracts or a permanent basis of employment. Depending on the requirements of the job and the ministries’ talent management practices, employees could first be hired on a contract basis before being made permanent. Most staff are presently employed on a permanent basis although the government has a stated policy of increasing the share of contractual employees. The boards also have flexibility in setting the salaries for positions, within a range decided centrally by the

PSD. In exceptional circumstances, the boards can apply for exemptions from the PSD range.

Great emphasis is placed on rotating high-potential officers between ministries and identifying “future leaders” in the civil service. Officers in the Management Associates Programme would be seconded to another ministry two years following their initial appointment. They would generally be on secondment for a period of two years. After this, their career path would be evaluated. The Public Service Commission plays the key role in this evaluation. The official would either rejoin his/her original ministry following the evaluation, or be inducted into the Administrative Service.

The Administrative Service is the elite corps of the Singapore civil service with approximately 230 members. The Service includes both present holders of the highest positions in the civil service as well as younger talent who have been identified as having potential to take on those positions in the future. As such, they would move through several senior positions government-wide on their career track. The Service maintains a high standard by “flowing out” officers who do not meet the stringent requirements of the Service.

4.3.1. Remuneration

The remuneration of government officials – both elected officials and civil servants – follows four principles:

- To keep pace with market rates to attract and retain a fair share of talent;
- To have a flexible wage system that can respond to economic conditions;
- To strengthen the link between pay and performance;
- To pay clean “pure cash” wages, *i.e.* to avoid hidden perks.

The Singapore government is committed to paying salaries competitive with the private sector. Annual salary reviews are conducted to compare with private sector benchmarks. In fact, salaries are pegged to private sector equivalents. For example, the salary of accountants in the government is pegged to salaries of accountants in the private sector. Where such a direct link is not possible – as is often the case in the public sector – the salaries are pegged to professions requiring similar academic qualifications.

In the first instance, salaries may go up (or down) on a temporary basis. If the private sector increases (decreases) become sustained – as opposed to being a short-term “blip” – the increase (decrease) is integrated into the

permanent fixed salary. The principle is that the government should keep pace with the private sector, not lead it. The salary adjustments are administered centrally by the PSD.

The definition of the comparable profession can become an issue; this applies especially to certain groups of professionals – IT professionals, for example. Whereas a broadly defined group of professionals may be keeping pace with their private sector counterparts, some sub-groups may not. In such circumstances, carve-outs are made for these professions. Ministries can also propose salary adjustments for any sub-group of professionals if they can demonstrate that a significant differential exists with the private sector, and they have recruitment and retention problems.

Box 10. Ministerial salaries

Ministerial salaries are pegged to the salaries of the eight highest earners in six professions – bankers, accountants, engineers, lawyers, CEOs of multinational corporations based in Singapore, and CEOs of local manufacturers. The benchmark is pegged to two-thirds of the median salary in this group of persons. This figure is based on income tax returns for the respective individuals.

Singapore does not publish the salaries that result from this formula. Using publicly available information, it can be deduced that annual ministerial salaries likely range between USD 500 000 and USD 1 500 000 based on the seniority of the post. A similar principle is applied for other senior officials.

Singapore views high ministerial pay as essential in order to attract the highly qualified candidates, encourage their retention, and deter any tendency towards personal corruption.

About one-fourth of total annual salaries are linked with fluctuations in the economy: if the economy improves, salaries go up; if the economy goes into a recession, salaries go down. This system was introduced in 1988. However, it is more a principle than a regular practice. There are three components to it. First, up to the equivalent of two months salary is officially designated as an “annual variable component”. It had been paid in full since its inception until the Asian economic crisis in 1998 when it was reduced to three-fourths of a month, *i.e.* a reduction of one and one-fourth months. Since then, the amount has varied each year depending on the state of the economy. Second, the payment of the “13th month” – which is a long established practice in Singapore – can be cancelled in exceptional economic conditions. This has never occurred. Third, a special bonus can be

granted if economic performance is especially good. Payments have typically ranged between one-fourth and one-half month.

It should be emphasised that salaries are not linked precisely to GDP developments; rather they are linked to the general state of the economy, of which GDP growth is one factor out of many. In deciding on salary adjustments, PSD takes into account GDP, unemployment rates, the state of the labour market, and other economic projections as well as “internal” factors such as staffing ratios, resignation rates, and vacancy rates.

The government has progressed towards a pay-for-performance model since 2000, when a performance bonus was introduced across the civil service. The bonus varies from the equivalent of one-half month to three months salary. The great majority of staff receives a bonus of one-half to one month. Staff who just meet the job requirements will receive no performance bonus. Annual seniority-based salary increments (step increases) have also been replaced by merit-based increments for most university graduate officers. A nominal increase is granted to staff who just meet the job requirements. The withholding of performance bonuses and salary increments is however very rare. The performance evaluations are first carried out by immediate managers, then deliberated by a ministry ranking panel and finally endorsed by the respective personnel boards to ensure impartiality and consistency.

The fourth principle – to pay clean “pure cash” wages, *i.e.* avoid hidden perks – is now well embedded in the Singapore system. Previously, officials may have received housing benefits and car benefits in addition to their salary. This has now been “monetised”, giving them control over how their “fringe benefits” are spent.

4.4. Financial management and reporting

The accurate measure of the costs of government programmes in order to allow informed decisions on the efficient use of resources is a key budgeting principle in Singapore. Singapore introduced accrual accounting in 1999 and a year later introduced a novel system called net economic value (NEV) to capture the cost of capital.

In moving to accrual accounting, Singapore experienced the typical challenges encountered by OECD countries: upgrading IT systems, enhancing accountancy skills, and assembling an accurate assets register. Singapore decided to adopt historical value as the basis for recording its assets. The introduction of accrual accounting has greatly raised the awareness of non-cash costs and encouraged ministries to make more informed decisions based on full cost.

It should be noted that Parliament approves the budget on a cash basis and there are no plans to change this. Cash is considered the most direct form of control. Budget information on an accrual basis is also available but it serves primarily as an internal measure to reflect the amount of resources that ministries expect to consume on a recurrent basis.

The system of net economic value (NEV) is conceptually similar to economic value added (EVA) as used in the private sector. The overall objective is to take account of the government's cost of capital and thus measure how well total resources are utilised by an organisation. In short, the amount of cost of capital is subtracted from an organisation's net operating balance. The result is normally negative in the public sector context. The focus in Singapore is to see the trend in NEV developments from year to year. To obtain improvements in NEV from one year to the next, an organisation has to increase revenues, reduce operating costs and/or reduce capital costs. Conversely, if the year-on-year changes in NEV show deterioration, this would signal problems with an organisation's financial management.

The cost of capital used is not uniform throughout the government but takes account of different sectoral benchmarks where available, reflecting reference levels of debt and equity. This applies especially to the more commercially-oriented statutory boards. Singapore officials report that the introduction of NEV had given rise to a much greater appreciation for the government's cost-of-capital; it is no longer viewed as a "free good". In concrete terms, organisations have disposed of surplus assets in order to improve their NEV and have been more careful in adding new assets or even accepting donations of capital assets.

The government does not make publicly available any in-year financial reports. It is felt that there is no demand for such information. The only publicly-available document on the government's implementation of the budget is the annual financial statements. The audited financial statements are available within three months of the close of the fiscal year, which is the official benchmark that the Auditor-General has set himself.

Singapore employs a centralised payment and receipt system. Individual agencies do not have their own bank accounts, notional or otherwise. There is one centralised account. It is a highly advanced system with 99% of all payments being made electronically and 80% of all receipts being collected electronically. Singapore relies on the banking system – giro system – for non-electronic transactions; it does not have its own "retail" treasury offices. Payments are made rapidly, overnight in most cases.

There are no incentive schemes for promoting good management practices, for example levying or paying interest where differences occur

between actual cash disbursements and a determined apportionment schedule. Although there are no explicit capital charges in Singapore, the NEV system essentially serves the same purpose.

4.5. Performance and results

Singapore makes extensive use of performance and results information in the budget process. At present, work is focused on further developing outcome indicators. This is a work in progress in Singapore as it is elsewhere.

Singapore's objective is not to directly link funding with performance and results indicators. It is rather to inform resource allocation decisions. In fact, the very use of the budget ceilings ("block budgets") is acknowledged to explicitly weaken any such linkages from the perspective of the Ministry of Finance.

The Ministry of Finance does not "impose" specific performance and results indicators on line ministries. Its role is to create the appropriate framework for what types of indicators should be developed by line ministries. Performance and results information does however form an integral part of the budgetary dialogue between the Ministry of Finance and line ministries. The philosophy is that line ministries should take ownership in the area of performance and results in the same manner as they do for the allocation of their budget ceilings ("block budgets"). It is recognised that the principal uses of performance and results information are within line ministries.

There are three principal external "venues" for performance and results information; first, the budget documentation itself. Each ministry's desired outcomes are listed together with key performance indicators, which often tend to be output-oriented at present. (Interestingly, the indicators often include the standing of Singapore in rankings against other countries in the respective areas.) The performance and results information in the budget uses a multi-year horizon: actual results for the previous two years, estimates for the current year, and a projection (target) for the forthcoming year. The emphasis is on performance trends. There is no narrative commentary on this quantitative information.

Second, individual government organisations often publish detailed annual reports where a greater number of performance and results indicators are published and often accompanied by a narrative discussion.

Third, a flagship initiative known as the "ministry report cards" is currently being developed. Each ministry will complete them in a standardised structure prescribed by the Ministry of Finance. The Ministry

of Finance will provide commentary on line ministries' report cards. This would include commentary on how demanding their targets were and on the management of resources. The report cards are then submitted to the cabinet for review. As the report cards are still in development, their contents are not made public.

Box 11. Ministry report cards

The ministry report cards are short – the equivalent of two A4 pages – and are composed of five components.

Part I of the report discusses the past year's performance and results achievements and operational highlights in bullet-point form.

Part II consists of the key performance indicators. Only outcomes-based indicators can be used and ministries can have no more than ten such indicators. This is to limit them to a critical few in order to preserve their clarity and focus. Part II will show the actual achievement compared to the year's target. It will also be colour coded: green, yellow and red as well as blue which will represent performance exceeding the target by more than 10%. The report card must also show the targets for the next year and an indicative target for five years ahead, in order to show the general future orientation of the ministry and to prompt it to plan ahead.

Part III summarises the ministry's resources management in tabular format. For the year under review and the previous two years, first it will show "budget marksmanship" for both operating and capital expenditure – *i.e.* the percentage of budget appropriations that were used during the year. The second will show the change – positive or negative – in the NEV for the ministry. The third will show the manpower (head count) for the ministry as well as a year-on-year percentage change.

Part IV discusses the ministry's key strategies and initiatives for the next five years or further. This is to foster a forward-looking attitude in government organisations. Again, this is to be in bullet form and should be similar in length to Part I.

Part V is a summary box on organisational excellence and innovation. This refers to certification of the ministry for schemes such as ISO-9001, etc., with a target and actual for the current year and the previous year.

In moving towards a focus on outcomes, there are concerns that outcomes by themselves are not sufficient to drive further improvements. For example, infant mortality is a principal outcome indicator for the Ministry of Health. At present, infant mortality in Singapore is the second

lowest in the world. In such instances, the practice is to review the indicators frequently to ensure their relevance for driving further improvement. It would appear that this could only mean focusing on more specific outcomes and thus drawing back from the comprehensiveness of the outcome indicator, and/or using a greater number of indicators which could also draw back from their usefulness.

It should be noted that performance and results information does not determine salaries. Rather, performance bonuses are determined by performance appraisals.

5. Central Provident Fund

5.1. Mandatory rates of contribution

The Central Provident Fund (CPF) is financed by mandatory payroll contributions from both employers and employees. The combined contribution rate is currently 33%, with 20% paid by the employee and 13% by the employer.

The contribution rates have varied and have been used as an economic instrument over time. For example, in the 1980s the contribution rates were 50% of payroll (paid equally by employers and employees) before the employers contribution rate was reduced by 15 percentage points to 10% of payroll in response to an economic downturn and to maintain Singapore's competitiveness.

The contribution rate also varies by age group: it drops significantly for people aged 55 and above in order to make hiring elderly workers more attractive and therefore keep them in the labour market.

The contributions – as well as the interest earned and withdrawals – are tax deductible. As a result, a maximum limit on contributions is made in order to prevent them from being used as a tax avoidance scheme.

The CPF is responsible for the collection of the payroll contributions, *i.e.* they are not collected through the tax system.

5.2. Three accounts

Each member has three personal accounts – housing, retirement, medical⁸ – with the Central Provident Fund where the contributions are deposited. The accounts are the personal property of the individual and any remaining balances form part of his/her estate upon death. Different shares

of the total contribution go to each of the three accounts, and these shares vary by age group.

For the largest age group, the 33% payroll contribution is credited to the three accounts as follows:

- Housing account: 20%.
- Retirement account: 6%.
- Medical account: 7%.

It is striking to note that the housing account receives nearly two-thirds of the total contributions. When CPF contribution rates were reduced in the 1980s, it was the share allocated to the retirement account which bore the brunt of the cut. The housing account was largely spared. Individuals have also been able to use their retirement account to pay for housing expenses in special circumstances. This reflects the importance accorded to home ownership in the politics of Singapore. The minister responsible for housing noted that the home ownership policy “ha[d] strengthened our social cohesion and our sense of belonging to this country.”

In addition to the mandatory contributions, individuals can make voluntary top-up contributions for themselves and immediate family members, subject to a maximum ceiling.

The government has also used budget surpluses to “top up” individual accounts. In the past, the same amount was distributed to all members’ accounts. Recently, a policy of making larger distributions to poorer members’ accounts has been instituted. These are however *ad hoc* one-off decisions rather than a distinct feature of the CPF system.

5.3. Rate of interest

The account balances earn a nominal rate of interest which is pegged to the interest paid on short-term bank deposit rates. The formula weighs the interest rates on demand savings accounts (20%) and twelve-month fixed deposits (80%) as offered by the major local banks. It is reviewed quarterly.

The Central Provident Fund guarantees the payment of a minimum annual interest rate of 2.5% on balances in the housing account. Balances in the retirement and medical accounts earn an additional 1.5% above the rate paid for housing account balances. These low levels of interest rate need to be viewed together with the tax advantages of the CPF and other concessionary arrangements as discussed below.

5.4. Housing account

About 84% of Singaporeans live in public housing estates. Almost universally, these are owner-occupied on the basis of 99-year leases granted by the Housing and Development Board (HDB) which administers the estates.⁹

CPF members may withdraw the accumulated funds from their housing accounts and take up a housing loan to buy a property. They can continue to use the regular contribution to their housing account to pay the monthly mortgage, *i.e.* servicing the loan need not involve any additional out-of-pocket expenditure if the monthly contribution to their housing account is sufficient to repay the monthly housing mortgage.

The HDB – which has a symbiotic relationship with the CPF in this area – makes available concessionary loans for the purchase of a first home. About 90% of Singaporeans qualify for such concessionary loans. The interest rate on these loans is pegged to 0.1% above the interest rate paid on CPF balances. The loans are for up to 30 years.

Concessionary rates are not available on subsequent mortgages. In the past, HDB had also disbursed loans at market interest rates to homebuyers who did not qualify for concessionary loans. However, this practice ceased in January 2003 when the HDB loan market was opened up to commercial banks.

In addition to the concessionary interest rate, several CPF housing grants schemes are in operation to promote home ownership (summarised in Box 12). These grants are lump-sum payments which are deposited in the member's CPF housing account and are used to support the home purchase by reducing the amount of loan financing required.

At the end of their working lives, members should have fully paid back their housing loan and thus be relieved of housing costs in their retirement. At this time, the total mandatory contribution to the CPF is reduced and no part of it is allocated to members' housing accounts.

Such a large part of members' CPF savings is channelled to housing during their working lives that many find themselves “asset rich and cash poor” at the time of retirement. In response, the government is promoting reverse mortgages and allowing the elderly to sell their existing apartments and buy smaller ones.

It should be noted that members are not required to use their housing account for the purchase of housing. Members can leave their contribution in the account where it earns interest as described above until they retire. Members can also transfer contributions to their retirement account – up to

the “minimum sum” amount (see below) – where it earns a higher rate of interest. They can also invest part of their contributions in alternative investment options as described below.

Box 12. CPF housing grants

Married couples qualify for a grant of SGD 30 000 at the age of 21. Eligible singles who are at least 35 years old receive around one-third of the amount.

An additional SGD 10 000 is granted to married couples who choose an apartment within two kilometres of the residence of their parents.

Lower-income families which have at least one member who has held a job continuously for the previous two years qualify for a special grant of up to SGD 20 000. The income ceiling for this grant is defined generously so that nearly half of all first-time homebuyers qualify.

5.5. Retirement account

The Singapore government rejected from the very beginning the notion of pay-as-you-go social security systems as found in many OECD countries for financing retirement benefits. Instead, each individual is to build up personal savings over his/her working life in order to be able to draw on these funds during retirement. This also avoids problems of inter-generational inequity.

As noted above, the CPF retirement account pays interest that is 1.5 percentage points higher than the housing account. About one-fifth of the total CPF contribution is channelled to the retirement account and has been rising in recent years.

The official retirement age in Singapore is 62 years of age. Somewhat confusingly, the official trigger for the release of CPF savings is 55 years of age which used to be the official retirement age in Singapore. Rather than raising the CPF “retirement” age to align it with the higher official retirement age, a system of “minimum sums” was created which *de facto* bridges the gap between the two.

The “minimum sum” is currently set at SGD 90 000 but will be raised gradually to SGD 120 000 (in 2003 dollars) in 2013. This amount will be used to provide monthly payouts to retirees from the age of 62 until the minimum sum is exhausted. As the CPF board notes, “a Singaporean at age 62 today can on average expect to live another 20 years. The monthly payouts will last around 20 years for most members from their retirement at

age 62.” The SGD 90 000 would provide a monthly income stream of SGD 711 for 20 years. This represents about one-third of current average salaries in Singapore.

At the age of 55, CPF members have three options to invest their CPF minimum sums:

- Buy a life annuity from a participating insurance company;
- Place it with a participating bank; or
- Leave it with the CPF.

If a CPF member buys a life annuity, he/she will receive a monthly income for life from the age of 62. If the member leaves the CPF minimum sum with a participating bank or with the CPF, he/she will receive a monthly income from the age of 62 until the CPF minimum sum is exhausted. Most members leave the money with the CPF.

If a member’s balance in the retirement account is less than the minimum sum, he/she can transfer money from the housing account (if any) and can pledge his/her property (if any) to make up the shortfall. At age 55, 40% of CPF members have sufficient funds to set aside the minimum sum.

Any amount in the housing account and the retirement account in excess of the minimum sum – and in excess of the “required amount” for the medical account (see below) – may be withdrawn at the age of 55.

There is concern in Singapore about the sufficiency of the amounts provided through members’ CPF retirement accounts for providing a sustainable and suitable retirement. This is the consequence of such a large part of the total CPF contribution going towards housing. Steps being taken to meet these concerns include the raising of the share of the CPF contribution going towards the retirement account and the raising of the minimum sums over time.

5.6. Medical account

Singaporeans enjoy excellent health outcomes; Singapore has one of the highest life expectancies and lowest infant mortality rates in the world. At the same time, total health care expenditures are very low by international standards: 3.8% of GDP. Government expenditure accounts for only about one-third of this amount, or 1.2% of GDP.

The financing philosophy of Singapore's health care system is based on individual responsibility and self-reliance. Patients are expected to directly

pay a large part of their health care expenses themselves. This is to prevent waste and abuse of the system and avoid health care over-consumption.

To assist individuals in meeting their health care expenses, a medical account was added to the CPF system in 1984. Currently, about one-fifth of the total CPF contribution is channelled to the medical account, an approximately similar sum as is channelled to the retirement account.

Box 13. Alternative investment options

In 1997, the CPF introduced the CPF Investment Scheme which allows members to use the balances in their housing account (if any) and retirement account to invest in selected financial instruments as well as non-owner-occupied real estate. The financial instruments include fixed deposits, Singapore government bonds, statutory board bonds, bonds guaranteed by the Singapore government, annuities, and endowment insurance policies. Balances can also be invested in corporate shares. Strict criteria however apply to the use of retirement account funds for such investments (selected broad-based indices only); more liberal criteria apply towards the use of housing account funds.

The use of these alternative investment options is surprisingly limited, with only one-quarter taking advantage of them. Members seem not to be confident about investing on their own or do not wish to risk their savings. They prefer to keep their money with the CPF and earn the guaranteed risk-free interest.

Members can use the accumulated savings in their medical account to fund personal or immediate family hospitalisation expenses. Specific withdrawal limits are set for hospital charges and for surgical operations. These limits are in line with the costs of the most basic care offered. Anything in excess of this must be paid directly out-of-pocket by the patient. This is to prevent the premature depletion of the accounts, to encourage patients to choose types of hospital accommodations appropriate to their financial means, and to exert a control on “medical inflation”.

In addition to hospitalisation expenses, the savings in the medical account can be used to cover certain outpatient treatments. This is however approached with great care and is limited to expensive outpatient treatments, such as chemotherapy, radiotherapy treatments, and chronic illnesses such as diabetes. The medical account cannot be used to pay for doctors’ visits or outpatient clinics. These costs must be paid out-of-pocket by the patient for the reasons described above.

Members may also use their medical account to purchase insurance against catastrophic illness and large medical bills.

Interestingly, a maximum was placed on the amounts that could be held in the medical accounts in order to prevent members from being “overly prudent” and accumulating balances in their medical accounts in excess of reasonable and foreseeable expenses.

At the age of 55, when CPF savings (housing and retirement account) can be withdrawn, members are obliged to set aside a required amount in their medical account. This is to enable members to have enough savings to meet their health care needs during old age. This required amount is currently set at SGD 8 300 and will increase each year until it reaches SGD 25 000 (in 2003 dollars) by 2013. This is in addition to the minimum sum required for the retirement account.

Table 1. Required amounts and minimum sums

	Now	In 2013 (in 2003 dollars)
Retirement account	SGD 90 000	SGD 120 000
Medical account	SGD 8 300	SGD 25 000

If the balance in the medical account is not sufficient, money in excess of the retirement account minimum sum – if available – needs to be transferred to the medical account. If the balance in the medical account exceeds the minimum sum, the difference will be transferred to the member’s retirement account.

It should be noted that the government has a separate fund – Medifund, an endowment fund – where the interest is available to pay for the medical care of destitute patients.

Notes

1. This is a general overview of the fund. More details and nuances of the CPF are outlined in section 5.
2. All sums in this report are expressed in Singapore dollars (SGD) except where otherwise noted. Approximate currency rates are as follows (May 2006): SGD 100 = USD 65 = EUR 50 = JPY 7 100.

3. “Organs of state” (discussed in section 4.2) are not included in the block budgeting system. Their budgeting continues on the “old” line-item model known as the MIF (macro incremental factor) budgeting. Ministries whose capital spending is volatile and “lumpy” (generally smaller ministries) receive a “block budget” for their operational expenditure only. Special appropriations are made for capital.
4. To aid understanding, the term “budget bill” is used throughout this section whereas the official parliamentary term is “supply bill”.
5. In 1994, the Constitution was amended so that the President could not veto any expenditure deemed necessary for “defence and security measures”. The Permanent Secretary of the Ministry of Defence and the Chief of Defence Forces must however certify that such expenditure is necessary for the defence and security of Singapore.
6. The eight organs of state are bodies established by the Constitution of Singapore. They are the Civil List for the President, Presidential Councils, the Cabinet, the Attorney-General’s Chambers, the Public Service Commission, the Parliament, the Auditor-General, and the Judiciary.
7. The President can veto the recommendations of the Prime Minister as to appointments to the PSC. He can also veto the nominations received from the PSC via the Prime Minister on the appointment of senior officials. This is similar to his fiscal guardian role discussed in section 3.2.
8. This terminology is used for ease of understanding. The formal names of the three accounts are Ordinary, Special and MediSave respectively. Strictly speaking this use of terminology is not correct as the housing (ordinary) account can be used for other purposes (retirement) as is discussed later in this section.
9. The 99-year leases cover the specific apartment unit. The land and common areas of the estates remain the property of the HDB.

Top-down Budgeting as a Tool for Central Resource Management

by

John M. Kim *and* Chung-Keun Park*

Top-down budgeting emerged in the 1990s as a response to fiscal crisis. Previously, the traditional bottom-up approach to budget formulation had conferred centralised authority for resource allocation on the finance ministry. Then, in an attempt to control the growing fiscal deficits in the 1990s, the finance ministry only set the overall expenditure ceiling and sub-ceilings, and delegated detailed resource allocation decisions to line ministries. However, the level of delegation and the method of determining the expenditure ceilings vary across countries. This article describes country experiences with top-down budgeting and makes policy suggestions for its use as a tool for central resource management. The article also explores the relative advantages, disadvantages, and complementarities of the two approaches.

- * John M. Kim is Associate Fellow at the Korea Institute of Public Finance, Seoul. Chung-Keun Park is Project Manager in the Budgeting and Public Expenditures Division of the Public Governance and Territorial Development Directorate, OECD.

1. Introduction

Traditionally, budgets have been formulated according to a bottom-up approach. Line ministries submitted their budget requests, which were usually in excess of what they realistically expected to obtain in the end, to the finance ministry at an early stage of the budget process. Based on the requests, negotiations would begin between the finance ministry and line ministries and would go through several rounds until they reached an agreement. Following further discussions on resource allocation issues in ministerial meetings, the government finalised its budget proposal in the cabinet meeting. This system conferred centralised authority for resource allocation on the finance ministry, which managed public finance by controlling individual appropriations and budget items of line ministries.

In the early 1990s, most OECD countries suffered from growing fiscal deficits which, in some countries, deteriorated into fiscal crisis. As an effective response to such fiscal crises, the newly devised top-down budgeting system attracted considerable public attention during that period. In this system, the budget was formulated in a different way from the bottom-up approach. The finance ministry set the overall expenditure ceiling based on macroeconomic assumptions and the medium-term fiscal management target. Sub-ceilings, such as sectoral expenditure ceilings, were set according to policy priorities. These expenditure ceilings were confirmed in the cabinet meeting at an early stage in the budget process. Detailed resource allocation decisions to individual appropriations were then made by line ministries within their expenditure ceilings. In other words, the authority over resource allocation which the finance ministry had retained in the bottom-up approach was delegated to line ministries.

A budget system reflects the power structure, history and socio-economic background of a state. As a result, each country's budget process has its own distinctive features. While Parliament in some countries enjoys a stronger influence on the budget process than that of the government, it is also true that Parliament in other countries plays a much smaller role in the budget process. Such differences between countries can also be found in top-down budgeting. Even among governments that employ the top-down budgeting system, detailed operation schemes such as the level of delegation and the method of determining the expenditure ceilings vary country by country. Therefore, there is reason to expect that a comparative analysis of top-down budgeting systems used in different countries can identify common features and policy implications that may not be readily apparent from a case study limited to an individual country. For this purpose, the OECD held a meeting in November 2005 to discuss issues in top-down

budgeting; senior budget officials from eight countries participated, including Australia, Canada, Chile¹, Denmark, Korea, the Netherlands, Sweden, and the United Kingdom. Presentations were also made for Japan and Norway. The two-day meeting consisted of in-depth discussions about each country's experience of the top-down budgeting system, its background and its operation. The purpose of this article is to make policy suggestions based on the information presented at the meeting on top-down budgeting and other reference materials.

That top-down budgeting is the most efficient way of budget formulation is by no means a definite conclusion – the bottom-up approach still enjoys widespread use as the common budget formulation method in many countries. However, governments intending to improve their existing top-down budgeting systems or those that wish to replace their traditional bottom-up systems will find much useful information in this article.

2. Overview of the top-down budgeting process

2.1. Background of top-down budgeting

In the early 1990s, many OECD countries suffered huge fiscal deficits, brought on by shrinking tax revenues and sustained increases in public expenditures. As Table 1 shows, the average economic growth rate of OECD countries was only 1 to 2% during this period, with some countries (e.g. Sweden) even recording negative growth. The lacklustre economies pulled down tax revenues, which in turn caused growing fiscal deficits. Policy measures that had been implemented to counter the growing fiscal deficits of the 1980s by controlling public expenditure did not prove effective against the deteriorating fiscal situation.

As the public finances worsened and led countries into or up to the brink of fiscal crisis, governments decided to reform their existing budget formulation systems to achieve efficient management of government debt and fiscal consolidation. Such reforms emphasised tighter control of public expenditures and fundamental principles of fiscal discipline. Top-down budgeting, which had been used as a budget formulation approach in some countries like Denmark (since the 1960s) and Canada² (since the 1970s), lay at the core of these reforms.

As can be seen in Table 1, these reforms of budget formulation systems coincided with the period of increasing fiscal deficits. Canada introduced its Expenditure Management System (EMS) in 1994, the Netherlands implemented prudent economic assumptions in 1994, Sweden adopted top-down budgeting in 1996, the United Kingdom began enforcing two fiscal

rules³ in 1997, and Chile established a structural fiscal surplus target in 2000.

Table 1. General government financial balance (as a percentage of GDP) and real GDP

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Financial balance (percentage)										
Australia	-3.8	-6.0	-5.6	-4.6	-3.7	-2.2	-0.5	0.6	1.6	0.1
Canada	-8.3	-9.1	-8.7	-6.7	-5.3	-2.8	0.2	0.5	1.6	3.2
Chile	1.4	2.1	1.8	1.6	2.4	2.1	1.8	0.4	-1.4	0.1
Denmark	-2.4	-2.2	-2.9	-2.4	-2.3	-1.0	0.4	1.1	3.2	2.5
Korea	1.8	1.4	2.5	3.1	4.2	3.8	3.6	1.9	3.1	6.9
Netherlands	-3.2	-4.4	-3.6	-4.2	-4.2	-1.8	-1.1	-0.8	0.4	2.2
Sweden	-2.0	-7.8	-11.4	-10.8	-7.7	-3.1	-1.6	2.1	1.3	3.7
United Kingdom	-3.1	-6.4	-7.9	-6.7	-5.8	-4.4	-2.2	0.4	1.1	1.6
OECD	-3.7	-4.6	-5.0	-4.2	-3.9	-3.2	-1.8	-1.4	-0.9	0.0
Real GDP growth (percentage)										
Australia	-0.7	2.3	3.9	4.7	3.9	4.1	3.7	5.4	4.3	3.3
Canada	-2.1	0.9	2.4	4.7	2.8	1.6	4.3	3.9	5.1	4.4
Chile	8.0	12.3	7.0	5.7	10.6	7.4	7.4	3.9	-1.1	5.4
Denmark	1.1	0.6	0.0	5.5	2.8	2.5	3.0	2.5	2.3	3.0
Korea	9.2	5.4	5.5	8.3	8.9	6.8	5.0	-6.7	10.9	9.3
Netherlands	2.4	1.5	0.7	2.9	3.0	3.0	3.8	4.3	4.0	3.5
Sweden	-1.1	-1.3	-2.0	4.0	4.2	1.3	2.6	3.7	4.3	4.4
United Kingdom	-1.4	0.2	2.3	4.4	2.9	2.8	3.3	3.1	2.9	3.9
OECD	1.2	2.1	1.4	3.2	2.5	3.0	3.5	2.7	3.1	3.9

Source: OECD, *OECD Economic Outlook No. 71*, June 2002, Annex Table 1 and Annex Table 28.

The top-down budgeting system as a fiscal management reform initiative allows the government to manage fiscal deficits more efficiently than the bottom-up budgeting system. In the top-down system, the first priority of the finance ministry lies in setting the fiscal management target for fiscal sustainability and ensuring compliance with this target, in contrast to the emphasis on allocating financial resources to individual appropriations in the bottom-up system. Once the fiscal target is confirmed in the cabinet meeting in an early phase, it becomes a rule that is binding upon every cabinet member during the budget process and defended vigorously by the budget office staff. With the fiscal management target enforced as a rule and backed by an influential budget office, the government is able to regulate public expenditure and thereby control the fiscal balance efficiently.

In Sweden, for example, the government decided to introduce top-down budgeting in 1996 after it had undergone a series of huge fiscal deficits in the early 1990s which reached up to 11.4% of GDP in 1993. With tight control over public expenditure followed by the introduction of a top-down

budgeting system, Sweden was able to overcome its fiscal deficits to record a surplus in 1998 for the first time since 1990.

Box 1. Introduction of top-down budgeting in Sweden

In the first half of the 1990s, Swedish public finances faced serious deterioration, and the deficit peaked at 11.4% of GDP in 1993. At the same time, greater attention was drawn to the relationship between the institutional structure of the budget process and the outcomes of public finance. In early December 1995, the Minister of Finance presented the intended reform plan of the budget process to Parliament. The plan consisted of two phases with the objective of restoring fiscal soundness.

The first phase consisted of taking concrete actions to reduce public expenditure and increase revenue to bring down the fiscal deficit to around 7% of GDP. The second phase consisted of institutional changes that would prevent a recurrence of similar budgetary problems. The core features of the new system in the second-phase changes were a medium-term expenditure ceiling and top-down budgeting, which still continue today. A reference was made to the expenditure ceiling and the surplus target in the annual government address presented to Parliament. The general assessment of top-down budgeting by the Swedish government is that it has served well for achieving fiscal soundness.

Furthermore, the top-down budgeting system helps to reduce the inefficient budget formulation practices that can usually be found in a bottom-up system. While top-down budgeting generally delegates the authority for allocating financial resources among individual appropriations to line ministries, the bottom-up approach is a centralised system in which the authority for resource allocation remains vested primarily in the finance ministry. Budget formulation in the bottom-up budgeting system begins when all agencies and ministries send their requests for funding to the finance ministry. These requests typically far exceed what the agencies or ministries realistically expect to get. Starting from these requests, the finance ministry and line ministries will go through iterative rounds of negotiation until some common point is found. This is time-consuming and essentially a game between the finance ministry and other line ministries. Therefore, there is no system for reallocation of resources within line ministries.

In contrast, in the top-down budgeting system, the finance ministry is able to concentrate on setting the expenditure ceilings and controlling additional requests by setting rules, while line ministries are able to devote themselves to allocating financial resources efficiently to individual

programmes within their assigned spending ceilings. The roles of the finance ministry and line ministries are clearly differentiated. The finance ministry does not need to intervene in detailed resource allocations made by line ministries if they conduct them in line with the rules. Line ministries can make the best use of their expertise in allocating financial resources to their various programmes in order to achieve their policy objectives. Therefore, the budget process will not only be less time-consuming, but the secondary allocation within each line ministry can now take place because this system creates ownership in line ministries for the actions they take. For example, the Korean government introduced top-down budgeting in 2004 in place of the bottom-up approach which had been maintained for more than 50 years. In the bottom-up budgeting system, line ministries used to submit budget requests to the Ministry of Planning and Budget that were typically about 30% over the previous year's budget. However, starting from the 2005 budget, the practice of excessive requests has been drastically reduced with the introduction of the top-down budgeting system. The rate of budget requests by line ministries for the general account dropped significantly from 30.8% in the 2004 budget to 11.7% in 2005, and 7.0% in 2006. Moreover, autonomous restructuring of spending by line ministries increased sharply as shown in Table 2.

Table 2. Comparison of FY2004 and FY2005 budget requests in Korea

	2004 Budget	2005 Budget	Changes
Restructuring of multi-year programmes			
Programmes	308	442	134
Amount (trillion won)	-1.6	-2.7	-1.1
Introduction of new initiatives			
Programmes	351	459	108
Amount (trillion won)	1.5	3.0	1.5

Source: Korean Ministry of Planning and Budget.

In addition, the top-down budgeting system makes it easier to have the budget aligned appropriately with policy priorities. In the bottom-up budgeting system, the finance ministry reviews individual programmes based on the requests from line ministries and agencies, and financial resources are allocated to individual programmes according to the result of programme reviews. The aggregate and sectoral expenditure limits emerge at a latter stage of the budget process as the sum of all individual appropriations.⁴ Therefore, it becomes very difficult in the course of budget formulation to allocate resources among the different policy sectors in accordance with the policy priorities. In contrast, the top-down budgeting system makes it possible to have policy priorities included as a key factor to

consider in allocative decisions from the very first stage of budget formulation. If the government wants to put high priority on a certain sector, say social security, and low priority on another sector, say national defence, it can achieve the priority objectives easily just by allocating more financial resources to the social security sector and less to the defence sector.

In conclusion, the move toward top-down budgeting among OECD countries began as fiscal reforms for overcoming the fiscal crises in the early 1990s. The primary motivation for these reforms was to promote economic growth through more disciplined, sustainable public finances. It was believed that these goals could be accomplished through the delegation of authority in budgeting for lower-level decisions, while enforcing strict limits at the aggregate levels. In addition, it was believed that top-down budgeting could better reflect political priorities in resource allocation. The general assessment of the top-down budgeting system as a tool for achieving fiscal consolidation has been positive so far.

2.2. Relationship with bottom-up approach

What is the relationship between top-down budgeting and the bottom-up approach: are they incompatible systems that can only replace one another or are they more or less complementary systems that can work together? It appears that, to a great extent, the two systems are complementary. In Table 3, the budgeting systems of eight countries participating in the OECD meeting on top-down budgeting were reviewed to see which approach is used for setting the overall ceiling and sectoral ceilings and whether these countries conduct individual programme reviews, which is the distinction of a bottom-up approach. As shown in the table, most countries employ both methods in budget formulation. The overall expenditure ceiling is set through a top-down approach that takes into consideration various economic assumptions and the fiscal target. It is reported that even governments with typical bottom-up systems tend to set their aggregate expenditure limits through a top-down approach in order to control public expenditure. The actual method of setting sectoral ceilings and sub-ceilings differs from country to country, but the majority of cases consist of some mix of the two approaches. Programme reviews are used in all eight countries studied. Even Sweden, known for its strict adherence to the top-down philosophy, conducts programme reviews to monitor programme performance.

It appears that a top-down budgeting system necessarily has to incorporate elements of the bottom-up approach as a complementary method in the budget process for the following reasons. First, funding decisions for new policy initiatives should be determined through a programme-based review, since the finance ministry will often lack information on data

pertinent to judging the fiscal implications of the proposed initiatives, such as performance data and total programme cost projections over the long term. Therefore, line ministries are usually required to submit detailed proposals to the finance ministry which are then reviewed by the finance ministry or a cabinet committee⁵ composed of several ministers, after which a final decision is made by the prime minister or the president.

Table 3. Approaches to determining expenditure ceilings

	Top-down approach		Bottom-up approach		
	Overall ceiling	Sectoral ceiling	Overall ceiling	Sectoral ceiling	Programme review
Australia	O	–	–	O	O
Canada	O	–	–	O	O
Chile	O	–	–	O	O
Denmark	O	O	–	Δ	O
Korea	O	O	–	Δ	O
Netherlands	O	O	–	Δ	O
Sweden	O	O	–	–	Δ
United Kingdom	O	O	–	Δ	O

O = actively used; Δ = used as reference; – = not used.

Second, individual programmes need to be reviewed in order for the finance ministry to monitor whether they are consistent with the fiscal rules. This process, however, runs the risk of serious protests by line ministries, which may view the monitoring as inappropriate intervention by the finance ministry in their internal resource allocation decisions. Monitoring or intervening? In the top-down system, this is a delicate problem for which the finance ministry needs to find a solution. The answer lies partly in the finance ministry ensuring that its staff acquires greater expertise in analytical capacity and programme review techniques. Additionally, greater care must be taken to maintain good working relationships with line ministries than in a bottom-up system. Despite these additional burdens, in order for the finance ministry to accomplish its most important mission in the top-down budgeting environment – which is to uphold the fiscal rules – it needs to proactively embrace certain bottom-up methods, including programme reviews.

Box 2. Comparison of bottom-up with top-down**Bottom-up**

Ministry by ministry analysis that largely ignores economic forecasts.

Annual.

Time-consuming.

Ownership of proposals is more agency-specific.

Reactive.

Top-down

Aggregate fiscal analysis that takes into account economic forecasts.

Multi-year.

Delegated authority.

Creates joint ownership of proposals.

Proactive.

2.3. Medium-term budget frameworks

The top-down budgeting system cannot work as expected without an effective medium-term budget framework (MTBF). Most countries that employ the top-down budgeting system have also adopted medium-term budget frameworks which facilitate fiscal consolidation. In an MTBF, the government must first state its major policy objectives clearly. These will be the medium-term fiscal objectives which are prioritised where appropriate, including levels of the aggregate expenditure and revenue, the fiscal target, and policy priorities among and within spending categories. This statement of objectives is necessary because of the key role they play in fiscal management and because fiscal objectives that reflect economic forecasts and policy directions over the medium term have greater credibility than those based on an annual framework. Once the MTBF objectives are set, these high-level targets are operationalised by establishing hard budget constraints for individual ministries and programmes over a span of multiple years. This helps to strengthen stability as well as the credibility of the government's fiscal objectives.

The MTBF is also a system that is effective for redressing the problems stemming from the short time limit of the annual budget process. The budget in most countries is formulated annually because a democracy needs a process in which Parliament authorises any government spending periodically, most commonly every year. The short time limit inherent in the democratic process of budgeting has several drawbacks. The most frequently cited criticism is that fiscal policy is likely to be myopic, which undermines economic stability in the medium term and results in *ad hoc* allocation of resources. Introducing an MTBF that properly reflects

medium-term forecasts of the macroeconomic variables often alleviates such problems stemming from annual budget formulation.

Box 3. Medium-term budget frameworks in the United Kingdom and Denmark

The United Kingdom, a pioneer of multi-year budget forecasts, has run a distinctive MTBF for effective fiscal management. In 1998 it introduced the Comprehensive Spending Review (CSR) which estimated the subsequent three years' expenditures and revenues. In the CSR, all expenditure items are classified into either the departmental expenditure limits (DELs) or the annually managed expenditures (AMEs).

AMEs generally include programmes such as social security benefits and debt interest payments that are subject to volatility, making them difficult to budget sensibly over a three-year timeframe. AMEs represent half of the total expenditure. On the other hand, DELs include discretionary spending for both the current and capital accounts. Complying with the overall spending totals set to meet the fiscal rules, the United Kingdom government sets limitations so that DELs are guaranteed their level of funding for three years rather than just one. This may give public services the stability to plan their operations according to a sensible timetable. The third-year spending of DELs is revised and rolled over to the next Spending Review, as the Spending Review is revised every two years. In other words, the British system can be taken practically as the biennial budget, which fixes the two-year spending of DELs.

Denmark has a widely supported medium-term economic and fiscal programme called *Denmark 2010* which aims to foster fiscal prudence in preparation for the onset of major demographic changes. The *Denmark 2010* programme is the anchor for budgetary policy which applies to all levels of government, not just the central level. It enjoys broad political support in Denmark and has been upheld by successive governments. The overall objective of the programme is to ensure that fiscal policy is sustainable in the long term. In essence, this means running budget surpluses until 2010 in order to reduce the amount of the debt and the associated cost of borrowing. According to projections, sustainability requires an average government surplus of 1.5 to 2.5% of GDP until 2010.

The MTBF cycle can either be rolling or periodical. Rolling frameworks are drawn up during budget preparation every year or every two years.⁶ Year 1 in the previous year's framework becomes the basis for the budget and a new year 3 is added (in case of three-year frameworks). Thus an MTBF cycle in a rolling framework will necessarily overlap with the previous and subsequent cycles by one or two years, by design. In contrast, a periodical framework has cycles that run in sequence one after another.

Specifically, a periodical MTBF is drawn up at the beginning of the period to which it applies and stays effective until that period has lapsed. Both rolling and periodical frameworks may be revised in the middle of their lifetime.

The period, or time span, of an MTBF may run for two, three, four, or five years, including the upcoming fiscal year. The most commonly used period is three years, as shown in Table 4.

Table 4. Period of medium-term budget frameworks

Two years	Three years	Four years	More than four years
Italy	Chile*	Australia	Canada (five years)
United Kingdom	France	Netherlands	Denmark (<i>Denmark 2010</i>)
	Germany	United States	Korea (five years)
	Spain		
	Sweden		

* In 2000, the Ministry of Finance in Chile started maintaining baseline projections of government revenue and expenditures for the next three years. However, this is an internal document of the ministry and is only released to the public at a very aggregate level. The document is not used as a tool for resource allocation. The Ministry of Finance uses it to evaluate the overall trend in public revenue and expenditure.

Even though the MTBF as a major instrument for fiscal management has spread to many countries, it is reported to contain several significant problems. The OECD summarised the problems into three typical types as follows:

- “First, there was a tendency to overestimate the growth potential of the economy when making the multi-year budget forecast. This made excessive resources available in the forecast period and created an upward pressure on public expenditure.
- Second, ministries and departments viewed their resource allocations in the forecast period as an entitlement. This made subsequent downward revisions in expenditures difficult, even when it became clear that the basis on which the allocations were made was not correct.
- Third, the multi-year budget forecasts were made in real terms rather than in nominal terms. In the 1970s, when economic growth subsided and inflation accelerated rapidly, the expenditure forecasts were adjusted automatically for increases in prices while revenue suffered. This created further pressure on public finances.”

(Blöndal, 2003, p. 12)

The third problem is quite simple in that the solution only requires a change from real to nominal terms, and medium-term budget frameworks are now invariably made in nominal terms. In order to overcome the first and second problems, “prudent” economic assumptions are essential to avoid having excessive resources made available. This will be discussed in section 3.

3. Determining expenditure ceilings

3.1. Economic assumptions

A cautious macroeconomic forecast is a key requirement for achieving fiscal consolidation. Even should the government adopt both top-down budgeting and an MTBF in response to an increasing fiscal deficit, the effort for fiscal consolidation can be undermined by an overall expenditure ceiling grounded in an optimistic economic forecast. Moreover, if the actual economic performance should deviate beyond a reasonably allowable range from the economic assumptions underlying the MTBF’s expenditure limit and revenue forecasts, the government’s fiscal policy will suffer a drastic drop in credibility. In this vein, governments need to bear in mind that an MTBF by its nature is susceptible to the incentive to overestimate potential economic growth, as discussed in the previous section. Given that an economic forecast with 100% accuracy is impossible, deliberately erring on the side of caution rather than optimism in making forecasts helps to guard against the problems of overestimating in an MTBF and thereby improve fiscal soundness.

Cautious economic assumptions also enable the government to occasionally gain “windfalls” which can be used according to its policy priorities. Thanks to the built-in caution, the economy is more likely to operate better than the economic assumptions. As a result, the government can benefit from some unexpected surpluses, or windfalls.

The tone of economic forecasts, whether they are prudent or optimistic, may be influenced to a great degree by who does the forecasting⁷. Therefore, the government may need to push for institutional reforms to ensure that the use of cautious assumptions is built into the forecasting process. Properly devised, such institutionalised features can act as safeguards against arbitrary assumptions of the person in charge of forecasting. One method adopted by most countries is sensitivity analysis, which is a technical approach for examining the impact that variations in the key economic assumptions would have on the budget. Additionally, some countries have introduced a new institutional feature in which the initial aggregate targets in the budget process are based on independent, private sector economic

forecasts. Further along this direction, there are cases where an independent body has been appointed for recommending the economic assumptions to be used in the budget formulation. The following describes three cases of institutional reform for cautious economic assumptions.

Canada is an example where the private sector's economic forecast is used in the budget process. Before the introduction of this practice, the perception that "optimistic" economic assumptions were used in the budget had significantly downgraded the credibility of government-generated economic forecasts. Rather than relying on internally generated economic projections for use in budgeting, the government now begins with the average of forecasts made by private sector economic forecasters. The Department of Finance gathers economic forecasts from about 20 private research organisations and convenes an economic advisory group consisting of the central bank and four major research organisations, in which an agreement on economic assumptions for the next five years is reached. This is done in order to ensure credibility. On top of this, the Department of Finance systematically revises the private sector forecasts downward as a further measure of prudence. This takes the form of the government adding 50 to 100 basis points (equivalent to 0.5 to 1.0 percentage points) to the average private sector economic forecasts for interest rates and then feeding these through its entire econometric model, thus producing lower projections of economic activity. This provides a buffer for safeguarding the government's fiscal objectives.

The Netherlands and Chile are cases where an independent body was established for politically neutral and prudent economic forecasts. In the Netherlands, economic forecasts are made by the Central Planning Bureau (CPB), which is a government institution but is nevertheless completely independent. Charged with responsibility not only for economic forecasts but also for economic policy analysis, the CPB's macroeconomic forecast serves as a basis for the budget forecast. As the CPB enjoys the confidence of all political parties and the public at large, its economic forecasts are taken as given. The CPB produces two economic scenarios; the first one gives the most likely economic growth rate, while the second one is a cautious growth rate for use in budgetary policy. The political parties have agreed that the cautious scenario would be used because they would rather be faced with "good" surprises than with "bad" surprises. Windfalls resulting from the cautious scenario have been used for both deficit reduction and expenditure increases.

In Chile, there is an institution called the "output gap" panel which independently produces the macroeconomic forecasts for budgeting (Blöndal and Curristine, 2004, p. 13).⁸ The panel consists of 14 economists appointed by the Minister of Finance. The members of the "output gap"

panel are most often well-known economists from academia and research organisations, split between economists identified with the opposition and with the ruling political parties. At the first meeting, the panel discusses methodological aspects of the model used. At the second meeting, each member of the panel submits a forecast for the various inputs that go into the model. All of the 14 estimates are published anonymously so that each forecaster can verify his/her own. The two extremes on either end are discarded and then a simple average of the remaining 12 forecasts is used.

3.2. Composition of expenditure ceilings

3.2.1. Overall expenditure ceiling

After the economic assumptions for budgeting are made by the finance ministry or independent bodies, the government begins the process of formulating the coming year's budget by setting the overall expenditure ceiling.⁹ This is a very important phase in budget formulation under the top-down approach, as it sets the overall policy tone for fiscal consolidation and fiscal discipline. In its decision as to the appropriate level of the overall expenditure ceiling, the government will take into account both the economic forecasts and the fiscal target. Once these two factors have been determined, it becomes a matter of relatively simple calculation to derive the overall expenditure ceiling.

Box 4. Legislation of the spending limit

In 1991, the Canadian government legislated a spending limit in the Spending Control Act for the period from 1991/92 to 1995/96. The limit was based on the total spending target announced in February 1991 for the next five years. Excluded from the limits were public debt charges, programmes that were financed through “dedicated” revenues/charges, and expenditures related to events that occurred prior to 1991. As this was a five-year programme, under-spending in one year could be carried forward to offset over-spending in some future year. If the aggregate spending limit was exceeded after the five-year period, the government had to indicate in the following budget how it intended to make up any shortfall. Over the period from 1991/92 to 1995/96, the limit was not exceeded and the act was not subsequently extended.

Of the two key determinants of the overall ceiling, economic forecasts are more or less a technical exercise involving analytical tools from macroeconomics and econometrics. The other key factor, the fiscal target, in

contrast primarily reflects the government's will as to how rapidly it wants to achieve fiscal consolidation. If the government's agenda calls for a rapid reversal of a fiscal deficit, it will impose a tight balance target, and vice versa. In practice, many OECD country governments in the early 1990s emphasised tight control on public expenditure. This was possible because the fiscal target, usually expressed as the percentage of the fiscal deficit relative to GDP, was accorded the highest priority in achieving fiscal discipline after having run large consecutive fiscal deficits in the previous years. For example, in Sweden, strict fiscal discipline reduced the fiscal deficit from 11% of GDP in 1993 to 7% in 1995. In Canada, the target was to lower the deficit to 3% of GDP by fiscal year 1996/97.

Box 5. Recent fiscal disciplines on aggregate expenditure of major countries

Canada	Balanced budget or better.
Chile	Structural budget surplus of 1% of GDP.
Denmark	Fiscal surplus of 1.5 to 2.5% of GDP.
Sweden	Structural fiscal surplus of 2% of GDP (overall expenditure ceiling: 4% of GDP).
United Kingdom	Golden Rule: balance current budget over economic cycle. Sustainable Investment Rule: keep net debt at sustainable level (40% of GDP).

However, as the fiscal situation improved enough to realise fiscal surpluses by the late 1990s, there has been a tendency to slacken fiscal discipline since 2000. In Sweden, during 1997-99 the overall expenditure ceiling was enforced as an instrument for reducing public expenditure, while since 2000 its purpose has been to maintain a more or less constant ratio of expenditure to GDP. In Canada, tight control was exercised over expenditures by imposing two-year ceilings from 1994 to 2004; this was loosened to five-year ceilings in 2005.

The overall expenditure ceiling is seldom legislated, but is submitted to Parliament together with, or as part of, the budget proposal. Even strong measures for fiscal discipline such as Chile's "structural budget surplus of 1% of GDP" (Blöndal and Curristine, 2004, p. 10) are not formally legislated, but are rather understood to be the political commitment of the government.

3.2.2. Sub-ceilings

After the overall expenditure ceiling has been set, the next step in top-down budgeting is to determine the sub-ceilings. The sub-ceiling is the smallest unit of resource allocation that can be determined by the finance ministry in the top-down budgeting system. Resource allocation below the sub-ceiling level, such as for individual appropriations, is done by line ministries. This dichotomy of responsibilities allows the finance ministry to ensure that resource allocation among sub-ceilings is determined solely in consideration of the government's policy priorities and efficiency of implementation, free from pressures from line ministries.

The management of sub-ceilings differs somewhat among countries. In Sweden, there are only the overall and 27 sectoral expenditure ceilings, with hardly any restrictions among wages, transfers, and investments within sectoral ceilings.¹⁰ In Denmark and the United Kingdom, operating expenditures are subject to a separate ceiling from capital investment and transfers. In Canada, the current expenditure ceiling applies only to the aggregate level. However, since entitlement expenditure programmes have largely been exempt from any ceiling in recent years, the ceiling principally relates to non-entitlement spending.

Sectoral ceilings

Sectoral ceilings are the expenditure limits for major policy areas, examples of which would typically include agriculture, social security, national defence, etc. They are therefore determined by allocating resources out of the overall expenditure ceiling to each of these policy areas according to the government's policy priorities. This top-down decision making on sectoral ceilings is supplemented by bottom-up measures such as programme reviews.¹¹ By reviewing individual programmes, the finance ministry can reduce the decision-making errors that may result from inadequate information, which is a consequence of delegating some budgetary decisions to line ministries.

Of utmost importance in making decisions on sectoral ceilings is that they should not affect the overall expenditure ceiling, which is already determined. Having the sectoral ceilings set within the overall expenditure ceiling, without any possibility of allowing them to push up the latter, is a fundamental requirement for top-down budgeting to function successfully. Moreover, in some countries, the finance ministry requires that line ministries propose savings that can be used to finance reforms when they submit their budget requests. This requires a system to give line ministries

adequate motivation for such savings, which can absorb additional expenditures generated by policy reforms in a budgetary sector.

Box 6. Canada's expenditure setting procedure

Each autumn, departments and agencies submit their requests to the Treasury Board, seeking approval of their budgets through the annual reference level update (ARLU) process. This is primarily a technical exercise that updates departmental funding levels for the next fiscal year as well as the two years afterwards. The ARLU process is not generally a mechanism for departments to seek new funding approvals but rather an exercise that recognises incremental approvals given since the previous year. These incremental approvals primarily relate to new policy initiatives announced in the previous budget.

The Treasury Board Secretariat reviews the individual departmental submissions and makes recommendations to the Treasury Board. It then compiles the approvals and submits them to the Department of Finance. If the totals fit within the overall expenditure ceiling provided, no further action is taken. If the totals exceed the ceiling, reductions would be required.

The major adjustments to the expenditure ceilings result from the introduction of new policy initiatives or enhancements to existing programmes. In some years, incremental adjustments have been made to the departmental reference levels based on assessments by the Treasury Board Secretariat on health and safety issues. In all cases, since 1994/95 these adjustments have been accommodated without jeopardising the annual budgetary balance target.

The sectoral ceiling usually overlaps with a ministerial ceiling because each ministry covers a major policy area, for example the ministry of defence is in charge of the national defence policy area. In some countries like Korea, two or three ministries cover one policy area in common, requiring a more detailed sub-hierarchy of sub-ceilings. In contrast, the Netherlands has only three sectoral ceilings, among which the “core” sector is the joint responsibility of several ministers.

Operational and capital ceilings

Operational expenditure and capital expenditure are designated as separate sub-ceilings in some countries because the finance ministry prohibits improper budget transfers from capital investment to operational spending.

In Denmark, the Ministry of Finance establishes the expenditure ceiling for each line ministry within which that ministry then has the responsibility for final allocation of funds. The expenditure ceiling for each ministry is divided into two parts: a maximum for operating expenditures and a maximum for non-mandatory transfer expenditure. Shifting money from transfers to operating expenditures is not permitted. A sub-ceiling is also set for wages within the operational expenditure ceiling. Money may be transferred from wages to other expenses, but not from other expenses to wages. Mandatory transfers such as social pensions, unemployment benefits and capital expenditures are not included in the system of expenditure ceilings.

Box 7. Sectoral ceilings in the Netherlands

In the Netherlands, there are three sub-ceilings: the core sector, the social security sector, and the health care sector. The separation of the latter two sectors from the “core” sector is in part due to the fact that they have their own dedicated financing sources. The latter two sectors are each the responsibility of a single minister, respectively. The core sector, however, is the responsibility of a number of ministers. In principle, shifting money between each sector is prohibited. In practice, however, money is often shifted. For example, the social security sector is currently in strong surplus due to a more favourable economic situation than assumed. This surplus is being used to finance additional expenditures in other sectors, mainly the health care sector. Surpluses in one area, however, can only be used to fund existing policies that are experiencing higher costs than projected.

In the United Kingdom, the government has been setting separate current expenditure and capital expenditure sub-ceilings since 1998 in order to correct a natural bias against capital expenditure and to ensure consistency with fiscal rules. Current expenditure is consistent with the Golden Rule and capital expenditure with the Sustainable Investment Rule, respectively. Moreover, this prevents the tendency to cut capital expenditure to fund current pressure, the benefits of which may only be seen in the medium or long term.

Regarding operational costs, Sweden has a unique formula-based system. For example, wages (60% of total operational cost) are determined by applying a productivity index to previous spending levels, and accommodation costs (15% of total operational cost) are determined by applying a price index.

Number of sub-ceilings

The number of sub-ceilings also varies by country: Korea has more than 200 sub-ceilings; Sweden has only 27; and some other countries have less than 10 sub-ceilings. The reason Korea has so many sub-ceilings compared to other countries is because of the complexity of its budget system. There are 23 separate budget accounts, consisting of one general account and 22 special accounts, and an additional 47 public funds, most of which are financed heavily from the general account. With sub-ceilings that are set for 30 spending areas, in each of which the individual budget accounts and public funds must be separately accounted for, such a huge number of spending limits may appear to be unavoidable.

It should be borne in mind, however, that the advantages of top-down budgeting diminish rapidly as the number of sub-ceilings increases. Resource allocation among sectoral ceilings becomes a much more difficult decision politically with a large number of ceilings. Additionally, having the finance ministry involved in such detailed decisions deprives the line ministries of the opportunity to utilise their expertise in their respective areas to make allocative decisions within their individual ceilings, which is one of the key rationales for top-down budgeting. Therefore, it is advisable to keep the number of sub-ceilings small, optimally around 30 as a rule of thumb.

3.2.3. Budget margins

The budget margin functions as a buffer against increases in expenditure ceiling arising from economic forecast errors or unpredictable events. Once the overall expenditure ceiling has been confirmed, the government is better off spending money within that limit because frequent changes in the ceiling can hurt its credibility as well as impair fiscal soundness. Therefore, most countries designate some portion of financial resources from the overall expenditure ceiling as a budget margin, which acts as a buffer to be used for unforeseen situations.

A different kind of policy buffer for fiscal soundness is prudent economic assumptions, which were discussed in section 3.1. Therefore, even when a large amount of money is required to compensate for a forecast error or a natural disaster, the government can finance them without increasing the overall expenditure ceiling by using the budget margin and realised windfalls from prudent economic assumptions. The following illustrates how budget margins operate in some countries.

In Canada, a budget margin called the “contingency reserve fund” exists officially. The government allocates CAD 2.5 billion to 3.0 billion each year

to this fund, which can only be used to compensate for forecasting errors and unpredictable events. It cannot be used for any new policy initiatives. This fund is held centrally, its use to be determined at the discretion of the Prime Minister and the Minister of Finance. Recourse has never had to be made to the contingency reserve funds, and they have been applied to deficit reduction in their entirety each year. However, as the accumulated fiscal surplus increased recently, the government enacted the Unanticipated Surplus Act by which the fiscal surplus is allowed to be used for expenditure increment.

In Sweden, there is a budget margin that is approximately 2% of the total expenditure.¹² It also exists officially, requiring approval by Parliament, and can be used only to offset expenses attributable to economic forecasting errors. Besides the margin, some ministries hold their own contingency reserves as a separate appropriation in preparation for emergencies such as fires and damages from natural disasters. If a huge natural disaster occurs and the government cannot cover the emergency expense with the contingency reserve, the extra funding is found by reallocation within the existing expenditure ceilings and by tax reductions for the affected people. The reallocations between expenditure areas and appropriations in the budget are submitted to Parliament in a supplementary budget, which has been regularly approved twice a year.

The United Kingdom also has a small centrally held reserve for departmental expenditure limits. It is available only for genuinely unforeseeable contingencies which departments cannot be expected to manage within their DEL.¹³ For annually managed expenditures, cautious estimates and an AME reserve are built in when forecasting AMEs in order to reduce the risk of overspending on AMEs. In Chile and Korea, a central contingency fund of around 2% of the overall expenditure ceiling is available for unpredictable events.

3.2.4. Entitlements and discretionary programmes

In general, discretionary programmes are included in the expenditure ceiling. However, this is not always the case for entitlement programmes and interest payments on national debt. Including entitlement programmes in the expenditure ceiling may tempt ministries to reallocate in favour of these programmes, especially when there is a need to find room for large additional requirements that follow institutional reforms of entitlements. Several countries exclude interest payments from the expenditure ceiling, out of concern that foreign investors – who may regard the inclusion of interest payments in the expenditure ceiling as an intention to restrict interest payments – may demand a higher interest rate.

In Sweden, entitlement programmes are naturally included in the expenditure ceiling because the portion of entitlement programmes in the overall expenditure ceiling exceeds 60%. On the other hand, interest payments are excluded from the expenditure ceiling. The reasoning behind this arrangement is that the interest rate is beyond the government's control, while entitlement expenditure such as social pensions and unemployment allowances can be managed by the government. In Canada, entitlement programmes have largely been exempted from the expenditure ceilings. As a result, the expenditure ceiling primarily applies to discretionary programmes. As a notable exception, a compensation reserve is set up within the overall expenditure ceiling to manage upcoming negotiated wage and salary increases. In Denmark, mandatory transfer programmes and interest payments are excluded from the expenditure ceiling. Chile, Korea, and the Netherlands¹⁴ all include both entitlement programmes and interest payments in the expenditure ceiling.

3.2.5. Policy initiatives

Decisions on policy initiatives, in general, are made through a programme review process in the cabinet. Since the government in general has less information on policy initiatives than the proposing line ministry, prudence requires that a formal process be in place for reviewing individual programmes in order to reduce decision-making errors. The review process begins with line ministries submitting proposals to the finance ministry. After an internal process of review, the finance ministry brings the proposals for discussion at the cabinet meeting. The final decisions are usually made by the prime minister or the president.

In some countries where the overall expenditure ceiling is fixed over the period of the MTBF, such as Sweden, funding for new policy initiatives is absorbed within the expenditure ceiling. On the other hand, in most countries, the overall expenditure ceiling is adjusted to finance new policy initiatives at the latter stage of the budget process. The decision-making process for policy initiatives varies among countries. In Australia and Canada, a special cabinet committee reviews individual policy initiatives. In Denmark and the Netherlands, since the coalition agreement at a new government's inauguration sets the political priority for the MTBF, the decision-making process simply checks whether new policy initiatives are in line with the existing coalition agreement. Chile provides yet another example, operating a special fund for policy initiatives. The following describes the cases of Canada and Chile.

In Canada, two cabinet committees called the Economic Union Committee and the Social Union Committee take charge of reviewing the

policy initiatives. New policy initiatives are presented directly by ministers to the committees, which meet every week during the budget process. The committees discuss the merits of the policy proposals presented by ministers and in the end rank them for possible funding. The two committees may have joint meetings to discuss such proposals. The Treasury Board Secretariat has also instituted a separate programme integrity process. This is designed to correct any critical shortfalls in funding of current programmes. Late in the year, the Finance Minister and the Prime Minister will decide how much money to allocate for the policy initiatives, taking into account the rankings established by the committees and the results of the programme integrity process. The Prime Minister and the Finance Minister make the final decisions on resource allocation after consultation with ministers. The expenditure ceiling is adjusted by new policy initiatives which it is decided to fund.

In Chile, the government operated a fund called the Bidding Fund¹⁵ from 2000 to 2004 for new policy initiatives. The Fund was financed by savings from existing programmes that did not pass critical assessment and by the added resources from a growing economy. Line ministries submitted the funding requests to the Ministry of Finance, which analysed the various bids and drew up a short list of new initiatives to be funded. The Minister of Finance, after a meeting with line ministers to discuss the proposals, reported to the President, who made a final decision. As the government moved closer to the end of its term, the Bidding Fund was discontinued in 2005 in order to concentrate on existing reforms rather than launch new initiatives.

3.3. Role of the prime minister/president and the finance minister

3.3.1. Setting political priorities

Setting political priorities is the first step of budget formulation in top-down budgeting. The government is responsible for soliciting the diverse opinions and demands from all levels of society and incorporating them into government policy according to its political priorities. Policy measures thus determined are carried out in order to provide the nation with goods and services of good quality, financed by the national budget. Therefore, the government needs to establish its political priorities before the budget formulation process begins. These priorities, in general, are stipulated in the MTBF as high-level objectives of the government. In countries where a minority government has been in power for a long period, a coalition agreement among the allied political parties incorporates the political priorities to be followed during the term of office.

Political priorities in the top-down budgeting system influence the overall expenditure ceiling as well as sectoral expenditure ceilings. Determining the overall expenditure level in the top-down budgeting system is related, to some extent, to the government's political philosophy. This means that the overall ceiling should be determined by what kind of society the government is aiming for in the future. In the end, this is a choice between whether it is aiming for a large public sector (say, with public expenditures over 60% of GDP) or a small public sector (say, less than 30%). Such decisions are by nature far beyond the scope of routine decision processes within the administration and require a social consensus through political channels. In the top-down system, such political decisions should be made prior to any other budgeting procedure. Once that question has been settled, the government needs to decide its fiscal management target. The decision as to whether the government will tighten fiscal control to move quickly from deficit to surplus, or instead take a gradual approach that balances the budget over the long term, is one that should also be made politically. Finally, the government will consider priorities among policy sectors and accordingly allocate financial resources to individual policy sectors.

While the prime minister (or the president) and the cabinet members all participate routinely in various decision-making processes, needless to say the prime minister/president and the finance minister play the most significant role. The prime minister/president, in most countries, makes the final decision on major fiscal policy issues, often in consultation with the finance minister. Therefore, their political leadership and expertise are required for the success of the top-down budgeting system. It is worth emphasising that whether the rules of a top-down system can be successfully upheld often depends more on the capacity and influence of these key players, rather than on specific institutional or legal features.

3.3.2. Role of the rule keeper

Once the government's objectives are confirmed, the finance minister bears responsibility for achieving those objectives through efficient use of fiscal policy measures. As the fiscal rule keeper, the finance minister has to play a more active role in the top-down budgeting system than in the bottom-up system. One consequence of partially delegating authority in budgeting to line ministries is that the latter may fail to observe fiscal rules, *e.g.* by submitting a budget request in excess of the approved expenditure ceiling or by effecting a prohibited transfer of expenses between budget accounts or expenditure ceilings. Such actions would seriously impair fiscal consolidation, which is the most important mission of the finance minister.

Therefore, in most countries the finance minister and his/her staff make every effort to protect the fiscal rules throughout the budget process. Part of this effort is to review individual programmes to verify that they are in line with the fiscal rules. Enforcing the expenditure ceiling requires not only dealing firmly with a violating ministry, but also trying to persuade it. For example, the finance minister typically needs to spend a lot of time in advance with line ministers to discuss issues and persuade them before reaching an agreement on sectoral expenditure ceilings. In the United Kingdom, if there is a disagreement on the departmental expenditure limit, the Chancellor of the Exchequer acts as a mediator in the Public Service Expenditure Committee (PSX), which he also chairs.¹⁶ Once the expenditure ceiling is confirmed in the cabinet meeting, however, the Chancellor of the Exchequer and his staff will exert themselves to defend it, firmly refusing violations by line ministries. Similarly in Chile and in Sweden, the Ministry of Finance takes a very firm stance on such violations: “send them back if line ministries submit budget proposals in excess of the allocated ceilings.”¹⁷

Additionally, in most countries, the finance ministry issues guidelines that help line ministries observe the fiscal rules. In Sweden, the Ministry of Finance lays down the “financing rule” which describes what kind of reallocations are allowed or not allowed, *e.g.* money may not be transferred from an entitlement appropriation to a discretionary investment appropriation, or new permanent expenditure may not be financed from temporary savings. In Australia, the Department of Finance and Administration issues the budget rule which applies to the entire budget process from beginning to end, and enforces it as a strict guideline.

To perform his/her duty as rule keeper successfully, the finance minister needs the support of the prime minister/president. This most often takes the form of publicly expressing confidence in the finance minister and according first priority to the latter’s advice in any important decision. Since the prime minister/president and the finance minister will have frequent opportunities in the budget process to discuss fiscal issues, including the fiscal target and new policy initiatives, it would not be unusual for them to have built strong mutual confidence in each other.

3.3.3. Programme review

In most countries employing the top-down budgeting system, the finance ministry conducts programme reviews of individual programmes for several purposes: to monitor whether programmes are consistent with the fiscal rule; to support the decision process for setting expenditure ceilings; and to facilitate decisions on new policy initiatives. Beyond these purposes, there are distinctive programme review systems for budget savings in

Canada and Denmark. These systems are judged to have been very effective for securing available resources under the unfavourable fiscal situation of the 1990s. On the other hand, in Australia there is a powerful program review committee which is responsible for major decisions on fiscal management.

In Canada, the “Program Review” was announced in 1994. It was a comprehensive assessment of the proper role of the government in the economy and as such included reviews of the various programmes in which the government was involved. The Program Review exercise was headed by a special Minister Responsible for Public Service Renewal. A special Cabinet Committee on Program Review was established, which was composed of the Minister of Finance, the President of the Treasury Board, and several senior ministers. In the first instance, six criteria for carrying out the Program Review were enunciated, and departments and agencies were given the mandate to self-review their programmes according to the six criteria. This process did not yield significant savings. As a result, each department and agency was given a target for expenditure reductions. The targets were proposed by the Department of Finance and the Treasury Board Secretariat and approved by ministers. Each minister was given the responsibility for developing programme changes to meet the assigned targets.¹⁸ Departments and agencies had to submit formal business plans that showed in detail how they would change their activities in order to achieve the reductions. The plans were reviewed in the Committee and confirmed in the cabinet meeting. This system contributed to a quick escape from a fiscal crisis in the late 1990s. In recent years, however, with the fiscal situation improved to surplus, its key role has changed from budget reduction to efficient resource allocation.

In Denmark, the government runs a particular system called “Special Study”. It is normally associated with specific cuts in expenditure programmes. The programmes for review are decided by the cabinet committee and generally excluded from the total expenditure ceilings. Special studies are carried out by teams of civil servants representing the Ministry of Finance and the relevant line ministry. Depending on their terms of reference, these teams will either present specific proposals or a menu of possible proposals for savings. There is a very short period of time for these teams to operate, as they will generally only have about 1.5 months to carry out their studies. Despite this, it is estimated that the special studies have produced significant savings.

In Australia, there is a very important committee called the Expenditure Review Committee (ERC) as a sub-committee of the cabinet. It is responsible for examining all expenditure proposals in light of the government’s overall fiscal strategy, advising the cabinet on budget

spending priorities, and initiating reviews of individual ongoing programme expenses. Moreover, it considers the various new policy initiatives and saving proposals. The Committee consists of the Prime Minister, the Finance Minister and two senior ministers. When making its decision on budgetary issues, the ERC uses information from the Portfolio Budget Submission and briefs prepared by the Department of Finance and Administration.

Box 8. Six criteria for “Program Review” (Canada)

1. Does the programme area or activity continue to serve a public interest?
2. Is there a legitimate and necessary role for government in this programme area or activity?
3. Is the current role of the federal government appropriate, or is the programme a candidate for realignment with the provinces?
4. What activities or programmes should or could be transferred in whole or in part to the private or voluntary sector?
5. If the programme or activity continues, how could its efficiency be improved?
6. Is the resultant package of programmes and activities affordable within the fiscal restraint? If not, what programmes or activities should be abandoned?

Source: OECD, *Reallocation: The Role of Budget Institutions*, 2005, p. 14-15.

3.3.4. Cabinet meeting/final decision

The expenditure ceilings and the budget proposal are usually confirmed by the approval of the full cabinet meeting, the former in an early stage of budget formulation, the latter in the final stage of budget formulation within the government. In Denmark, Korea, and Sweden, the cabinet meeting for determining expenditure ceilings is held for two consecutive days with all cabinet members and senior budget officials participating. All the major issues related to the expenditure ceilings and fiscal rules are put on the table, and in-depth discussions are held among participants. With this meeting, cabinet members have an opportunity to understand current fiscal circumstances more precisely and thereby reach a consensus on complicated budgetary issues. Both the expenditure ceilings and the budget proposal are made public after confirmation in the cabinet meeting, except for Korea and Sweden where the results of the cabinet meeting for expenditure ceilings are

announced only in abbreviated form. The budget proposal, upon confirmation by the cabinet meeting, is submitted to Parliament.

3.4. Flexibility

3.4.1. Economic and fiscal circumstances

Economic and fiscal circumstances affect how the budget system functions. In societies where social demands for budgetary spending keep growing even as available resources decrease, the government will need to reform the budget system to achieve fiscal consolidation. Top-down budgeting began as such a reform of budget formulation in order to overcome the fiscal crises of the early 1990s. However, as the economy and the fiscal situation change with time, the system needs to adjust flexibly in order for the government to continue to obtain satisfactory results in the new environment. For example, a favourable fiscal circumstance will allow the government to alleviate constraints on public expenditure, whereas an unfavourable circumstance will demand tightened control over spending. The necessity of reserving such flexibility in fiscal policy and budgetary systems means that, in most countries, the government does not enact the fiscal rules as a law but maintains them as a political commitment. This allows the budget system to adjust and evolve with changes in a country's economic and fiscal circumstances. Canada's experience offers a good case in point.

In Canada, the government decided in 1980 to introduce the Policy and Expenditure Management System (PEMS) to control the aggregate expenditure in response to the growing fiscal deficit. PEMS followed the typical top-down budgeting approach in that the government created a five-year medium-term budget framework of expenditure ceilings, with ten sub-ceilings set within the overall ceiling. However, as the fiscal deficit continued to grow in the early 1990s to alarming levels, the government replaced PEMS with EMS (the Expenditure Management System) in 1994 – a system which emphasised even stricter control on expenditure. With the introduction of EMS, the government established a tight fiscal target that would lower the deficit to 3% of GDP by fiscal year 1996/97.¹⁹ The period of the MTBF was adjusted from five years to two years because the government wanted to be confident that it could deliver what it had promised and be held accountable for meeting its promises. The “prudent economic assumption” and “contingency reserve fund” were also introduced under EMS. These reforms of the budget system contributed to improving the fiscal situation in Canada, turning the deficit into a surplus by the late

1990s. As the surplus continued, the government started to alleviate control and in 2004 changed the period of the MTBF back to five years.

Flexibility is an important factor in the budget process, and this is evidenced by the evolution of fiscal systems in various countries. In many countries the number of sub-ceilings has tended to diminish. In particular, Sweden has abolished most controls on transfers among budgetary categories such as wages, transfers and investment in order to enhance flexibility. Another example of flexibility in top-down budgeting can be found in the budget margins designed as reserves against economic forecast errors and unpredictable events. Additionally, in some countries, the government formulates one or more supplementary budgets regularly during the fiscal year in order to adjust expenditures and revenues in view of changes in economic circumstances and newly introduced policy initiatives.²⁰ The following gives more specific examples of flexibility in top-down budgeting.

In the Netherlands, thanks to its cautious economic assumption rule, the government usually reaps windfalls at the end of the year. How to spend the windfalls depends on the macroeconomic and fiscal situation. If the budgetary situation turns out to be more favourable than the government expected, *e.g.* as a result of higher economic growth, then the following rule applies: if the deficit is greater than 0.75% of GDP, 75% of the windfall goes to reducing the deficit and 25% to tax cuts; if the deficit is less than 0.75% of GDP, then 50% of the windfall goes to reducing the deficit and 50% to tax cuts.²¹

In the United Kingdom, end-year flexibility (EYF) is guaranteed for all departments and executive agencies. While departmental expenditure limit plans are set firmly for departments for three years, carrying forward unspent DEL provision from one year to the next is allowed to encourage them to plan over the medium term and avoid wasteful end-year surges. Three-year budgets and end-year flexibility give the public services the stability to plan their operations on a sensible timescale without the fear that resources may be cut back in the following year. EYF also removes the perverse incentive for departments to use up their provision as the year end approaches without regard to value for money.

3.4.2. Pro- vs. counter-cyclical spending

Fixed vs. flexible overall expenditure ceilings

MTBFs can be classified into two different types according to flexibility of adjustment. One is a flexible framework which allows the overall

expenditure limit to adjust to shifting economic and budgetary circumstances from year to year. The other is a fixed framework which does not permit such adjustments. In a fixed framework the frames can be rolled over, but once determined, even the caps for future years cannot be adjusted. The Netherlands, Sweden and the United Kingdom operate MTBFs as a fixed framework, while other countries in this study have a flexible framework. For example, in Sweden's three-year rolling MTBF, the government hardly adjusts the overall expenditure ceilings of years $t+1$ and $t+2$, which are determined in previous MTBF cycles, but only adds a ceiling for year $t+3$ when confirming the new MTBF every year.²²

Under a fixed framework, the general budget fund functions as an automatic stabiliser for macroeconomic purposes. In such a framework, tax revenues fluctuate according to the economic cycle and bear the full load of acting as a stabiliser. In a business upturn, tax revenues increase, thereby limiting private sector consumption and investment, which helps to prevent overheating of the economy. In a business downturn, the opposite happens: tax revenues decrease to allow private spending increases, thus countering the business cycle. Some government spending such as unemployment benefits or subsidies for low-income families also can function as automatic stabilisers if they are not under a fixed expenditure limit. It should also be noted that a fixed framework functions to stabilise the fiscal balance automatically over the long term. Since the expenditure limit is fixed in the medium term regardless of economic fluctuations, a fiscal surplus (or lower deficit) may be expected in an economic upturn while a fiscal deficit (or lower surplus) is likely in a downturn. As the surplus in economic upturns offsets the deficit in downturns, the fiscal situation can be maintained at balance over the long term.²³ This means that the effect of the fixed framework on the economy is pro-cyclical rather than counter-cyclical (for the latter, expenditures would need to be increased if tax revenues fell behind the trend).

In contrast, under a flexible framework, the government adjusts the expenditure limit discretionally according to the economic cycle. However, it should be borne in mind that the government has to adjust the expenditure limit based on an accurate forecast of the cycle in order to get better results from adjustment. Making such forecasts with an accuracy that is useful for fiscal policies has proven to be a near impossible task. Even worse, if an adjustment is based on a poor economic forecast, it could exacerbate the fiscal situation. Therefore, in top-down budgeting, a government aiming for fiscal consolidation would do well to seriously consider the potential costs of using a flexible framework.

Tax expenditures

What fiscal policy instruments are available to a government with a fixed framework? Is it even possible for a government to take any actions in a serious economic situation like a sharp increase in unemployment? The solution often adopted by governments under strict spending restrictions is to use tax expenditures. In many countries, tax expenditures tend to increase as the governments take advantage of them to work around spending limits. Recently in Sweden, in response to a much reduced budget margin, tax expenditures have increased up to 0.6% of GDP.

Structural fiscal target

The purpose of a structural fiscal target is to eliminate the effects of cyclical fluctuations of economic activity from the fiscal target. When the economy is performing above its long-term potential, the budget balance should record a nominal surplus. With a sub-potential economy, the balance should return to a nominal deficit. Over the cycle, these should balance each other out. Therefore, the merit of a structural fiscal target is that it functions as an automatic stabiliser similarly to a fixed medium-term framework. However, one must keep in mind that the rationale for the structural fiscal target rests on the premise that that medium-term economic forecasts can be made very accurately. The following examines the case of Chile, which maintains a tight structural fiscal target.

The Chilean government adopted its fiscal target of operating each year with a structural budget surplus of 1%²⁴ of GDP from 2001, which has served to set a hard budget constraint for the overall expenditure ceiling. Additionally, the government established two independent panels composed of private sector specialists in order to enhance the accuracy and objectivity of forecasts. As the overall expenditure ceiling is defined by the structural parameters, changes in revenue forecasts reflecting cyclical factors do not affect the expenditure ceiling. Only when revenues fall short of the original estimation for reasons not associated with the cycle is it necessary to adjust the expenditure ceiling. In such circumstances, it is common to ask line ministries to accept proportional adjustments in their current expenditures. In the case of excess revenues not attributable to cyclical factors, there is room for extra expenditure. The President, after consulting the Minister of Finance, will decide how to use the additional resources in ways which do not build expenditure pressure for subsequent years.

4. Changing behaviour

4.1. Inertia in behavioural change

From a behavioural point of view, the key feature of top-down budgeting is the delegation of authority to line ministries. Considering the magnitude of the transfer of authority from the finance ministry to line ministries upon switching to a top-down system, behavioural changes on the part of all participants in the budget process are required for the new system to fulfil its intended purpose. In actual budget processes, however, it seems to be very difficult to change existing practices that were established under the bottom-up approach. As the role of the finance ministry changes to setting the expenditure ceilings in a medium-term perspective, it will still tend to maintain its influence over line ministries by intervening in the latter's internal money allocation to individual appropriations. As for line ministries, whose role is now redefined as responsibly allocating money to their appropriations within sectoral expenditure ceilings, it may be difficult to break away from the old practice of submitting excessive budget requests (above the expenditure ceilings) in order to have a larger budget approved by the finance ministry. Even after the budget system has changed to top-down budgeting for fiscal consolidation, Members of Parliament will often continue to push up the expenditure ceiling, rather than control it, in an attempt to please their electorate.

This tendency to retain old patterns of behaviour can sometimes prevent the new top-down system from taking root. In the 1990s, the United States government introduced a top-down budgeting system to replace the existing bottom-up approach. However, hardly any changes in behaviour for participants in the budget process followed the new system's introduction. As a result, budget formulation ended up reverting to the former bottom-up approach in 2000.

The budget-saving mechanism in Canada's Policy and Expenditure Management System also provides an example of a system that ultimately failed because of unchanged behaviour. The overall expenditure limit in PEMS was divided into several spending envelopes²⁵ each of which included all spending in a particular policy area. For example, a single envelope for economic development included all spending for agriculture, fisheries, tourism, industry, commerce, transportation and regional development. Since a spending envelope included the expenditures of several ministries, it was administered by a cabinet committee of all ministers whose spending belonged to the envelope. This arrangement was intended to foster resource reallocation by having all government programmes in a given field judged side by side, so that funding for one

programme could be reduced to finance an increase for another. Therefore, for this system to be able to work efficiently, ministers first had to propose savings available in the expenditures of their own policy fields. In reality, however, no minister suggested savings initiatives because those savings would go to the envelope “pool” directly without any guarantee of being reallocated to another spending programme of his/her own ministry. As a result, no reallocation took place, nor did any voluntary savings. The system did not succeed because the requisite new behaviour in the form of ministerial partnership never materialised.

4.2. Delegation and accountability

As noted previously, the introduction of the top-down budgeting system mandates that the division of roles between the finance ministry and the line ministries be reorganised. The finance ministry has to concentrate on establishing management strategies for fiscal consolidation from a broader perspective. Greater accountability is required from line ministries than in the bottom-up budgeting system as they are now responsible for allocating money to their individual appropriations. Parliament also needs to redefine an appropriate role for itself that allows it to contribute to the efficient operation of the new system. Thus, all participants in the budget process will need to embrace changes in their behaviour in order to reap the originally intended benefits from the new top-down environment.

4.2.1. Finance ministry

The finance ministry needs to restrain itself from intervening in the internal resource allocation of line ministries. This rule is firmly settled in countries where the top-down budgeting system plays a substantial role. In Sweden, once the overall and 27 sectoral ceilings are set in the cabinet meeting, line ministers are responsible for allocating money to the 500 appropriations within the expenditure ceilings. The Ministry of Finance hardly intervenes in this internal allocation process, but still monitors whether the ministries’ decisions conform to its “financing rules”. In the United Kingdom, HM Treasury does not involve itself in departments’ internal allocations once a DEL is allocated to each department, but still scrutinises whether departments observe the DEL envelope and the objectives of the public service agreement²⁶ (PSA). If the budget request of each department meets these two requirements, it is incorporated into the government budget proposal without any adjustment.

With little room for direct intervention in the top-down system, finance ministry staff must augment their capacity for fiscal management. They

have to improve their performance in producing economic assumptions and forecasts, setting the fiscal management target, and defending fiscal rules. Although in theory the delegation of many budgeting decisions to line ministries ought to free up considerable time for finance ministry staff, in reality top-down budgeting requires a greater workload and more diligence because of the increased need for up-to-date information and for acquiring strategic skills for efficient fiscal management. Thus an important point is that the top-down budgeting system should not be used for the purpose of reducing staff. Even in Sweden, where the Ministry of Finance delegates most authority to line ministries, there have been no staff reductions since the introduction of top-down budgeting. Instead, finance ministry staff should be provided with the opportunity for re-educating themselves to adapt to the new system, bearing in mind that in any case such efforts at self-innovation are inevitable.

Finally, the finance ministry needs to establish better relationships with line ministries than in the bottom-up budgeting system. Finance ministry staff, armed with enhanced information and skills for fiscal management, should be ready to provide advice on any issues brought up by the line ministries in a co-operative approach to finding solutions together. The finance ministry and line ministries are not game players in the budget process any longer, but have to establish a co-operative partnership with each other.

4.2.2. Line ministries

First, all line ministries must observe the expenditure ceilings, which is the *sine qua non* of an effective top-down budgeting system. Line ministry budget requests that exceed the expenditure ceilings approved in the cabinet meeting directly undermine fiscal soundness, which is usually the main reason for adopting top-down budgeting in the first place. Moreover, such violations may result in serious distrust of government policy by the public. Therefore the budget office in most countries with a top-down system maintains that budget requests exceeding the approved expenditure ceiling will not be accepted and will simply be sent back. In budget execution, as opposed to budget formulation, the Financial Administration Act of Canada obliges departments to observe the expenditure limits. If a department spends in excess of the expenditure limit, the expenditure limit of the department will automatically decrease in the subsequent year by the amount of excess spending in the current year.

Second, line ministries need to take on greater responsibility in allocating resources to individual programmes. Under the bottom-up approach, line ministries tend to increase the budget for every programme

with little effort at achieving a better reallocation of resources among programmes, because funding for the programmes is decided through negotiations with the finance ministry. In the top-down budgeting system, in contrast, line ministries need to show responsible ownership in their actions. Restructuring of individual programmes would be necessary so that programmes with low priority or poor outcomes should be decreased in funding or eliminated altogether, while programmes with high priority or excellent outcomes should gain more money. Delegation should go hand in hand with enforced accountability. In the top-down budgeting system, “each minister is his own finance minister.”

4.2.3. Parliament

Since the relationship between the government and Parliament takes various forms that reflect each country’s political structure and history, it is hard to find a general answer as to how the legislature ought to change its behaviour in the top-down budgeting system. However, it is clear that Parliament should try to improve its review process of the government’s budget proposal either institutionally or practically as top-down budgeting sets root in the government sector. The case of Sweden gives a good example of how the legislature adapted its budget review process for top-down budgeting.

In Sweden, the reform efforts were well co-ordinated. Following enquiries by a parliamentary working party in the beginning of the 1990s, Parliament decided in 1993 to introduce a separate procedure for the preparation and approval of the budget bill in Parliament. The process has all the characteristics of a top-down procedure; first there is a vote on the frames for all 27 expenditure areas and on the estimate of the revenues, and then a vote on the appropriations within each expenditure area. First the aggregate is approved, then the details. During the second stage, Parliament is allowed to reallocate funds between appropriations within an expenditure area, providing the frame for the area is not violated. The procedure was first used in Parliament in 1996 for the preparation and approval of the 1997 budget. The government also used its new top-down procedure in 1996 for preparing the 1997 budget.

4.3. Leadership

The objective of top-down budgeting is to achieve fiscal consolidation. To this end, the finance ministry focuses its energy on setting the expenditure ceilings and upholding fiscal discipline, delegating the details of resource allocation to line ministries. Therefore, this system can produce

positive results only when the manager at the centre of the system, *viz.* the finance minister, runs the system with sufficient skill and leadership. Moreover, if he/she is backed sufficiently by the prime minister or the president, top-down budgeting will successfully take root as the new budget formulation system.

5. Conclusion

The top-down budgeting system was introduced as an institutional reform for overcoming the serious fiscal situations faced by many OECD countries during the early 1990s. This system enables the finance ministry to manage public finances efficiently from a medium-term perspective and is judged to have contributed significantly to achieving fiscal consolidation, particularly in Sweden and the United Kingdom. However, top-down budgeting does not always guarantee successful fiscal management, as evidenced by the Policy and Expenditure Management System of Canada in the 1980s. When designing a top-down budgeting system, a government should give serious consideration to the following key points drawn from this study.

First, there needs to be greater effort to uphold fiscal discipline. Since top-down budgeting's purpose is to achieve fiscal consolidation by having the finance ministry control aggregate expenditure, fiscal discipline must be established and enforced thoroughly. If the fiscal situation becomes worse than expected, tighter discipline on aggregate expenditure will be required. Moreover, the overall expenditure ceiling in a medium-term budget framework should preferably be fixed over the framework's period. No adjustments should be allowed except for legitimate and very serious reasons, so that the automatic stabiliser of fiscal policy can function effectively.

Second, cautious economic forecasts are required to achieve fiscal soundness. Prudent and objective economic assumptions, rather than optimistic ones, facilitate the government's efforts to achieve fiscal soundness. For this purpose, a government may consider either establishing an independent body for economic forecasting like the Netherlands Central Planning Bureau, or using private sector forecasts as a baseline for budget formulation as is done in Canada. Moreover, windfalls that are realised as the result of prudent economic assumptions can be spent to repay debt or to finance spending increases – decisions which should be made with due consideration of the state's fiscal situation.

Third, flexibility in operating the system is very important. In this vein, it is not desirable to have an excessive number of sub-ceilings or to over-

regulate against fund transfers among budget categories. The government needs to make appropriate adjustments in the fiscal system according to the state's economic and fiscal circumstances. As a general rule, the worse the situation, the tighter should be control on expenditure. End-year flexibility may be able to provide departments with greater flexibility in multi-year spending, ultimately enhancing responsibility and accountability in their spending.

Fourth, there has to be behaviour change by the participants in the budget process if the transition to top-down budgeting is to succeed. The finance ministry should not intervene in the internal allocations of line ministries but focus on strengthening a fiscal management strategy from a medium-term perspective. Line ministries should observe the expenditure ceilings approved in the cabinet meeting and be more responsible in allocating money to their individual appropriations. It is worth emphasising that “each minister is his own finance minister” in the top-down budgeting system.

Last, strong leadership is required of the finance minister. Charged with ultimate responsibility for the system's success, the finance minister needs to lead line ministers with expertise as well as personal skills. Additionally, adequate backing from the head of the cabinet will improve the odds that the top-down budgeting system will fully perform as expected.

The factors above are the key considerations that merit serious attention when a government designs a top-down budgeting system. Other technical issues, such as the composition of the expenditure ceiling and the extent to which the ceilings should be made public, are matters for each government to decide in view of public opinion in its society. Finally, top-down budgeting has contributed to achieving fiscal consolidation in many countries, but this does not necessarily imply that it is unequivocally the best practice that has yet emerged in budgeting. The best budget system for any particular country must always remain one that adequately reflects the established political structure and that society's historical as well as socio-economic background.

Notes

1. Chile is an established observer of the OECD Working Party of Senior Budget Officials.

2. The Royal Commission on Financial Management and Accountability (Lambert Commission) enforced the principle of top-down budgeting. This principle evolved several times, and in 1994 was transformed into the Expenditure Management System (EMS) which put a strict control on public expenditure.
3. They are the well-known Golden Rule and Sustainable Investment Rule.
4. In theory, this is the nature of the final budget under the bottom-up approach. However, in practice the provisional aggregate expenditure target is determined to an approximate level by the finance ministry in an early stage of the budget process, taking into account the economic forecast and the fiscal situation.
5. Australia and Canada have such cabinet committees that review new policy initiatives.
6. The United Kingdom revises its medium-term budget frameworks every two years.
7. Sometimes the economic forecast is affected by political pressure, which is also a question of the person who has the power.
8. There is another institution called the “copper price” panel, as Chile’s fiscal finances are heavily dependent on the volatile price of copper which accounts for 4% of total government revenue. The panel consists of 14 persons appointed by the Minister of Finance from mining companies and related enterprises. This committee estimates the average long-term price for copper as the reference price. The method of determining the price is identical to that used by the “output gap” panel. (Blöndal and Curristine, 2004, p. 13-14)
9. If the government takes the fixed MTBF, the coming year’s expenditure ceiling will already have been determined when the MTBF covering that year is confirmed. Under the flexible framework, it will be adjusted according to the economic situation. Details will be discussed in section 3.4.2.
10. However, the Ministry of Finance monitors individual programmes to verify that they conform to the fiscal rules.
11. Exceptionally, Sweden does not use programme review for setting sub-ceilings, but only for monitoring.
12. The budget margin is the overall expenditure ceiling minus the sum of the 27 sectoral expenditure ceilings.
13. Expenditures for the war against Iraq came out of the DEL reserve, not from the defence sector DEL.

14. Recently, the Dutch government has been considering the possibility of excluding interest payments from the expenditure ceiling. This is because the interest rate is forecast to increase in the long term, which poses greater difficulty for the government in controlling the expenditure ceiling.
15. The purpose of introducing the Bidding Fund was, first, to counter the incremental nature of the traditional budget process by having line ministries prioritise their requests for funding new initiatives. Second, it was designed to improve the technical quality of the funding requests, which were often deficient. (Blöndal and Curristine, 2004, p. 17)
16. A minister who disagrees with the mediation in PSX can request final mediation by the Prime Minister.
17. In practice, such violations have never occurred in either country.
18. The targets ranged from 5% to 60%, and were to be implemented over the coming three years.
19. The fiscal deficit in 1993 was 8.7% of GDP.
20. In Sweden, a supplementary budget is formulated twice during the fiscal year; the first is formulated in April when the MTBF is confirmed, and the second in September when the budget bill is confirmed.
21. This was set in the coalition agreement.
22. In contrast, for the 27 sectoral ceilings, the government determines the ceilings for t+1, and manages those of t+2 and t+3 as a guideline when confirming the MTBF every year.
23. A fixed medium-term framework also brings greater stability to the budget system because tax revenue fluctuations are no longer a reason for adjusting expenditure limits.
24. The decision to target a surplus of 1% of GDP was taken in order to offset a perennial deficit of 1% of GDP at the Central Bank of Chile. When the two are consolidated, the public sector has an approximately zero balance. (Blöndal and Curristine, 2004, p. 12)
25. Originally, there were ten spending envelopes.
26. The PSA is a kind of performance management system in which HM Treasury takes into account the objectives of each department for the coming three years when it sets the expenditure limits.

Bibliography

- Australian Government (2005), “Australian Government Budget” Internet site, Department of Finance and Administration, Canberra, www.finance.gov.au/budgetgroup/Commonwealth_Budget_-_Overview/commonwealth_budget_-_overview.html (accessed August 2006).
- Blöndal, J.R. (2001a), “Budgeting in Sweden”, *OECD Journal on Budgeting*, Volume 1, Number 1, OECD, Paris.
- Blöndal, J.R. (2001b), “Budgeting in Canada”, *OECD Journal on Budgeting*, Volume 1, Number 2, OECD, Paris.
- Blöndal, J.R. (2003), “Budget Reform in OECD Member Countries: Common Trends”, *OECD Journal on Budgeting*, Volume 2, Number 4, OECD, Paris.
- Blöndal, J.R. and T. Curristine (2004), “Budgeting in Chile”, *OECD Journal on Budgeting*, Volume 4, Number 2, OECD, Paris.
- Blöndal, J.R. and J.K. Kristensen (2002), “Budgeting in the Netherlands”, *OECD Journal on Budgeting*, Volume 1, Number 3, OECD, Paris.
- Blöndal, J.R. and M. Ruffner (2004), “Budgeting in Denmark”, *OECD Journal on Budgeting*, Volume 4, Number 1, OECD, Paris.
- Dorotinsky, Bill (2004), “Developing a Medium-Term Expenditure Framework”, *Reforming the Public Expenditure Management System*, World Bank and Korea Development Institute, Seoul.
- HM Treasury (2005), “Public spending and services” Internet site, London, www.hm-treasury.gov.uk/documents/public_spending_and_services/pss_intro_frame.cfm (accessed August 2006).
- OECD (2002), *OECD Economic Outlook No. 71*, June, OECD, Paris.
- OECD (2004), “The Legal Framework for Budget Systems: An International Comparison”, *OECD Journal on Budgeting, Special Issue*, Volume 4, Number 3, OECD, Paris.
- OECD (2005), *Reallocation: The Role of Budget Institutions*, OECD, Paris.
- Schick, A. (2003), “The Role of Fiscal Rules in Budgeting”, *OECD Journal on Budgeting*, Volume 3, Number 3, OECD, Paris.
- Tanaka, H. (2005), “Fiscal Rules and Targets and Public Expenditure Management: Enthusiasm in the 1990s and the Aftermath”, Australia-Japan Research Centre, Canberra.

Assessing Fiscal Risks through Long-term Budget Projections

by
Pål Ulla*

Long-term budget projections are in their infancy. The method described here is a bottom-up approach to measure future fiscal challenges. The sustainability criteria must be regarded as restrictions of the total fiscal aggregates, confronting bottom-up projections with top-down limits. Uncertainties have often given long-term projections little credibility; sensitivity analysis has to be done. This article discusses the main reasons for uncertainty and how to handle them. In most OECD countries the increase in the elderly population is not only a transitory problem created by high fertility rates after the Second World War. Higher longevity will create permanent higher old-age dependency rates in the future. Some projections even indicate that those rates will increase after the baby-boom generation is gone. Thus it is necessary to consider both how pension reforms are formulated and a broader agenda for reform of the public sector. Given the lower supply of labour, it may be important to modernise the public sector and create less public demand for labour. In many countries, policy reforms will be necessary to create fiscal sustainability to avoid future fiscal risks.

- * Pål Ulla is Deputy Director General in the Ministry of Finance of Norway. At the time this article was written, he was on secondment to the OECD in the Budgeting and Public Expenditures Division of the Public Governance and Territorial Development Directorate. The author wishes to thank Robert B. Anderson, Daniel Bergvall, Paul Cullinan, David Hauner and Joaquim Oliveira Martins for useful comments on an earlier draft of the article.

Back in the 1990s few countries made long-term fiscal projections for government revenues and expenditures. Today several developed countries make such projections – a few as a part of their yearly budgeting process, but more commonly as separate, occasionally published analysis. One of the main reasons for this development is an increasing acceptance by many countries that aging populations will in the future increase public spending and make their fiscal positions unsustainable. Permanent fiscal deficits combined with high levels of debt may compel many countries to increase their levels of taxation and/or reduce public services or entitlement programmes.

However, long-term analysis aims at more than just avoiding possible crisis in the future. Currently the public sector has a dominant position in the economy because of its use of resources to finance public services and because of its various programmes to redistribute income. The public sector also plays an important role in financial markets in most OECD countries, owing a large amount of debt to the private sector and, in many countries, holding a large amount of the assets in the economy. In addition, expectations of future increases in public sector debt may also have a large impact on financial markets.

Financing public services and income redistribution in most OECD countries exceeds 40%, and in some countries even approaches 50%, of available resources measured by the gross domestic product (GDP). Because of the public sector's dominance in the economy, fiscal policy has been and will remain the main instrument for stabilising the underlying annual growth in the total economy. Fiscal policy has however also been used to neutralise short-term changes in the economy, not only through automatic stabilisers in the budget but also through counter-cyclical policy measures, resulting in erratic fiscal policy. However there are reasons to believe that fiscal policies may be less erratic than in previous decades. First, in countries with a change in monetary policy from supporting the exchange rates to targeting inflation, monetary policy will also support fiscal stability. This will reduce the need for counter-cyclical fiscal policy measures and will allow for a more stable budget development. Second, there is a growing awareness of the weaknesses of short-term stabilisation policies without a medium-term economic framework. For a long time there has been a growing acceptance that short-term stabilisation policies created inefficient long-run use of resources, creating unintended support for inefficient industries and hindering establishment of new industries. Given that the demographics with a large increase of elderly people from 2010-15 will make public spending grow faster, a medium-term economic framework will require support from long-term economic and budgetary projections to give guidelines for

creating a sustainable path of public services and income redistribution in the future.

Transparency of the budget and the budget process is important for the legislatures and the public to understand the future consequences of current policy decisions. With a growing demand for public services and a limit on the possibilities for raising the level of taxation, many countries must look to reforms in the public sector to increase its efficiency. Efficient use of public and private resources will also require long-term planning to ensure that new public expenditures will have financing, that the core functions of the public sector will be maintained in the future, that the private sector will experience a stable level of taxation, and that the financial markets will be able to rely on a proper level of public saving.

However, the process of developing long-term budgets is in its infancy, and there is neither a single analytical approach nor a fiscal rule for sustainable development that has achieved agreement as best practice. The most common methods used to illustrate the future problems for sustainable development are long-term budget projections and balance sheet analysis. Present value calculation of the expected deficits, fiscal gap analysis, and generational accounting based on long-term projections are alternative approaches for presenting fiscal sustainability.

This article describes how to do long-term budget projections and how to learn from them to assess and reduce fiscal risks. The article aims to give an overview of elements that should be considered when undertaking long-term considerations. As with all budgeting, long-term projections are related to economic forecasting, but this article does not intend to provide a survey of macroeconomic forecasting. Although macroeconomic assumptions are needed for long-term budget projections and the characteristics of these assumptions have to be discussed, there is no attempt to discuss the macroeconomic implications of fiscal or monetary policies in this paper. Instead, long-term projections are discussed under the assumption of current policies (or “unchanged policies”) with no attempts to forecast the future. The process of making long-term projections will itself provide an understanding of probable fiscal paths and of ways to reduce the risks inherent in these paths.

To provide guidance on how to do long-term projections, it is useful to describe methods for making detailed projections of the main assumptions involved. Updated sources for some of these methods are given in the bibliography. Although this article provides some thoughts on how to do detailed long-term budget projections, each government must choose its own way for doing them. The choice will depend on the purposes of the analysis,

on the available statistics and on country-specific assumptions, including how the public sector is organised.

1. The purposes of long-term analysis

1.1. Sustainability in the long term

The main use of long-term projections is to analyse the sustainability of public sector finances. The concept of fiscal sustainability is related to the capacity of a government to finance its desired programmes as well as to service its debt obligations. In 2002 the IMF defined “debt sustainability as a situation in which a borrower is expected to be able to continue servicing its debts without an unrealistically large future correction to the balance of income and expenditure” (IMF, 2002, p. 4). Sustainability excludes “... a situation where the borrower keeps on indefinitely accumulating debt faster than its capacity to service these debts is growing” (*ibid.*).

Professor Allen Schick presented a paper at the Senior Budget Officials meeting in May 2005 on “Sustainable Budget Policy: Concepts and Approaches” (Schick, 2005). He raised questions about the dimensions of sustainability, the modes of sustainability analysis, and the budgeting of sustainable public finances. Four dimensions of sustainability were delineated in his paper:

- Solvency – the ability of government to pay its financial obligations;
- Growth – fiscal policy that sustains economic growth;
- Stability – the capacity of government to meet future obligations with existing tax burdens;
- Fairness – the capacity of government to pay current obligations without shifting the cost to future generations.

Public finances may be described as unsustainable when there are not enough resources from the economy to service both the debt and the current expenditures without increasing taxes. Although taxation always dampens growth to some extent, the incentives for the private sector to grow may be largely eliminated at certain levels of taxation. Economic theory does not say, however, when the level of taxation is too high.

Current deficits increase the levels of debt and interest payments in the future. Because the level of taxation is limited, there must be a trade-off between current expenditures, future expenditures, and the cost of financing public debt. Increasing levels of debt do not mean that a country will necessarily face insolvency in the future. It means that countries with

currently unsustainable finances must eventually either cut spending or increase taxes.

For most OECD countries, questions of fiscal sustainability are relevant only over the long run. For some countries, however, there may be a much shorter perspective. Within many developing countries with a pressing need for new policy programmes, there are few extra resources for financing unexpected additional costs even today. High debt makes such countries vulnerable to internal and external shocks to the economy, where higher interest rates and interest payments may encourage the countries to take pro-cyclical actions, thus increasing their problems.

1.2. Fiscal policy in the short and medium term

Budgets should serve the following purposes:

- They are the vehicle by which the legislature provides the government with money to spend and specifies what this money is to be spent on.
- They are designed to support sound macroeconomic development.
- They are designed to support the efficient use of public resources.

Long-term and medium-term projections can fit into the budget process in a meaningful way to support these goals. Transparency of the future consequences of current fiscal policies can support sound macroeconomic development and the efficient use of available resources in the coming years. Greater transparency can enhance public sector credibility in the financial markets and demonstrate a commitment to future sustainability of the budget. Increased transparency may then have an indirect positive effect on the present budget balances through lower interest rates on public borrowing. Long-term projections can also provide for more efficient use of resources through better long-term planning of investments such as in public infrastructure.

On the other hand, lack of transparency of the future consequences of current fiscal policies will influence financial markets, the decision of consumers whether to save, and the investment prospects of the business sector. Misinterpretations by any of these sectors may result in inefficient allocation of available resources and reduced economic growth. Credible long-term projections can provide private sector actors with the information they need to increase the rate of savings necessary to meet future requirements by themselves. Announcing changes in the entitlement programmes far in advance will give people time to adjust their plans for

saving and for future work, including retirement age, and in this way minimise the overall costs of changes in the entitlement programmes.

The rise in the ratio of the elderly to the working age population will occur at approximately the same time in OECD countries, in eastern European countries and in some large Asian countries such as China. In addition, higher longevity will maintain this higher proportion of elderly so it will not diminish in the foreseeable future. If the challenges of this greater proportion of the elderly are to be met solely through increased savings in the coming years, the need for such savings in countries affected may be so large that it will hurt present core functions of government and curb macroeconomic growth. The needs for savings today may be too large even though pension reforms reducing future costs are now being discussed, proposed and implemented in many countries, including many of the EU countries and the United States. Common proposals are to raise the retirement age, lower the rates of yearly indexation of the pensions, or adjust the level of benefits to changed life expectancy.

Increased public and private savings may affect the balance between savings and investments in the economy. This may be of great importance for capital markets and interest rates. With a highly globalised financial market there may be a need for international reporting and co-ordination.

2. Long-term projections

Long-term projections may be done either from a top-down or a bottom-up approach. The top-down approach starts by setting restrictions for fiscal aggregates. Making projections for the revenues and some of the expenditures, for example demographic-dependent expenditures, the difference gives the possibility for expenditures under other policy programmes. The bottom-up approach studies the effect on the aggregate fiscal measures of current policy in the existing spending programmes and the revenue under an unchanged level of taxation, but without assumptions about how to handle new reforms in long-term projections. The bottom-up approach puts no restrictions on the total level for expenditures, revenues or deficit. This section discusses the long-term projections that are detailed bottom-up projections calculating the revenues, expenditures and surplus/deficit for every year in the projection period. The integration of uncertainty in the evaluations of long-term projections will be discussed in section 3. Section 4 discusses the integration of long-term projections into the process of making budgets fiscally sustainable in the future. Other methods for presenting future obligations, such as balance sheet analysis, present value calculations and generational accounting, will be briefly

discussed in Annex A. Annex B will give a brief overview of long-term projections done in some countries.

The sustainability criteria must be regarded as restrictions of the total fiscal aggregates. They are not criteria for the levels of different parts of government expenditures such as health care or public pension schemes. Projections that set a starting point for sustainability analyses and highlight total fiscal risk must cover all the obligations from previous periods, the present and the future. This sounds obvious but is difficult in practise. Besides all the explicit obligations a government may have, the government may also have to face implicit obligations that the public expects to be fulfilled (even though they have never been stated before as obligations) and there may be a pressure for new policy reforms in the future. To find out if it is possible to bear the total obligations, the government must also include the financing of areas that do not themselves give rise to fiscal pressures in the future, not only the most problematic policy areas.

2.1. Long-term projections versus medium-term projections

The purposes of the medium-term projections and the long-term projections may be different:

- The medium-term projections are often directly included in the yearly policy discussions of the budget priorities in the coming years. Macroeconomic projections based on projections of public revenues and spending after economic classification are used to show the fiscal space for public spending in the next years. On the other hand, projections of public expenditures which prolong the previous year's spending programmes give baseline expenditures under "unchanged policies". The differences between the baseline projection and recommended fiscal limits give the amount allowed for new policy programmes. Recommended reductions in present public services and entitlement programmes have to be taken into account when the limit for new policy reforms is settled.
- The long-term projections are used to see what the restrictions will be on total public finances in the future given "unchanged policies" in the long run. Because the purposes of medium-term analysis and long-term projections differ, the assumptions for the projections differ too, although they still describe the same world. Restrictions for the policies that may be implemented for some years may give unwanted distributional consequences in society if they are applied for many years. For these reasons it may be important to clearly distinguish between medium-term projections and long-term

projections. Long-term projections should not be looked upon as merely medium-term projections extended for more years.

Medium-term projections, which are the most common today, often have the following characteristics:

- They are baseline projections that prolong the existing policy where the term “existing policy” is given a strict interpretation. The projections show the development of public sector revenues and expenditures given today’s rules and without new policy objectives not yet approved by Parliament. It is often common to base medium-term projections on the same total level of service delivery by the public sector, not taking into account that such factors as demographic changes may change the demand for services. Even long-term plans for specific policy areas that have been approved by Parliament may not be included. In baseline projections, time-limited budget items may not be prolonged when they expire even if it is most probable that they will be replaced by other spending. Such examples may be infrastructure or defence investment programmes. The projections may only build on an economic classification of the expenditures and not a functional classification. In some countries, however, medium-term projections are used to illustrate the government’s budget proposal when it is presented to the legislature and will then also include new proposals not yet approved by Parliament.
- The projections may be based on macroeconomic assumptions coming from medium-term macroeconomic models. These models are built to show how to bring an economic recession back to full employment through fiscal and monetary policies, to a position where the economy is using all available resources. These models are “demand-driven” where public purchases of goods and services and transfers to the private sector increase the total demand for consumption and investment and then create production and new employment. There are few, if any, structural adjustments in the economic solution.
- The baseline projections in the medium term may reflect incorporation of policy decisions taken in the last years. The calculated growth rates for the expenditures and revenues may then not reflect long-term trends in income and outlays, given unchanged service delivery by the public sector.
- In some countries the budget and the financial statements will be affected by specific economic events in the past that are not

expected to happen, nor possible to project will happen, in the coming years. One example is large changes in the exchange rates that may affect surplus for the central bank and thus the transfers from the central bank to the government in the following years. Also, interest payments may vary substantially between years because of short-term changes and transactions in the financial market.

Long-term projections should be:

- Sustainability analyses which are meaningful only when they cover all the future liabilities that the government cannot avoid. Baseline projections must be adjusted for policy changes that are certain to happen. Projecting expenditures by functional classification may give greater flexibility to build in the need to change the level of public services due to changes in demographics and other changes in the economy. There may also be losses on current items of the balance sheet, reserves (outlays, not financial assets) to cover future commitments (both explicit and implicit), and reserves for new policy programmes that probably have to be implemented. The governments often have long-term plans for specific policy areas such as for infrastructural investments or defence strategies that should be included in the long-term projections. However, by building these plans into the projections, future flexibility will often not be substantially reduced because the period for the projections is substantially longer than the normal timeframes for these plans. Increased debt from financing these programmes may, however, lead to higher payments of interest.
- Based on the same assumptions as in long-term equilibrium models. In the long run these models bring the available resources into use as an equilibrium solution. What is important in the long-term projections is that when the economy is in equilibrium there is competition between the public and private sectors for available resources. Changes in public expenditure will change the availability and the use of resources in the private sector.
- Based on “realistic” assumptions of possible policies in the future. Medium-term projections will most often be based on current law and the present rules for adjustments of the yearly budget. Some of the assumptions for the medium-term projections may be difficult to include in the long-term projections. Policies that are possible to carry out in a short period may be difficult to sustain over decades. One example is yearly adjustments of the tax brackets with price indexation and not wage indexation. These adjustments may

increase the level of taxation as a share of GDP to an unintended higher level in just a few years. The purposes of the long-term projections are to show the nature and magnitude of the fiscal problems in the future and, by doing so, to show the alternatives for preventive action. Solving problems in the future by underestimating the expenditure pressure in the projections, or by an unintended increase in tax revenues, will just cover up the problems and not solve them in time. The problems may even be worse if making projections prevents the necessary precautions from being taken.

2.2. Debt and debt management

Long-term projections of revenues and expenditures will normally end in projection of the surplus/deficit and will not give a full balance sheet specifying gross assets and gross liabilities in the future. Financial transactions are normally not projected. In the projections the net debt increase in the future will only be the accumulated deficits in the budgets. The main implication from the debt development in the projections is their effect on future net interest payments.

However, there may be reasons to investigate the present balance sheet before making projections. Assets and liabilities will influence public revenues and expenditures in two ways: 1) by selling or buying them, they may be a source of financing or financial burden and there may also be a risk of losses and gains; and 2) as financial instruments, they may either give revenues (interest, dividends) or the public sector will have to pay interest on their borrowing.

The discussion in the literature on prudent debt is more often on prudent debt management than on a prudent level of debt. If the concern is related to the ability to access the international financial markets and the danger of having to pay higher interest in the future, then data on gross debt might be more relevant than measurement of net debt. Because many assets, such as ownership in public enterprises, are policy measures and not mainly financial investments, it may not be relevant to sell them for the purpose of financing public liabilities.

2.3. Projections of revenues and expenditures

The legislature may decide the revenues and the expenditures in the budget by either giving an exact appropriation for use under a specified purpose (discretionary spending) or indirectly by setting rules and tariffs for taxation or benefits applied by the government (entitlement programmes or

mandatory expenditures). Even if the budget also includes the expected amounts of revenues and expenditures, there are rules and rates that will determine the observed revenues and expenditures. While changes in both taxes and mandatory expenditures will to some extent and often even to a large extent be influenced by unforeseen developments in the underlying macroeconomic assumptions, the discretionary spending may be more easily projected. More important, however, may be that the exact limits for discretionary expenses may be more easily controlled by politicians. The discussion below will distinguish between these two kinds of expenditures.

2.3.1. Revenue

The most important part of the public sector's revenues comes from personal income taxes, corporate income taxes, social insurance taxes and excise taxes such as value-added taxes or sales taxes. In the projections the main focus often will be to get a realistic view of the available resources for the public sector obtained through taxation. In many countries, advanced tax models based on individual tax statistics may be used for these projections, prolonging the current set of tax rates and regulations to a projected tax base.

Not using tax models, projections can be based on prolonging the level of taxation measured as a percentage of GDP over the projection period. Even if this is a good starting point for the projections, one must be aware that this may often not follow from the present tax regulations. Necessary adjustments must be made in some of the tax rules and tariffs in the present tax system for this assumption to be fulfilled. In this way it may be questioned if a constant level of taxation as a share of GDP is "unchanged policies". One should at least consider which changes to the tax regulations have to be made in the future to fulfil this assumption, how to treat economic factors making the tax revenues grow at a different rate from GDP, and if one wants to make adjustments for these factors in the projected total tax revenues.

The following factors may increase taxes and excises more than the growth in GDP:

- Fiscal drag: in some countries the tax brackets are adjusted yearly according to the inflation rate not the wage rate. This will bring more and more taxpayers into higher marginal tax brackets and substantially increase taxes as a percentage of income. If not intended this may not be a sustainable development in the long term and may not be a good assumption to include in the projections.

- Income tax on pensions: increased transfers to households will increase tax revenues in the future. In many countries the average real values of pensions rise because the new pensioners have earned larger pension rights through the existing pension system than the present pensioners. This is not the same as the fiscal drag which hits individual taxpayers. Increased numbers of pensioners will also increase the transfers to households and the tax payments from this group. Not to include these aspects in the projections will overestimate the net costs of the aging population. In some countries savings for retirement are tax deductible but taxed when withdrawn. This may also increase tax revenues in the future.
- Tax exemptions: in countries with large tax exemptions today, the relative value of the total exemptions may decrease either because they expire or because the economic importance of the groups that receive these supports vanishes.
- Excise taxes: some countries have special taxes on “luxury” items. Increased household income may spur the demand for such items and increase the excise taxes as a percentage of household consumption.

However, other factors may decrease the tax level as a percentage of GDP:

- In some countries the share of taxable capital income rises at the expense of taxable labour income. Capital income is in some countries taxed less than labour income. In these countries a higher share of income from capital may reduce the overall level of taxation as a percentage of GDP. An undermining of the tax bases may be a problem also in countries where fringe benefits gradually replace ordinary wages if fringe benefits are not taxed at the same level as other income. Also, a relative increasing demand for services instead of goods may in some countries reduce the average level of excise taxes.
- In countries with some degree of wealth-based taxation, a conservative attitude of adjusting the value of the tax base or the tax rate will reduce the tax revenues measured as a share of GDP. Most excise taxes are based on the value of the item purchased. As long as the total consumption keeps up its share of GDP, the revenues from value-based taxes also grow in line with GDP. Some excises are however based on quantity or other criteria such as environmental damage. Not increasing the rates for these excises according to inflation will erode the tax revenues.

Even if some factors for adjusting the tax projections may seem small, one should not underestimate at least three of them: the revenues from taxation arising from higher pension benefits, the reductions in taxation following the decreased share of income coming from labour, and the erosion of the wealth tax base and quantity based excises. In the yearly budget proposals, increased individual taxation from the same tax base will often be adjusted for and, if so, may not be included in the long-term projections.

Even if the most important revenues come from taxes and excises, it is also important to include other revenues such as dividends from public enterprises, grants from other levels of government or international organisations, and other transfers. These revenues are often specific for each country and are not discussed in this article. Charges are discussed in the next section on discretionary spending.

2.3.2. Discretionary spending

Discretionary spending refers to the outlays where the limit for the amount spent is settled directly by an appropriation act by Parliament. Even if the legislature sets goals to be met and there is a responsibility for the government to fulfil these goals, the spending limit shall not be exceeded. Most of the expenditures for producing public services and public investments are restricted in this way. Also some grants for aid to developing countries, subsidies to business activities and grants to municipalities are settled as fixed amounts by Parliament in many countries.

The quality of public services and public investments may for some services be independent of the number of users. National defence may be such a service. In many countries there may be national plans for some parts of the public sector. However there will be few policy assignments that will help settle the expenditure level in the long term. Without specific information, an assumption of constant total real value or as a share of GDP for expenditures not related to individual services may be a normal starting point for unchanged policy in the projections.

Most of the traditional public services such as education and health services are individual services. If the appropriations are kept constant when the demographics change, the availability of the services for the individual user will be changed. There is often pressure to keep the quality of the services to the individual user at least at the present level when the number of users increases. Countries building into their projections constant service delivery for the user or per capita make the projections more informative. Contrary to the entitlement programmes, however, there is a need for policy decisions to make these adjustments; one must be aware of the bias against

adjusting for growth in the number of users but not of the reductions in the real world. One must also take into account that making adjustments in the level of service delivery is not just a question of political will but also the possibility of implementing the adjustments and of doing so by identifying the changes through available statistics. There may also be some arbitrariness in making such calculations. The individual level of costs for delivery of the services is measured in the previous years and the total is projected for the future by combining these observations with demographic projections. However, the uncertainty in such assumptions is large. The year for observations may not be a year with “normal” cost structure or there may not be a constant scale of economics in the production of the services.

In most countries some public services are financed wholly or partly by user fees. In the budget the cost of public service delivery in some countries is shown on a gross base including the fees in the revenues. Other countries show the cost net on the expenditure side. In both cases, however, it is important to consider the changes in the cost and the financing on a gross base when doing long-term projections.

Adjusting the fees for inflationary changes is often done in two ways: either according to the change in the price level measured by the consumer price index or according to the cost of producing the services. Normally the increase in the cost of producing public services will be higher than the increase in the consumer price index due to the high share of employment costs in the production costs. With high productivity growth in a specific public agency, this may not always be the case. Adjusting the fees according to the consumer price index will not, in a normal situation, cover the rise in the production costs and will increase the proportion of the costs financed by the public sector over the long term. A cost-based index will normally keep the public share of the cost approximately constant. One must however take into account that countries may also have an upper limit for private individual spending in both health care and education. If these limits are adjusted according to the consumer prices, a gradually larger part of the users will meet these limits, making the public share of the expenditures rise, even if the prices on the individual services are based on cost adjustments.

2.3.3. Entitlement programmes (benefits or other unrequited expenses)

Entitlement spending or mandatory spending is authority provided and controlled by laws other than appropriation acts, and the outlays result from these budget authorities. Even if the outlays exceed the appropriated

amount, the government must fulfil its obligations as specified in these entitlement laws and regulations.

Most of the entitlement programmes are linked to specific phases of life:

- As a child: children or family allowances;
- In working age: disability insurance, unemployment benefits and sickness allowances;
- In old age: retirement pensions;
- Health care is important throughout life, but the most expensive long-term health care and specialised treatment are linked to the elderly.

The demographic structure of the population will to a large degree determine the structure and level of public expenditures. The age dependency is of course not only linked to the entitlement programmes but also to public services such as kindergartens and schools. For this reason it is necessary to use long-term demographic projections to make reliable long-term fiscal analysis for the public sector.

What is especially important is the ratio between people receiving public transfers or free public services and the share of the population financing public expenditures through taxes. The most common measure to illustrate this is the age-dependency rate which measures the proportion of the population 15 years and under and the elderly 65 years and older in relation to the population aged 16-64. One common alternative is to consider the elderly 65 years and older as a part of the population aged 16-64. The reason for using this alternative is that it is the growing proportion of the elderly that is seen as creating financial problems in the future. In many countries low fertility rates are causing a decrease in the younger population. Even though the public sector finances partly or wholly the costs for kindergartens and schools, the main support for the younger generation comes from their parents. A decreasing younger generation will mean increasing savings for the public sector but the savings would only partly finance the growing expenditures for the elderly.

Social security and other income redistribution programmes are a large and increasing part of the budget. The pension benefits grow strongly for several reasons:

- A growing elderly population will in most, if not all, OECD countries raise the share of the elderly in society.
- The pension systems in many countries may not be fully established. It takes time to build up the rights for full pension benefits. The new

pensioners will have earned higher pension rights than the previous generations of pensioners.

Previously many countries adjusted pension benefits in line with wage increases in society. However, more and more countries have decided as a part of recent pension reforms to adjust pension benefits partly or wholly according to inflation. In some countries these rules for adjustment are set out in law. During the 20 years from retirement age to the end of life, a large degree of price indexation of pensions may substantially bring down the value of the individual pensions relative to wages. One may ask if these assumptions will have implications for other assumptions of the long-term projections. If the real values of the individual earned pension obligations are brought down too much, other public costs may increase. A minimum level for pensions may be introduced, costs for health care for the elderly must perhaps be totally financed by the public sector, and other public services must be given free of charge to the pensioners. Not taking these changes into consideration may overestimate the positive effects of reforms introducing price indexation. One must also expect that although the pensions themselves are price indexed, the pension level at retirement age is linked to the wage level at the beginning of the retirement period or during lifetime. New groups of retiring people will gradually raise the average level of pensions even if the individual pensions are partly price indexed. It is important for the long-term projections that these adjustments will reduce the projected savings for the public sector. The implication of using price indexation of pensions for the uncertainty in projecting future deficits is also discussed in section 3 under the topic of productivity.

Public civil and military personnel pension schemes may raise the same questions as the national social security pensions system. An expanding public sector in the past may increase the number of public pensioners in the future. There are several reasons why the projections for the public sector's pension schemes may differ from the general pensions system. Even if the two parts of the pensions system may be connected, there may be different treatment of the social security pensions and those for public employees. One difference may be that the civil and military personnel pensions may not be restricted like the public pensions from the national schemes, making the occupational schemes grow faster. Most of the civil servant pensions today are based on promised benefits (defined benefit system). Within such a system the government will bear the uncertainty of the level of future benefits, just like the normal situation in the social security system. However some countries have introduced a defined contribution system where the future payments depend upon what one has put into the system. The uncertainty is then shifted to the future pensioners' hands. This makes it

possible for the government to transfer the payments for the future pension obligations up front into privately owned pension funds.

Projecting spending under entitlement programmes may also be difficult for other programmes than pensions. In at least some countries there have been increases in the expenses for disability insurance and sickness allowances not fully explained by the developments in the labour market. Not having a good explanatory model makes future projections unreliable.

In this article, health care costs are discussed under the heading of entitlement programmes. In most countries these costs include both discretionary costs, such as hospitals and long-term care, and entitlement health care costs. However, health care costs are to a large degree linked to the demographic structure of the population, especially the share of the elderly; and the growth in the health care costs may not easily be avoided even if they are formally settled in appropriation laws.

The increases in health care costs are complex and the reasons for the strong increases are not fully understood in many, if any, countries. Given the different structures in the organisation of health care in different countries, it will be necessary to study the distinctive structure in each country. These differences also include to which degree health care services are paid privately or publicly. Important common factors to be taken into account in projections should be:

- Health and long-term care costs rise at the end of life. The demographic trend of an aging population may thus increase health costs. Building and running long-term care institutions are expensive operations and may be one of the reasons health care costs rise. Especially the high proportion of the population aged over 85 may cause an increase in long-term care costs. However there is discussion about to which extent longer life expectancy gives the elderly more years of healthiness or if people will stay sick for a longer period in the last years of their lives. More years of healthiness will not only reduce the growth in total health expenditures for each individual but also postpone in some years the increase in the total health expenditures due to the higher number of elderly.
- Health care costs are growing faster than the growth in GDP in most countries. For this reason, health care has often been looked upon as a “luxury” service with relatively increased demand when there is higher household income. If so, the demand for public health services will grow. Some empirical studies show, however, that there may be other factors than higher income that raise the health

care cost relative to income. In the paper “Projecting OECD Health and Long-term Care Expenditures: What are the Main Drivers?” (Oliveira Martins *et al.*, 2006) the income elasticity for health care is assumed to be near one. This means, however, that other causes must be found to explain the strong growth in health care spending relative to GDP.

- Supply drivers such as technological and medical advances may make it possible to cure sickness and to treat diseases for which there were no cures before. In the health care field, technological advances may raise costs rather than lower them by increasing the possibility for treatment and then the demand for new services.
- Only a part of the cost is directly paid by the users themselves, the rest by the public sector and/or through an insurance company. The consumers have little incentive to restrict their consumption of health care services. There may be a tendency to always choose the newest, more advanced and most expensive treatment even if a cheaper treatment could do as well.

In many countries, however, health care costs are raising spending even to a greater degree than can be explained by these factors alone. In several countries there are constant underestimations of the growth in health care costs. The United Kingdom Pre-Budget Report states: “There are many other non-demographic factors, which could affect future health and long-term care spending. The Wanless Review separated these factors into demand and supply drivers. In addition to demography and health status, the former group comprises health promotion and disease prevention and health seeking behaviour. The latter group comprises technological and medical advances (which should also affect morbidity trends), investment in information and communication technology, and health service workforce productivity. Some commentators have argued that non-demographic drivers are likely to be more important than demographic drivers in determining future health spending.” (HM Treasury, 2005c, p. 46)

Normally it is not advisable to incorporate unexplained changes in the revenues and expenditures as “trends” in the projections. “Trends” are econometrical expressions for the unknown and for lack of explanations. For health care costs, however, there have been considerable amounts of underestimation in many countries; not taking this into consideration may give a seriously misleading perspective of the future. One important problem when estimating such trends may be that the past trends also include the results of past policy priorities through new reforms and strengthening of the health care sector with extra resources, and these results are difficult to distinguish in the estimations.

2.3.4. *One-off expenditures*

In some countries one-off expenditures may be small and, in principle, included in the calculation of the reserves for unforeseen budget changes and new policy reforms in the yearly budgets; if so the one-off expenditures should also be treated as such in the projections. In some countries, however, there are some expenditures that are unpredictable both regarding when they will occur and what the total costs will be when they occur. There is just a great probability that they will occur sometime in the future and that the costs related to them will be high. Natural disasters may be such infrequent events, creating high extraordinary public costs in some countries. For some countries where one-off events occur frequently and involve large potential amounts, it may be advisable to accord specific treatment to such costs to be sure that the projections show the total liabilities in the future and the estimated amount needed to finance them. One such country may be the United States where floods, droughts and other natural disasters occur some place every year.

Canada manages unexpected developments in the budgets and projections through the inclusion of a Prudence-Contingency Reserve of CAD 3 billion per year along with an economic prudence reserve of CAD 1 billion in the first year of the budget plan, rising to CAD 4 billion in year five. In addition, for programmes currently in existence to manage certain types of disasters – *e.g.* the Disaster Finance Assistance Act which compensates provinces and municipalities for their costs associated with natural disasters – estimates are included in the projections based on historical experience. The contingency and economic prudence reserves are explicitly identified in their Budget Plan. The other provisions are not identified explicitly but incorporated in the projections.

The reasons for “one-off rescue operations” may differ and may not only be the result of an inevitable exogenous event. Often the reason may be insolvency of public enterprises, liabilities from guarantees, and defaulted loans. There are different alternative ways to treat the financing of such probable one-off expenditures in the future:

- Some countries are building up funds in their yearly budgets to meet liabilities from guarantees and defaulted loans. If these funds are treated as private funds and the transfers are classified as outlays, these transfers to the funds should also be included in the projections. Changes in financial reserves will however not normally be included before they are used to finance the outlays.

- If there are no reserves earmarked and treated as a yearly cost, the projections may include a calculated insurance premium in the yearly expenses to cover such unforeseen expenditure.

Often the private sector looks upon costs connected to natural disasters as implicit policy liabilities that the government will cover. In making the long-term projections this may be problematic because if the public sector recognises these liabilities there may be a “moral hazard” problem. Building these costs into the projections may make implicit liabilities explicit liabilities. This may cause the private sector to not take the necessary preventive action and may increase the probability for higher public expenditures in the future.

2.3.5. Interest payments and debt management

To determine the assumptions for interest rates is difficult. In several countries pension reforms have been undertaken, and how these pension reforms have been formulated will impact the level of both public and private savings. The relation between the interest rates and the growth of GDP is important for the possibility to handle a certain level of debt in the future. High interest rates increase the burden while an increasing GDP will increase the possibilities to meet the debt burden. If the growth in the GDP is higher than the interest rate, the overall burden of debt may gradually decrease. This may be especially important in the future because slow growth in the labour force may produce a decrease in the hours worked in many countries which means that GDP will only grow as a result of higher productivity. There will be less possibility for the public sector to reduce the burden of debt through economic growth than in the past.

Economic theory for growth shows that, under given certain assumptions for optimal growth, the interest rates may be equal to the macroeconomic growth. Given the uncertainty in the level of interest it is a good precaution to assume that the interest in the future will not be lower than the growth in GDP. However, there are reasons to believe that in some countries the interest level may be substantially different from the growth in GDP:

- In a globalised financial market, the interest rate may partly be determined by the international average growth in GDP and may not equal the national growth in GDP.
- A rise in the public debt in one country might produce a specific country risk and higher interest rates in that country than observed internationally. This should be considered as a risk when projections show an unsustainable development in public debt.

The debts coming from future deficits in the budgets are not the only source for interest payments. Changes in the interest payments on already existing debts will depend on their durability and the agreement for interest payments. To predict the future interest payments, one has to go through the stock of assets and liabilities to see the expected payments in the future of the present debts. The durability for most of these existing obligations will be fixed, so they will have to be refinanced at the future market level of interest at the latest at the moment when they are due. To estimate future interest payments is not straightforward because the borrowing strategy in the future and what kind of interest rates to be applied most often will not be known. However, it is difficult to see that the short- and long-term market interest rates projected for decades into the future will differ substantially in the long-term projections except for markets taking an insurance premium for binding a fixed rate for a longer period.

3. Uncertainty in the projections: exposing future fiscal risks

Detailed medium-term projections and even projections for not more than some years ahead have proved to be uncertain and often have little credibility. To handle this lack of credibility over the long term, sensitivity analysis has to be done. To deal with uncertainty in the projections, scenario building is a helpful tool for decision makers to understand how different the future will be if the main assumptions for the projections do not materialise. Small changes in the assumptions might affect the future financial position seriously when going far into the future. However, to make reforms affecting the future one must still have projections to rely on, even though they may be uncertain. Many reforms have to be implemented on the basis of uncertain projections because when reforms are first started they are difficult to change. As an example, reforming pensions takes time to agree on and to implement, so not taking notice of the large possible bias in the projections on which the reforms are built may give suboptimal solutions for public finances in the future.

There are several reasons for uncertainty in the projections and these uncertainties will to some extent have different characteristics. In this article, the discussion of uncertainties is split in the following way: 1) macroeconomic long-term modelling; 2) demographic assumptions; 3) labour market participation; 4) productivity; 5) specification of programmes for public revenues and expenditures; and 6) interest rates. In a short article like this it is not possible to present in detail how to estimate the values of these factors. This article will just emphasise the main characteristics of these assumptions.

The bibliography contains references to recent work done in the OECD and by others. Readers who wish to go into more details on how to produce reliable assumptions for projections may find useful information both in the OECD papers and in “The 2005 EPC projections of age-related expenditure (2004-2050) for the EU 25 Member States: Underlying assumptions and projection methodologies” (Economic Policy Committee and European Commission, 2005a).

3.1. Macroeconomic long-term modelling

When making long-term projections some countries use long-term equilibrium models. Many and maybe most countries do however use a more informal approach. The important thing is that economic reasoning based on economic growth theory and long-term equilibrium modelling is kept as a basis for the long-term projections. Long-term models differ from medium-term models in one of the main assumptions: in long-term models, all the available resources in the economy will in the long run be fully used. The growth in the economy will be explained to a large extent by technological improvements, capital formation and growth in the labour force. In medium-term models the labour participation will be more determined by demand factors like public and private consumption, investments, and exports and imports. In the medium-term models there may be inequality between labour supply and demand, creating unemployment.

While medium-term models are often used to describe a policy that reduces unemployment where remaining unemployment is shown as a part of the model solution, there is no unemployment because of lack of demand in the long-term model when it is in steady state equilibrium. In the most common cases this means that the labour market participation rates must be settled by the model user as assumptions before running the model. Economic theory says that, through changes in prices, market adjustments will bring the labour market into equilibrium. There is no reason to believe that this is not generally correct in the long run. However, the unemployment rates in some countries have remained high for decades. If there are reasons to believe that this will also be the case in the future, the labour participation may be adjusted when stating labour market assumptions before running the long-term model.

The long-term equilibrium models are often dynamic models. One problem in estimating the economic relations in such models is to find the correct time lag for the dynamic relations. There is often great uncertainty in such models about how much time it will take to reach the equilibrium solution. The economy will probably reach equilibrium one day but it is difficult to predict when this day will come.

The uncertainty in the dynamic structure of the model may be a large problem if it influences the first years in the long-term projections. Often a medium-term policy strategy or economic projection for these years has been created by use of medium-term macroeconomic models. If there is a more reliable medium-term policy strategy or economic projection for these first years, a possible solution is to include this medium-term strategy at the start of the long-term projections using medium-term modelling for the first years and then prolonging the projections using long-term modelling in the following years.

3.2. Demographic assumptions

The changes in demographics will come from three main sources: fertility rates, immigration rates and longevity. Demographic projections may seem to give fairly stable assumptions looking at the changes in updates from one year to another. The main problem, however, is that the yearly changes are additive, and even small changes in these variables in the long run will produce large discrepancies from the previous projections. These updates give changes in the public sector deficit which may accumulate into a large amount of debt and interest payments.

In the long-term fiscal projections, the age structure of the population will be more important than the absolute size of the population. The calculations are best done by age distribution specified for each age; some calculations, however, are done by five-yearly age groups. The structure is often illustrated with the dependency rate defined as the proportion of population under age 16 and over 65 in relation to the population from 16 to 65. Due to the growing proportion of the elderly in the population and the magnitude of transfers and health cost spending for this group, there has been special interest in the old-age dependency rate defined as people age 66 and over in relation to the population in working age 16-65 when illustrating the causes of growth in public spending. However, most of the public spending, including on education, is linked to specific periods in life. Demographic projections showing the whole population divided into age group are important for the total level of public spending.

3.2.1. Fertility rates

In many countries there has been a decline in fertility rates during the last decades. In most of northern and western Europe the fertility rates seem to be stabilised just below 2% which is lower than the natural replacement rate of 2.1%. The rates are still very low in some Asian countries and in eastern and southern Europe. One uncertainty regarding future trends in

Europe is whether the fertility rates in eastern and southern Europe will increase, as it is not clear if the low rates in eastern countries are a result of the extraordinary situation both before and the decade after the fall of the Iron Curtain. An increase in southern Europe may be expected if it follows the development seen in the northern part of Europe. However, historically large changes in the fertility rates have been observed without a reasonable explanation. To predict such changes in the future may thus be risky.

Changes in the fertility rates will influence the need for public services for children and young people. The main part of the cost of supporting young people is covered by their parents. Entitlement programmes for children, such as family allowances, are not usually a large part of public spending. Most of the public services for this group are kindergartens and educational services where unforeseen and normally small changes in the fertility rate may change the quality of the public services more than create uncontrolled growth in child-related public spending in the coming years.

It will take several decades before changes in the fertility rates will start to change the labour supply; it will take even more decades before the impact on the labour supply will significantly reduce the old-age dependency rate and substantially longer before people born in the coming years reach the retirement age. It does not seem that changes in the fertility rates are a crucial uncertainty for the long-term fiscal projections for the next 30-40 years. Projections based on the low fertility rates observed today may also have eventual biases against higher fertility rates in the future in many countries if the development in northern and western Europe is also to be seen in these countries. In the long run higher fertility rates may ease the problems of an increasing proportion of the elderly in the population.

3.2.2. Immigration rates

Large changes in immigration raise questions about how to integrate immigrants into society and the costs of this integration. These are important questions but they are not discussed in this article. This article discusses the influence of a permanent change in the immigration rate on demographics. Since the end of the 1990s an increasing international movement has been observed following the fall of the Iron Curtain and globalisation of the labour market. These immigrants are often highly skilled.

A large part of the new immigrant population is normally of working age. Changes in immigration impact directly on the age dependency rate in society. However there must be a lasting yearly growth in immigration for it to result in a significant permanent reduction in the age dependency rate. Otherwise changed immigration will not in the long run influence the overall composition of the population to any extent. Immigrants will also

settle as families, have children and start to retire. With a demographic structure of the group of immigrants approximating the structure of the rest of the population, the long-term economic consequences of immigration on the public deficit may be small – beyond of course a general growth in the economy because of a larger population.

One should not exaggerate the importance of the uncertainty in the immigration rates. Immigration to the United States in the past has had a more important influence on the labour market than in other countries; this is still the case today. The Congressional Budget Office report on long-term budgeting (CBO, 2005c) discusses the impact of immigration on the federal, state and local government finances. It concludes that even doubling the present rate of immigration will probably only fill a small portion of the projected gap between government spending and revenue. This is still true even if the immigrants are skilled workers without children.

A New Zealand Treasury paper presented in February 2006 stated that “one way of keeping the aged-dependency ratio under 20% (where it was in 2005) all the way out to 2050 would require 300 000 net immigrants each year from 2020 onwards (4.9% of the population in 2020). Immigration, in short, is not a long-term solution to population ageing ...” (Rodway and Wilson, 2006, p. 23). The present projection assumes a yearly net immigration of 10 000.

3.2.3. The longevity assumptions

Longevity assumptions may change the magnitude of both the direct transfers to the elderly and the health care costs. There have been important underestimations of life expectancy in previous projections in some countries, with an underestimation of the public sector pension liabilities as a result. Due to the revised estimates of life expectancy, updated projections of the old-age dependency rates in several countries show an increase even in the years after most of the baby boom generation has died. In some countries this may indicate that there will be a problem with constantly growing public spending as a share of GDP even after the baby boomer generation is gone, with serious implications for what kind of measures have to be taken on the expenditure side of the budget. It may not be enough to reduce the level of spending; one must also curb the constant growth in public spending. Higher longevity creates a permanent problem, not just a transitory one following high fertility in the two decades after the Second World War.

The main effect of longer life expectancy will in many countries come in 30-40 years time. At present the group of people aged over 80 is not so large, and the average life expectancy will only increase moderately a few

years from now. Uncertainty in the observed life expectancy may thus not be important in the first decade to come. However, in 2050 the share of the elderly over 80 in the population will have increased substantially and the accumulated growth in the average life expectancy is expected to have done the same. In the EU the share of the elderly over 80 is expected to increase from 4% of the population to around 11% (Economic Policy Committee and European Commission, 2006). In this study, life expectancy is estimated to increase by 6.3 years for males and 5.1 years for females from 2004 to 2050. If however the accumulated growth in life expectancy until 2050 is 4 or 8 years, it will have a tremendous effect on public spending for the group of elderly. Going further into the future, the uncertainty will of course increase further. However, there are reasons to believe that the growth will decrease in the future – that there is a limit on longevity – but this may occur quite far into the future.

The longevity assumptions in most OECD countries today will not influence the work force to a large degree. However, some changes in longevity may both have an impact on the labour force and cause large changes in the dependency rate in the short term. One example of such a change was seen in sub-Saharan Africa due to the HIV/AIDS epidemic where not only the labour force but also the labour market participation rates are decreasing.

3.3. Labour market participation

The labour market participation rates are important for public finances in several ways:

- The hours worked, the capital invested and the productivity together determine the growth in gross domestic product and then the base for collecting public sector revenues.
- A greater supply of labour gives the public sector room to grow without crowding out the private sector.
- A rise in the participation rates brings down the number of disabled and unemployed.

To project labour market participation is very difficult for several reasons. The participation rates will not just widely change as a result of general changes in demographic structure such as age and gender. Participation rates are also often culture-dependent and may thus depend on factors such as future immigration. Another important factor may be how a general increase in income from higher productivity would influence the future choices among work, leisure and education.

Many policy objectives aim to influence labour participation. Pension reforms already undertaken must be expected to have a substantial positive effect on labour participation. The magnitude of the increase, however, will be uncertain. For example, some pension reforms gradually raise the formal retirement age. The extent of the effect on labour market participation will depend on how many will take up disability pensions instead and how many will remain in the work force. In the future both how many individuals participating in the labour market and the average hours worked per individual will be uncertain.

Because of the complexity in projecting labour force participation rates, different methodologies in forecasting have been developed. The OECD presented a cohort component methodology in the paper “Labour Force Participation of Groups at the Margin of the Labour Market: Past and Future Trends and Policy Challenges” (OECD, 2003). Both the EU Economic Policy Committee projections presented in February 2006 and the Australian Productivity Commission report from March 2005 built on this methodology.

There is a larger problem of simultaneity between the policy variables, the result of the projections and the assumptions of labour market participation than for the other assumptions. If the projections under unchanged policies show unsustainable development, then reforms increasing the labour market participation rates may be one necessary measure. If no measures are taken under an unsustainable fiscal position, the market will respond. Changes in the labour market may of course be positive or negative, such as either resulting in more elderly workers or the people in the work force working less. There is volatility in the assumptions for the labour market.

It may be possible to interpret the volatility of the labour market assumptions in a positive way, as variables that can be influenced to create a policy for sustainable development. However, both the difficulties of projecting the labour participation rates under unchanged policies and the possible large impact of changes in the policies make it necessary to keep assumptions about labour market participation under observation. “Unchanged policies” will not be unchanged after the presentation of the next year’s budget.

Labour market participation rates together with demographic changes, capital formation and productivity growth determine the growth of the economy. The increase in revenue from taxes is to a large extent dependent on the growth in the economy. Large uncertainty in the labour participation will be mirrored in large uncertainty in revenues. If low participation also results in high numbers of unemployed and disabled, the benefit transfers

will also increase. The results of the projections will be highly dependent on the values chosen for these assumptions about labour market participation.

3.4. Productivity

One main factor for growth in GDP, together with the growth in hours worked, is the growth of productivity in the economy. Productivity growth alone will probably make the average income level double in the next 40-50 years. Long-term projections most often are presented in relation to the level of GDP. It is then easy to forget that the absolute level of income will be substantially higher in the future. How this will affect variables such as private spending, average working time and the private sector acceptance of a higher tax burden is difficult to predict because there have never been earlier observations of a similar level of income and consumption. Growing income may make it easier for the public sector to get acceptance for the burden of the present tax level. If so, there will be a similar rise in public sector revenues from income taxation and duties on private spending as the growth in GDP. On the other hand, rising household income will tend to increase the demand for services compared to goods, including publicly produced or financed services. Higher productivity growth may then produce an increased demand for public spending. This may of course partly be met if there is also an increase in public sector productivity.

Productivity growth has differed substantially between countries and between time periods in each country. It has been difficult to project these changes and even to explain the reasons for the observed changes afterwards. If there is a substantial positive effect from productivity growth on public deficits and if the projections have to rely on uncertain assumptions of productivity growth, the projections will be very uncertain.

In the long term (and in long-term macroeconomic models) the general increase in the real wage is assumed to be equal to the labour productivity growth in the economy. It is also normal to assume that the rate of growth in public wages and salaries will increase at the same rate as in the private sector. The largest part of public consumption is wages and salaries, so an increase in total revenue due to higher productivity will to a large extent be offset by higher nominal expenses.

Higher productivity growth will most probably have some positive effect on the sustainability of public sector finances because prices of goods and services delivered from the private to the public sector may be reduced and because higher productivity in the public sector may reduce the number of employees in that sector given the same level of services. Higher productivity growth may result in substantially lower expenditures measured as a per cent of GDP in some problem areas. One area is the health care

sector where the inflationary increases in health costs have been high and a main reason for concern. The effect on total public spending may however be small. The share of public purchases of goods and services without wages and salaries is small, and a general productivity factor may often not be included when evaluating whether changes are needed in public employment.

Projections in some countries assume, however, that there is a substantial positive effect on the budget balance from higher productivity growth in the economy. The most important explanation for this seems to be linked to the indexation of pensions and other benefits. The 2006 report on the impact of aging on public expenditures prepared by the Economic Policy Committee and the European Commission states that: “a change in the labour productivity assumption only has a significant impact on pension spending in countries where pension benefits are indexed to prices. In this case, pension spending as a percentage of GDP will be lower with a higher productivity growth rate assumption.” (Economic Policy Committee and European Commission, 2006, p. 15)

In several countries there are pension reforms under way that suggest that the nominal indexation of pensions wholly or partly should be linked to a price index instead of the general wage index. The choice of indexation has an important impact on both the results and the characteristics of the long-term projections.

Adjusting the taxes and the social security premium revenues according to increases in nominal wage rates and the pension payments according to consumer price indexes will produce savings for the budget dependent on the difference between these nominal adjustments. This difference equals the real wage rate or the productivity growth. Because the productivity estimates are very uncertain, savings in the expenditures relative to the revenues will depend on a highly unpredictable variable. If the productivity estimates change, the estimated deficits in the projections will also frequently change. This may create little trust in the projections.

Projections relying on full price indexation of the pensions will be based on the most favourable assumptions for public sector finances. The projections will be “best case” scenarios. The bias in the projections will most probably reduce the budget surplus or increase the deficit when the calculations are updated in the coming years. Countries using price indexation in their main projections may thus also want to do alternative projections based on wage indexation to show both the potential adjustment in the surplus or deficit and the worsening bias in the calculations.

3.5. Specification of programmes for public revenues and expenditures

Uncertainty in the projections may come from both misspecification in the modelling of public programmes in the projections and misunderstanding of how public programmes really work. Some dependencies may be too complicated to be modelled in a realistic manner. There may also not be sufficient statistical information about the groups the programmes are meant to support. Building experience in modelling and collecting new information will reduce these problems.

Making long-term projections that constantly have to be revised may, however, also indicate that the formulations of the entitlement programmes are not accurate enough, either giving benefits to too many receivers and/or giving a higher than intended support to the individual beneficiaries. Even if it may be said that this should be a case for the yearly budget, frequent misestimating in long-term budgeting may help bring pressure to reformulate the structure of the programmes and to increase the emphasis on their purposes.

3.6. Interest rates

With the present high level of debt of many governments, the need for increased savings to meet future obligations may be large. More knowledge for the private sector about the public sector's future pension obligations and about how reforms in the pension systems are formulated will highly determine the private sector's saving behaviour. How other countries will meet these obligations is also unknown and may bring uncertainty into the assumptions about how international interest rates will develop in the coming years. The uncertainty will depend on whether other countries change their saving rates, how the interest rates change when public savings change, and how the private sector reacts to changed interest rates.

Given that it is difficult to project both if there will be large future changes in the interest rates and if so the magnitude of the changes, a possible solution may be to supplement the projections with sensitivity analysis of what a rise in the interest rates means, to see if the fiscal position is still manageable with a higher interest rate scenario. A scenario with an interest rate corresponding to the growth in GDP may be informative to see if this option is sustainable. This is of course necessary only if the country has a high level of debt or will have a high level in the future.

3.7. Total uncertainty in the projections

Given the discussion above, the main uncertainties to be emphasised are:

- Demographics, especially life expectation;
- Labour force, especially labour market participation rates;
- Labour productivity, especially the increase in the real wage rate if not compensated for in the pension benefits;
- Interest rates, for countries with a high level of debt; especially the impact if the interest rate levels rise.

In its presentation in February 2006 (Economic Policy Committee and European Commission, 2006), the Economic Policy Committee (European Commission) came up with the exact same list of factors to be studied in its sensitivity tests. Especially instructive is its specification of the sensitivity tests for the labour market participation rates, testing for both changed employment rates reflected in a parallel change in the NAIRU unemployment rates and the participation rates for older workers aged 55-64. In the EU both these tests are important, with several countries observing high stable unemployment rates in the past decade and with several countries implementing pension reforms. The productivity and interest rates sensitivities are both tested for higher and lower alternatives.

The total uncertainty in the projections will be a combination of the uncertainty in the different assumptions. One main problem in modelling uncertainty may be that the different observations of the assumptions are not independent. The dependency is very clear with the productivity assumptions which, together with the number of hours worked, will determine the future real income. People's income will certainly influence the demographic assumptions (through the fertility level), the labour market participation (through the choice between work and leisure), and the need for public entitlement programmes. The importance of the level of income may easily get lost in projections where the results of the calculations are denominated by the gross domestic product.

There are two main ways to present uncertainties in the projections:

- The traditional way is to display different scenarios showing a range of values or combination of values for the most important variables including scenarios of the worst and the best assumptions.
- One alternative is to draw input assumptions from the probability distributions for each input variable and run projections with these

sets of assumptions. It is then possible to present probability distributions for the possible outcomes.

Best and worst scenarios may be presented for:

- Policy reforms: In many countries there have been reforms where indexation of pensions is linked to price indexes and not wage indexes. An obvious worst case scenario in this instance is if the pensions are still adjusted with the wage level in the future.
- Worked hours: There has been a decrease in the labour market participation rates for both young people and the elderly and a decrease in total average hours worked. These assumptions are important for the results of the projections, and many policy objectives aim to influence these variables. For this reason, illustrative sensitivity projections may be important.
- Life expectancy: Life expectancy has been constantly underestimated in long-term projections in several countries. One main problem is that even if life expectancy is growing at present, this increase has to slow and even stop sometime in the future. Econometric calculations may tell how much the increases have been but not when the growth will decrease in the future. Given the large magnitude of both pension and health costs for the group of elderly, life expectancy will also be one of the major uncertainties in the future and should be illustrated as such.

The main problem with the best/worst scenarios approach is that there may be very little probability that the worst scenarios will occur. Building the probability distribution for the assumptions in the estimations may clarify this. A probability-based method has the advantage of also assigning a probability that the outcome should occur for all of the results. Even if the model becomes complex, it should be possible to build in interdependencies between the assumptions and the restrictions of the values of the observations into such models.

A probability-based presentation of the uncertainty has advantages when illustrating the uncertainty concerning assumptions where there are observations of a probability distribution in the past and the observations are assumed to be representative for the future. This may be true where the assumptions are only partly or not at all influenced by future policy objectives. Examples of such assumptions may be:

- Productivity growth in the economy: Productivity growth in the economy has changed between different periods. The yearly changes may be large, but most important for the long-term

projection is that just small changes in the average productivity rate will have a major additive impact for the magnitude of the gross domestic product and the levels of public revenues and for the possibility of nominal spending in the future. Even if some countries have concluded that changed productivity has little impact on the government's deficit, the calculations should be checked to give such a result.

- **Fertility rates:** For projections going beyond the next 50 years, fertility rates will be important for the level of the working force and then the level of the gross domestic product. Historical data tell us that there may be large permanent changes in the fertility rates. Probability analysis based on historical values may be useful for illustrating possible alternative developments in the projections.
- **Interest rates:** Interest rates are very volatile and difficult to predict. Interest rates influence both the debt in the future through accumulated yearly interest payments and the level of interest payments on the debt at the end of the projections. It is essential to know the magnitude of the interest payments at the end of the projections in order to determine if the fiscal situation is sustainable or not. For this reason, sensitivity analysis based on probabilities should be done in all long-term projections if the country has a substantial level of debt.

There may be arguments for not making sensitivity analyses that show the probabilities of the outcome too far into the future:

- Even if the probability distribution of the assumptions is known today, it may change in the future. The projected distribution may thus give a misleading picture of the accuracy of the projections for the future.
- If the worst possible scenarios cannot be allowed to happen they will not happen. The market will take corrective actions or the government will have to take them. Labour market participation rates will not decrease to zero. If in the future there is not enough financing of the health care cost estimates given by the projections, the supplied quantity and/or quality of health care has to be decreased. There will be time to do so before reaching such a possible situation 40 years in the future.

3.8. Time horizon for the projections

The time horizon for the projections will partly depend on the nature of the problems to be analysed. When analysing a specific problem that has an end and will not last forever, one may want to be certain to cover the whole period of the problem's existence or development. If the projections analyse the consequences of economic and policy adjustments to deal with the problems, the projections must then also cover the time it takes for the adjustments to change and influence public finances.

One of the main reasons for doing long-term projections today is to show the consequences of an aging population. For most countries there will be a steep increase in the number of the elderly compared to the working population in the coming decades. For some countries this increase will last as long as 2050. If projections for these countries fall shorter than 2050, the projections will not encompass the whole magnitude of the problems the countries will face. Also, adjustments done in the national pension systems may in many countries take more than 40 years before they become fully incorporated in the benefit level for pensions. This situation also indicates that the time horizon has to be beyond 2050.

Updated projections in several countries show that even after the baby boom generation is dead, the old-age dependency ratios will continue to grow. Some projections of demographic developments with an increasing life expectancy show growth in the old-age dependency rate just below the steep growth rates when the baby boomers retired. The consequences of such a result, in contrast to a situation where the spending stabilises as a part of GDP after the baby boomers are gone, are that the measures that have to be taken are to curb the growth in spending, not just a one-time adjustment of the expenditure level to meet a transitional stage because of two decades of high fertility rates after the Second World War. By not projecting beyond the retirement and aging of the baby boomers, information may be lacking that could otherwise ensure a budget strategy to curb the growth in the expenditure also after 2050, regardless of the fact that the magnitude of the problem may be difficult to estimate.

At the same time, going into the future will make the projections more and more uncertain. The analyses that are done today are partly based on demographic trends created by fertility rates already observed in the past. Projections going 60-80 years in the future have to rely on fertility rates not yet observed. In the future the increase in the number of the elderly will to a large degree depend on the higher average life expectancy. It is difficult to project the average life expectancy 60 years from now. It is also very uncertain to predict how the higher life expectancy will influence health care costs. Adjustments will probably need to be made to the benefit level of the

pensions or to the retirement age, and such pension reforms may have a large influence on the participation of the “younger” elderly in the work force. The increase in household income will affect the choice between leisure and work. The uncertainties in all these assumptions indicate that the possibility to forecast beyond the next 50 years may be low.

However, despite the fact that the magnitude of the problem may be difficult to estimate, the main reasons for going so far into the future may be that long-term projections may help in creating a budget strategy to meet the problems that are certainly coming. Going beyond 50 years may provide information to help reformulate present entitlement programmes and build a strategy to deal with the future challenge. One example may be the pension reforms that are now under way in many countries. One measure to create a sustainable pension system has been to increase the retirement age to a specific age. Even if this causes a reduction in the total pension obligations it will not be a permanent solution, given that there will be a constant increasing life expectancy in the future. As mentioned above, some projections give these results. A reformulation that everyone has the right to a pension for the last 16 years of his/her life, given the life expectancy at the time of retirement, may solve some of this problem. If the life expectancy does not grow further, the results of the two reformulations will be the same. (But if, for example, obesity makes the life expectancy fall, the public sector will suffer a loss with this reformulation.)

Given the uncertainty in long-term projections, there is of course a question of how long a period the projections should cover; going 80-90 years from now means that nearly all of the people who will be alive at that time have not been born yet. Knowing that there are large uncertainties in the fertility rates in some countries in the next decades must influence the time perspectives for the projections in these countries.

There has been some criticism that setting a specific time limit will always be arbitrary. Jagadeesh Gokhale and Kent Smetters discuss this as a part of their paper “Fiscal and Generational Imbalances: New Budget Measures for New Budget Priorities” (Gokhale and Smetters, 2003). They point out that if the purpose of the projections is to show the present fiscal imbalances in the public sector, even a time perspective of 75 years will be too short. There will be large earned pension obligations during the 75-year period that have to be met after the period. The projections will include the contributions to the national insurance scheme but not the contributions to the pensioners coming later. Gokhale and Smetters argue for using other methods to measure these imbalances. Some of these alternatives are commented on in Annex A to this article. Generational accounting is however not a topic in this article, so Gokhale and Smetters’ “fiscal

imbalances” and “generational imbalances” indicators are not discussed in the annex.

4. Creating fiscal sustainability to meet future fiscal risks

4.1. Fiscal strategies to meet the long-term challenges

The only way to prepare for fiscal risks in the future is to ensure that the public finances are sustainable and have flexibility to also meet unforeseen events. Long-term projections in both Norway and the United States show that “unchanged policies” in these countries in the future are not sustainable. In the United Kingdom, updates of the yearly pre-budget projections have shown that even after the period when all baby boomers have retired in 2030-40 there may be continued growth in the old-age dependency rate. The same tendency is foreseen in Norway. This growth is a result of the fact that after a steep increase in the number of elderly per worker, the number of elderly will not be reduced but will remain high and, with growing average life expectancy in the future, will further increase. This will make both pension benefits and health care costs grow constantly in the future. The challenge of constantly growing public expenditures may be met with different approaches or a combination of these:

- Support for economic growth;
- Increased level of taxation;
- Decreased level of spending;
- Decreased growth in spending.

Most countries will have to meet the problems of rising deficits with a combination of these measures. The problem is so large that it cannot be solved only through reforms that decrease the level of spending. For many countries there may be a need for significantly higher tax revenues than they have seen in the past if they are going to maintain the present core functions of the public sector. But even with higher taxation there may be less room for new expenditure programmes than in previous years.

There is no line separating sustainable and unsustainable debt. Not only the present level of debt but also the macroeconomic growth in a country will influence the level of acceptable debt today, increasing the possibility to pay back the debt in the future. What may be considered prudent at a given moment is influenced by the prevailing structure of the economy and its vulnerability to shocks, the cost of debt servicing in relation to total public spending and total revenues, and the structure of the government’s balance

sheet. Future demographic changes may also influence the possibility to adjust the public sector's financial position in the future and the government's capacity to handle future debt. The factors which influence sustainability and their importance will change over time.

Projections are of course uncertain, not giving the exact magnitude of the future problems but pointing out that there is a probability that they will come. The more lead time the public sector has to adjust to such changes, the less disruptive the process will be. In many countries there will be a substantial increase in the growth rates for spending under the entitlement programmes and for health costs after 2010-15. Thus, it is advantageous for any long-term policy changes to be formulated soon if they are to be in place when they are needed.

4.1.1. Support for economic growth

It may be most important to keep the economy in a stable growth position, preventing unemployment from increasing. Unemployment will often create a depreciation of labour force skills that is important to avoid. Short-term labour market measures may be used but it is often difficult to tell if unemployment is a result of a short-term lack of demand or a structural problem. If it is a structural problem, labour market measures may in some cases prevent necessary structural changes.

Public expenditures may support growth in the economy through structural measures including support for research and development, industrial support and investments in infrastructure. One other important part is support through the educational system. It is important that the tax system emphasise broad tax bases and low marginal tax rates. Because inefficiencies in the economy grow disproportionately with increased taxes, smoothing the tax rates between years may be important to increase the incentives for economic growth.

In the 2000 Lisbon Summit for EU member countries and in previous OECD documents, the importance of raising the labour market participation has been emphasised. For the sustainability of the public sector, labour market reforms that reduce the age-dependency ratio are the most important ones; however, reforms increasing the quality of labour are also important for the general increase of welfare in countries.

Many countries have concluded that increased immigration will not solve the budgetary problems in the future although it gives overall support for economic growth. This is especially true if the present taxpayer contributions to the pension system generally are too small to finance the

corresponding future pension obligations earned by the contributions. If so, the fiscal problems in the future may increase.

4.1.2. The level of taxation

One argument for raising taxes may be that the average income level will rise and the ability to bear higher tax burdens will then rise. For some countries this may be true to some extent, but the possibility for raising taxes may be limited. The most obvious arguments against higher taxation are that it decreases economic growth through rising preferences for leisure, a rising hidden economy, and less specialisation by people doing the work themselves instead of hiring workers.

What is then the maximum level of taxation? The highest observed tax rates today are in the Scandinavian countries. Both Denmark and Sweden had tax ratios measured against GDP of approximately 50% in 2004. Norway and Finland had 43.4% and 44.2% respectively. Any countries going above 50% will be on unexplored ground. The Scandinavian countries are relatively small and very homogeneous societies; thus there may be a greater acceptance of higher taxes in these countries than in others. Several countries in Europe have had a tax level of 40-45% in recent years and the room for further increase may be limited.

The Scandinavian welfare model also includes high levels of public services, social insurance against loss of income, and retirement savings. In other countries health care, education and retirement savings may to a larger extent be financed privately, although sometimes with a significant tax subsidy. In some countries, a more common cultural resistance against taxation may limit the possibility to increase taxes up to the level seen in Scandinavia.

Revenue projections are normally based on an unchanged tax level during the projection period. One argument for tax smoothing not only in the projections but also in a fiscal strategy is that it gives predictability for the private sector when it is planning its investments, which leads to more efficient use of the resources in the economy. The limited possibility for raising the tax level and the progressive increased disturbance from a higher tax level are other arguments for tax smoothing to run a surplus in good years to meet bad ones.

4.1.3. Level of and growth in expenditures

The study by the United States Congressional Budget Office, “The Long-Term Budget Outlook” (CBO, 2005c, p. 1), emphasises: “Under

current policies, the aging of the population is likely to combine with rapidly rising health care costs to create an ever-growing demand for resources to finance federal spending for mandatory programs ...” The largest source of uncertainty is the growth of costs for the government’s major health care programmes. Projected spending for the social security programme grows more slowly and is far more predictable, something that may be seen as a result of a less demanding demographic development than in some European and Asian countries. However, without reforms in the health care sector that curb the growth in the expenditures, not just reduce the level of the expenditure, the United States government may be confronted with this problem as a permanent one every year in its future budget process.

Projections in some other countries also indicate that under unchanged policies they will observe permanent growth in their expenditures. These countries may also include in their considerations whether the measures taken will curb growth permanently and not just create a one-time downward shift in the expenditures. Labour market reforms may impose a downward shift in the disability and unemployment rates and decrease the level of public expenditures; however only reforms curbing the growth in the pension and health care programmes will provide a permanent solution for the excessive growth in public expenditures.

To meet the growth in expenditures in the future one must consider several measures:

- Pensions and health care reforms;
- Restructuring and modernising the public sector;
- Reducing interest payments by decreasing the level of debt.

Pensions and health care reforms are one of the most important issues to cope with permanent growth of expenditures. In many countries reports have been produced on pension reforms, and many countries have decided to undertake such reforms. Common proposals are to increase the retirement age and partly adjustments of the yearly cost of living index relying on price indexation instead of wage indexation. However there are alternatives such as decreasing the initial benefit level at retirement age or decreasing the monthly benefits for the retired when life expectancy goes up. For pension benefits the problems are connected to an increase in both the number of pensioners and the average pension levels. Increasing the retirement age will both increase the economic growth and reduce the pension payments. However in some countries an increased retirement age may give greater pension entitlements in the future. In such a case, the benefit for the public sector will mostly be higher tax revenues and a delay in the pension

payments. In society as a whole, longer participation in the workforce will of course increase the overall welfare.

The increase in the old-age dependency rates, however, is so large in most OECD countries that it cannot be offset only by a reduction in the benefits of the pensioners. Simulations done by the OECD show that even though reforms indexing the retirement age to life expectancy are a powerful tool to stabilise dependency ratios, they will not fully prevent a growth in dependency rates in most OECD countries (Oliveira Martins *et al.*, 2005). This means that in many countries there will also have to be public reforms in other areas combined with the reforms in the pension and health care areas.

Restructuring and modernising the public sector are important in the long-term sustainability perspectives because this may increase the possibilities to reduce public employment. In many countries in the future, labour will be a limited resource. In the next decade higher labour participation rates for women may increase the total hours worked, but in one or two decades the demographic trends will make the total number of employees decrease in several countries. This will not only put pressure on the public sector to produce more and better services with the present level of employment; it may also force the public sector to reduce the total number of public employees. To free labour resources from the public sector it may be necessary to increase capital investment (capital deepening) not only as a part of modernising the government but also as a restructuring of the services that are delivered by the public sector. Military defence may be such an area where not only the present units can be modernised but where there also may be reconsiderations of which defence units to support. Innovative use of market-type mechanisms may also be a useful part of such restructuring in areas where the private sector can produce services with fewer resources than the public sector, so there will be a total gain of free resources for society.

There have been several ongoing reforms in the public sector in the last two decades. There may be different motivations for these reforms: to better meet users' needs; to increase transparency in the public sector; or to make better use of the available resources. It is important to have a realistic view of the impact of these reforms on the total level of public spending. One kind of reform is outsourcing of the services previously produced internally (cleaning, printing) or outsourcing the service delivery to private companies, still financing them through public spending. When doing long-term projections one must be realistic about the importance of the reforms for future public spending. Although there are savings from more efficient use of the resources, the main part of the costs still remains and has to be paid by the public sector. In some of the public-private partnerships, the public

sector still bears the main fiscal risk in the projects if something goes wrong. Undertaking these reforms may put the public sector in a better position to meet modern demands. However, delegation of decisions to respond to public demands of course also reduces the possibility for political control of what to produce and the quantity of public services to be delivered.

It may seem that the level of discretionary spending is mainly a question of the will to give priority to the total more than to new policy programmes, but it is more than that. There will be pressure for increased public services partly due to a higher income level for the household sector, higher participation rates in the labour market, and new technical possibilities in the health sector. Especially, higher participation rates in the labour market will depend on increased participation of women and, if so, the public sector will have to deliver some of the services women are providing at home today (child care, care for the elderly). In long-term care for the elderly, many believe that the possibilities for productivity growth may be limited. This, together with the fact that a large share of the costs in the sector is for salaries, will make the costs grow faster than in other sectors (Baumol effect¹). As a result, a restructuring of the public sector may be necessary.

Reducing interest payments by decreasing the level of debt will mainly be a function of the will to set a level of taxation that corresponds to today's expenditure level and the level desired in the future. The level of debt is however also a result of decisions that initially are believed not to increase the future expenditures, such as giving guarantees and loans, and underestimations of the costs of reforms in the entitlement programmes. Realistic reports of the consequences of policy decisions are necessary to avoid future problems and reduce the future total fiscal risks.

Reduction of debt is for some countries the main instrument to meet the foreseen development in demographics and the budget. Higher interest rates only create problems for public sectors with high debt. There may also be a possibility to avoid short-term changes in the interest rates for a certain period by borrowing in the long-term financial market, and the uncertainty may also be reduced by differentials in the due dates. However this will mainly be a delay for adjustment to market rates.

The structure of the budget expenditures will be important for the ability to respond to macroeconomic changes by decreasing total spending. A large share of both entitlement programmes and interest payments in the total spending will reduce the possibility for action, because this spending cannot easily be cut on short notice.

4.1.4. *Prudent debt*

A sustainable fiscal position may be defined as a situation where the debt will not grow as a share of GDP. The definition does not give a recommended level of debt. To a large extent this is a question of policy priorities between consumption at present and in the future given the consumption in the past. For a given level of the primary deficit (not including interest payments), the rate of interest and the growth in GDP will also determine the level of debt when measured as a percentage of GDP. Given a constant level of the primary deficit and as long as the rate of interest is lower than the growth in GDP, the debt will convert into a fixed ratio of GDP. If the interest rates exceed the growth in GDP, the public sector has to have a primary surplus; if not, the debt will grow. If there should be an increase in the interest rates in the future, this must be offset by either reductions in other expenses or increased taxation so that the debt burden not shall increase.

Because the theoretical approach to sustainability does not make it possible to set a value for the maximum level of debt, it has to be settled as a result of the macroeconomic analysis and the policy priorities. In connection with its Stability and Growth Pact, the EU formulated a target for gross government debt not to exceed 60% of GDP. Even using a gross, not net, debt as a limit, the limit is linked to a defined sustainable level of the budget deficit at 3% of GDP. When the concept “net debt” is not used, this may partly be seen as a result of difficulties to measure gross assets. One example of a category of assets that is difficult to measure is the value of financial investments in public enterprises. By setting a limit of gross debt at 60% of GDP, both a debt level over this limit and a deficit leading to a higher debt level in the long run will be defined as an unsustainable situation for public finances in the EU countries.

The EU criteria are maximum levels and are not to be looked upon as recommendations for all member countries intending to be members of the euro zone. To make targets like these operational, there should be individual limits for the countries to take into account the growth in the economy, the interest level, and the policy preferences between the present and the future. Knowing that demographics will give increasing expenditures in the future, one country may also consider if the target for the debt limit should be more restricted in the first coming decade, allowing the debt to increase to some extent up to a higher limit in the future.

As a part of its fiscal rules the United Kingdom has a limit for net public debt. The formulated Golden Rule requires balance in the current account, including depreciation of capital. This is combined with a target for a stable and prudent level of debt over the cycle and the condition that, other things

equal, net debt shall be maintained below 40% of GDP over the economic cycle.

4.1.5. Handling uncertainty in the future

Long-term projections are a tool to observe long-term trends in the fiscal position of the government. Learning from unexpected developments in the future is important. Sensitivity tests will tell if the observations are in line with past expectations.

Many projections in the past have seriously underestimated the growth in expenditures. This may be due to both unexpected developments in the underlying assumptions for the projections and the specification of policy programmes. It is important to run sensitivity tests for the total effect of policy reforms including their indirect effect on the other assumptions, such as the possible impacts of pension reforms on labour participation rates when structuring public pension reforms.

Through the development of the “welfare society”, the public sector has gradually taken over risks borne earlier by the private sector. One strategy to reduce public fiscal risks in the future is to shift these back to the private sector. The underestimations of expenditures have to a large extent been connected to benefit payments and health costs. To avoid such uncertainty in the future one may specify the entitlement programmes in such a way that unexpected changes in the assumptions do not increase public expenditures but that the consequences are borne by the beneficiaries. When linking the retirement age to life expectancy, changes in the latter will not increase public expenses. Another method that has been used is to link the level of the monthly benefits to life expectancy so that increased life expectancy reduces the monthly payments.

Shifting the pension system from a benefit-defined system to a contribution-defined system will also shift the uncertainty from the public sector to the pensioners. This will only work if the changes are also policy sustainable in the future. One way to ensure this is to make the public payments up-front by transferring assets to funded pension schemes established outside the public sector, thus removing the obligations from the public sector financial statements. The main reasons for establishing funded pension schemes may be to build up a pension system where the payments are defined by contributions to the fund more than to secure a future benefit level for the pensioners. Keeping a governmental guarantee for the level of the benefits from the funds will still cause the government to bear the risks.

The problems concerning uncertainty may be that the estimates may be volatile even if the expected values of the estimates are known. Uncertainty

connected to specific areas may be reduced by sharing the risk with the private sector through insurance or partnership. One other way may be to reduce governments' contingent liabilities.

One special problem is connected to the exploration of natural resources. The quantities produced are often decided technically and the prices are volatile, which gives unpredictable yearly revenues. To unchain the use of petroleum revenues from the volatile revenues, the Norwegian government has established a petroleum fund. All the governmental petroleum revenues are transferred to the fund but the transfers from the fund are approved by Parliament each year following a fiscal rule for use of petroleum revenues. To limit the uncertainty, withdrawal from the fund is based on the capital in the fund at the beginning of the budget year not including the very uncertain present value of future revenues from the petroleum sector.

One should be aware that general trends in the economy may erode the effect of existing public measures in the long term. These trends may create "unexpected" development in public spending. In many countries user fees are introduced to limit the use of public services. A higher income level may decrease these limiting effects. Reducing the pension level relative to the wage level will increase the subjective feeling of poverty, raising the demand for means-tested support. Considering income distributional effects of the public reform may reduce this uncertainty. Policy reforms may in the same way prevent uncertainty. Labour market reforms building up the possibility for the elderly to remain in the workforce may not only increase present participation rates but may also prevent unexpected increases in unemployment among the elderly and higher disability rates.

One of the main uncertainties is the future interest level. To reduce this uncertainty, it may be useful to enter into debt obligations with long durability and fixed interest rates. Today there are demands for assets with long durability in the financial market from pension funds which need to secure future pension obligations. As a result, the United Kingdom Debt Management Office in May 2005 launched conventional ultra-long gilt, maturing in 2055. Since then both Agence France Trésor and the European Investment Bank have issued bonds with a durability of 50 years. For the government to reduce the uncertainty, it is however necessary that the borrowing is not from a benefit-defined pension scheme where the government guarantees the future level of pensions. If so, the risk will still remain in the hands of the government.

With the historical observed volatility in the interest rates, there may be a chance that the rates may change substantially in the coming years. Each country's possibility to influence the international interest rates may be

small. If public sectors in many countries plan to increase their savings, there may be a need for international reporting and co-operation to ease the uncertainty.

4.2. Incorporating the long-term projections in the budget process

Doing long-term projections in an integrated budget process may be more important than the numerical results of the calculations. The projections are not forecasts of what will happen in the future, but they are instruments to change the future. Presenting results from and assumptions for the projections will change the economy both in the present and the future. One of the important parts of the process is that by updating the projections yearly, one will discover that there may be unknown systematic changes in the assumptions and that it may be possible to respond to these at an early stage. One important aspect is learning by doing.

One must be aware that there may be reasons for not taking action at present even if the projections show unsustainable development. For decisions to start reforms it is not always enough to know that there will be a problem; the solution will also depend on the magnitude and characteristics of the problem. Uncertainty in the projections may be too large to decide what to do at the moment and it may be necessary to collect more information. Some investments, for example, will be irreversible when they are done. One example may be the capacity of electrical power plants when the dam is built. One other example is pension reforms. One of the main purposes for maintaining a rule-based pension system is that the public shall be able to adjust in a meaningful way to the future benefits from the pension system. Also, because pension reforms often include a long policy discussion, reforms cannot happen too often. A pension reform which includes too small adjustments in the pension system may block any further reforms for many years to come. On the other hand, waiting to do reforms may increase the magnitude of the reforms and the disruptive impacts of the changes.

In some countries today the long-term projections are done as separate studies not included in the budget process. The yearly budgets are legal documents; the long-term projections are illustrations of possible budget developments given the present policies. Presenting long-term projections in separate reports, and even sometimes by an independent agency, will to a large extent emphasise that the projections are illustrations of possible developments under “unchanged policies” and not the government’s programmes for the next decades. Separate and infrequent reports are however often forgotten easily. The long-term projections may end up as information that is “good to know” or “not so good to know”.

To take full advantage of the results of the long-term projections, it is important to incorporate the results of the work into the integrated yearly budget process. The sooner negative trends are addressed through policy measures, the less the preventive spending cuts or tax increases have to be. The long-term projections will also provide a continuous reality check in the annual budget process.

To make long-term projections may be essential in countries building up medium-term policy strategies. One way of doing so may of course be to develop fiscal rules that integrate the knowledge from the long-term projections. However, the uncertainty in the projections illustrated by the sensitivity scenarios will probably be too large to build up exact numerical rules just based on these projections. The projections could however give support for how to build up strategies for strengthening fiscal policies to meet the future.

The results may emphasise the need for high economic growth in the coming decades to finance public spending, increase the priority of infrastructural programmes and research and also indicate a need for reducing public spending to free resources, mainly labour, for growth in the private sector. It is also important that the budget projections are integrated into the yearly macroeconomic framework. Many of the long-term projections will show a present need for financial savings in the public sector to meet future needs. These future needs cannot be judged independently of the macroeconomic consequences of the potential increases in public savings today. Many countries have experienced how higher unemployment after a while becomes permanent and is difficult to reduce to the earlier level. If reduced public use of resources is not compensated with higher growth in the private sector, the public sector may encounter approximately the same level of revenues but higher expenditures under entitlement programmes in the future. The total welfare in the country will also decrease. There is still a need for making long-term projections in countries that are struggling with high unemployment today. If the projections show that the fiscal situation is unsustainable, the conclusions will however not be a need for increased savings today but a message that there will be restricted possibilities for the expenditures built into the projections in the future.

The organisation of the process for producing long-term projections is important for both learning from the projections and obtaining accuracy in the evaluations. Policy feedback on how to adjust the projections to achieve sustainable development is an important part of the budget process. To include all the agencies that normally are involved in the budget process gives an integrated process that makes it easier to include impacts of changes in current policy on the long-term fiscal outlook.

This article gives an introduction to a bottom-up approach to long-term projections. In the political process one useful method to evaluate the results from these projections is to confront them with top-down projections. The top-down projections set restrictions for fiscal aggregates such as total level of taxation, level of expenditures, the level of public deficits and/or the total amount of debt. Confronting the two approaches will reveal if there are possible reserves for new reforms and if so the magnitude of the reserves. One important advantage with top-down projections is that it is possible to settle a policy target for the public debt and because of this make more reliable estimates for future interest payments. It is possible to calculate the total magnitude for necessary future policy adjustments in the budget either through changed taxation or spending.

If the projections indicate that even under “unchanged policies” the taxes have to be raised and expenditures decreased, one may still consider if there are possibilities to include “reserves for new reforms in the future” on the expenditure side of the budget. The reason for doing so is to emphasise that there is an important policy pressure for new programmes that have to be taken into account when budgets are established. If these amounts have to be small, there is a message that there is little room for new programmes; if the amounts are zero, the message may be that for there to be room for new programmes there have to be similar reductions in existing expenditure programmes. The increases in public sector spending in the last decades are to a large extent based on policy decisions for new services and transfers and only partly on demographic trends. This attitude will not disappear by itself. These are important policy considerations that have to be a part of the judgements based on the projections. These considerations may lead to an increased awareness against taking new policy programmes into the yearly budgets without proper statements up front.

Annex A.

Alternatives to long-term projections for presenting long-term fiscal sustainability

Balance sheet analysis

The balance in the financial statements normally includes all financial assets and liabilities that the public sector has or owes to a second party. These assets and liabilities represent transactions in the past and the present where the assets represent reserves for future possibilities to finance public spending and the liabilities represent future burdens.

One has to consider if a balance sheet evaluation should be taken on a gross or net debt basis. In many countries the amount of assets is small except for ownership in public enterprises which is established to meet special policy objectives. Ownership in public enterprises may be investments to support specific purposes such as transportation infrastructure or to keep control over natural resources such as oil and minerals. Some of these ownerships – for example, in transportation – may sometimes be a source of probable losses rather than future revenues. To evaluate this is difficult without doing an audit of the whole company. There is a greater probability that future financial obligations have to be fulfilled.

There is not full agreement on how to include revisions of the values of the assets and the liabilities in balance sheet analysis, even under accrual accounting. The statements will be better updated to the present values if the changes in the values of assets and liabilities due to changes in market values, exchange rates and interest rates are included in the present statement. Many of the obligations however have a fixed durability and a face value at that date. If it is not traded by the government before this date, the face value will represent the future value of the obligation for the government.

Following the accrual principle for budgeting and accounting, the governments sometimes include their obligations in the financial balance at an earlier stage than in the cash-based system. These liabilities are mainly

earned pension rights for public employees. The liabilities may also be accrued but not paid interest and other issues where there are time lags between the occurrence of the obligation and the actual payment.

Formal public balance sheets today normally include only explicit debt to specified persons or entities from the past. Even though accrual-based budgets may recognise more than cash-based budgets, they still do not cover possible obligations to unidentified receivers. The United Kingdom is working on a Whole of Government Accounts project expanding accrual accounting to all public entities defined as entities exercising functions of a public nature or to be entirely or substantially funded from public money. The project also introduces obligations with uncertainty both about the amount and the timing (provisions) and liability for future public service pension schemes in the balance.

There may be specific large items that may change the public sector's financial position in the future that are not included in the formal financial statements. These may be explorations of non-renewable resources and the population's general rights for pensions from the national insurance schemes. The formal financial statement may be complemented by calculations showing the importance of these items. The most common way to include such items in the balance sheet analysis is to calculate the present value of the income or outlays by discounting the future revenues and outlays. The discount rate should be the free-of-risk rate of interest for borrowing to the public sector. If one wants to include an adjustment for uncertainty from possible lower prices for the natural resource or the possibility of a smaller quantity produced, this should be done by reducing the price and quantity estimates, not by increasing the discount rate.

The most important asset for the government – the ability to collect taxes and excises – will not be included in balance sheet analysis. This and the present level of the deficit will decide if it is possible for the public sector to meet its present and new obligations in the future. However, from a sustainability point of view not only the total amount of obligations in the balance sheet is important but also when the different shares of obligations have to be met. For this reason, a balance sheet analysis cannot give a complete picture of the sustainability of the public sector.

Present value calculation/fiscal gap

The use of present value calculations has long traditions in the public sector. This is the ordinary method to bring present outlay and future income into a common value to consider if an investment project is profitable. While evaluating investment projects it is common to discount for financial

cost, uncertainty in the future income projections, and preferences for present consumption to future consumption. In sustainability analysis it is not common to include the last two factors when calculating the present value of future deficits. While present value calculation of investment projects includes all revenues and outlays and in principle goes to infinity, it has been more common to calculate if the present value of “unchanged policies” is sustainable over a selected finite period.

The most common way to find out if the fiscal situation is sustainable over a given period is to make a fiscal gap analysis. The fiscal gap is the adjustment that has to be done so that the present value of income minus outlays, given the present level of debt, equals a specified amount of wealth or debt at the end of a selected period. Since interest payments are included in the discount rate, it is revenues minus outlays excluding interest (the primary deficit) that are included in the calculations.

The first definition of sustainability was Domar’s definition in 1942 where the criterion for sustainability is limited to not having to increase the level of taxation. A necessary condition is that the level of debt will increase up to a limit. Domar’s definition however does not give help for calculating such a limit. Blanchard extended the definition in 1990 by including a condition for a sustainable deficit that the limit of debt should be the initial level of debt. Such an extension of the definition of sustainability is necessary to calculate a fiscal gap adjustment that leads to this restricted definition of sustainable deficit. The chosen value for the debt at the end of the period may of course be changed.

Fiscal gap calculations have some important advantages over long-term projections when presenting the degree of fiscal unsustainability:

- They give a single number representing the need for fiscal adjustment, either by reducing spending or by increasing taxes, which is easy to communicate.
- They ensure that the debt level at the end of the period is as expected.

There are however also some objections:

- When the growth in the population receiving public support is to a large extent different from the growth in the population that pays taxes, there is not neutrality between reducing expenditures on entitlement programmes and increasing taxes with the same amount.
- The calculated need for adjustment will depend on an arbitrarily chosen debt level at the end of the period and the length of the period.

- There is no condition ensuring that the deficits in the last years of the period are sustainable in the future. Even if these analyses find that the budget is in balance in the given period, there may still be fiscal problems in the future.
- Updating the calculations in the coming years may constantly increase the calculated need for adjustment of the fiscal policy. All of the projections presented today indicate that shifting the period for calculation one year into the future will replace a good first year with a bad year at the end of a period. The need for adjustment will always increase from one year to the next. This will reduce trust in the calculations.
- Fiscal gap calculation will not lead to a strategy to implement adjustments in the fiscal policy. If the fiscal gap analysis shows that there is a large need for increasing taxes or reducing expenditures to avoid an unsustainable situation, it may not be realistic to assume that this is done during a short period. There may be a need for a combined strategy increasing taxes gradually in the coming years and reducing the expenditures both for entitlements and other expenditures in the future. If so it is necessary to develop detailed yearly projections to take into consideration the time path for both increasing taxation and reducing expenditures.
- Fiscal gap analyses do not indicate the future uncertainty in the calculations.

Expanding the calculation period into infinity and equating the present value of the future primary deficits to the present level of debt will decrease the arbitrariness of the projections. This is often referred to as the Intertemporal Budget Constraint (IBC).

Generational accounting

There has been an increasing concern that the present generation will spend more resources than it creates and will leave the bill for coming generations. One important area for such concern is the use of non-renewable natural resources. Some countries have built calculations into their budget process to show the impact for coming generations of current budgetary decisions. Some countries have set up fiscal rules to prevent the present generation from shifting the burden of present consumption to the next generation. The United Kingdom has established a Golden Rule saying that there shall be a balance in the fiscal current account including capital depreciation making the present generation pay for the present yearly costs.

Borrowing may only be used for investments and net debt may not exceed 40% of GDP over the economic cycle.

Neither long-term projections nor fiscal gap analysis will give an answer to the question of intergenerational imbalances. Nor does federal debt give a direct measure of the future burdens that current policy places on current and future generations. However, to the extent that current generations receive federal benefits that are not fully financed by current revenues, the costs of those benefits must inevitably shift to some future generations.

Auerbach, Gokhale and Kotlikoff presented in 1991 a method called “generational accounting” to calculate the fiscal burden that the current generation passes to the next generations. Distributing revenues and expenditures in the present budget according to the age of present taxpayers and receivers allows calculation of the net present value during a lifetime given the present structure for the revenues and expenditures. It is assumed that the generation born today must pay the same as future generations. If it is not so, the balance must be restored either by increasing taxes or reducing spending.

Defining intergenerational justice is difficult. Considerations about injustice according to generational accounting are also difficult partly because the technical method does not support a discussion to determine what will be just and partly because of the uncertainty in the calculations. The calculations are highly dependent on the structure of public finances in what is a highly arbitrary base year for the calculations.

One alternative way to treat generational justice in a less ambitious manner may be to:

- Through the long-term projections, ensure that the level of taxation will also be sustainable in the future;
- Ensure that income from non-renewable resources also benefits the future generations;
- And through fiscal and monetary policy, ensure stable growth in the economy so that the labour force will remain skilled and labour participation in the future will be kept high.

Annex B.

The presentation of long-term projections in some countries

Australia

The Australian Treasury's first intergenerational report was published in May 2002. The Australian Charter of Budget Honesty requires that an intergenerational report must be published at least once every five years, which implies that the next intergenerational report must be published by May 2007.

In March 2005, the Australian Government Productivity Commission published a report on the economic implications of aging. This report projected that the fiscal pressure due to more spending than revenues was slightly higher than in the 2002 report.

Canada

In the 2004 budget the Canadian government set an objective to reduce the ratio of federal debt to GDP to 25% within ten years. The 2005 budget reaffirmed this objective. Given a commitment to balance budgets in each of the next five fiscal years and based on the average private sector forecast for nominal GDP growth, it is estimated that the federal debt-to-GDP ratio will decline to about 30.6% in 2009/10. The IMF concluded that the federal fiscal position is sustainable provided that the budget policy remains prudent. The IMF reports that pension reform has ensured that the Canada Pension Plan is actuarially sound. However this does not cover the whole public pension system.

Denmark

Denmark has integrated long-term projections in its political process. In 1997 the government presented its goals for the macroeconomic performance until 2005. In 2001 a further report presented "*En holdbar*

fremtid – Danmark 2010” (A sustainable future – Denmark 2010). The report sets targets for the fiscal deficits each year from 2001 to 2010. These targets are followed up in each budget year in the period. These presentations are complemented by a presentation of the “adjusted” deficit where the deficit in the coming year’s budget is adjusted for such items as further obligations due to the aging population and adjustments for future changes in taxation. As a member of the EU, Denmark has committed itself to fulfil the convergence criteria. The targets in the national plan are however more restrictive than these criteria.

The new government from spring 2005 has supported the earlier government’s plan and announced that in 2006 it will present a new plan covering at least the period up to 2015.

New Zealand

In 2004 the New Zealand Parliament passed the Public Finance Bill (Act). Among other new improvements in the public management system, this act requires the Treasury to prepare, at least once every four years, a statement on the long-term fiscal position, covering a period of at least 40 years. The New Zealand Treasury published its first report by the end of June 2006. This report gives projections up to 2050. The act does not specify the contents of the statement. It simply requires a statement of responsibility asserting that the Treasury has used its best professional judgments about the risk and outlook, and the disclosure of significant assumptions. The act does not require the use of a specific analytical tool (for example, intergenerational accounting). But the act does allow consideration of projections spanning a range of issues (for example, retirement income, health, education, and the aggregate fiscal position).

United Kingdom

Each year since 2002 the United Kingdom has presented a long-term public finance report in its pre-budget report in December. These projections complement the long-term projections presented in the budget in the spring. The Code for Fiscal Stability requires the government to publish illustrative long-term fiscal projections, covering a horizon of at least ten years. In practice a 30-year horizon has been chosen. The projections presented in the budget in the spring are based on a top-down approach.

The pre-budget report in December gives both projections calculated on a bottom-up approach and updates on the top-down projections. The bottom-up spending and revenue projections can also be used to derive future

primary balances. With this it is possible to assess the long-term sustainability of public finances. With the top-down projections, the bottom-up projections can be used to identify future fiscal pressures.

United States

With its yearly budget proposal the United States government presents long-term projections going six years into the future. The budget documents also present illustrative 75-year budget projections of public revenues and expenditures at the federal level. The Social Security Administration is mandated to present 75-year projections that assess the adequacy of current payroll contribution rates in financing the scheme.

The Congressional Budget Office also releases special studies on the long-term budget outlook. The latest study was published in December 2005, giving projections until 2050. The CBO also publishes studies on more restricted topics such as “Updated Long-Term Projections for Social Security” (June 2006) and “Global Population Aging in the 21st Century and Its Economic Implications” (December 2005). The CBO has presented several studies on uncertainty in the long-term projections. In 2005 it published “The Uncertainty of Budget Projections: A Discussion of Data and Methods” (February) and “Quantifying Uncertainty in the Analysis of Long-Term Social Security Projections” (November).

Other

Other countries have also carried out analysis on the sustainability of public finances. The German Federal Ministry of Finance published its first report in June 2005 covering the period to 2050. In 2004 Norway presented a White Paper on perspectives for the future showing projections up to 2060.

Note

1. “Baumol effect or ‘cost-disease’: Tendency for relative prices of some services, such as long-term care, to increase vis-à-vis other goods and services in the economy, reflecting a negative productivity differential and the equalisation of wages across sectors” (Oliveira Martins *et al.*, 2006, p. 9).

Bibliography

General information

- Auerbach, A.J., J. Gokhale and L.J. Kotlikoff (1991), *Generational Accounts: A Meaningful Alternative to Deficit Accounting*, NBER Working Paper No. 3589, National Bureau of Economic Research, Cambridge, MA, United States, <http://papers.nber.org/papers/w3589>.
- Banca D'Italia (2000), *Fiscal Sustainability*, Research Department Public Finance Workshop 2000, Perugia, Italy.
- Brix, Hana Polackova and Allen Schick (2002), *Government at Risk, Contingent Liabilities and Fiscal Risk*, The World Bank, Washington DC.
- Gokhale, Jagadeesh and Kent Smetters (2003), *Fiscal and Generational Imbalances: New Budget Measures for New Budget Priorities*, American Enterprise Institute for Public Policy Research, Washington DC, www.aei.org/docLib/200307161_smetters.pdf.
- Heller, Peter S. (2003), *Who Will Pay? Coping with Aging Societies, Climate Change, and Other Long-Term Fiscal Challenges*, International Monetary Fund, Washington DC.
- Schick, Allen (2005), "Sustainable Budget Policy: Concepts and Approaches", *OECD Journal on Budgeting*, Volume 5, Number 1, OECD, Paris.

OECD

- Burniaux, Jean-Marc, Romain Duval and Florence Jaumotte (2004), "Coping with Ageing: A Dynamic Approach to Quantify the Impact of Alternative Policy Options on Future Labour Supply in OECD Countries", *Economics Department Working Papers No. 371*, June, OECD, Paris.
- OECD (2003), "Labour Force Participation of Groups at the Margin of the Labour Market: Past and Future Trends and Policy Challenges", Working Party No. 1 on Macroeconomic and Structural Policy Analysis, ECO/CPE/WP1(2003)8 and three annexes, 22 September, OECD, Paris.
- OECD (2005a), *Health at a Glance: OECD Indicators – 2005 Edition*, ISBN-92-64-01262-1, OECD, Paris.

OECD (2005b), *National Accounts of OECD Countries, General Government Accounts Volume IV 1993-2004*, ISBN-92-64-03613-X, OECD, Paris.

OECD (2005c), *Pensions at a Glance: Public Policies across OECD Countries*, ISBN-92-64-01871-9, OECD, Paris.

OECD (2006), *Ageing and Employment Policies; Live Longer, Work Longer*, ISBN-92-64-03587-7, OECD, Paris.

Oliveira Martins, Joaquim, Frederic Gonand, Pablo Antolin, Christine de la Maisonneuve and Kwang-Yeol Yoo (2005), “The Impact of Aging on Demand, Factor Markets and Growth”, *Economics Department Working Papers No. 420*, ECO/WKP(2005)7, OECD, Paris.

Oliveira Martins, Joaquim, Christine de la Maisonneuve and Simen Bjørnerud (2006), “Projecting OECD Health and Long-term Care Expenditures: What are the Main Drivers?”, *Economics Department Working Papers No. 477*, ECO/WKP(2006)5, OECD, Paris.

European Union

Carone, Giuseppe, Declan Costello, Nuria Diez Guardia, Gilles Mourre, Bartosz Przywara and Aino Salomaki (2005), *The economic impact of aging populations in the EU 25 Member States*, European Commission Economic Papers No. 236, Brussels.

Economic Policy Committee and European Commission (2005a), *The 2005 EPC projections of age-related expenditure (2004-2050) for the EU 25 Member States: Underlying assumptions and projection methodologies*, European Economy Special Report No. 4/2005, ECFIN/CEFCPE(2005)REP/55087, European Commission, Brussels, http://ec.europa.eu/economy_finance/epc/epc_sustainability_ageing_en.htm.

Economic Policy Committee and European Commission (2005b), *The 2005 EPC projection of age-related expenditure: Agreed underlying assumptions and projection methodologies*, European Economy Occasional Paper No. 19, ECFIN/CEFCPE(2005)REP/54772, European Commission, Brussels, http://ec.europa.eu/economy_finance/publications/occasional_papers/2005/ocp19en.pdf.

Economic Policy Committee and European Commission (2006), *The impact of ageing on public expenditure: projections for the EU 25 Member States on pensions, health care, long-term care, education and unemployment transfers (2004-2050)*, European Economy Special

Report No. 1/2006 including annex, European Commission, Brussels, http://ec.europa.eu/economy_finance/epc/epc_sustainability_ageing_en.htm.

European Commission (2005), *Public Finances in EMU 2005*, Directorate-General for Economic and Financial Affairs, European Economy No. 3/2005, European Commission, Brussels, http://ec.europa.eu/economy_finance/publications/european_economy/2005/ee305en.pdf.

International Monetary Fund (IMF)

IMF (2002), *Assessing Sustainability*, prepared by the Policy Development and Review Department, 28 May, IMF, Washington DC.

IMF (2003a), *Debt Sustainability in Low-Income Countries: Towards a Forward-Looking Strategy*, prepared by the Staff of the Policy Development and Review Department, 23 May, IMF, Washington DC.

IMF (2003b), *Sustainability Assessments: Review of Application and Methodological Refinements*, prepared by the Policy Development and Review Department in collaboration with the Monetary and Financial Systems Department and in consultation with other departments, 10 June, IMF, Washington DC.

IMF (2004a), *Debt Sustainability in the Low-Income Countries: Proposal for an Operational Framework and Policy Implications*, prepared by the Staffs of the IMF and the World Bank, 3 February, IMF, Washington DC.

IMF (2004b), *Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework and Policy Implications*, prepared by the Staffs of the IMF and World Bank, 10 September, IMF, Washington DC.

IMF (2005), *Operational Framework for Debt Sustainability Assessments in Low-Income Countries: Further Considerations*, prepared by the Staffs of the IMF and World Bank, 28 March, IMF, Washington DC.

Australia

Australian Treasury (2002), *Intergenerational Report 2002-03*, Budget Paper No. 5, ISBN-0642-74142-5, Canberra.

Gruen, David and Matthew Garbutt (2004), *The Long Term Fiscal Implications of Raising Australian Labour Force Participation or*

Productivity Growth, Treasury Working Paper 2004-01, April, Canberra, www.treasury.gov.au/documents/820/PDF/Gruen_Garbutt.pdf.

Productivity Commission (2005), *Economic Implications of an Ageing Australia*, Research Report, ISBN-1-74037-173-9, April, Canberra, www.pc.gov.au/study/ageing/finalreport/index.html.

Canada

Department of Finance (2005), *A Plan for Growth and Prosperity*, November, Ottawa, www.fin.gc.ca/ec2005/agenda/agc2005e.pdf.

Denmark

Danish Cabinet (2001), *En holdbar fremtid – Danmark 2010 (A sustainable future – Denmark 2010)*, ISBN-87-7856-403-4, Copenhagen.

Germany

Federal Ministry of Finance (2005), *Bericht zur Tragfähigkeit der öffentlichen Finanzen (Report on the Sustainability of Public Finances)*, Berlin, German text only, www.bundesfinanzministerium.de.

New Zealand

Janssen, John (2002), *Long-term Fiscal Projections and their Relationship with the Intertemporal Budget Constraint: An Application to New Zealand*, New Zealand Treasury Working Paper 02/04, Wellington, www.treasury.govt.nz/workingpapers/2002/02-4.asp.

Rodway, Paul and Peter Wilson (2006), *Modelling New Zealand's Long-term Fiscal Position*, New Zealand Treasury Policy Perspectives Paper 06/01, February, Wellington, www.treasury.govt.nz/workingpapers/2006/tpp06-01.pdf.

The Treasury (2005), *A Guide to the Public Finance Act*, August, Wellington, www.treasury.govt.nz/pfa/.

The Treasury (2006), *New Zealand's Long-Term Fiscal Position*, Wellington, www.treasury.govt.nz/longtermfiscalposition/ 2006/.

Norway

Ministry of Finance (2004), *Perspektivmeldingen 2004: utfordringer og valgmuligheter for norsk økonomi*, St. meld nr. 8 (2004-2005), Oslo.

United Kingdom

HM Treasury (2005a), *Long-term global economic challenges and opportunities for Europe*, March, ISBN-1-84532-083-2, Crown Copyright, London, www.hm-treasury.gov.uk/documents/international_issues/int_global_index.cfm.

HM Treasury (2005b), *Delivering the benefits of accruals accounting for the whole public sector*, December, ISBN-1-84532-116-2, Crown Copyright, London, www.hm-treasury.gov.uk/media/F59/87/pbr05_accounting_281.pdf.

HM Treasury (2005c), *Long-term public finance report: an analysis of fiscal sustainability*, December, ISBN-1-84532-123-5, Crown Copyright, London, www.hm-treasury.gov.uk/media/F59/32/pbr05_longterm_513.pdf.

HM Treasury (2006), *Budget 2006. A strong and strengthening economy: Investing in Britain's future. Annex A: Illustrative long-term fiscal projections*, London, www.hm-treasury.gov.uk/budget/budget_06/bud_bud06_index.cfm.

United States

Congressional Budget Office (2001), *Uncertainty in Social Security's Long-Term Finances: A Stochastic Analysis*, December, Washington DC, www.cbo.gov/showdoc.cfm?index=3235&sequence=0.

Congressional Budget Office (2005a), *The Uncertainty of Budget Projections: A Discussion of Data and Methods*, February, Washington DC, www.cbo.gov/showdoc.cfm?index=6119&sequence=0.

Congressional Budget Office (2005b), *Quantifying Uncertainty in the Analysis of Long-Term Social Security Projections*, Background Paper, November, Washington DC, www.cbo.gov/ftpdocs/68xx/doc6873/11-16-MonteCarlo.pdf.

Congressional Budget Office (2005c), *The Long-Term Budget Outlook*, December, Washington DC, www.cbo.gov/ftpdocs/69xx/doc6982/12-15-LongTermOutlook.pdf.

- Congressional Budget Office (2005d), *Global Population Aging in the 21st Century and Its Economic Implications*, December, Washington DC, www.cbo.gov/ftpdocs/69xx/doc6952/12-12-Global.pdf.
- Congressional Budget Office (2006), *Updated Long-Term Projections for Social Security*, June, Washington DC, www.cbo.gov/ftpdocs/72xx/doc7289/06-14-LongTermProjections.pdf.
- Crippen, Dan (2003), “Countering Uncertainty in Budget Forecasts”, *OECD Journal on Budgeting*, Volume 3, Number 2, OECD, Paris.
- Department of the Treasury (2005), *Financial Report of the United States Government 2005*, Washington DC.
- Executive Office of the President, Office of Management and Budget (2006), *Fiscal Year 2007, Analytical Perspectives, Budget of the United States Government*, Washington DC.
- Sabelhaus, John and Julie Topoleski (2006), *Uncertain Policy for an Uncertain World: The Case of Social Security*, Working Paper Series, March, Congressional Budget Office, Washington DC, www.cbo.gov/ftpdocs/70xx/doc7090/2006-05.pdf.

OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(42 2006 01 1 P) ISSN 1608-7143 – No. 55279 2006

OECD Journal on Budgeting

TABLE OF CONTENTS

BUDGETING IN NORWAY <i>by Barry Anderson, Teresa Curristine and Olaf Merk</i>	7
BUDGETING IN SINGAPORE <i>by Jón R. Blóndal</i>	45
TOP-DOWN BUDGETING AS A TOOL FOR CENTRAL RESOURCE MANAGEMENT <i>by John M. Kim and Chung-Keun Park</i>	87
ASSESSING FISCAL RISKS THROUGH LONG-TERM BUDGET PROJECTIONS <i>by Pål Ulla</i>	127

Subscribers to this printed periodical are entitled to free online access. If you do not yet have online access via your institution's network contact your librarian or, if you subscribe personally, send an email to

SourceOECD@oecd.org

www.oecd.org



OECD PUBLISHING

ISSN 1608-7143
2006 SUBSCRIPTION (4 ISSUES)

42 2006 01 1 P

Volume 6, No. 1



9 771608 714002