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**Title: A bottom-up approach to assess the budgetary impact of discretionary fiscal policies** [1]

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**Abstract:**

This paper develops a simple bottom-up approach to measure the direct budgetary impacts (DBI) of fiscal policy. The method complements the standard top-down approach, where changes in the primary structural budget balance are seen as a measure of the fiscal stance. The bottom-up approach can to a large extent be seen as a balance sheet method with no need to apply sophisticated economic analysis, econometric models or judgement. Besides measuring the fiscal stance, the bottom-up approach can form part of an overall assessment of what has been driving year-to-year changes in the cyclically adjusted balance (CAB). A detailed and a simple version of the method are applied to the case of Denmark, whereas the simple method is applied to 12 European countries, Japan and the US.

# 1. Introduction

International assessments of the fiscal stance usually start from the estimated cyclically adjusted balance (CAB), see for instance Girouard and Price (2004) or van den Noord (2000). In this *top-down approach*, year-to-year changes in the cyclically adjusted (primary) balance are taken as a measure of discretionary fiscal policy changes.

For a number of reasons, however, the change in the cyclically adjusted primary balance is an imperfect measure of discretionary fiscal policies.

*First*, changes in the cyclically adjusted balance reflect several other factors in addition to the immediate budgetary impact of discretionary measures. Hence, changes in the cyclically adjusted balance may be affected by one-off measures, various technical factors, and the impact on potential output of labour market policies, tax reforms etc. For instance, reductions in structural unemployment over a given period – giving rise to an improvement in the cyclically adjusted balance – may be interpreted as contractionary fiscal policy even if discretionary fiscal measures (on average) stimulated activity over the same time span.

*Second*, the cyclically adjusted balance is conceptually constructed by adjusting the actual balance for, in particular, estimated cyclical effects. Inaccuracies in measuring the cyclical element (either in the size of the output gap or the budgetary elasticities used) may hence lead to spurious correlations between the cyclically adjusted balance and the output gap.

Although, the estimated total change in Denmark's cyclically adjusted balance from 1995 to 2005 is generally similar when using the OECD's or the Danish Ministry of Finance's calculations, there are major differences in individual years. In three out of ten years, the changes in the cyclically adjusted balance are of opposite signs and in half of the years the results differ by more than ½ per cent of GDP. This uncertainty in the top-down method poses a problem since it can lead to quite different policy assessments.

The aim of this paper is to test to what extent a simplified bottom-up approach can work as a supplement, a consistency check or an alternative to the top-down approach. The *bottom-up approach* measures changes in the fiscal stance in which the direct budgetary impact of discretionary fiscal policy is estimated on the basis of developments in individual revenue and expenditure items relative to defined neutral paths for these items. In contrast to the top-down approach, this method avoids problems associated with measuring the output gap and budgetary elasticities, and it avoids counting the budgetary impact of, for instance, employment-enhancing structural reforms as fiscal policy.

To calculate the bottom-up indicator is relatively simple. The bottom-up approach can to a large extent be seen as a balance sheet method where only few assumptions have to be made and with no need to apply sophisticated economic analysis, econometric models or judgement. This is in contrast to the top-down approach. However, the bottom-up approach requires detailed data, which might not be easily accessible. Thus, for a general application to international data a thorough look at the data would be required.

The bottom-up approach can form part of an overall assessment of what has been driving year-to-year changes in the cyclically adjusted balance. The annual change in the cyclically adjusted primary balance can be broken down into the contribution from fiscal policy's direct budgetary impact and a contribution from structural developments (defined as the net budgetary impact of changes in structural employment) as well as residual factors. Although this decomposition cannot be exhaustive, it provides

a rough estimate of the contributions of fiscal and structural developments, respectively, to developments in the overall cyclically adjusted balance.

The paper describes the relatively detailed method used by the Danish Ministry of Finance to estimate the bottom-up indicator for Denmark and then develops a simplified method, which may be applied to a number of countries using less detailed information. The main results:

- The results of the detailed and simple bottom-up method of estimating the *Direct Budgetary Impact* (DBI) of fiscal policy for Denmark are quite similar, suggesting that the simple method can be applied (to other countries) without a significant loss of information. The average margin of error is typically ¼ per cent of GDP. Using OECD data for Denmark does not add much to this margin of error.
- The results of the *top-down* approach and the *bottom-up* approach differ quite significantly in some years. Aside from data uncertainties, the differences reflect that the top-down approach measures effects in addition to fiscal policy, particularly the effects of structural developments (i.e. changes in structural unemployment and effective labour supply).

Applying the method to a number of European countries, Japan and the US gives rise to, in particular, the following conclusions:

- On an overall basis the calculations suggest that structural developments (i.e. changes in structural unemployment and effective labour supply) in most countries have strengthened the structural position of public finances, while fiscal policy has weakened the cyclically adjusted balance from 1995 to 2003.
- For countries such as Belgium, Spain, Ireland and Italy the cyclically adjusted primary balance has only decreased moderately since the mid 1990s. This can be attributed to large increases in structural employment over the period in question. Thus, structural developments have improved the underlying position of primary public finances and in this way made room for a relatively loose fiscal policy[2].
- In countries as France, Germany, the UK, Sweden and the US a tight fiscal policy in the years 1996-98 have been succeeded by a relaxation of the fiscal stance in the beginning of this decade. The calculations indicate that the fiscal stance since 2000 has been more lax when measured by the top-down approach than by the bottom-up approach. Structural developments have at the same time only improved the cyclically adjusted balance modestly.

The paper is structured as follows: first, it describes the detailed method used by the Danish Ministry of Finance to estimate the direct budgetary impacts of fiscal policy for Denmark. Subsequently, a simplified method is developed, which may be applied to a number of countries (e.g. the EU countries) for which the same detailed information is not readily available in all cases.

The estimated direct budgetary impacts of fiscal policies are then compared to the estimated changes in cyclically adjusted balances. The impact of structural developments, including changes in the structural unemployment rate, on structural fiscal balances is also estimated.

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[2] For countries with relatively rapid population growth or increases in female labour participation ratios (due to for instance cultural changes or catching-up effects) – and thus higher labour-force growth – the definition of a neutral economic scenario (when calculating the DBI) may be underestimating the trend growth rate in real and nominal GDP. This implies that the derived direct budgetary impact of fiscal policy may generally be biased toward measuring a too expansionary fiscal policy. The counterpart to this is a more positive effect on public finances from structural developments.

Finally, the results of the simple method to estimate the direct budgetary impact (DBI) are described for 12 EU countries, Japan and the US. Moreover, changes in the cyclically adjusted balances of these countries are decomposed into effects from both fiscal policy and structural developments.

## 2. Direct budgetary impacts (DBI) – a detailed method

Fiscal policy's *direct budgetary impacts (DBI)* measures the impact of discretionary fiscal policy on the budget balance. A positive DBI reflects fiscal consolidation, while a negative DBI indicates a fiscal policy-induced weakening of public finances. As a guiding principle, it is intended to avoid automatic fiscal stabilizers being counted as discretionary fiscal policy measures.

The method as applied to Denmark is based on a detailed approach, in which individual revenue and expenditure items are considered at a disaggregated level[3].

Neutral fiscal policy is defined in terms of so-called "neutral policy paths" for each item so as to be consistent with an unchanged budget balance (in percent of GDP) in a steady state scenario with trend growth, constant employment and unemployment rates, unchanged income distribution etc. The scenario assumes that trend growth of nominal GDP corresponds to trend private sector wage growth (about 4 percent per year), real GDP growth corresponds to trend productivity growth (about 2 percent), while prices rise in line with the difference between wage and productivity growth (about 2 percent per year).

For countries with relatively rapid population growth or increases in female labour participation ratios (due to for instance cultural changes or catching-up effects) – and thus higher labour-force growth – the definition of a neutral economic scenario may be underestimating the trend growth rate in real and nominal GDP. This implies that the derived direct budgetary impact of fiscal policy may generally be biased toward measuring a too expansionary fiscal policy.

With respect to *revenues,* discretionary fiscal policy generally entails changes in rules or tax rates. A fairly detailed breakdown of the tax code is applied. For some revenue categories, however, estimates are not based on actual rule changes, but on summary measures, *cf. box 1.*

**Box 1. Defined neutral paths for individual budget items**

| Budget item | Neutral path |
|---|---|
| *Revenues:* | |
| Direct taxes .................... | Unchanged tax rates and rules. A detailed breakdown of the tax code is applied. |
| Indirect taxes ................. | Unchanged percentage rates. For excise duties and other indirect taxes set in DKK amounts, the neutral rate increases in line with consumer prices. A detailed breakdown is applied. |
| Social contributions....... | Unchanged contribution rates. Revenues are broken down by several different types of contributions. |
| *Expenditures* | |
| Public consumption ...... | Nominal expenditure growth corresponding to private sector wage growth. Expenditures are split in public sector wage bill and purchases from the private sector. |
| Subsidies....................... | Nominal expenditure growth corresponding to private sector wage growth. |
| Investment .................... | Nominal expenditure growth corresponding to private sector wage growth. |
| Social income transfers .. | Indexation factor corresponding to private sector wage growth. A detailed breakdown by individual categories of income transfers is applied. |

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[3] The method has been continuously updated and documented; see Finansministeriet (2000) and the update in Finansministeriet (2004).

For excise duties (which are defined in DKK-amounts and are not automatically indexed to prices), the fiscal easing and reduction in revenues (fiscal drag), which is implied by unchanged rates when prices rise, is considered discretionary policy. The neutral path for each type of excise duty is thus one of a gradual increase in line with consumer price inflation.

Lags in the indexation of income tax brackets – e.g. income tax brackets for income taxation – are also considered discretionary policy. The tax brackets are regulated each year using an (official) indexation factor based on wage increases two years earlier. If wage increases in the current year are higher (lower) than two years earlier a larger (smaller) share of incomes will fall under the tax rate of higher brackets (for progressive tax systems), which implies higher (lower) public revenues.

With respect to *expenditures,* discretionary fiscal policy is not to the same extent characterized by changes of rules.

*Public consumption* primarily consists of the public sector wage bill and purchases of goods and services from the private sector. An unchanged share of public consumption in GDP will, in a neutral economic scenario, require unchanged public employment, public sector wage increases in line with private sector wages, and a nominal increase in purchases from the private sector corresponding to nominal GDP growth. The fiscal benchmark for real growth in public employment is thus 0 percent, whereas it is 2 percent for real growth in net purchases from the private sector. Real growth in excess of this increases, ceteris paribus, the share of public consumption in GDP, which would be considered expansionary fiscal policy.

For *income transfers* to households, two types of neutral paths are considered.

For unemployment benefits and social welfare payments, the aim of the method is to capture the expenditure impact of changes in replacement rates – understood as the difference between the actual average increase in transfer incomes per recipient and the increase in private sector wages. Hence, changes in the number of recipients are not included in the DBI, since changes in rules governing access to and eligibility for benefits are considered structural policy measures. Cyclical fluctuations in unemployment do not affect the direct revenues, for given transfer income levels, but only count as automatic stabilizers.

For all other transfer categories (about 15 percent of total transfers) the direct budgetary impacts are calculated as the difference between the actual increase in expenditures and private sector wage growth.

The results indicate that fiscal policy in Denmark in the period 1995-99 had a dampening impact on economic activity by contributing to an improvement in the cyclically adjusted balance (CAB) totalling some 1½ percent of GDP. By contrast, in the period 2000-04 fiscal policies have on balance been expansionary and weakened the public balance by some 1½ percent of GDP, *cf. table 1.*

**Table 1. DBI: Fiscal policy's impact on public finances in Denmark, detailed method.**

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ---------------------------------------------- Percent of GDP ---------------------------------------------- | | | | | | | | | | |
| Direct taxes.................................... | -0.3 | 0.3 | 0.0 | -0.4 | 0.2 | 0.1 | 0.0 | -0.5 | -0.1 | -0.7 | 0.0 |
| Indirect taxes ................................. | 0.0 | 0.4 | 0.2 | 0.7 | 0.2 | -0.4 | 0.2 | 0.0 | -0.1 | -0.4 | -0.2 |
| Social contributions ...................... | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1. Revenues.................................... | -0.3 | 0.7 | 0.2 | 0.2 | 0.5 | -0.1 | 0.2 | -0.5 | -0.2 | -1.1 | -0.2 |
| Public consumption....................... | 0.1 | 0.4 | -0.1 | 0.4 | 0.1 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | -0.2 |
| Investment and subsidies............... | -0.1 | 0.2 | -0.2 | -0.2 | -0.1 | 0.0 | 0.1 | -0.1 | -0.2 | 0.1 | -0.1 |
| Social income transfers.................. | -0.5 | 0.0 | -0.4 | -0.1 | -0.1 | 0.0 | 0.0 | -0.1 | 0.0 | -0.1 | -0.2 |
| 2. Expenditures.............................. | -0.5 | 0.6 | -0.6 | 0.1 | -0.1 | 0.0 | 0.4 | -0.2 | -0.2 | 0.0 | -0.5 |
| **3. Fiscal policy (1-2)** ................... | **0.1** | **0.1** | **0.8** | **0.1** | **0.5** | **-0.1** | **-0.2** | **-0.3** | **0.0** | **-1.1** | **0.3** |

Note: The contribution from social income transfers is net of tax. The Special Pension arrangement is excluded from social contributions.
Data: Statistics Denmark.

## 3. Direct budgetary impacts (DBI) – a simple method

The detailed method for calculating the DBI cannot easily be implemented consistently across countries since adequate and comparable information about the often complicated tax and transfer systems etc. of individual countries are not readily available at such a disaggregated level.

Hence, summary measures of the DBI are calculated below derived from the detailed method. The objective is that the method should be easy to apply across a selection of countries, e.g. the EU countries. The breakdown of public revenues and expenditures is described in *box 2*.

**Box 2. Defined neutral paths for individual budget items using OECD-data**

| Budget item | Neutral path |
|---|---|
| *Revenues:* | |
| Direct taxes ................... | Unchanged revenue relative to the tax base – corresponding to a constant implicit tax rate. Personal income tax revenues are compared to a measure of the tax base consisting of total compensation of employees and social transfers less social contributions, whereas corporate tax revenues are compared to the gross operating surplus. The implicit tax rates are calculated accordingly. Changes to these two implicit tax rates – multiplied by the tax bases – are taken as a measure of the direct budgetary impact of discretionary direct tax changes. |
| Indirect taxes................. | Unchanged revenue relative to the tax base – corresponding to a constant implicit tax rate. Nominal private consumption is taken as the tax base and the same approach is used as for direct taxes. |
| Social contributions....... | Unchanged revenue relative to the total compensation of employees – corresponding to a constant implicit tax rate. Again, the same approach is applied, using total compensation of employees as the tax base. |
| *Expenditures:* | |
| Public consumptions..... | Nominal expenditure growth corresponding to private sector wage growth. Total consumption expenditures are used. |
| Subsidies....................... | Nominal expenditure growth corresponding to private sector wage growth. |
| Investment ................... | Nominal expenditure growth corresponding to private sector wage growth. |
| Social income transfers .. | Average indexation factor corresponding to private sector wage growth. Total expenditures on transfers are used, since these are the only ones for which OECD-data are readily available. The base (i.e., the number of recipients of transfer incomes) is difficult to identify in international data. It is proxied by the total population aged 15 and above less employment. |

The simplified method has some limitations. For instance, it has proven difficult to establish a meaningful measure of the number of transfer recipients because of a lack of easily-accessible data. The proxy used consists of all adults that are not employed, including for instance housewives (and -men) etc. In addition, social income transfers may vary substantially across different types of transfers. For instance, average pensions may deviate from average unemployment benefits, and hence compositional changes risk being interpreted, under the method, as discretionary fiscal policy.

Similarly with respect to revenues, the measures of the tax bases are rough. For example, in some countries most types of social transfers are not taxed (i.e., they are in effect paid out net of tax), while in

some countries income tax revenues are affected by changes in net pension payments. Changes in asset prices may also affect direct tax revenues in several countries, including Denmark where revenues from the tax on pension investment returns can fluctuate by as much as 1 per cent of GDP from one year to another. The considered tax base is for all countries probably also inadequate for corporate taxes, which in the calculations are assumed to be levied on gross operating surpluses.

*Applying the simplified method to Danish data*
The simple method yields broadly similar results for Denmark as the more detailed method outlined previously, although there are deviations in individual years. The broad picture remains that fiscal policy improved public finances by some 1½ percent of GDP from 1995 to 1999. From 2000 to 2004, fiscal policy expansions reduced the budget balance by some 1½ percent of GDP – in line with the results of the detailed method, *cf. table 2.*

**Table 2. DBI: Fiscal policy's impact on public finances in Denmark, simple method, national data**

|  | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  | ---------------------------------------- Percent of GDP ---------------------------------------- | | | | | | | | | | |
| Direct taxes.................................... | 0.2 | 0.4 | 0.2 | -0.6 | 0.7 | 0.5 | 0.0 | -0.7 | -0.2 | -0.4 | 0.1 |
| Indirect taxes ................................ | 0.1 | 0.4 | 0.2 | 0.7 | 0.1 | -0.2 | 0.3 | 0.2 | -0.2 | -0.3 | -0.1 |
| Social contributions ...................... | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1. Revenues................................... | 0.3 | 0.8 | 0.4 | 0.1 | 1.0 | 0.4 | 0.2 | -0.5 | -0.4 | -0.7 | -0.1 |
| Public consumption...................... | 0.1 | 0.4 | 0.0 | 0.3 | -0.1 | 0.0 | 0.5 | 0.1 | -0.1 | 0.0 | -0.3 |
| Investment and subsidies............... | -0.1 | 0.2 | -0.1 | -0.3 | -0.1 | 0.1 | 0.1 | -0.1 | -0.2 | 0.1 | -0.1 |
| Social income transfers.................. | -0.3 | 0.0 | -0.3 | -0.2 | -0.1 | 0.1 | 0.0 | -0.1 | 0.0 | -0.1 | -0.3 |
| 2. Expenditures............................. | -0.3 | 0.7 | -0.5 | -0.2 | -0.3 | 0.2 | 0.6 | -0.1 | -0.3 | -0.1 | -0.6 |
| **3. Fiscal policy (1-2)** ..................... | **0.6** | **0.1** | **0.9** | **0.3** | **1.2** | **0.2** | **-0.4** | **-0.4** | **-0.1** | **-0.7** | **0.5** |

Note: The contribution from social income transfers is net of tax. The Special Pension scheme is excluded from social contributions. Taxes are corrected for movements in the revenue from the tax on pension funds' investment returns and corporate taxes.
Data: Statistics Denmark.

*The simplified method applied to OECD data for Denmark*
Using OECD data for Denmark, the deviations are not much larger than when the Danish-source data is used, *cf. figure 1.* However, for a general application to international data a thorough look at the data would be required. For instance, the concept and data used for wage increases plays a key role for the estimated budgetary impact from expenditures.

**Figure 1. DBI for Denmark**
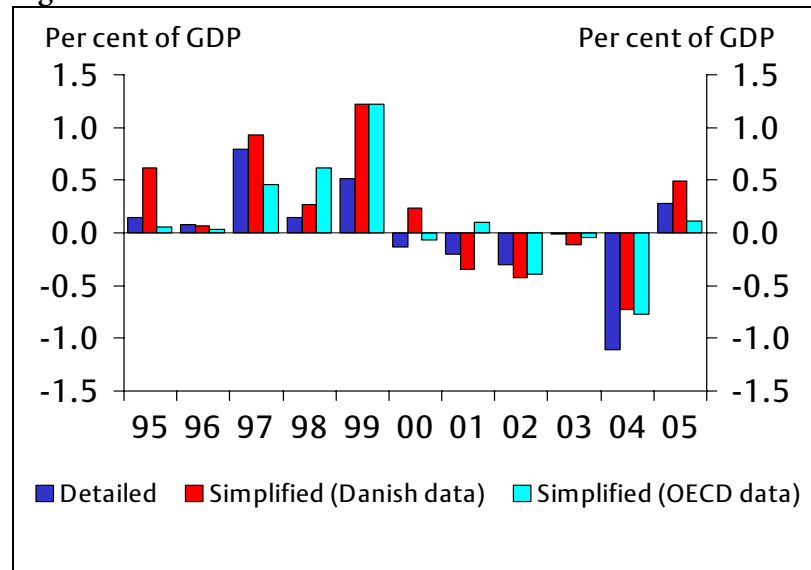


Note: The simple method (both for Danish and OECD data) is corrected for movements in the revenue from the tax on pension funds' investment returns and corporate taxes. Furthermore, Danish data for wage increases are used in the calculation on OECD data.
Data: Statistics Denmark and OECD Economic Outlook 75, June 2004.

## 4. Decomposing the cyclically adjusted balance (top-down approach)

The cyclically adjusted balance is calculated by correcting the actual balance for the estimated impact of cyclical fluctuations as well as – in the Danish case – changes in equity prices and other temporary or one-off factors, *cf. box 3.*

### Box 3. Calculating the cyclically adjusted balance

In principle, the calculation of the cyclical contribution *CC* to public finances consists of two parts. First, the calculation of the output gap *YGAP*, and secondly calculating the cyclical sensitivity of public finances corresponding to the budget factor (semi-elasticity) $\varepsilon$ in the relation below:

$CC = \varepsilon \cdot YGAP, \text{ where } \varepsilon > 0$

In the Ministry of Finance's application, the output gap used is based on an employment gap, made up of an unemployment gap and the deviation of the labour force from its cyclically-adjusted level. The budget factor is derived from simulations using the macroeconomic model ADAM. Hence, the budget factor is a result of the estimated and institutional relations entering in the model. Derived effects on the broader economy (including prices and wages) are in this way included.

The budget factor is estimated with some uncertainty. In addition to uncertainty regarding lags in the adjustment of employment to its desired level (labour-hoarding effects), the budget factor will also depend on whether movements in activity are driven by, for instance, private consumption or exports. Using ADAM simulations makes it possible to calculate a corrected budgetary elasticity for each year, which takes into account changes in the demand composition, and hence to separate out their impact on the cyclically adjusted balance.

The calculated cyclically adjusted balance also corrects for the impact of special items *SI*, which are not directly associated with the cycle, but which may have considerable and highly variable influence on public finances from year to year. In particular, this concerns the tax on pension investment returns (depending on equity and bond price fluctuations), corporate taxation, fluctuations in net interest payments around trend, as well as changes in public net capital and other income transfers.

Hence, the cyclically adjusted balance (or structural budget balance) *CAB* may be expressed as the actual balance *B* less a cyclical contribution CC and a correction for special items, *SI*:

$CAB = B – CC – SI$

The OECD's current calculation of the cyclically adjusted balance does not take account of the contribution from special items, cf. Giorno *et al.* (1995), although an effort is made to control for fluctuations in asset-prices and "one-off" factors, cf. Girouard and Price (2004). International data are incomplete, and taking account of such factors could reduce the transparency of the calculations. Both for the level of the cyclically adjusted balance and the annual changes in the primary cyclically adjusted balance (the top-down approach to measuring fiscal policy) there are significant deviations between the OECD's estimates and those of the Ministry of Finance, *cf. figure a*

*and figure b.*

**Figure a. The cyclically adjusted balance**

Percent of GDP                                    Percent GDP



■ OECD method          ■ Danish method
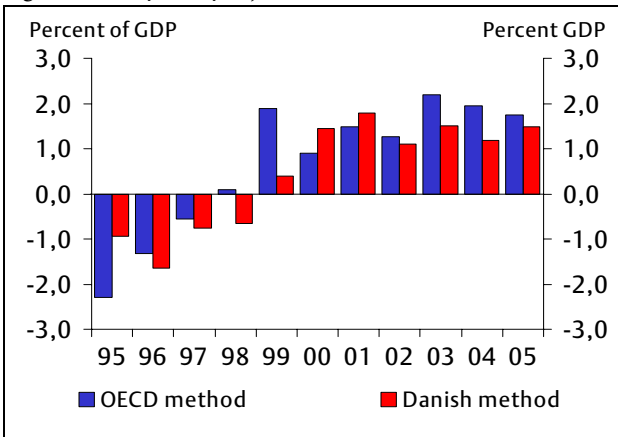
**Figure b. Change in primary cyclically adjusted balance**

Percent of GDP                                    Percent GDP



■ OECD method          ■ Danish method
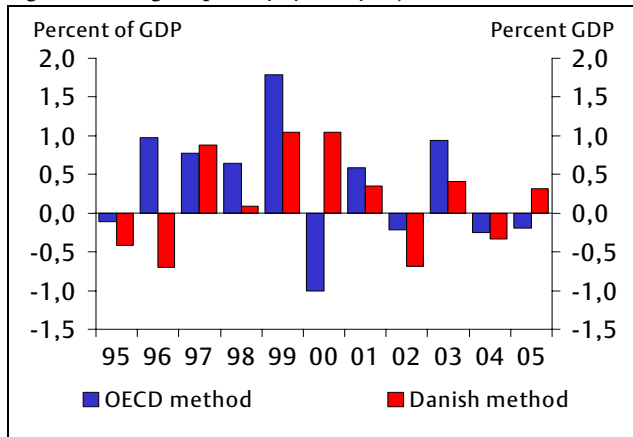
Data: Statistics Denmark and OECD Economic Outlook 75, June 2004.

The considerable differences in the estimated level and changes in the cyclically adjusted balance highlight an important element of uncertainty in fiscal policy assessment. Such differences may reflect differences in the estimate of the output gap, the budgetary elasticity and whether or not corrections are made for special items.

The estimates indicate a notable improvement of the cyclically adjusted balance since 1995. A cyclically adjusted deficit of almost 1 per cent of GDP in 1995 has been turned to a cyclically adjusted surplus of just above 1 per cent of GDP in 2004.

The annual change in the cyclically adjusted primary balance (CABP) can be broken down into the contribution from fiscal policy's direct budgetary impacts (DBI), contributions from structural developments (STR) defined as the net budgetary impact of changes in structural employment, contributions from changes in the demand composition (DCOM) where high growth in private consumption (which is subject to indirect taxes) relative to GDP improves the budget balance, and special factors (SI), including the tax implications of net pension contributions, North Sea oil and gas revenue etc., cf. below:

$$\partial CABP = DBI + STR + DCOM + SI + residual$$

The contributions are chosen so they can be considered mutually independent. The assessment of the DBI may hence form part of an overall assessment of what has been driving year-to-year changes in the cyclically adjusted balance. Although this decomposition cannot be exhaustive, it does provide a rough tool to distinguish between the respective contributions of fiscal and structural developments to developments in the overall cyclically adjusted balance, *cf. table 3.*

**Table 3. Decomposition of year-to-year changes in the primary cyclically adjusted balance for Denmark**

|  | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  | ------------------------------------------- Percent of GDP ------------------------------------------- |
| Cyclically adjusted balance................. | -0.9 | -1.6 | -0.8 | -0.7 | 0.4 | 1.4 | 1.8 | 1.1 | 1.5 | 1.2 | 1.5 |
| Net interest payments........................ | 2.7 | 2.5 | 2.4 | 2.1 | 1.9 | 1.6 | 1.3 | 1.0 | 0.8 | 0.7 | 0.5 |
| Cyclically adjusted primary balance.... | 1.8 | 0.9 | 1.6 | 1.4 | 2.3 | 3.0 | 3.1 | 2.1 | 2.3 | 1.9 | 2.0 |
| - yearly change.................................. | -0.4 | -0.9 | 0.7 | -0.2 | 0.9 | 0.7 | 0.1 | -1.0 | 0.2 | -0.4 | 0.1 |
| *Contributions to change:* |  |  |  |  |  |  |  |  |  |  |  |
| Fiscal policy (DBI)............................ | 0.1 | 0.1 | 0.8 | 0.1 | 0.5 | -0.1 | -0.2 | -0.3 | 0.0 | -0.8 | 0.3 |
| Structural developments..................... | 0.0 | -0.2 | 0.1 | 0.2 | 0.2 | 0.7 | 0.4 | -0.2 | 0.1 | 0.0 | -0.2 |
| Demand composition ........................ | -0.4 | -0.2 | -0.2 | -0.2 | -0.3 | -0.7 | -0.4 | 0.0 | 0.0 | 0.3 | 0.1 |
| Special items..................................... | 0.1 | -0.5 | -0.1 | -0.5 | 0.7 | 0.4 | 0.2 | -0.6 | 0.0 | 0.1 | 0.0 |
| Other factors .................................... | -0.2 | -0.1 | 0.1 | 0.2 | -0.2 | 0.4 | 0.1 | 0.1 | 0.1 | 0.0 | -0.1 |

Note: The contribution from fiscal policy is based on the detailed calculation of DBI.
Data: Statistics Denmark.

The contribution from structural developments (STR) is determined on the basis of known multipliers of the impact on public finances with respect to changes to the structural unemployment rate, the structural labour force and average working hours.

The structural balance improvement is related to a significant decline in the structural unemployment rate (among other things through increased emphasis on active labour market policies, stricter rules in the unemployment benefit system, etc.). Reductions in the structural unemployment rate have improved the cyclically adjusted budget balance by roughly 2 per cent of GDP from 1995 to 1999. Conversely, a decline in the effective labour supply has weakened the cyclically adjusted balance by roughly 1½ percent of GDP. In sum, structural developments have improved the cyclically adjusted balance by about ½ percent of GDP in this period. During 2000-04, structural developments have strengthened public finances by an additional 1 percent of GDP.

Fiscal policy, measured in terms of the DBI, has improved the cyclically adjusted balance by 1½ percent of GDP for the period 1995-99 as a whole, while it has weakened the underlying position by about 1½ percent of GDP through 2000-04.

The composition of demand may vary across the business cycle and from one business cycle to the next. Export-led growth benefits public finances less than domestically consumption driven growth. The composition of demand growth will be reflected in the budgetary elasticity, as explained in box 3. In years in which growth in private consumption is less than GDP growth, the average budget elasticity will be smaller.

Including the demand composition effects, the calculations show that the slower growth in private consumption relative to GDP growth during 1995-2002 contributed to a weakening of public finances by about 2 per cent of GDP during this period. As it turns out, this is a major part of the explanation of why public finances have not improved more during this period despite a very considerable reduction in the structural unemployment rate and falling net interest payments.

The improvement in the cyclically adjusted balance has helped to lower the public debt as a share of GDP. Correspondingly, and reinforced by lower interest rates, net interest payments have been declining and contribute around 2 percent of GDP to the improvement in the cyclically adjusted balance from 1995 to 2004.

## 5. Applying the method to 12 EU countries, the US and Japan

The purpose of estimating the DBI using the simplified method is to test the ability to assess discretionary fiscal policies for a number of countries. Estimating the DBI for these countries further permits decomposing the annual change in the cyclically adjusted balance (based on the OECD calculation) for these countries. Thus, from relatively simple methods, it is possible to estimate the impacts of structural developments and demand composition, *cf. table 4.*

**Table 4. Overview of contributions to the changes in the cyclically adjusted balance**

| | Detailed method for Denmark | General method for OECD countries |
|---|---|---|
| 1. Fiscal policy | A detailed calculation of DBI. | A simplified version of DBI. |
| 2. Structural developments | Estimates of the structural unemployment rate (nairu) and the structural labour force are used. In addition, the actual trends in average hours worked are used. The contribution from structural developments is determined from estimated multipliers describing the budget impact of changes in the unemployment rate, the labour force and average working hours. | The OECD estimate of the structural unemployment rate (nairu) is used. For the labour force the actual trend are used. The structural development contribution is estimated from the implicit direct and indirect tax rates, calculated for the estimation of the DBI. Due to its limited quality, international data for average working hours are not included in the analysis. |
| 3. Demand composition | The budget contribution from demand composition is determined on the basis of budget elasticities for the individual demand components. | The focus is on private consumption growth relative to GDP growth. The contribution is determined from the implicit tax rate calculated for the DBI. |
| 4. Special items | Includes trend contributions from revenues of oil and gas production, the tax value of net pension payments and the introduction of the Special Pension contribution and the reorganisation of this from a collective to an individually based scheme. | Due to incomplete information and to secure equal treatment across countries, no explicit contribution is included. |

The results reveal a considerable impact of structural developments on the developments in the cyclically adjusted primary balances, *cf. table 5a-n.* Generally, the composition of demand seems of less importance than in Denmark, which may reflect generally lower indirect taxes.

For several of the countries, the residual "other factors" is considerable. In addition to uncertainties in the determination of the DBI and the contributions from structural factors, this may be due to the fact that the estimate of the cyclically adjusted balance does not take account of special factors, and that the output gap includes a contribution from a TFP-gap, which may vary considerably in individual years owing to problems in estimating productivity. The contribution from "other factors" is also somewhat larger for Denmark, when international data are used.

**Table 5a. Austria**

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | --------------------------------------------- Percent of GDP --------------------------------------------- | | | | | | | | | | |
| Cyclically adjusted primary balance........... | -1.5 | -0.1 | 1.5 | 0.4 | 0.3 | 0.3 | 2.8 | 2.4 | 1.6 | 1.8 | 1.1 |
| - yearly change........................................... | 0.0 | 1.4 | 1.6 | -1.2 | -0.1 | 0.1 | 2.5 | -0.4 | -0.8 | 0.3 | -0.7 |
| Fiscal policy (DBI) .................................... | -0.1 | 2.6 | 2.6 | 0.0 | -0.6 | -0.3 | 2.2 | -0.4 | -2.5 | -0.2 | -1.1 |
| Structural developments............................ | 0.0 | -0.1 | 0.2 | 0.4 | 0.4 | 0.1 | 0.4 | 0.2 | 0.2 | 0.2 | 0.3 |
| Demand composition................................ | 0.0 | 0.3 | 0.1 | -0.2 | 0.0 | 0.0 | 0.1 | -0.1 | -0.1 | 0.0 | 0.0 |
| Other factors ............................................ | 0.0 | -1.3 | -1.2 | -1.4 | 0.2 | 0.3 | -0.2 | -0.1 | 1.6 | 0.3 | 0.0 |

### Table 5b. Belgium

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ------------------------------------------------ Percent of GDP ------------------------------------------------ | | | | | | | | | | |
| Cyclically adjusted primary balance........... | 5.2 | 6.1 | 6.1 | 6.9 | 5.8 | 5.3 | 6.1 | 6.1 | 6.3 | 5.4 | 4.5 |
| - yearly change....................................... | 0.2 | 0.9 | 0.1 | 0.7 | -1.0 | -0.5 | 0.7 | 0.0 | 0.2 | -0.9 | -0.9 |
| Fiscal policy (DBI) ................................... | 0.0 | 0.5 | 0.7 | 0.6 | -1.2 | -1.2 | -0.8 | -0.2 | -1.6 | 0.2 | -0.7 |
| Structural developments........................... | 0.3 | 0.1 | 0.2 | 0.7 | 0.2 | 0.1 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 |
| Demand composition................................ | 0.0 | 0.2 | -0.2 | 0.0 | -0.1 | 0.1 | 0.1 | 0.0 | 0.1 | -0.1 | -0.1 |
| Other factors ........................................... | 0.0 | 0.1 | -0.7 | -0.6 | 0.1 | 0.6 | 0.9 | 0.0 | 1.6 | -1.1 | -0.4 |

### Table 5c. Denmark (simple method using OECD data)

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ------------------------------------------------ Percent of GDP ------------------------------------------------ | | | | | | | | | | |
| Cyclically adjusted primary balance........... | 0.8 | 1.6 | 2.4 | 2.6 | 4.4 | 3.0 | 3.3 | 2.8 | 3.4 | 3.0 | 2.6 |
| - yearly change....................................... | -0.2 | 0.8 | 0.8 | 0.2 | 1.8 | -1.4 | 0.3 | -0.5 | 0.6 | -0.4 | -0.4 |
| Fiscal policy (DBI) ................................... | 0.1 | 0.0 | 0.5 | 0.6 | 1.2 | -0.1 | 0.1 | -0.4 | 0.0 | -0.8 | 0.1 |
| Structural developments........................... | 0.8 | 0.5 | 0.4 | 0.2 | 0.5 | 0.1 | 0.1 | 0.3 | 0.1 | 0.2 | 0.1 |
| Demand composition................................ | -0.2 | -0.1 | 0.0 | 0.0 | -0.2 | -0.7 | -0.2 | 0.0 | 0.1 | 0.2 | 0.0 |
| Other factors ........................................... | -0.8 | 0.3 | -0.1 | -0.6 | 0.2 | -0.7 | 0.3 | -0.4 | 0.5 | -0.1 | -0.6 |

### Table 5d. Germany

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ------------------------------------------------ Percent of GDP ------------------------------------------------ | | | | | | | | | | |
| Cyclically adjusted primary balance........... | 0.3 | 0.6 | 1.3 | 1.7 | 2.0 | 1.4 | 0.0 | -0.2 | 0.3 | 0.7 | 1.0 |
| - yearly change....................................... | -0.7 | 0.3 | 0.7 | 0.3 | 0.4 | -0.6 | -1.4 | -0.2 | 0.5 | 0.3 | 0.3 |
| Fiscal policy (DBI) ................................... | 0.0 | 1.0 | 1.3 | 0.2 | 0.1 | 0.3 | -1.5 | -0.3 | 0.6 | 0.4 | 0.5 |
| Structural developments........................... | -0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.3 | 0.2 | 0.0 | -0.1 | -0.1 | 0.1 |
| Demand composition................................ | 0.0 | 0.1 | 0.1 | 0.0 | 0.2 | 0.1 | 0.1 | -0.2 | 0.0 | -0.1 | 0.0 |
| Other factors ........................................... | -0.6 | -0.9 | -0.8 | 0.0 | -0.1 | -1.4 | -0.2 | 0.2 | 0.0 | 0.1 | -0.3 |

### Table 5e. Spain

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ------------------------------------------------ Percent of GDP ------------------------------------------------ | | | | | | | | | | |
| Cyclically adjusted primary balance........... | -0.2 | 1.7 | 2.4 | 1.6 | 2.3 | 1.6 | 2.3 | 2.6 | 2.7 | 2.6 | 2.8 |
| - yearly change....................................... | 0.1 | 1.9 | 0.8 | -0.8 | 0.7 | -0.7 | 0.6 | 0.3 | 0.2 | -0.1 | 0.2 |
| Fiscal policy (DBI) ................................... | -0.7 | 1.6 | 0.9 | -1.5 | -0.1 | -0.9 | -0.8 | -0.3 | -0.8 | -0.9 | -0.5 |
| Structural developments........................... | 0.6 | 0.6 | 0.7 | 0.6 | 0.8 | 0.9 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 |
| Demand composition................................ | -0.1 | 0.0 | -0.1 | 0.0 | 0.0 | -0.1 | -0.1 | 0.0 | -0.1 | -0.1 | 0.0 |
| Other factors ........................................... | 0.3 | -0.3 | -0.8 | 0.1 | 0.0 | -0.6 | 0.7 | -0.2 | 0.2 | 0.1 | 0.1 |

### Table 5f. Finland

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ------------------------------------------------ Percent of GDP ------------------------------------------------ | | | | | | | | | | |
| Cyclically adjusted primary balance........... | 2.3 | 2.8 | 2.8 | 4.4 | 4.5 | 7.5 | 6.2 | 5.1 | 3.2 | 2.3 | 1.8 |
| - yearly change....................................... | 0.1 | 0.5 | 0.0 | 1.6 | 0.1 | 2.9 | -1.2 | -1.2 | -1.9 | -0.9 | -0.6 |
| Fiscal policy (DBI) ................................... | 1.0 | 1.4 | 0.1 | 0.8 | -0.3 | 2.7 | -2.5 | -2.1 | -1.5 | -0.6 | 0.1 |
| Structural developments........................... | 0.0 | 0.1 | 0.2 | 0.6 | 0.9 | 0.5 | 0.4 | 0.1 | -0.1 | -0.1 | 0.3 |
| Demand composition................................ | -0.5 | 0.2 | -0.4 | -0.3 | 0.2 | -0.2 | 0.2 | 0.2 | 0.4 | 0.0 | -0.1 |
| Other factors ........................................... | -0.5 | -1.3 | 0.1 | 0.5 | -0.7 | -0.1 | 0.8 | 0.5 | -0.6 | -0.2 | -0.9 |

### Table 5g. France

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ------------------------------------------------ Percent of GDP ------------------------------------------------ | | | | | | | | | | |
| Cyclically adjusted primary balance........... | -1.4 | 0.6 | 1.6 | 1.3 | 1.6 | 1.2 | 1.0 | -0.4 | -0.6 | -0.1 | 0.2 |
| - yearly change....................................... | 0.2 | 2.0 | 1.0 | -0.3 | 0.3 | -0.5 | -0.2 | -1.4 | -0.1 | 0.4 | 0.3 |
| Fiscal policy (DBI) ................................... | -0.3 | 0.5 | 0.6 | 0.3 | 0.1 | -0.5 | -0.2 | -2.1 | -1.0 | 0.1 | 0.2 |
| Structural developments........................... | 0.1 | 0.4 | 0.3 | 0.5 | 0.5 | 0.4 | 0.3 | 0.4 | 0.2 | 0.2 | 0.1 |
| Demand composition................................ | 0.0 | 0.1 | -0.3 | 0.0 | 0.0 | -0.1 | 0.1 | 0.0 | 0.2 | -0.1 | -0.1 |
| Other factors ........................................... | 0.4 | 1.0 | 0.3 | -1.1 | -0.3 | -0.3 | -0.3 | 0.4 | 0.4 | 0.2 | 0.1 |

### Table 5h. United Kingdom

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ---------------------------------------------- Percent of GDP ---------------------------------------------- ||||||||||||
| Cyclically adjusted primary balance............ | -1.8 | -0.4 | 1.2 | 3.0 | 3.4 | 3.0 | 2.1 | 0.1 | -1.3 | -1.3 | -1.5 |
| - yearly change.................................... | 1.0 | 1.5 | 1.6 | 1.8 | 0.4 | -0.4 | -0.9 | -2.0 | -1.4 | 0.0 | -0.1 |
| Fiscal policy (DBI) .................................. | 1.0 | 0.7 | 1.6 | 1.6 | -0.4 | -0.7 | -1.8 | -2.7 | -1.6 | -0.2 | 0.0 |
| Structural developments............................ | 0.1 | 0.1 | 0.2 | 0.1 | 0.4 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 |
| Demand composition................................ | -0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | -0.2 | 0.0 | -0.1 |
| Other factors ......................................... | -0.1 | 0.5 | -0.3 | 0.0 | 0.3 | 0.0 | 0.6 | 0.3 | 0.0 | 0.0 | -0.3 |

### Table 5i. Ireland

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ---------------------------------------------- Percent of GDP ---------------------------------------------- ||||||||||||
| Cyclically adjusted primary balance............ | 2.7 | 3.7 | 3.7 | 4.5 | 2.6 | 3.3 | -0.7 | -2.2 | -0.3 | -0.6 | -0.9 |
| - yearly change.................................... | -1.6 | 0.9 | 0.1 | 0.8 | -1.9 | 0.7 | -4.0 | -1.5 | 1.9 | -0.3 | -0.3 |
| Fiscal policy (DBI) .................................. | -2.5 | -0.6 | -1.0 | -1.2 | -0.7 | -0.9 | -4.0 | -2.3 | 0.6 | -0.9 | -0.8 |
| Structural developments............................ | 0.9 | 1.2 | 0.9 | 2.1 | 1.2 | 0.8 | 0.7 | 0.5 | 0.4 | 0.4 | 0.4 |
| Demand composition................................ | -0.9 | -0.1 | -0.7 | -0.5 | -0.3 | -0.2 | -0.2 | -0.4 | 0.5 | 0.0 | -0.1 |
| Other factors ......................................... | 1.0 | 0.4 | 0.8 | 0.3 | -2.1 | 1.0 | -0.5 | 0.6 | 0.4 | 0.2 | 0.2 |

### Table 5j. Italy

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ---------------------------------------------- Percent of GDP ---------------------------------------------- ||||||||||||
| Cyclically adjusted primary balance............ | 3.7 | 4.4 | 6.5 | 5.1 | 4.7 | 3.9 | 3.1 | 3.2 | 3.1 | 2.6 | 1.8 |
| - yearly change.................................... | 1.1 | 0.7 | 2.1 | -1.4 | -0.3 | -0.8 | -0.9 | 0.2 | -0.1 | -0.5 | -0.8 |
| Fiscal policy (DBI) .................................. | 1.0 | -1.1 | 0.7 | -0.7 | -0.4 | -1.4 | -1.7 | -0.9 | -2.6 | 0.0 | -0.5 |
| Structural developments............................ | 0.0 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.3 |
| Demand composition................................ | 0.0 | -0.1 | 0.1 | 0.1 | 0.2 | 0.0 | -0.1 | 0.0 | 0.1 | 0.0 | 0.1 |
| Other factors ......................................... | 0.1 | 1.7 | 1.1 | -1.2 | -0.5 | 0.2 | 0.7 | 0.7 | 2.3 | -0.6 | -0.7 |

### Table 5k. Netherlands

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ---------------------------------------------- Percent of GDP ---------------------------------------------- ||||||||||||
| Cyclically adjusted primary balance............ | 0.4 | 2.5 | 2.6 | 2.1 | 2.4 | 2.2 | 1.0 | 0.6 | 0.6 | 1.0 | 1.0 |
| - yearly change.................................... | -0.7 | 2.1 | 0.1 | -0.5 | 0.3 | -0.2 | -1.3 | -0.4 | 0.0 | 0.4 | 0.0 |
| Fiscal policy (DBI) .................................. | -1.7 | 0.2 | 0.0 | -0.2 | 1.2 | 0.1 | -3.0 | -1.9 | -1.3 | 0.4 | -0.4 |
| Structural developments............................ | 0.7 | 0.6 | 0.8 | 0.7 | 0.6 | 0.4 | 0.6 | 0.5 | 0.2 | 0.3 | 0.4 |
| Demand composition................................ | -0.1 | 0.2 | -0.1 | 0.1 | 0.1 | -0.1 | -0.1 | 0.0 | -0.2 | -0.2 | 0.0 |
| Other factors ......................................... | 0.4 | 1.2 | -0.6 | -1.1 | -1.6 | -0.7 | 1.2 | 1.0 | 1.3 | 0.0 | 0.0 |

### Table 5l. Sweden

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ---------------------------------------------- Percent of GDP ---------------------------------------------- ||||||||||||
| Cyclically adjusted primary balance............ | -3.6 | 1.1 | 2.8 | 4.2 | 3.3 | 4.4 | 3.4 | 0.5 | 0.6 | 0.0 | 0.2 |
| - yearly change.................................... | 1.5 | 4.7 | 1.7 | 1.4 | -0.9 | 1.2 | -1.1 | -2.9 | 0.2 | -0.6 | 0.2 |
| Fiscal policy (DBI) .................................. | 2.5 | 5.2 | 3.2 | 0.8 | -0.3 | 0.1 | -3.3 | -3.4 | 0.0 | -0.7 | 0.0 |
| Structural developments............................ | 0.5 | -0.3 | -0.6 | 0.0 | 0.7 | 0.7 | 0.7 | 0.1 | 0.4 | 0.3 | 0.3 |
| Demand composition................................ | -0.6 | 0.1 | 0.1 | -0.1 | -0.1 | 0.1 | -0.1 | -0.1 | 0.1 | -0.1 | -0.1 |
| Other factors ......................................... | -1.0 | -0.3 | -0.9 | 0.7 | -1.3 | 0.2 | 1.6 | 0.4 | -0.3 | -0.1 | 0.0 |

### Table 5m. Japan

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ---------------------------------------------- Percent of GDP ---------------------------------------------- ||||||||||||
| Cyclically adjusted primary balance............ | -3.2 | -4.0 | -2.8 | -3.8 | -5.2 | -5.7 | -4.2 | -5.6 | -5.9 | -5.3 | -5.1 |
| - yearly change.................................... | -0.9 | -0.7 | 1.1 | -1.0 | -1.3 | -0.6 | 1.6 | -1.4 | -0.3 | 0.6 | 0.1 |
| Fiscal policy (DBI) .................................. | -0.3 | -0.6 | 1.2 | -1.1 | -0.2 | 0.8 | 0.5 | -2.2 | 0.3 | 0.7 | 0.3 |
| Structural developments............................ | 0.0 | 0.1 | 0.2 | 0.0 | -0.1 | -0.1 | -0.1 | -0.2 | -0.1 | -0.1 | 0.0 |
| Demand composition................................ | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | -0.1 | 0.1 | 0.1 | 0.0 | -0.1 | -0.1 |
| Other factors ......................................... | -0.7 | -0.2 | -0.2 | 0.0 | -1.1 | -1.3 | 1.1 | 1.0 | -0.5 | 0.0 | -0.1 |

**Table 5n. United States**

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | -------------------------------------------- Percent of GDP -------------------------------------------- | | | | | | | | | | |
| Cyclically adjusted primary balance........... | 0.6 | 1.3 | 2.3 | 3.2 | 3.0 | 3.7 | 2.4 | -0.9 | -2.5 | -2.8 | -1.9 |
| - yearly change................................. | 0.7 | 0.6 | 1.0 | 0.9 | -0.2 | 0.7 | -1.4 | -3.2 | -1.6 | -0.4 | 0.9 |
| Fiscal policy (DBI) ..................................... | -0.2 | 0.3 | 0.4 | 0.1 | -0.7 | -0.3 | -1.8 | -3.3 | -1.7 | -0.6 | 0.7 |
| Structural developments............................ | 0.3 | 0.4 | 0.5 | 0.3 | 0.4 | 0.7 | 0.3 | 0.2 | 0.3 | 0.2 | 0.5 |
| Demand composition................................ | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| Other factors ............................................ | 0.6 | 0.0 | 0.1 | 0.5 | 0.1 | 0.2 | 0.0 | -0.2 | -0.2 | 0.1 | -0.2 |

Data: OECD Economic Outlook 75, June 2004.
Note: Population data is taken from the OECD Labour Statistics and wage increases is taken from the BLS database.

To illustrate the difference between the estimated discretionary policies using the bottom-up and the top-down method, respectively, the calculated DBI for each country is compared to the annual change in the cyclically adjusted primary balance, *cf. figure 2*. Just as in the Danish case, there are significant differences in the results of the two approaches to measure the fiscal policy impact.

**Figure 2. DBI and change in den cyclically adjusted balance, 1995-2005**
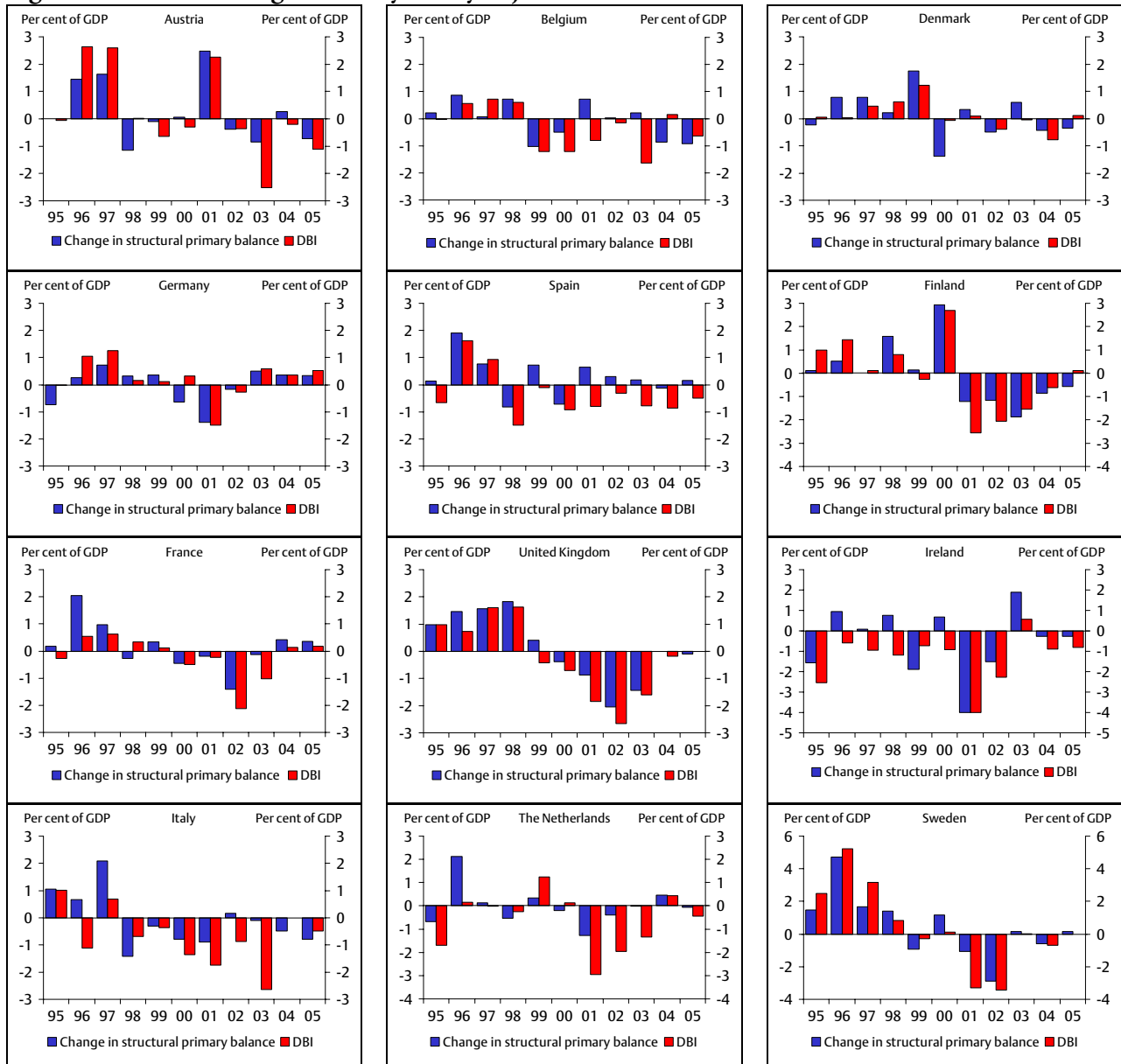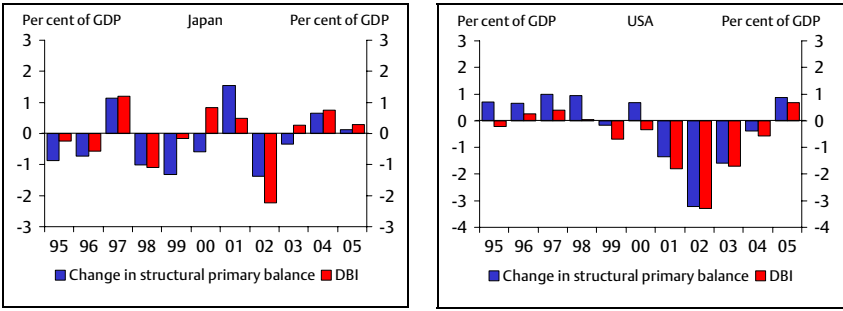
Data: OECD Economic Outlook 75, June 2004.
Note: Population data is taken from the OECD Labour Statistics and wage increases is taken from the BLS database.

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