Denmark's Convergence Programme 2007

December 2007

The Danish Government

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The publication can be ordered or collected at:
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E-mail: Schultz@schultz.dk
Website: www.schultz.dk

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Electronic Version:
Production: Schultz
ISBN: 87-7856-860-9

The publication can be downloaded at:
www.fm.dk

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1. Denmark's Convergence Programme 2007[1]

Introduction

Denmark's Convergence Programme 2007 (CP2007) is based on the so-called 2015-plan published in august 2007, *cf. Towards new goals – Denmark 2015*. The 2015-plan replaces the 2010-plan, which with subsequent updates has formed the basis for fiscal policy since its presentation in January 2001. The latest update of the 2010-projection was released in Denmark's Convergence Programme 2006 (CP2006).

The 2015-plan, and consequently CP2007, is based on the short-term economic forecasts presented in *Economic Survey, August 2007*, which incorporate the August budget proposal for 2008 and the agreements reached in June regarding the local government finances for 2008. In light of the parliamentary elections held on November 13th, fiscal policy for 2008 is not yet finalized. A new budget proposal and short-term forecast is expected to be released around 1. February 2008.

On 23. October, the Danish Parliament (Folketinget) passed key elements in the agreement *Lower tax on labour* reached in September. The agreement deviates from the original tax proposals in the 2015-plan on certain points, and the agreement is incorporated in CP2007.

On 22. November, the Danish government announced the new coalition agreement *Society of Opportunities, VK Government III*. The government platform emphasizes that the 2015-plan sets the overall framework for fiscal policies towards 2015.

The government platform and the 2015-plan point to a continuation of the reform strategy of recent years. Since 2001, retirement systems, education, research, labour market policies and the structure of the public sector have been reformed. The strategy presented in the government platform focuses, in particular, on a tax reform, further labour market reforms, higher public service quality, as well as ambitious goals in the areas of climate and energy policies.

Sustainable and sound economic policies for the longer-term

In the 2015-plan, the two pivotal objectives for fiscal policy are long-term sustainability and continued structural surpluses up until 2015.

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[1] The Convergence Programme is prepared in accordance with the Stability and Growth Pact (Council Regulation (EU) No. 1466/97 as amended by Council Regulation No. 1055/2005 and Council Regulation (EU) No. 1467/97 as amended by Council Regulation No. 1056/2005) and the "Specifications on the implementation of the Stability and Growth Pact and Guidelines on the format and content of Stability and Convergence Programmes" (the "Code of Conduct"). According to the regulations, euro-area member states are required to prepare stability programmes, whereas the other countries are required to prepare convergence programmes. The Council issues an opinion on each national programme based on a recommendation from the Commission and discussions in the Economic and Financial Committee (EFC). The convergence programme and the Council's opinion are transmitted to the Danish parliament.

The emphasis on fiscal sustainability guards the focus on longer-term challenges for public finances, including increased expenditures for health, long-term care and pensions due to a growing number of elderly citizens, as well as declining revenues from the North Sea. The aim is that the expenditure, tax and structural policies planned up until 2015 should be sustainable over the long run – given the projection principles and assumptions applied – without the need arising for adjustments in taxation or other instruments to ensure a stable long-run debt-to-GDP path. In this vein, the calculation of fiscal sustainability may be seen as a verification of whether the planned economic policies are consistent over the long run.

The objective of continued structural surpluses or at least a balance towards 2015 is a requirement in its own right and consistent with the sustainability requirement. The objective is in line with the required medium-term balance in Denmark under the European Stability and Growth Pact.

The 2015-plan also sets out the broad priorities regarding expenditure and tax policies as well as structural policy requirements concerning employment and working hours towards 2015. The structural requirements ensure that the planned fiscal policies are precisely sustainable given the assumptions underlying the 2015-projection. Meeting the employment and working-time requirements will help to strengthen the (relatively modest) medium-term growth potential.

With the 2015-plan and the Welfare Agreement of 2006, the fiscal strategy to cope with future challenges is based on a combination of pre-savings and ongoing structural adjustments.

The savings element is reflected in the objective to keep the structural balance between ¾ and 1¾ per cent of GDP towards 2010 and in surplus, or at least balance, from 2011 and 2015.

The element of ongoing adjustment in the strategy primarily reflects the retirement reform in the Welfare Agreement, which, in particular, ties the age limits for the early retirement and public pension schemes to the life expectancy for 60-year olds.

In this vein, adjusting the age thresholds in the retirement system handles the (permanent) fiscal challenge from rising longevity. Temporarily favorable conditions in these years – as reflected in high revenues from the North Sea and relatively large numbers of 15-64-year olds compared to those aged 65 or more – are utilized for further debt reduction. Debt reduction creates scope to finance potentially higher expenditures during prospective periods when the generations in retirement are relatively large.

The pace of debt reduction has been particularly high during the economic upswing of recent years and because of unusually high revenues from the North Sea activities and corporate taxes. In 2006, the budget surplus was a record-high 4.7% of GDP.

Also in 2007 and 2008 the anticipated surpluses are larger than might be expected under normal circumstances.

The projected structural balance in CP2007 is within the target interval (MTO) in the 2015-plan for surpluses of between ¾ and 1¾ per cent of GDP towards 2010 and surplus or balance from 2011 to 2015.

Continued debt reduction through budget surpluses is important in regard to long-term fiscal policy challenges, but also in regard to the current cyclical situation.

The Danish economy is currently at a cyclical peak with very high levels of employment and economic activity. Unemployment has declined by more than 100,000 persons since late 2003, and the unemployment rate was 3 pct of the labor force in October. This is the lowest level of unemployment in Denmark in more than 30 years and low by international standards.

The upswing has been prolonged by a strong increase in labor supply, both as a result of longer average hours worked and higher employment rates among young people and immigrant groups. In addition, immigration of foreign workers and commuters from Sweden and Germany has increased significantly.

Unemployment is currently below the estimated structural level, and labor shortages are pronounced in both the public and private sectors. Labor market pressure has led to rising wage increases in the private sector, and wage increases are higher than abroad. Reinforced also by the weaker US dollar, wage competitiveness is deteriorating, although to some extent the loss of competitiveness may be dampened by rising wage increases also abroad. It is common during an economic expansion that acceleration in wage increases occurs at a relatively late stage in the cycle.

Collective bargaining agreements in the public sector are up for renewal in the spring of 2008. CP2007 assumes public sector wage increases in line with wages in the private sector. By this token, it is assumed that the wage negotiations in the public sphere do not contribute – through spill-overs to private-sector wages – to a further weakening of wage-competitiveness, which could potentially lead to a protracted period of higher unemployment.

In the August *Economic Survey,* the expectation was for a dampening of domestic demand, notably as a consequence of higher interest rates and a considerable dampening in house price inflation. This may contribute to a soft landing, in which the current shortage of labor gradually eases. In addition, the government has presented a job-plan, which is intended to increase labor supply also in the short run. Conversely, the 2008 fiscal stance incorporated in the August survey implies a fiscal effect (impact on GDP growth) of 0.3 percent in 2008, which off-sets part of the growth-dampening impact of higher interest rates. The recent turmoil in financial markets may cause interest rates to be lower than expected in August, which may heighten the risk that the necessary cooling of economic growth does not take place. The government has announced that the revised budget proposal for 2008 will not add more to demand than the proposal from August.

CP2007 should be seen in tandem with *Denmark's national reform program, October, 2007*. The reform program presents the Danish government's strategy for structural reforms, whilst the convergence program primarily focuses on the development in public finances and the macroeconomic developments – including the effect of structural reforms on the sustainability of public finances.

The fiscal policy strategy and objectives on the road to 2015 are covered in *chapter 2*. The short and medium-term projections for the Danish economy are presented in *chapter 3*. Public finances until 2015 are described in *chapter 4*, which also covers institutional framework issues and the quality of the public spending. The long-term sustainability of public finances is described in *chapter 5*.

Changes since last year's Convergence Programme and sensitivity analyses, including in relation to the common external assumptions based on the EU Autumn forecasts, are contained in *Appendices 1 and 2*.

2. Policy framework and objectives through 2015

2.1 Introduction

The *Convergence Programme for Denmark 2007* (CP2007) is based on the so-called 2015-plan, which sets out key objectives for economic policies towards 2015. Hence, in the fiscal area, CP2007 incorporates the broad policy objectives and priorities that have been decided politically for the period up to 2015.

The basis for the assessment of fiscal sustainability – and hence the determination of the medium-term budgetary objectives (MTO) – is a long-term projection, which incorporates demographic changes, a gradual decline in revenues from oil and gas extraction in the North sea and other factors that may affect public finances over time. As explained in chapter 5, the long-term projection is based on neutral technical assumptions plus assumptions about the effects of the 2006 Welfare Agreement and certain other agreed polices that extend beyond 2015.

2.2 Objectives for economic policy

The policies set out in the 2015-plan generally aim at maintaining high and stable employment, good framework conditions for growth and sustainable developments in public finances[1]:

- *Fiscal, tax and expenditure policies*: Focus on stability, sustainable developments in public finances and structural surpluses towards 2015 in accordance with the 2015-plan. In the plan, tax policies include, among other things, a continuation of the tax freeze and the agreed reduction in income taxation in 2008 and 2009. Public consumption spending can amount to up to 26½ percent of (cyclically-adjusted) GDP in 2015 – compared to around 26 percent of cyclically-adjusted GDP in 2007. In real terms, public consumption spending is assumed to grow by, on average, 1 percent per year in the period from 2007 to 2015. The 2015-plan includes a "*Quality fund*" of 50 billion DKR. for public investments in hospitals, schools, day care facilities etc. over the next decade. The 50 billion DKR constitute an increase in public investment measured in real terms compared to the 2008-level, accumulated over 10 years.

- *Structural and labour market policies:* The 2015-plan includes new structural policy requirements concerning employment and working hours to ensure fiscal sustainability as well as structural surplus or balance through 2015 (given the planned tax and expenditure policies). Hence, new initiatives are required to strengthen ordinary non-subsidized employment by 20,000 persons (about 0.7 per cent) towards 2015, and to maintain average working hours at least around their current level – even though demographic and other factors may weigh

[1] The objectives for individual policy areas are outlined in more detail in the following sections.

on average hours worked per employee. Furthermore, it is a key condition that already decided reforms yield the employment gains that have been assumed. This applies, in particular, to the labour market initiatives in the 2006 Welfare Agreement which include bringing activation forward to take place after 9 months of unemployment and intensified activation requirements after 2½ years of unemployment as well as a range of other measures. In addition, the initiatives in the 2006 Welfare Agreement concerning education, research and innovation may contribute to long-term potential growth. Higher productivity should also be strengthened by increased competition and a reduction in administrative burdens.

- *Monetary and exchange rate policy:* Continued stable exchange rate and inflation developments reflecting the fixed exchange rate against the euro.

In 2006, Denmark continued to fulfil the convergence criteria with respect to exchange rate stability, inflation, interest rates and public finances, *cf. table 2.1*.

Table 2.1
Convergence criteria in 2006

	Consumer price inflation (HICP) 1)	Government bond yields (10 year) 1)	General government budget balance (EDP-form) 2) 3)	General government debt (EMU-debt) 2) 3)
	Per cent	Per cent	Per cent of GDP	
Denmark	1.5	4.2	4.6	30.3
EU25	2.2	4.5	-1.6	61.4
Euro area	1.9	4.2	-1.5	68.6
Convergence criteria	2.6	6.4	-3.0	60.0

Note: As part of the convergence criteria, a member country shall have participated in the ERM II for at least two years without serious tensions or devaluations. Denmark fulfils this criterion.
1) Data up until October 2007. The inflation rate is calculated as the percentage change in the latest available 12-month average HICP-index relative to the average HICP-index in the preceding 12 months. The interest rate is calculated as the average yield during the last 12 months.
2) Data for 2006.
3) The criterion regarding sound public finances is formally based on whether a member country is subject to a Council decision regarding an excessive deficit according to the Treaty's article 104(6),
Source: Eurostat and EU Commission spring forecast, 2007 and own calculations.

The general government surplus equalled 4.6 per cent of GDP in 2006 according to the October reporting under the Excessive Deficit Procedure (EDP). In "*Economic Survey, august 2007*", the public surplus equalled 4.7 per cent of GDP in 2006 based on national accounts principles. Hence, the difference between these two specifications of the fiscal balance is marginal.[2]

[2] The treatment of swap interest rates pulls in the direction of a higher public surplus based on EDP principles (by about 0.1 per cent of GDP in 2006) while, on the other hand, the treatment of capital expenditures for certain public corporations pulls in the opposite direction (by close to 0.1 per cent of GDP).

On November 5th 2007, Statistics Denmark released revised data for public finances on national account principles. In the new data, the 2006 public surplus has been revised up from 76.5 billion DKR (4.7 per cent of GDP) to 79.9 billion DKR (4.9 per cent of GDP). The revision primarily reflects higher revenue from company taxation and the 8 percent labour market contribution, while lower revenue from personal and pension yield taxation together with higher public consumption expenditures pull in the opposite direction. The revised data for public finances will be incorporated in the forthcoming short-term forecast to be published around February 1st, 2008.

The sizeable fiscal surplus in 2006 should be seen in the light of favourable cyclical conditions and unusually large revenues from corporate taxes as well as oil and gas activities in the North Sea.[3]

2.3 Fiscal policy

Fiscal policy is guided by two basic objectives in the 2015-plan:

- Fiscal sustainability. This implies that the policies that are planned towards 2015 as concerns public expenditure, taxation and structural policies can be sustained thereafter without fiscal adjustment becoming necessary to ensure a stable net debt-to-GDP ratio in the longer term, given the assumptions underlying the projections.

- Structural budget surpluses in every year towards 2015. The requirement of fiscal surpluses, or at least balance, is an objective in its own right alongside (and in accordance with) the requirement of fiscal sustainability. In part, the objective should be seen in light of the Stability and Growth Pact requirements concerning the medium-term balance for Denmark.

Medium-term objective for public finances

The 2015-plan lays down the medium-term objectives for the structural budget balance. These targets encompass the projected path for the fiscal balance which, given the methods and assumptions adopted in the long-term projection implies a sustainable fiscal policy.

In the years towards 2010, structural surpluses between ¾ and 1¾ per cent of GDP are required. The operational target for public surpluses towards 2010 is essentially unchanged compared to CP2006.[4] The operational target is specified as a range due

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[3] The structural budget balance, which corrects the actual balance for cyclical effects and other temporary factors, should be seen as an expression of the underlying state of public finances, and is estimated at 2.4 per cent of GDP in 2006 (corresponding to 2.2 per cent of GDP corrected for the suspension of SP).

[4] Here, the operational targets for the structural balance are (in contrast with CP2006) specified given continued suspension of SP contributions. A reintroduction of the SP at 1 per cent would change the operational target to structural public surpluses of between ½ - 1½ percent of GDP. A reintroduction of SP contributions would in the short- and medium-term weaken public finances by app. ¼ per cent of GDP, as the SP contributions are deductible in in-

to the uncertainties associated with the assessment of the long-term challenges and the structural balance.

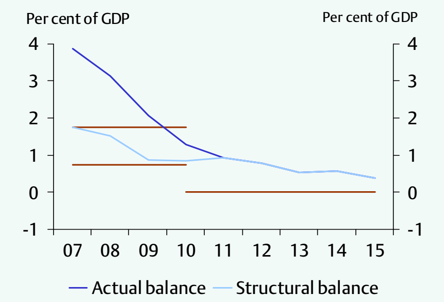
Between 2011 and 2015, the medium-term objective calls for structural surpluses or at least balance.

Complying with the medium-term objective for the structural balance is the primary operational target for fiscal policy. If the structural surplus is visibly below the lower bound of the target range, this would signal a need to adjust fiscal policy or economic policies more broadly.

In 2007, the actual surplus is a good deal higher then the estimated structural surplus, *cf. figure 2.1a*. The difference between structural and actual surplus reflects transitory contributions to public finances. This is mainly a result of favourable business cycle conditions with low unemployment and high employment, *cf. chapter 4*. Exceptionally high revenues from corporate taxation and the North Sea activities – as a result of high oil prices and a relatively large production of oil and gas – also contribute positively to the fiscal balance in 2007.

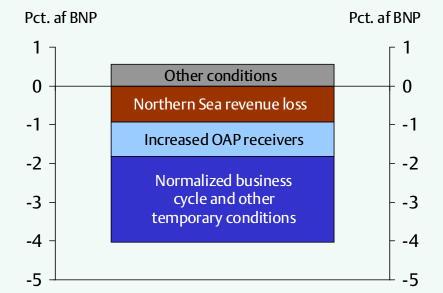
Figur 2.1a

Target interval for the structural balance and projected fiscal balances



Figur 2.1b

Contributions to changes in the public budget balance, 2007 – 2015



Note.: In figure 2.1b, the contribution to changes in the public budget balance between 2007 to 2015 from increased numbers of old-age pensioners is shown net of tax and changes in means-tested benefits.
Source: Economic Survey, august 2007 and the 2015-plan.

Towards 2011, it is assumed that the business cycle will gradually normalize and that other transitory contributions to the actual balance gradually wane. As of 2011, the structural and actual balances coincide, as transitory factors are assumed neutral.

Slightly more than half of the reduction in the actual surplus from 2007 to 2015 reflects the assumed normalization of the business cycle and other temporary factors towards 2011. In addition, the reduction in the projected surplus reflects declining

come taxation. On the other hand, public finances are strengthened in the long-term, as larger pension wealth is accumulated and taxed when paid out. Hence the SP scheme is roughly neutral with respect to fiscal sustainability.

North Sea production and growing expenditures for public old-age pension as the number of retirees increases, *cf. figure 2.1b*. Developments in revenues and expenditures up to and after 2015 are outlined in chapters 4 and 5, respectively.

The operational target for structural surpluses of between ¾ and 1¾ per cent of GDP towards 2010 and at least balance towards 2015 is in accordance with the EU Stability and Growth Pact. In general, the Stability and Growth Pact requires medium-term objectives between -1 per cent of GDP and "balance or surplus," and furthermore requires a safety margin, so that countries do not exceed the 3 per cent of GDP limit for budget deficits in case of "normal" cyclical downturns.

The requirement of a safety margin currently implies that Denmark (as a minimum) should target a medium-term budget position in balance or a deficit of, at most, ½ per cent of GDP. To ensure that automatic stabilizers can play fully and hence contribute to dampen cyclical fluctuations in activity, it is necessary to plan for a considerable margin with respect to the 3 per cent limit, as public finances in Denmark are particularly sensitive to cyclical fluctuations.

The targets for the structural budget balance fulfil the EU minimum requirements with some margin and should be seen in light of the fiscal sustainability objective. The strategy requires prudence in fiscal policy and adequate public surpluses in good times with low unemployment. Over time, this is a precondition for having the necessary room for manoeuvre to aid the economy in case of severe downturns with clear imbalances. Economic policies shall support the fixed exchange rate policy with a focus on economic stability and continued low inflation.

Combination of saving and adjustment strategies

With the 2006 Welfare Agreement and the 2015-plan, the long-term strategy relies on a combination of public savings and ongoing structural adjustment/reform to cope with the future challenges for public finances – challenges that are associated notably with a rising share of older citizens and shrinking revenues from North Sea activities.

The pre-savings element lies in the aim of maintaining structural surpluses towards 2015 and hence continuing debt reduction.[5] In particular, the objectives for public saving reflect relatively high (structural) North Sea revenues in these years and a still relatively high proportion of the population in the age groups that are most active in the labour market. Currently, the structural North Sea revenue constitutes app. 1½ per cent of GDP, which is assumed to shrink to 0.8 per cent of GDP in 2015. The objective for structural budget surpluses therefore ensures that the currently high

[5] In effect, public savings are currently app. 1 per cent of GDP higher than indicated by the budget surplus. The set of rules concerning tax deductibility for contributions to pension schemes and taxation at the time of disbursement in effect defers tax payments, and by the same token implies a (technical) weakening of public finances of app. 1.1 per cent of GDP in 2006. The budget surplus would thus have been similarly higher had taxation taken place at the time when contributions are made rather than at the time when disbursements are paid out.

North Sea revenues contribute to reducing public debt, thus benefiting also future generations.

The public saving also reflects that the large generations born during and immediately after World War 2 (reaching the public pension age between 2005 and 2015), are still partly active in the labour market. Historical differences in birth numbers tend in themselves to lead to an increase in the ratio of older citizens relative to those of working-age – an effect which peaks around 2030-40. The debt reduction towards 2015 helps to allow for unchanged service standards and taxation in the years when the generations in the most active age groups are relatively smallest, while ensuring stable debt-to-GDP over the long run.

The adjustment/structural reform element primarily concerns the retirement reforms in the 2006 Welfare Agreement, which address the challenges associated with increased longevity. Indexation of the age thresholds for the voluntarily early retirement pension (VERP) and the old age pension (OAP) with longevity is estimated to avert about 4/5 of the increase in public net obligations that may be associated with higher remaining life expectancy of 60 year olds as of today. To this should be added the increase in the age thresholds for VERP and OAP by 2 years before the indexation mechanism takes effect. As of 2025, when the indexation of VERP and OAP age thresholds has effect, the fiscal balance in per cent of GDP is essentially robust with respect to further growth in the remaining life expectancy of 60 year olds.

The retirement reform ensures markedly higher employment and prosperity (GDP per capita) than a strategy which sought to handle the future challenges for public finances solely through higher taxation or lower expenditures.

Overall, therefore, the adjustment of retirement age thresholds aims to address the (permanent) challenge linked to growing longevity. Meanwhile, the favourable conditions in these years in the shape of relatively high revenues from North Sea activities and comparatively large numbers of people aged between 15 and 64 years relative to those aged 65 years or more, are exploited to reduce public debt further, thereby making it possible to help finance possible additional expenditures when the number of pensioners is relatively high.

Priorities, requirements and sustainability in the 2015-plan

With the combination of savings and adjustment, including the structural policy requirements concerning employment and working hours, the fiscal sustainability objective is met in the 2015-plan. Table 2.2 illustrates the consequences of changed assumptions and policy priorities since CP 2006. In CP2006, fiscal policy – given the policy priorities included at that time up to 2010 and incorporating the 2006 Welfare

Agreement – was approximately sustainable (as the sustainability indicator was calculated at -0.2 per cent of GDP)[6], *cf. table 2.2 (first row)*

Table 2.2
Sustainability indicator

	Pct. of GDP
1. Convergence programme for Denmark 2006	**-0,2**
- Higher structural primary budget surplus in 2006	0,4
- Lower debt and interest payments	0,1
- Labour market contribution under previous rules	-0,2
- Methodological revisions	-0,1
2. Revised 2010-projection	**0,0**
3. Priorities	
- Quality fund for public investments	-0,1
- Public consumption (2007-2015)	-0,1
- Tax freeze to 2015 [1)]	-0,3
- Net effect of tax agreement	0,0
- Energy strategy	-0,3
4. Requirements	
- Increase in employment by 20,000 persons	0,3
- Unchanged working hours towards 2015	0,5
5. Convergence programme for Denmark 2007 (2+3+4)	**0,0**

1) Without indexation of energy taxes.
Source: DS (ADAM) data and own estimates.

The various updates of the short-term economic outlook released since CP2006 point to higher public surpluses, lower net debt and higher structural employment than in CP2006. Together with a revision of the methods and assumptions underlying the medium- and long-term projections, which marginally reduces the fiscal sustainability indicator, and with the incorporation of the rules governing the labour market contribution that were in force at the time of the presentation of the budget proposal for 2008 in August, the improved starting point in 2006 means that fiscal policy was sustainable before including the new fiscal priorities and requirements in the 2015-plan.

The new priorities in the fields of tax and expenditure policies towards 2015 tend in themselves to weaken fiscal sustainability, *cf. table 2.2 (third row)*.[7] Meanwhile, as previously stated, the 2015-plan incorporates new structural policy requirements con-

[6] The sustainability indicator shows the hypothetical fiscal adjustment needed as of today to ensure the financing of future increases in public net obligations, including the interest burden on existing net debt. Hence, the sustainability indicator is a measure of whether the public sector can address its future commitments over the long run.
[7] This assessment includes the objectives in the energy and climate areas, which affect both spending and tax revenues, *cf. appendix 1*.

cerning employment and working hours which ensure that the objectives of fiscal sustainability and structural balance to 2015 are met, *cf. table 2.2 (fourth and fifth row).*

The new priorities concerning taxes and expenditures and the requirements for structural policies are described in more detail below, while appendix 1 describes the impact on fiscal sustainability of the individual elements.

2.4 Tax policy

Between 2001 and 2007 the overall tax burden has been reduced by app. 30 bill. DKR (some 2 per cent of GDP), including estimated effects of the tax freeze and the reduction in labour income taxation as of 2004.[8]

The key tax policy priorities in the 2015-plan are:

- The tax freeze is maintained. Excise duties on energy are price-indexed as of 2008 to support objectives in the field of energy and climate policies. The automatic adjustment scheme for the labour market contribution is abolished and the contribution rate is maintained at 8 percent of gross wages. The resulting revenue (see below) is used in accordance with the tax freeze to reduce other taxes, notably on labour income. Income taxation is reduced by 9½ bill. DKR to be phased in by app. 4.2 bill. DKR in 2008 and the remaining 5.3 bill. DKR in 2009.

Since November 2001, the tax freeze has been the cornerstone of tax policies. With the 2015-plan, the tax freeze (which in the 2010 projection had been factored in until 2010) is incorporated to 2015.

The tax freeze implies that no tax or excise duty can be increased, whether it is fixed in per cent or as a nominal amount. Furthermore, a nominal ceiling is imposed on the property value taxation. Due to the nominal principle applied for excise duties and property value taxation, the tax freeze in itself contributes to a gradual reduction in the tax burden.

An agreement has been reached to reduce income taxation in 2008 and 2009 by a total of 9½ billion DKR. The in-work tax allowance is raised from 2½ to 4¼ percent and the maximum allowance is raised to 13,100 DKR. In addition, the income bracket for the 6 percent middle tax is raised by 60,000 DKR to 365,000 DKR (before labour market contributions), which lowers the marginal tax rate for a substantial number of income earners.

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[8] The reduction in taxation by app. 30 billion DKR does not include the effects of altered taxation of the activities in the North Sea related to the prolongation of DUC concessions, which since 2004 has led to higher revenues from oil and gas production in the North Sea.

In part, the tax reduction takes the place of the cut in the labour market contribution from 8 to 7½ per cent, which would otherwise have followed under former rules given the projected surplus in the Labour Market Fund. Among other things, fixing the labour market contribution rate at 8 per cent shall prevent pro-cyclical changes in the contribution rate. The adjustment of income benefits that would have resulted under the former rules, if the labour market contribution had been reduced from 8 to 7.5 per cent, is upheld. This implies an increase in income benefits of 0.6 per cent.

Furthermore, energy duties are price-indexed using the medium-term inflation rate of 1.8 per cent, so that energy duties are not eroded in real terms from 2008 onwards. In accordance with the tax freeze, the revenue from indexation is used for lowering income taxes. Indexation of energy duties supports the objectives in the energy and climate strategies.

The total tax reduction is estimated to increase labour supply by some 8,000 full-time equivalents, primarily through an expected positive contribution to hours worked as the marginal tax rate is reduced for a significant share of income earners. These estimates include the effects of the increase in the personal allowence by 1,000 DKR, and the increase in income benefits by 0.6 per cent.

The tax agreement further implies that the number of people paying middle- and top-bracket tax is not allowed to increase relative to 2007.[9] In 2009 changes to the income threshold(s) for the middle and top-tax brackets will be decided for 2010, if the number of persons paying top-bracket tax has increased between 2007 and 2008. Moreover, in 2009, decisions on subsequent adjustment will be made with a view to prevent an increase in the number of persons paying top-bracket tax compared to 2007.

[9] The number of persons paying top-bracket tax has grown by 40,000 between 2003 and 2005, and may have increased further by 2007. This development is partly a result of favourable business cycle conditions.

Box 2.1

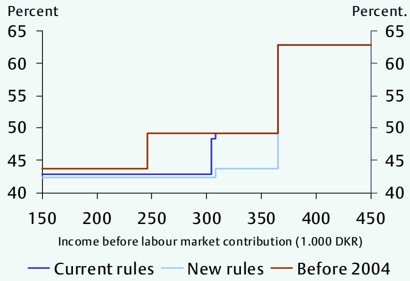
Fewer pay middle-bracket income tax after income tax reliefs

The 2007 Tax agreement implies that the limit for paying middle-bracket tax is raised by app. 60,000 DKR. to a new limit of 365,000 DKR. (before labour market contribution), meaning that the threshold for the middle- and top-bracket tax are the same.

This means that 575,000 persons will no longer pay middle-bracket tax. The marginal tax rate for this group is reduced by 5.5 per cent, which mainly covers persons with middle incomes.

Figure a

Marginal tax after tax reliefs



The tax reduction is a continuation of the 2004 spring package, where the in-work tax credit was introduced, and the limit for middle-bracket tax was raised, *cf. figure a*. The two tax agreements imply that app. 1¼ million persons no longer pay middle-bracket tax.

The new government platform of November 2007 sets out the government's intention to reform the Danish tax system. The aim is a notable reduction in labour income taxation, including lower marginal tax rates. The tax reform shall also support the government's ambitions in the energy and climate areas. The reform should be balanced with respect to income distribution, in agreement with the framework of the 2015-plan and robust with respect to developments in a more integrated world economy. A Tax Commission consisting of independent experts is set up to work out models for tax reforms that comply with the criteria mentioned. The Commission shall present its proposals by early 2009. The tax freeze is upheld unchanged before and after the tax reform.

2.5 Expenditure policy

The key targets for public spending in the 2015-plan are:

- Real growth in public consumption of 1¾ per cent in 2008, 1 per cent per year during 2009-2012 (where 2012 is the final year covered by the agreement on the globalization fund) and ¾ per cent per year during 2013-2015. Spending under these limits include initiatives in the quality reform, including the agreement between public employees and employers, and the globalisation effort. Furthermore, these limits contain scope for new priorities. In the annual budgets and agreements with municipalities and regions real growth in public consumption remains the key variable.

- The scope for reallocating resources within the expenditure limits is particularly good in these years, notably in light of the recent reform of municipalities. One goal is to free up resources to improve services directed at citizens within municipalities and regions corresponding to 1 billion DKR per year during 2009-2013, totalling 5 billion DKR in permanent effect through a more effective administration etc. In 2008, a plan will be presented on how to realize these objectives.

- Public consumption spending can grow in line with or slightly more than the economy at large. Consumption spending may equal 26½ per cent of GDP (cyclically adjusted) in 2015 – compared to 26 per cent of cyclically adjusted GDP in 2007. Among other things, the expenditure guideline can be viewed in light of increasing demographic demand for public services, especially due to higher numbers of older persons.

- A Quality Fund of 50 billion DKR for public investments in health care, public schools and day care etc. over the next 10 years. These 50 billion DKR constitutes an increase in public investments in real terms compared to 2008 level, accumulated over 10 years. Half of this increase comes on top of the estimated growth that would be implied by a fixed public investment-to-GDP ratio from 2008 and onwards. The public investment-to-GDP ratio is thus 0.15 per cent of GDP higher during 2009-18 than in 2008.

For fiscal sustainability, what matters is the development in nominal expenditures relative to the tax base.

In 2015 nominal public consumption spending can amount up to 26½ per cent of (cyclically adjusted) nominal GDP. This is a medium-term reference point for public service expenditures.

If public consumption spending exceeds 26½ per cent of (cyclically adjusted) GDP, there is a commitment to reconsider fiscal priorities with a view to bring back public expenditures to a level consistent with the assumed level at the end of the planning horizon in 2015.

In the 2015-plan real public consumption grows by 1 per cent on average during 2007-2015. The average real growth in public consumption from 2006 to 2015 is marginally higher than assumed in CP2006.

The real growth in public consumption is a measure of additional economic resources allocated for the public sector. This is the natural starting point for discussing priorities in the ongoing work with expenditure policy – including budget proposals and the annual budget agreements with municipalities and regions.

With relatively high growth in public consumption, continuation of the tax freeze and the prospect of near balance in the public budget by 2015, it is especially important that the spending limit be adhered to.

The November 2007 government program states that the framework for negotiating budgets with municipalities shall be discussed with Local Government Denmark (LGD), and in extension of these discussions, proposals will be presented for a new budget cooperation ensuring that budgets for municipalities in the aggregate are consistent with the tax freeze and agreements with the central government.

In addition to increased resources, ongoing improvements of efficiency and productivity within the public sector can contribute to improve public services. In recent years, several reforms have been carried out with a view to create a more efficient public sector focused on delivering good services. Among other things, this includes the reform of the structure of municipalities and the allocation of tasks between different administrative levels, which has been in force since January 1, 2007. The reform of municipalities currently provides good opportunities for freeing up resources for services directly aimed at citizens through reprioritisation within the expenditure limit. As mentioned, one ambition is to release resource for additional services in municipalities and regions equalling app. 1 billion DKR per year during 2009-2013 through improved efficiency in administration etc. *"Budgetredegørelse 2007"* describes various other means to free up resources for services and other core assignments, including through reduced sickness absence, becoming better to retain public employees and securing an attractive working environment, making better use of the public sector work force and improved efficiency in purchasing practises of municipalities and regions.

Furthermore, a strategy to ensure high quality in public services has been presented *cf. "Better Welfare and More Attractive Jobs."*[10] The proposal for quality reform should contribute to the new municipality structure resulting in better public services. The 2008 budget proposal from August includes an allocation of 10 billion DKR over 4 years to ensure an attractive working environment in the public sector, more lifelong learning and education for public employees and improved management in the public sector, *cf. box 2.2*.

Furthermore, the 2015-plan includes means to establish a *Quality fund for public investments* of 50 billion DKR. This allocates resources to invest in hospitals, schools, day care facilities etc. over the next 10 years. The investments in modern hospitals and labour saving technology should also facilitate improved work organization and better staff use. The public investment-to-GDP ratio is almost 0.15 percent of GDP higher during 2009-2018 than in 2008 and app. 0.1 percent of GDP higher compared to the average during 1993-2007.

[10] *"Better Welfare and More Attractive Jobs"* (Only available in Danish.)

Box 2.2

The government's proposal for a quality reform

The purpose of the government's proposal for a quality reform is to heighten the quality of the services directly provided by the public sector for citizens. This should help to accommodate increasing expectations and demand for public services in a situation where demographic development and high tax level sets limits for the growth in public employment.

The government's proposal involves a total of 180 specific initiatives and the spending allocation totals 10 billion DKR over the next 4 years.

The government's proposal can be summed up under five headlines:

- *Users at the centre:* The users of public service should be informed about their rights, and the legislation shall contain clearly defined objectives. Persons with life threatening cancer should receive clear information, examination and treatment right away. Closure days in day care institutions on ordinary week shall be abolished. The users should have access to fixed contact persons, who can provide guidance, for instance in old care or regarding long-term hospital stay.
- *Attractive work environment and good management:* An agreement between public employers and employees has been reached to ensure improved framework conditions for public sector workers and managers. The possibility for public employees to improve their skills will be strengthened by increasing means to supplementary education and upgrading skills. The management of the public sector shall be strengthened and managers of public institutions shall be granted right to a qualified management training
- *Innovation, local governing and streamlined administration:* User satisfaction and standards of actual quality should be measured among other tings for residential homes for older people, day care facilities and hospital departments to support the ongoing work to develop increased professionalism in services. Employees and managers should have more freedom in solving assignments, and local governing should be strengthened. Administrative procedures should be streamlined in local service areas, simplifying tasks, documentation requirements and work organization.
- *Improved nursing and caring*: Increasing the education capacity and vocational training to educate more workers in long-term care among others. Better opportunities for part time employed to work full time or to work more hours. Resources to efficiently retain older employees in employment.
- *The quality fund for public investments*: A quality fund for public investments allocates 50 billion DKR (accumulated over 10 years) for public investments in new hospital structure, schools day care facilities etc.

Source: Towards New Goals – Denmark 2015

2.6 Structural and labour market policy

Efforts in the area of structural and labour market policies are outlined in more detail in *"Denmark's National Reform Programme, October 2007"*

Given the objectives for public spending and tax policy, the key structural requirements for employment and working hours are determined with a view to ensure fiscal sustainability and fiscal surplus or balance in 2015. In the 2015-plan, the key requirements are:

- New initiatives to increase non-subsidized employment by an additional 20,000 persons towards 2015, corresponding to an increase in employment of 0.7 per cent.

- Average working hours should not decline, even though demographic and other factors might reduce working hours.
- Previously-decided labour market reforms etc. should have the intended impact.
- The age limits for entering VERP and OAP are lifted as of 2019 and indexed to remaining lifetime of 60 year olds after 2025, *cf. The 2006 Welfare Agreement.*

The specified targets laid down for employment and working hours are those minimum requirements which according to present projections ensure fiscal sustainability.

In the 2015-plan it is required that average working hours do not fall, except for a minor reduction in 2009, reflecting the assessed effect of recent collective agreements (Paternal leave). Average working hours are thus kept a – by Danish standards – relatively high level, even though an increase in young and older persons in the labour force may tend to pull down average hours. In general, average working hours are lower for persons younger than 25 years (including students) and for persons close to or above the retirement age (working retirees).

The requirement for new labour market initiatives to raise employment by 20,000 persons towards 2015 should be seen in the context of the considerable contribution to employment from already passed labour market reforms etc., which is included in the projection.

The continued effort to increase employment should among other things focus upon increased in-flow of workers from abroad, a more cohesive labour market, improved labour market structure, better integration of immigrants, focus on employment possibilities of seniors, faster flow through the education system and improved skills, *cf. Chapter 4 in "Towards New Goals – Denmark 2015."*

Based upon these objectives for the labour market, a Labour market commission consisting of independent experts has been established. The commission presents its recommendations in 2009. These recommendations should contribute to fulfilling the structural political requirements for employment and working time.

Furthermore, the government has presented a job-plan with proposals to increase labour supply also in the short term. Among other things, the plan includes proposals regarding a tax relief for 64 year olds who have been full time employed since they turned 60 years; allowing those granted disability pension prior to 2003 to work without losing the right to re-enter disability pension; extending the job-card scheme and the green card scheme; better opportunities to work for students receiving government grants and for old age pensioners. The job-plan is to be negotiated with the political parties.

2.7 Monetary and exchange rate policy

Monetary policy is aimed at maintaining a stable exchange rate of the Danish krone against the euro. The framework for the stable exchange rate policy is the ERM II-agreement, which stipulates a narrow fluctuation band against the euro of ±2¼ per cent around the central parity. For a number of years, the exchange rate has been close to the central parity, *cf. figure 2.1a*. Since the introduction of the euro in January 1999 the largest (absolute) difference from the central parity has been around ½ per cent. Since mid-2005 the exchange rate has been very close to the central parity.

Figure 2.2a
Krone exchange rate vis-à-vis euro

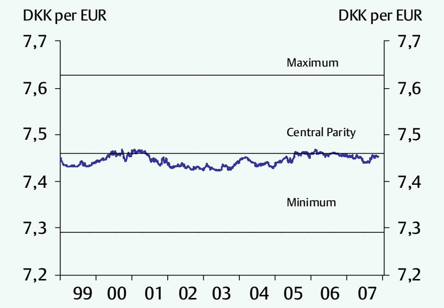
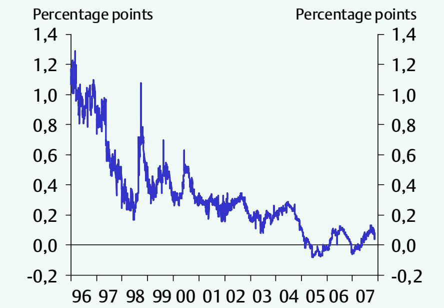


Figure 2.2b
10-year yield differential vis-à-vis Germany



Source: Denmark's Nationalbanken.

A large majority in the Danish parliament supports the fixed exchange rate policy, and the government regards the commitment and the credibility of the fixed exchange rate policy as paramount. The focus of fiscal policy on stability and long term sustainability supports the fixed exchange rate policy.

The commitment to a fixed exchange rate policy has ensured low and stable inflation for a number of years. With a fixed exchange rate vis-à-vis the euro, the low level of inflation in the euro-area serves as an anchor for Danish inflation and inflation expectations. Since the early 1990's Danish inflation has essentially been in line with the ECB's definition of price stability.

The Danish Nationalbank's lending rate tends to follow ECB's minimum bid rate with a premium which ensures that the exchange rate is stable. The premium has typically fluctuated in a range of 15-50 basis points since mid-2001. Historically, the interest differential has also been visible in longer-term interest rates, *cf. figure 3.1b*, showing the interest differential between Denmark and Germany with respect to 10-year central government bonds. Normally, the interest differential is positive which should be seen in conjunction with Denmark not having adopted the euro.

For certain periods in 2005 and early 2006 and 2007, the long-term interest differential has been negative (but small). This is partly due to relatively favourable developments in Denmark with solid general government budget surpluses and declining public debt.

Furthermore, the interest differential tends to be smaller when interest rates are low. Among other things, this may reflect that the demand for long-term DKK-bonds from pension and life insurance companies tends to increase when interest rates decline, since these companies may need to make higher provisions to cover future pension obligations when yields decline.

3. Short-term outlook and prospects to 2015

3.1 International economy and financial variables[1]

Global economic growth has been fairly high since 2004, primarily driven by growth in the US and Asia. Over time, the relatively strong expansion in the US has slowed, while growth in the euro area has picked up. The prolonged weakness in Germany has given way to higher activity growth and declining unemployment. In Asia, output growth has continued at a strong pace.

The expansion of the global economy is assumed to remain relatively strong in 2007 with some abatement in 2008. From 2009 and onwards, real GDP among Denmark's trading partners is assumed to grow in line with potential, which – using Danish export market weights – is estimated to be a good 2 per cent annually, *cf. table 3.1*.

World trade has outpaced GDP growth in recent decades reflecting, in particular, deepening international division of labour. Hence, the projection assumes export market growth in excess of foreign GDP growth. Similarly, increasing international division of labour is assumed to imply a continued increase in Danish import propensities and hence higher growth in imports than overall demand.

Table 3.1
Assumptions about the international economy and interest rates

	2005	2006	2007	2008	2009	2010	2011	2012-15
Annual growth, per cent								
Real GDP[1)]	2,0	2,9	2,8	2,6	2,2	2,2	2,1	2,0
Real export market growth[2)]	5,5	7,3	6,9	6,6	4,6	4,6	4,4	4,3
Per cent, end-year level								
Denmark, 10-year government bond yield	3,4	3,8	4,4	4,8	4,9	5,1	5,2	5,7

1) Trade-weighted.
2) Market growth is for manufactured products.
Source: European Commission spring forecasts 2007, OECD and own calculations.

[1] The real economy data and projections presented in Convergence Programme 2007 correspond to the medium-term projection presented in the Government's *2015 plan*, which in turn was based on the latest published short-term outlook, *cf. Economic Survey, August 2007*. The assumptions on the international economy are partly based on the European Commission's spring forecasts adjusted for subsequent information on, e.g., cyclical indicators, interest rates and exchange rates. The external assumptions (cf. Annex table A.8) are broadly in line with the Commission's autumn forecasts and the common external assumptions that member countries (in particular the euro and ERM II countries) are invited to adopt in their Stability and Convergence Programmes. Appendix 2 contains sensitivity analyses which, among other things, present estimated effects of alternative assumptions about interest rates and foreign GDP growth.

In the short-term economic outlook from August, the crude oil price (Brent) was assumed to be between 65 and 70 $ per barrel in 2006-2008. Oil prices are volatile and have gone up since. Even so, the assumed oil price is high in historical perspective and well above marginal production costs. Based on oil price projections by the International Energy Agency (IEA 2006), the oil price is assumed to fall gradually to around 53 $ per barrel in 2015 (measured in 2007-prices), owing to expansion of production capacity. In the longer run, scarcity of oil resources and growing demand are assumed to lead to higher oil prices. In line with the IEA's projection, the oil price is assumed to be around 61 $ per barrel in 2030 (measured in 2007-prices)[2].

Resent years' relatively high international growth and rising capacity utilization has led to higher interest rates, first in the US and since 2005 also in the euro area. Lately, interest rates have fallen back somewhat, including long term government bond yields. This reflects increased demand for safe assets following the financial turbulence related to the American sub-prime market. In addition, signs of weaker activity in the US have led the Federal Reserve to lower the Fed funds rate twice by, respectively, 50 and 25 bps. to 4½ per cent in November 2007.

The European Central Bank, ECB, kept its key refinancing rate at a historically low level of 2 per cent until the end of 2005 and has since gradually raised the interest rate to 4 per cent. The recent financial turmoil has led financial markets to expect that the ECB may postpone any further interest rate hikes for the time being. Denmark's Nationalbank has followed the interest rate movements of the ECB, reflecting the stable exchange rate policy.

The financial turmoil has caused a somewhat lower level for both short- and long-term interest rates than assumed in the August survey.

Interest rate developments since 2002 and up until November 2007 are estimated to restrain economic growth in each of the years 2007 and 2008 by between -½ and -¾ percentage points.

Since early 1999, the spread between German and Danish 10-year government bond yields has averaged around ¼ percentage point. In the more recent years, the low international interest rates and Danish fiscal surpluses have contributed to a low – and at times negative – yield spread. In CP07, Danish 10-year government bond yields are assumed to increase from around 4½ percent in 2007 to around 5 percent in 2010[3].

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[2] In November, the International Energy Agency (IEA) published new projections, in which the long term level for the oil price was revised up, *cf. World Energy Outlook, November 2007*. In the new projection the crude oil price is around 60$ per barrel (measured in 2007-price levels) in 2015 and around 65$ per barrel in 2030 (measured in 2007-price levels). This corresponds to an upward adjustment of some 5-7 $ per barrel or around 10 per cent. Conversely, the USD exchange rate has decreased in November, and is around 5 pct. below the assumed level in the present medium term outlook.

[3] In the longer term (beyond 2015) average bond yields are assumed to be at around 5¾ per cent. Compared to previous convergence programmes,. the longer term interest rate has been adjusted down from 6½ per cent.

3.2 Short-term outlook for the Danish economy

From 2005 to 2007, strong cyclical conditions have contributed to bring employment to a record high level.

Based on the August Economic Survey, output growth is expected to slow during 2007, and more moderate growth of 1.3 per cent is expected for 2008. Employment is set to remain high and unemployment low at a rate of 3.1 per cent (national definition) next year, while sizable fiscal surpluses are expected in both 2007 and 2008, *cf. table 4.2*.

Some new information has become available since the August survey. Statistics Denmark has released preliminary national accounts data up to the third quarter of 2007 as well as a range of other business cycle indicators. The quarterly national accounts series point to growth in 2007 being a bit lower than what was expected in the August survey, although with some revival in demand lately. Employment growth has been higher than assumed in August[4] and unemployment has declined more than expected. These developments point to slightly lower growth but a tighter labour market than expected in August.

Registered unemployment peaked in December 2003, and by October 2007 it had fallen by close to 106,000 persons to a level of 81,700 persons. In 2008, the decline in unemployment is expected to come to an end. In the August survey the level of unemployment was assumed to be 91,000 persons or 3.1 per cent of the labour force in 2007 (national definition). Unemployment is low both in a historical perspective and by comparison to other countries. According to the harmonized definition, the unemployment rate (at 2.9 per cent in October) is the lowest among the EU countries.

Unemployment is below the structural level, which is estimated to be just under 5 per cent in 2007 (national definition) with a statistical uncertainty of around ±½ percentage point.[5] The output gap is estimated to be positive with a declining tendency from above 2 per cent in 2007 to around 1¾ per cent in 2008.

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[4] The estimation of the employment in the national account showed an extraordinarily large increase in the first quarter of 2007. This increase is not fully incorporated in the August survey. This should be seen in the light of the fact that these data are often revised considerably and because production growth was very moderate in the preceding three quarters.

[5] The estimated 95 per cent confidence interval of ±½ percentage point assumes that the statistical model applied in the estimation of the structural unemployment rate is correct and adequate. Including model uncertainty, the uncertainty is higher, perhaps ±1 percentage points.

Table 3.2
Key figures

	Short-term outlook			Assumed normalization of the business cycle			2012-15
	2006	2007	2008	2009	2010	2011	
Growth rates, per cent							
Gross value added (fixed prices)[1)]	3,5	2,1	1,3	0,9	0,8	0,9	1,5
GDP growth (fixed prices)[1)]	3,5	2,0	1,3	1,1	0,5	1,1	1,6
Growth components, real growth in per cent							
Private consumption[2)]	3,1	2,2	1,5	1,2	1,1	2,4	2,2
Public consumption[2)]	1,5	1,8	1,7	1,0	1,0	1,0	0,8
Fixed gross investment	13,0	3,0	0,6	-2,3	-2,6	-1,9	2,4
Change in stocks[3)]	0,4	0,0	0,1	0,0	0,0	0,0	0,0
Exports	10,1	4,9	3,0	3,5	3,6	2,0	3,3
Imports	14,4	5,7	3,5	2,2	3,3	2,0	3,8
Contribution to GDP growth, percentage points							
Final domestic demand	4,9	2,2	1,5	0,3	0,2	1,0	1,8
Changes in stocks	0,4	0,0	0,1	0,0	0,0	0,0	0,0
Net exports	-1,4	-0,2	-0,2	0,7	0,3	0,1	-0,2
Labour market indicators, per cent per year							
Employment	2,0	1,7	0,0	-0,5	-0,8	-0,9	0,0
Structural unemployment rate (per cent)	5,1	4,9	4,5	4,2	4,0	4,0	4,0
Unemployment rate (percent of work-force)	4,3	3,3	3,1	3,2	3,6	4,0	4,0
Do, EU definition	3,9	3,3	3,1	-	-	-	-
Hourly productivity in private sector[4)]	1,0	0,1	2,3	1,9	2,1	2,1	1,9
Productivity (gross value added per em-ployee)	1,5	0,4	1,4	1,3	1,6	1,8	1,5

Note: The figures for 2006 correspond to those published in the August survey. On November 5th 2007, Statistics Denmark published revised national account data for 2006.
1) The relatively low growth rates in 2009-11 reflect a technical closing of the positive output gap, which takes places gradually from 2008 to 2011.
2) Real growth in public consumption as measured in the national accounts reflects growth in the consumption of resources – not improvements in services offered – mainly because productivity growth in the public sector is not measured. Hence, a direct comparison of real growth in private and public consumption is not necessarily meaningful.
3) Contribution to GDP growth.
4) Excluding agriculture, energy extraction and maritime services.

Source: Statistics Denmark and own calculations.

As a technical assumption, cyclical conditions revert to normal from 2009 to 2011[6]. This implies that labour market pressures are assumed to ease gradually and that the output gap is gradually closed through 2011, *cf. figure 3.1a.*

[6] No short-term forecast is available for the years after 2008. The next economic survey, which includes the most recent information, will be published around 1st of February and the forecast horizon will extend to 2009.

The assumed gradual normalization of the business cycle implies average GDP growth of close to 1 per cent per year during 2009-11. Hence, growth is around ½ percentage point below the medium-term growth potential of about 1½ per cent (given the structural policy requirements of unchanged hours worked and higher employment).

Structural unemployment is assumed to decline by about ½ percentage point due to elements in the Welfare Agreement that enhance job search. In addition, the activation measures are assumed to "technically" reduce the registered unemployment rate by another ½ percentage point (participants in labour market activation programmes are not counted as registered unemployed). Hence, the structural unemployment rate on the national definition is assumed to decline from just below 5 per cent in 2007 to 4 per cent of the labour force in 2010, mainly due to elements in the Welfare Agreement, *cf. figure 3.1b*. Compared to CP06 the structural level of unemployment in 2006 and onwards has been adjusted downwards by around ¼ percentage point based on observed trends in wages, prices, unemployment etc.

Figure 3.1a
Output gap, 1980-2015

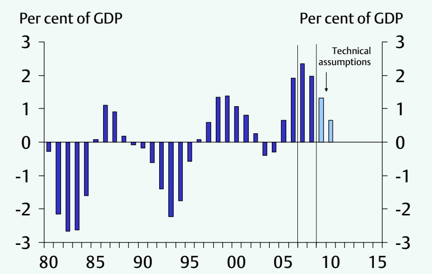
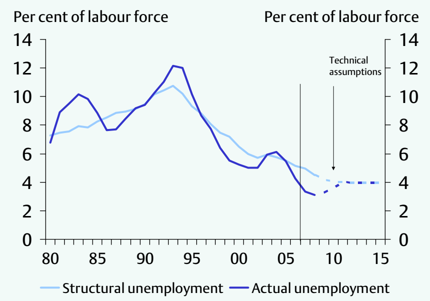


Figure 3.1b
Unemployment and structural unemployment, 1980-2015



3.3 Employment and productivity assumptions through 2015

Given the short-term outlook for 2007-08 and the technical assumptions for 2009-11, GDP growth is assumed to average about 1¼ per cent per year in 2007-11, *cf. table 3.3*. The slower growth than in the period 1990-06 reflects, in particular, that the strong decline in unemployment from the early 1990's up until today cannot be replicated and there is no presumption that the increase in average hours worked since 1990 will continue[7].

GDP growth is primarily driven by an increase in productivity (output per hour worked), which is assumed to increase by about 1½ per cent per year on average.

[7] Average working hours have risen since the early 1990s, in part due to an increase in the share of women working full-time rather than part-time.

The productivity growth in the private sector is assumed to be around 2 per cent a year. This corresponds to the average annual productivity gains since 1990. In the national accounts, productivity gains are not recorded in the public sector, which employs about 30 per cent of the workforce. Hence, productivity growth in the public sector is technically set to be zero.

Future productivity trends are uncertain. In the last few years productivity growth has been modest. This may reflect that the large increase in employment – supported by labour market reforms – may in itself have dampened productivity growth.

Table 3.3
Contributions to production potential and real GDP

	1990-06	2007-11	2012-15	2007-15
Annual growth, per cent				
Growth in production potential	2,2	1,5	1,6	1,5
Of which:				
- Hourly productivity	1,6	1,4	1,7	1,5
- Structural unemployment	0,3	0,2	0,0	0,1
- Structural labour force	0,0	-0,1	0,0	-0,1
- Average working hours	0,3	-0,1	0,0	-0,1
- Cyclical contribution	0,1	-0,3	0,0	-0,1
Growth in GDP	2,3	1,2	1,6	1,4

Note: The growth in hourly productivity is measured as the growth in GDP per hour worked.
Source: ADAM databank and own calculations.

The medium-term projection implies that actual employment may decline by some 65,000 persons (a good 2 percent) from the record-high level in 2007 towards 2015, *cf. table 4.4*. The decline in employment primarily reflects the assumed normalization of the business cycle.

Demographic developments with fewer persons in the age groups with the highest participation rates, more elderly people and a growing share of immigrants and descendants tends to lower employment by some 30,000 persons from 2007 towards 2015. The negative contribution from demographic factors is by and large offset by structural improvements in the labour market, which among other things stems from already-implemented reforms. The contribution of structural improvements is estimated to raise employment by around 25,000 persons.

In particular, the Welfare Agreement, which among other things includes initiatives to bring forward activation, intensified activation after 2½ years of unemployment, strengthened job matching procedures and availability-for-work criteria, and targeted efforts to strengthen employment among immigrants and descendants, is estimated to raise structural employment through 2015 by some 25,000 persons, half of which is ordinary (non-subsidized) employment.

Table 3.4
Contributions to the increase in employment

	2005-07	2007-15
1,000 persons		
1. Demographic factors[1)]	-20	-30
2. Assumed contribution from already-implemented reforms, including effects of the Welfare Agreement etc.[2)]	45	25
3. Structural reform requirements for increased employment	0	20
4. Structural employment (1+2+3)	**25**	**15**
5. Cyclical contribution[2)]	75	-80
6. Change in actual employment (4+5)	**100**	**-65**
- of which related to change in unemployment	*-60*	*15*
- of which change in labour force	*40*	*-50*

1) Assumes an unchanged aggregate unemployment rate and unchanged participation rates broken down by gender, age and origin from 2005 to 2015.
2) The calculation incorporates higher participation rates for more-educated groups and changes to the average residence period for immigrants.
Source: Own calculations.

In addition, new labour market initiatives are required to raise (structural) employment by 20,000 persons towards 2015, cf. chapter 2. This requirement should be seen in light of the estimated contribution from earlier labour market reforms and other elements that have already been factored in.

Overall, structural employment is estimated to grow by 15,000 from 2007 to 2015.

Actual employment in 2007 was considerably above the estimated structural level. This reflects unemployment at about 45,000 persons below the estimated structural level, while the labour force was approximately 35,000 persons above the estimated cyclically-adjusted or structural level in 2007. The assumed normalization of the business cycle from 2007 to 2011 is hence assumed to reduce total employment by around 80,000 persons.

Average annual working hours have increased since the 1990s (after a considerable decline in previous decades). One reason is that fewer persons work part time. At the same time, a higher average level of education in the labour force has presumably contributed to increasing hours worked, since persons with higher education on average work more hours than persons with less education. In addition, there is currently a contribution from the presently positive cyclical conditions[8].

In the medium-term projection, there is a requirement that the total hours worked is kept constant from 2008 towards 2015, except from a small decline in 2009 stemming from collective wage bargaining agreements in the private sector in the spring of 2007.

[8] It is assumed that the contribution from the positive business cycle is reduced during 2008.

Going forward, the rising share of elderly and quite young in the labour force may contribute to a reduction in average hours worked, since these age cohorts on average work fewer hours than employees in the middle age groups. Given constant average hours worked per age cohort, this may reduce average hours worked by 1.3 per cent from 2008 towards 2015, *cf. table 3.5*.

In addition, the composition of jobs with respect to ordinary and subsidized employment (activation schemes, flexi-jobs etc.) may entail lower hours worked (in table 3.5 under *other factors*). Persons in subsidized jobs tend to work fewer hours than persons in ordinary employment. The increase in the number of persons in subsidized employment relative to ordinary employment in the projection reflects, in particular, the normalisation of cyclical conditions (which primarily affects ordinary employment), and initiatives in the Welfare Agreement, which increase activation efforts.

The tax agreement of September 3rd 2007 (see Chapter 2), which includes lower income taxes, reduces the average marginal tax rate for all employees by about 1¼ percentage point and strengthens incentives to work. Overall, the tax accord is estimated to increase average hours worked by about 0.3 per cent.

Hence, the requirement of unchanged hours worked implies an increase in average hours worked of around 1.8 per cent compared to the technical principles which incorporate changes in notably the age composition of the labour force and projected shifts in the composition between ordinary and subsidized employment.

Table 3.5
Contributions to the change in the average hours worked from 2008 to 2015

	2008-2015
Per cent	
Hours worked towards 2015	-0,1
- More young and elderly people among the employed	-1,3
- Other factors	-0,9
- Lower tax on earned income	0,3
- Requirement of unchanged hours worked	1,8

3.4 Wages and prices

Based on the collective wage bargaining settlements in the spring and the present labour market pressures, wages are assumed to rise at a higher pace than in the euro area in 2007 and 2008, implying a loss in wage competitiveness. Since 2000, wage increases per employee have on average been about 1¼ per cent higher than in the euro area, only partly reflecting higher productivity growth.

Consumer prices are projected to increase by around 2 percent per year in 2006-2008 with an upward tendency reflecting higher wage growth, *cf. table 3.6*. In the medium term, as cyclical conditions revert to normal, consumer price inflation is around 1¾ per cent in light of the stable exchange rate policy and the goal of the ECB to keep inflation below but close to 2 per cent a year. The GDP deflator rises a bit more than consumer prices, primarily because the deflator for public sector value added grows more than the prices in the private sector in the projection. This reflects, in particular, that no productivity gains are estimated for the public sector in the national accounts.

The technical scenario from 2009 to 2015 assumes annual wage increases of about 3¾ per cent per employee. The rate of increase essentially corresponds to the medium term inflation rate of around 1¾ per cent per year and the assumed growth in productivity of around 2 per cent per year.

Table 3.6
Price indices and deflators

	2005	2006	2007	2008	2009-11	2012-15
Annual growth, per cent						
GDP-deflator	3,2	2,2	2,0	2,7	2,4	2,1
Private consumption deflator	2,2	2,1	1,7	2,6	2,0	1,7
Consumer price index	1,8	1,9	1,8	2,6	1,8	1,7
Do. EU-harmonized HICP	1,7	1,9	1,7	2,4	1,7	1,5
Net price index	2,0	2,0	1,9	2,6	2,0	1,8
Wage costs, per employee (NA-based)	3,4	3,6	4,2	3,8	3,8	3,8
The euro area						
HICP	2,2	2,2	1,9	1,9	-	-
Compensation per employee (NA-based)	1,9	2,3	2,6	2,9	-	-

Source: Statistics Denmark, European Commission spring forecasts 2007 and own calculations.

3.5 Current account and net foreign assets

In 2006, private sector investment equalled around 21 per cent of GDP, which is high in historical perspective. In the economic outlook for 2007-2008, the investment share is assumed to remain high, in part reflecting a positive output gap. Towards 2015, the investment share is assumed to decrease to just below 20 per cent of GDP, *cf. table 3.7*.

In line with the normalization of the business cycle, private sector gross saving is assumed to increase from 19 per cent of GDP in 2006 to around 21 per cent towards 2015. Hence, the present financial savings deficit in the private sector gradually turns to a surplus in the projection.

The projection points to continued albeit decreasing financial savings in the public sector as reflected in the general government budget balance. The external surplus is projected to be around 1¾ per cent of GDP on average in the period 2009-15.

In the absence of (sometimes quite substantial) changes in the valuations of external assets and liabilities, net foreign debt of 2 per cent of GDP by the end of 2008 is expected to turn into net foreign assets of 9 per cent of GDP by 2015.

Table 3.7
Current account, net foreign assets, savings and investments

	2005	2006	2007	2008	2009	2010	2011	2012-15[1)]
Per cent of GDP								
Private sector investment share	19,1	21,2	22,0	22,0	21,0	20,4	19,7	19,7
Private sector savings share	18,1	19,0	19,8	20,2	20,9	21,4	21,1	20,7
Private financial savings	-0,9	-2,3	-2,2	-1,8	-0,2	0,9	1,4	1,0
Public financial assets	4,6	4,7	3,9	3,1	2,1	1,3	0,9	0,4
Current account	3,8	2,4	1,7	1,3	1,9	2,2	2,3	1,4
Net foreign assets	1,3	-2,1	-3,8	-2,4	-0,4	1,8	4,1	9,2

1) Level in the last year.
Source: Statistics Denmark and own calculations.

4. Outlook for public finances to 2015

4.1 Overview of public finances

The assessment of public finance developments is based on the short-term outlook and the Budget Proposal for 2008 presented in August 2007 and the medium term projection *"Mod nye mål – Danmark 2015"*. In addition, the projections incorporate the effects of the tax agreement of September 3rd 2007, *cf. chapter 2*.

In view of the general election held on November 13th 2007, no Fiscal Bill for 2008 has yet been adopted. A temporary appropriation Bill therefore applies for 2008 until the passing of the Fiscal Bill for 2008. The government will put forward a new Budget Proposal around February 1st.

Based on the outlook in the August Economic Survey and the policy assumptions – including The Budget Proposal for 2008 from August, the new medium term 2015-plan and the tax agreement - the general government budget surplus is estimated at 3.9 per cent of GDP in 2007 and 3.1 per cent of GDP in 2008, *cf. table 4.1*. The decline in the public surplus in 2008 reflects, among other things, an incipient normalisation of the business cycle. In the August Economic Survey, Statistics Denmark estimated the 2006 surplus at 4.7 per cent of GDP.

Table 4.1
Public finances and debt

	ESA	2006	2007	2008	2009	2010	2011	2015
Per cent of GDP								
Revenues	ESA	54.7	53.4	52.9	52.0	51.7	51.6	51.4
- of which taxes		48.9	48.0	47.7	46.7	46.4	46.2	46.1
Expenditures	ESA	50.1	49.5	49.8	49.9	50.4	50.7	51.0
Public balance (national accounts)	B9	4.7[1]	3.9	3.1	2.1	1.3	0.9	0.4
- of which central and local governments		4.6	3.8	3.1	2.1	1.3	0.9	0.4
Public balance (EDP-basis excl. ATP)[2]	B9 EDP	4.6	3.8	3.0	2.0	1.2	0.8	0.3
Public gross debt (EU-definition)		30.1	25.6	21.6	19.2	18.6	18.0	15.5
Public net debt		2.7	-1.2	-4.3	-6.5	-7.6	-8.2	-9.2
Net debt in central and local governments		2.8	-1.2	-4.2	-6.4	-7.5	-8.1	-9.1

1) In November the general government budget surplus was revised to 4.9 per cent of GDP by Statistics Denmark.
2) Beginning with the EDP-reporting in April 2007, public finances will be excluding ATP. For the period 2009-2010 it is assumed that the difference between the public surplus on an EDP-basis (excluding ATP) and the surplus on national account basis (which also excludes ATP) corresponds to the difference in 2008.
Source: Statistics Denmark and own calculations.

The relatively large general government budget surpluses in 2006-2008 exceed the estimated structural balance, which measures the actual surplus adjusted for the cyclical position and a number of special items, *cf. section 4.3*. The transitory influences mainly reflect the current strong cyclical position. In 2006 and 2007 large revenues from the North Sea activities also contribute to the large current surpluses.

The estimated general government budget surpluses in 2007 and 2008 are subject to uncertainty. In particular, some important revenues are highly sensitive to changes in oil prices and developments in financial markets – including changes in interest rates and stock prices. This applies (for instance) to the revenues from pension yield taxation, which are calculated on an accrual basis and vary substantially from year to year.

EMU debt is expected to decline from 30 per cent of GDP in 2006 to 21¾ per cent of GDP in 2008. The projected fiscal surpluses over the medium term should help to reduce EMU debt further to some 15½ per cent of GDP by 2015. At the same time, public net debt is expected to turn into a net asset position by the end of 2007, and net assets of 5-10 per cent of GDP are maintained towards 2015.

The starting point in the August Survey was a general government budget surplus – based on national account principles – of 76½ billion DKK or 4.7 per cent of GDP in 2006.

As part of the Stability and Growth Pact, Denmark reports its general government budget balance and debt ("EMU debt") to the European Commission under the Excessive Deficit Procedure, EDP. The EDP-reporting in October was based on the data from the August projection. Beginning with the EDP-reporting in April 2007, EMU debt and the general government budget balance on the EDP-basis are defined excluding ATP in all years.

The public balance on EDP-basis differs in some aspects from the balance according to the national accounts.

This reflects that the public balance on the EDP-basis includes net interest income from central government interest rate and currency swaps, and a different treatment of central government revenues from the sale of UMTS-licenses.[1] Finally, the general government surplus on the EDP-basis corrects for so-called infrastructure investment, which includes, among other things, the deficit in BaneDanmark.[2]

[1] For EDP purposes, all government revenue from the sale of UMTS licenses is accrued to 2001. In other words, the revenue is considered a type of one-off income, even though the government *de facto* will receive revenue from this source during 2001-2011. In the national accounts, Statistics Denmark has chosen to spread the total revenue over the 20-year period for which the licenses are valid.

[2] These corrections have only marginal effects on the general government balance. The treatment of central government interest rate and currency swaps improves the budget balance on EDP-basis by 0.0-0.1 per cent of GDP, while the corrections regarding capital expenditure to certain central government corporations and revenues from the sale of UMTS licenses reduce the general government balance by 0.1-0.2 per cent of GDP.

The correction regarding swap-related flows etc. is broadly offset by the corrections for UMTS-licenses and infrastructure investments. The public balance on the EDP-basis is slightly lower than the public balance based on national account principles.

In November 2007, Statistics Denmark published revised figures for public finances for the period 2004-2006. According to the most recent figures, the surplus – based on national account principles – was revised upwards to 79.9 billion DKK corresponding to 4.9 per cent of GDP in 2006.

The upward revision of the budget balance – by approximately 3½ billion DKK – is mainly due to higher revenues from corporate taxes (6½ billion DKK) and labour market contributions (1¾ billion DKK). Lower personal income taxes (2½ billion DKK), lower revenues from pension yield taxation (1¼ billion DKK) and larger public consumption expenditures (1½ billion DKK) tend to reduce the budget balance. The upward revision of the budget balance does not reflect a structural improvement in public finances.

The upward revision of the public surplus in 2006 – by 0.2 per cent of GDP – is estimated to increase the general government balance on the EDP-basis correspondingly, i.e. from 4.6 per cent of GDP to approximately 4.8 per cent of GDP.

4.2 Structural budget balance

The estimated structural surplus is 2.4 per cent of GDP in 2006. The structural surplus is subsequently reduced to 1.7 per cent of GDP in 2007, 1.5 per cent of GDP in 2008 and 0.9 per cent of GDP in 2009, *cf. table 4.2*.

The structural budget surplus diminishes to just below ½ cent of GDP towards 2015. This reflects an anticipated decline in oil- and gas production as well as oil prices from 2008 to 2015 (which reduces the estimated revenues from the North Sea activities), increased public spending on old-age pensions in line with the increasing number of old age pensioners, and the priorities regarding expenditure and tax policy towards 2015. The structural policy requirements concerning employment and working hours in the 2015-plan pull in the opposite direction.

The estimated structural budget surpluses are within the target interval of structural surpluses (MTO) in the 2015-plan, requiring structural surpluses of ¾-1¾ per cent of GDP towards 2010. In 2011-2015 the structural budget balance is required to be at least in balance, *cf. Towards New Goals – Denmark 2015*.

The target interval is stated for the structural budget balance in case of a continued suspension of special pension (SP) contributions. If SP contributions are reintroduced, the target interval is surpluses of ½-1½ per cent of GDP.

Table 4.2
Structural budget balance

	2006	2007	2008	2009	2010	2011	2015
Per cent of GDP							
1. Actual balance	4.7	3.9	3.1	2.1	1.3	0.9	0.4
2. Cyclical adjustment	-1.1	-2.5	-2.2	-1.4	-0.7	0.0	0.0
3. Special items	-1.1	0.4	0.6	0.2	0.3	0.0	0.0
Hereof							
Corporate tax[1)]	*-0.4*	*0.0*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*
Pension yield tax	*0.1*	*0.5*	*0.3*	*0.2*	*0.2*	*0.0*	*0.0*
Net interest payments	*-0.1*	*-0.1*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*
Revenues from the North Sea[2)]	*-0.5*	*-0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Special items[3)]	*-0.2*	*0.2*	*0.5*	*0.1*	*0.0*	*0.0*	*0.0*
4. Structural budget balance (1-2-3)	2.4	1.7	1.5	0.9	0.8	0.9	0.4
5. Structural budget balance corrected for the suspension of SP contributions[4)]	2.2	1.5	1.2	0.6	0.6	0.6	0.1
Memo items							
Output gap	1.8	2.1	1.8[5)]	1.0	0.5	0.0	0.0
Employment gap	1.3	2.9	2.6[5)]	1.7	0.9	0.0	0.0

1) Excl. hydro carbon tax and corporate taxes from corporations liable to carbon tax payments.
2) Hydro carbon tax, corporate taxes from corporations liable to carbon tax payments, excise tax on oil pipelines and profit sharing.
3) Including net current and capital transfers, e.g. EU-contributions, foreign aid expenditures, block grants to the Faroe Islands and Greenland, buy and sale of land and rights. These special items can vary somewhat from year to year.
4) The contributions to the Special Pension scheme are suspended for the period 2004-2008. The correction made amounts to almost 0.3 per cent of GDP.
5) Technically it is assumed, that the positive output gap in 2008 is closed gradually towards 2011.
Source: Statistics Denmark and own calculations.

In 2007 and 2008, the cyclical position is estimated to strengthen the public balance by 2.5 and 2.2 per cent of GDP, respectively. Large expected revenues from the North Sea activities contribute to raise the actual budget balance above the estimated structural surplus by 0.3 per cent of GDP.[3] The revenue from the tax on pension fund returns, on the other hand, is estimated to be 0.5 and 0.3 per cent of GDP lower than the estimated trend level in 2007 and 2008.[4]

From 2008 to 2011 the cyclical position is technically assumed to revert to neutral implying an output gap and employment gap of zero in 2011-2015. At the same time the correction for special items is assumed to wane reaching zero in 2011-2015. As a consequence the actual budget surplus is gradually approaching and equals the structural budget balance in 2011. From 2011 to 2015, projected economic developments

[3] The trend level of revenues from the North Sea activities is estimated as a 7 year moving average of actual and projected revenues. The estimated structural revenues from the North Sea activities are thus influenced by the present relatively high oil prices. The trend level corresponds to 1.3-1.5 percent of GDP in 2005-07.
[4] The trend level of revenues from tax on pension fund returns is estimated at about 0.8-1.0 per cent of GDP in 2005-2007.

follow the structural path, and there is no difference between the budget balance and the structural budget balance.

The estimated structural budget balance in 2006-2008 is based on public finance data from the August economic outlook and the adopted tax agreement.[5]

4.3 Fiscal policy stance

As a result of the general elections – and hence the temporary (appropriation) Bill for 2008, the local government budgets for 2008 and the forthcoming new Budget Proposal for 2008 - the most recent estimates of the impact of fiscal policy on economic activity in 2008 are those published in August. It has been announced that the fiscal policy impact of the new Budget Proposal for 2008 will not be more expansive than the Budget Proposal from August.

Based on the Budget Proposal from August and the agreements on the economy of municipalities and regions for 2008 (from June 2007) the impact of fiscal policy on economic activity – measured by the so-called first-year fiscal effect – was estimated at 0.3 per cent of GDP in the August economic outlook, *cf. table 4.3*. The fiscal policy impact in 2008 reflects, among other things, an estimated growth rate of public consumption of 1.7 percent, which in itself tends to increase activity by 0.2 per cent of GDP in 2008. The reduction of the labour market contribution rate to 7.5 per cent in the Budget Proposal from August was estimated to increase activity by 0.1 per cent of GDP in 2008.

With the tax agreement of September 3rd, labour market contributions were kept unchanged at 8 per cent. From 2008 energy taxes are indexed by 1.8 per cent per year. The in-work tax allowance is increased from 2.5 to 4.0 per cent in 2008. The fiscal policy impact on activity and the budget balance are estimated not to be affected by the tax agreement.

According to present information on the local government budgets for 2008, total taxes in local government budgets are 1.4 billion DKK above the agreed level in 2008. Local government reports to the Ministry of Interior and Health show that local government spending on services etc. amounts to 206,0 billion DKK. The local government budgets are hence 0.6 billion DKK above the agreed level of spending on services etc. Local government budgets show a total level of gross capital expenditure of 17.0 billion DKK, which is some 0.2 billion DKK more than the assumed level for 2008 (including the release of previously frozen deposits).

The government has discussed the budgets with Local Government Denmark and has declared not to request local governments to reopen their budgets for 2008. In-

[5] Statistics Denmark's revised figures for public finances published on 5. November 2007, are estimated to reduce the calculated structural surplus in 2006 slightly. This is primarily due to higher public spending on services etc. than expected in August.

stead, the government will ensure incentives to support local government finances in keeping with the adopted budgets for 2008. In addition, the government has announced that the starting point of the negotiations about the local government economy in 2009 will be the agreement for 2008 adopted in June. Moreover, the government will ensure that the tax freeze is not violated.

Table 4.3
Policy impact on economic activity – base on the August Survey

	2004	2005	2006	2007	2008
Per cent					
GDP-growth	2.1	3.1	3.5	2.0	1.3
First-year fiscal effect	0.8	0.1	0.3	0.0	0.3
Percentage points					
Multi-annual effects:					
- multi-annual fiscal effect	0.7	0.2	0.4	0.1	0.3
- impact on savings[1]	0.1	0.1	0.0	0.0	0.0
- implemented interest rate changes[2]	1.2	0.8	0.4	-0.6	-0.7

1) The impacts on savings cover the suspension of the SP-contribution.
2) Based on the partial effect on GDP growth of interest rate changes between 2002 and the beginning of August 2007. Thereafter, the interest rate is assumed unchanged.
Source: Statistics Denmark and own calculations.

Fiscal policy changes since 2002 have added to GDP growth in 2008[6], *cf. table 4.3*. This reflects the first-year fiscal effect in 2008, since fiscal policy in 2002-2007 is estimated to have a neutral impact on GDP growth in 2008.

Interest rate developments from the beginning of 2002 to August 2007 are estimated to dampen economic activity by approximately ½-¾ percentage points in both 2007 and 2008. The estimates do not take into account that a growing prevalence of loans with variable interest rates (including interest-only loans) could increase the dampening effect of higher short term interest rates.

The impact of discretionary one-off measures on the central government CIL-balance and total public finances (net lending) is outlined in *box 4.1*.

[6] The multi-annual fiscal effects take into account the lagged effects that fiscal policy in a given year may have on economic activity in the following years. Here, the multi-annual fiscal effect takes into account fiscal policy since 2002. The figures in table 5.3 are based on the August economic outlook – i.e. the August budget proposal for 2008 and the agreements on the economy of local governments.

Box 4.1

Discretionary one-off measures in 2007 and 2008

Based on the August Economic Outlook and the Budget Proposal for 2008 presented in August, the total impact on the central government CIL-balance of discretionary one-off measures is estimated at approximately 2.8 bill. DKK in 2007, *cf. table a*. In particular, portfolio reallocation of central government assets improves the CIL-account by 2.0 bill. DKK in 2007, while temporary allocations, "one-year funds", of 0.3 bill. DKK tend to reduce the CIL-balance.

The budget balance is estimated to be increased by approximately 0.3 bill. DKK in 2007 due to discretionary one-off measures etc.

In 2008 suggested discretionary one-off measures etc. are estimated to improve the central government CIL-account by approximately 2.4 bill. DKK. This is mainly due to reallocation of central government assets.

Table a

Discretionary one-off measures in 2007 and 2008

	CIL-balance	Public balance
Bill. DKK		
Portfolio reallocation of central government assets	2.0	
Disbursements from IØ and IFU	0.5	
Extraordinary dividends	0.6	0.6
One-year funds	-0.3	-0.3
2007 total	**2.8**	**0.3**
Portfolio reallocation of central government assets	2.0	
Disbursements from IØ and IFU	0.4	
2008 total	**2.4**	**-**

Source: Budget Outlook 2, August 2007.
Note: Positive (negative) numbers reflect improvement (reduction) in the balance.

4.4 Revenues

Total public revenues are projected to decline from 54¾ per cent of GDP in 2006 to 53 per cent of GDP in 2008. Towards 2015 public revenues are assumed to decrease further to approximately 51½ per cent of GDP, *cf. table 4.4*.

Table 4.4
Composition of general government finances

	ESA	2006	2007	2008	2009	2010	2011	2015
Per cent of GDP								
Budget balance (national accounts)	B9	4.7[1)]	3.9	3.1	2.1	1.3	0.9	0.4
Expenditures		50.1	49.5	49.8	49.9	50.4	50.7	51.0
- Primary expenditures		47.9	47.6	48.1	48.4	49.0	49.4	50.0
- Public consumption	P3	25.6	25.6	25.8	25.9	26.1	26.3	26.3
- Public investment		1.9	1.7	1.7	1.8	1.8	1.8	1.8
- Social transfers	D62	15.5	15.2	15.2	15.4	15.8	16.1	16.5
- Subsidies	D3	2.2	2.3	2.3	2.4	2.4	2.4	2.4
- Other primary expenditures		2.7	2.8	3.1	2.9	2.9	2.8	2.8
- Interest payments	D41	2.2	1.9	1.7	1.5	1.3	1.3	1.1
Revenues		54.7	53.4	52.9	52.0	51.7	51.6	51.4
- Taxes (tax burden)		48.9	48.0	47.7	46.7	46.4	46.2	46.1
- Personal taxes etc.[2)]		21.0	21.1	20.8	20.3	20.3	20.3	20.4
- of which property value tax		0.7	0.7	0.7	0.7	0.7	0.7	0.6
- Labour market contribution tax		4.2	4.5	4.5	4.5	4.5	4.4	4.5
- Tax on pension fund returns		0.8	0.5	0.7	0.8	0.8	0.9	1.2
- Corporate taxation		3.9	3.3	3.3	3.0	2.9	2.9	2.8
- VAT		10.2	10.3	10.2	10.1	10.0	10.0	9.9
- Land tax etc.		1.1	1.1	1.1	1.1	1.1	1.1	1.1
- Excise duties etc.		6.6	6.3	6.1	5.8	5.7	5.6	5.2
- Social contributions		1.0	1.0	1.0	1.0	1.0	1.0	1.0
- Interest income	D41	1.3	1.3	1.3	1.3	1.3	1.4	1.4
- Other revenues		4.5	4.1	3.9	3.9	4.0	4.0	3.9

1) In November, the total public balance was revised to 4.9 per cent of GDP in 2006 by Statistics Denmark.
2) Personal taxes etc. cover withholding taxes (including property value tax), annual motor vehicle fees paid by households, inheritance tax and other personal taxes.
Source: Statistics Denmark and own calculations.

The decline in revenues as a percentage of GDP from 2006 to 2015 mainly reflects a reduction in the tax-to-GDP ratio by approximately 2¾ per cent of GDP.

The declining tax-to-GDP ratio is, in part, related to a normalisation of the corporate tax revenue primarily due to an assumed decline in oil prices from their currently high levels. A gradual increase in revenues from the pension yield tax – related notably to growing pension wealth as a share of GDP – tends to increase the tax-to-GDP ratio.

Furthermore, the nominal principle of the tax freeze contributes to an underlying reduction in the tax-to-GDP ratio. The effect is moderated by the agreed indexation of energy taxes, but declining energy consumption as a share of GDP tends to reduce revenues from energy taxes.

Finally, the tax agreement contributes to a reduction of personal income taxes in 2008 and 2009, *cf. chapter 2*.

4.5 Expenditures

The share of public expenditures in GDP is estimated to decline from 50.1 per cent of GDP in 2006 to 49.8 per cent of GDP in 2008. This decline owes primarily to a reduction of interest payments related to the projected debt reduction, while primary expenditures increase slightly as a percentage of GDP. In line with the gradual normalisation of the cyclical position, primary expenditures increase as a share of GDP from 2008 to 2011, reflecting in particular increased social transfer expenditures and lower GDP growth.

From 2006 to 2015 the projected expenditure-to-GDP ratio increases by close to 1 per cent of GDP, *cf. table 4.4*. The most important drivers are the normalisation of cyclical conditions and increased expenditures for pensions and public consumption.

Within the framework of the 2015-plan, *cf. Mod nye mål – Danmark 2015*, the real growth rate of expenditures on public services etc. (public consumption) can amount to 1¾ per cent in 2008, 1 per cent per year in 2009-2012 (including the funds set aside for globalisation-related initiatives) and ¾ per cent per year in 2013-2015.

Preliminary quarterly national account figures for the first three quarters of 2007, published by Statistics Denmark on November 28, 2007, show an annual real growth rate of public consumption of 1.6 percent. This is in line with the estimated growth of 1.8 per cent for 2007 as a whole. The quarterly national account data for public consumption are associated with considerable uncertainty.

The real growth rate in 2008 (which includes additional spending for research and education etc. under the "globalization agreement") reflects also a special increase in the resources to services etc. in municipalities and regions. At the same time, the planned spending includes the phasing-in of the quality strategy, which aims to strengthen public services and making jobs in the public sector remain attractive.

New estimates for public consumption growth in 2007 and 2008 will appear in the coming *Economic Survey,* to be released around February 1st 2008. (English summary will be available).

From 2001 to 2008 total real growth of public expenditures on services etc. is estimated at approximately 45 bill. DKK (2008-prices), *cf. figure 4.1b.*

In the years since 2001 resources have especially been allocated to public services provided by counties and municipalities. Health expenditure has been increased by 21 bill. DKK from 2001 to 2008, and social service expenditure has been raised by 11 bill. DKK – benefitting children, elderly and vulnerable groups. The increase in expenditures for education amounts to 11 bill. DKK from 2001 to 2008, *cf. figure 4.1b.*

Figure 4.1a
Real growth of expenditure on public service etc. 2000-2015

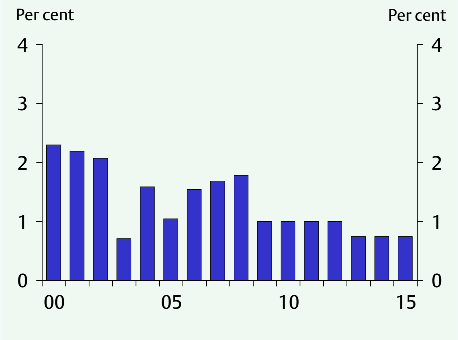


Figure 4.1b
Growth of expenditure on public service etc., 2001-2008

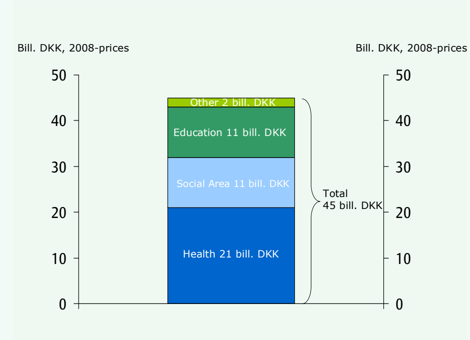


Figure 4.1c
Expenditure on public service etc. as a per cent of GDP, 1984-2015

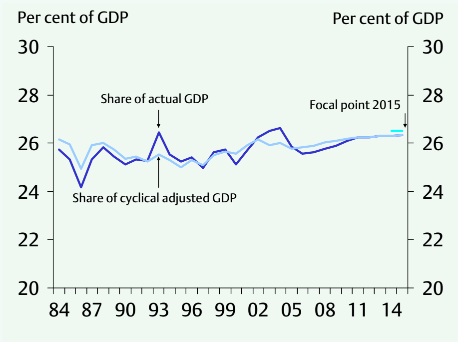
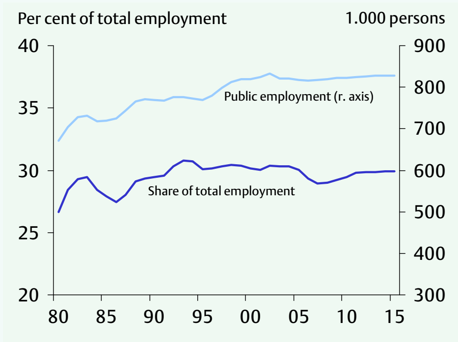


Figure 4.1d
Public employment, 1980-2015



Source: Statistics Denmark and own calculations.

In the context of fiscal sustainability and pressures on taxation, what matters is *nominal* spending in relation to the tax base. The assumed real growth of public consumption corresponds to a nominal growth rate of approximately 4 per cent per year on average during 2008 to 2015. A nominal growth rate of approximately 4 per cent per year implies that public consumption makes up an unchanged or slightly increasing share of the economy towards 2015.

From 2006 to 2008 public consumption increases as a share of GDP by approximately 0.2 percentage points – reflecting among other things an average real growth in public consumption of 1.7 per cent in 2006-2008. From 2008 to 2015 cyclical conditions are technically assumed to normalize, and combined with a real growth rate of public consumption of 1 per cent per year in 2009-2012 and ¾ per cent per year in 2013-2015, this causes public consumption to increase by ½ per cent of GDP from 2008 to 2015.

The 2015-plan includes a medium term objective for public consumption spending, implying that nominal public services expenditure may amount to no more than 26½ per cent of cyclically-adjusted GDP in 2015. With relatively high expenditure growth, continued tax freeze and the prospect of balanced public finances in 2015 it is especially important that agreements with local governments on the economy in municipalities and regions are adhered to.

Developments in public employment towards 2015 depend on how resources for public services are allocated between public employment and purchases of goods and services (net) from the private sector. This depends on the local priorities in the individual units of the central government, regions and municipalities. The 2015-plan does not include targets for public employment (and neither did the former 2010-plan).

Based on the assumed real growth in resources and other elements, public employment is assumed to equal 30 per cent of total employment in 2015, i.e. the same share as in 2005 (when cyclical conditions were largely neutral in terms of their impact on the level of employment), cf. *figure 1.4d*. The scenario implies an assumed increase in public employment from approximately 817.000 persons in 2007 to approximately 827.000 persons in 2015 - an increase of approximately 10.000 persons or 1.2 per cent.

The share of social transfer expenditures in GDP is rather dependent on the business cycle. Transfer expenditure, excluding student grants and retirement pension, decreases in the 2015 projection from approximately 11 per cent of GDP in 2005 – a year with a largely neutral impact of the business cycle on the labour market – to just below 10 per cent of GDP in 2015. Due to a larger number of persons above 65 years old and the target that more young people should complete youth education, total transfer expenditures including retirement pension and student grants is around 16½ per cent of GDP in 2005 and 2015.

From 2006 and 2015 transfer expenditures are assumed to increase by 1 percentage point, reflecting among other things the normalisation of the cyclical position. The increase is limited by the assumed reduction of structural unemployment to 4 per cent of the labour force. The structural policy requirements concerning employment and working hours in the 2015-plan reduce transfer expenditures by close to ½ per cent of GDP towards 2015, other things equal.

4.6 Net lending by sub-sectors

The central government is projected to run (gradually decreasing) surpluses in the entire period towards 2015, while local governments' finances are assumed to be in balance in the projection period, *cf. table 4.6*. The central government budget balance (net lending) declines from 5.1 per cent of GDP in 2006 to 0.4 per cent of GDP in 2015. As previously mentioned, the reduction of the budget surplus reflects - among other things - the gradual normalisation of the present very strong cyclical position.

Table 4.6
Public finances by sub-sectors

	ESA	2006	2007	2008	2009	2010	2015
Per cent of GDP							
General government budget balance	S13	4.7[1)]	3.9	3.1	2.1	1.3	0.4
Of which:							
Central government	S1311	5.1[1)]	3.8	3.1	2.1	1.3	0.4
Local governments	S1313	-0.4[1)]	0.0	0.0	0.0	0.0	0.0
Social funds	S1314	0.0[1)]	0.0	0.0	0.0	0.0	0.0

Note: It is technically assumed that net lending is balanced with respect to the local government sector as a whole for the period 2007-2015.
1) In November the general government budget surplus was revised to 4.9 per cent of GDP by Statistics Denmark. The central government surplus amounts to 5.3 per cent of GDP, while the local governments' deficit on national accounts basis amounts to 0.5 per cent of GDP. For social funds, net lending still amounts to 0.0 per cent of GDP in 2006.
Source: Statistics Denmark and own calculations.

The finances of local governments should in principle balance on a cash basis. The annual agreements on local government finances ensure full financing of the agreed expenditure growth, in part through the local government block grant. This is done within the tax freeze, which applies for municipalities as a whole, and counties as a whole, respectively.[7]

In individual years there may be local government surpluses or deficits – on a national accounts basis (net lending) – of a certain magnitude. Statistics Denmark's latest figures for public finances in 2006 (published on November 5th 2007) implied a deficit on national accounts basis (net lending) in local governments of 7.4 billion DKK or 0.5 per cent of GDP. In the distribution of the government budget surplus across sectors in table 4.6, the local government budget balance is assumed to balance from 2007.

The *social funds* include the unemployment funds and the employees' wage guarantee fund (LG). Net lending in social funds rounds off to 0.0 per cent of GDP in all the years 2006-2015.

4.7 Public debt

The expected government surpluses contribute to an estimated decline in the general government consolidated gross debt (EMU-debt) from 30 per cent of GDP in 2006

[7] Following the local government structural reform and considerations related to economic stability and complying with the tax freeze, a ceiling on the tax percentage exceptionally applies in every municipality in 2006 and 2007.

to 21¾ per cent of GDP in 2008. The projection implies a further reduction in EMU-debt to around 18¾ per cent of GDP in 2010 and 15½ per cent of GDP in 2015, *cf. table 4.7*.

Table 4.7
General government gross debt (EMU-debt)

	2006	2007	2008	2009	2010	2015	2006-15
Per cent of GDP							
EMU-debt (end-year level)	30.1	25.6	21.6	19.2	18.6	15.5	
Change in debt ratio		-4.5	-4.0	-2.4	-0.6	-0.6	-14.6
Contributions to change in debt ratio:							
- Primary budget balance		-3.6	-2.8	-1.6	-0.7	0.5	-8.0
- Interest payments (net)		-0.2	-0.3	-0.5	-0.6	-0.8	-5.4
- Nominal GDP growth		-1.0	-0.9	-0.6	-0.6	-0.6	-6.2
- Financial conditions etc.[1]		0.4	0.0	0.3	1.3	0.4	5.0

1) Financial conditions etc. reflect e.g. ATP's and The Social Pension Fund's (Den Sociale Pensionsfond) stock of government bonds, which are deducted in the EMU-debt. To this the effect on the EMU-debt from revenues due to reallocation of government assets (privatization etc.), payment changes on the tax area, issue price losses, relending to state guaranteed entities etc. should be added.
Source: ADAM's databank and own calculations.

The EMU-debt is thus brought down faster than in the path set out in the former government's original 2010-plan, *cf. En holdbar fremtid – Danmark 2010, January 2001* (not available in English) *and figure 4.2a*. The reduction of the EMU-debt reflects, among other things, strong cyclical developments and large revenues from the North Sea activities.

Figure 4.2a
Reduction of EMU-debt

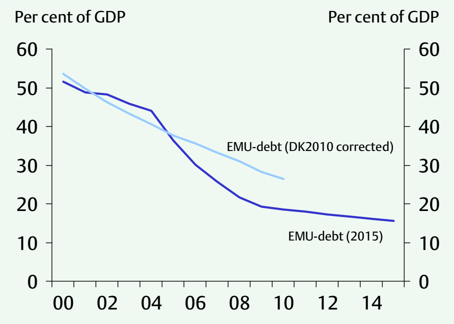
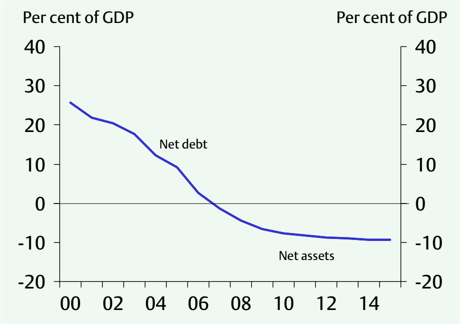


Figure 4.2b
Public net debt



Source: Statistics Denmark and own calculations.

In total, EMU-debt is assumed to be reduced by approximately 14½ per cent of GDP from 2006 to 2015.

The projected surpluses on the primary balance of the central and local governments contribute approximately 8 per cent of GDP to the total reduction of the EMU-debt ratio from 2006 to 2015, while central and local governments' cumulated net interest revenues amount to just below 5½ per cent of GDP during the same period, cf. table 4.7.

Next, the projected growth in nominal GDP implies a reduction in EMU-debt of approximately 6¼ percentage points, when debt is measured as a share of GDP.

Finally, financial transactions etc. – which includes bond emission losses, re-lending to state guaranteed entities, revenues from reallocations of state assets and ATP's holding of government bonds – increases EMU-debt by around 5 per cent of GDP from 2006 to 2015.

Public sector financial assets are not included in the EMU-debt measure. Statistics Denmark's national accounts-based general government net debt includes all public financial assets and liabilities in state, regions, municipalities and social funds. For instance, state assets related to re-lending to state-guaranteed entities and share holdings are included.[8]

In 2000, public net debt amounted to 25¾ per cent of GDP. By the end of 2007 public net debt is expected to turn into a net asset position, *cf. table 4.8*. The budget surpluses in the following years imply that net assets are maintained at around 5-10 per cent of GDP towards 2015. Favourable conditions in these years – e.g., relatively large North Sea revenues and a comparatively large number of persons in the most active age groups – are thus exploited to maintain fairly high public savings. This enables the financing of possible additional expenditures, when the old-age groups are particularly large.

Table 4.8
Different public debt concepts and trends, end-year

	2000	2006	2007	2008	2009	2010	2015
Per cent of GDP							
EMU-debt	51.5	30.1	25.6	21.6	19.2	18.6	15.5
Public net debt[1)]	25.7	2.7	-1.2	-4.3	-6.5	-7.6	-9.2
Net debt of central government and local governments[2)]	26.8	2.8	-1.2	-4.2	-6.4	-7.5	-9.1

1) Technically projected in light of the general government budget balance.
2) Technically projected in light of the budget balance of central government and local governments.
Source: Statistics Denmark and own calculations.

[8] Public net debt is based on market values (as opposed to EMU-debt). Changes in net debt reflect the public balance (net lending) in national accounts, but are also affected by prices on financial assets and liabilities.

Net wealth in the social funds (i.e. the unemployment funds and the employees' wage guarantee fund) amounts to around 0.1 per cent of GDP for the years 2006-2008. Thus, there is only a marginal difference between the national account figures for total public net debt and net debt of central government and local governments.

Net debt is the most relevant measure when assessing the sustainability of public finances.[9] It can be noted, that even a very large extra reduction of debt (in excess of what is required to meet the sustainability requirement) of, say, 10 per cent of GDP (corresponding to approximately 170 bill. DKK at 2007-level) would only allow permanent additional expenditures/less revenues of approximately 0.2 per cent of GDP (corresponding to approximately 3 bill. DKK at 2007-level).

4.8 Institutional set-up

As previously mentioned, the key guideposts for the planning of public finances and fiscal policy are:

- *Fiscal policy*: Should contribute to economic stability – including by focusing on the fiscal impact on economic activity as measured by the fiscal effect – and sustainable developments in public finances over the longer term, as well as maintaining structural surpluses until 2015, *cf. chapter 2*.
- *Expenditure policy*: The planned growth in real expenditures on public service etc. – public consumption – follows the 2015-plan. Within the sustainable scenario, nominal public consumption expenditure can amount to, at most, 26½ per cent of cyclically-adjusted GDP in 2015.
- *Tax policy*: The tax freeze is the focal point of tax policy.

Fiscal policy objectives are based on the national accounts specification of public expenditures and revenues, whereas the concrete implementation of fiscal policy is based on the fiscal bill and local government budgets that are specified according to other accounting principles, classifications etc. than the national accounts. To be able to compare the actual budgeting to the fiscal policy objectives, Statistics Denmark provides a detailed specification of public budgets on a national accounts basis.

The budget process and agreements on the economy of local governments

The annual process of budgeting in the central government begins in early spring, as the government determines the overall allocation of real public consumption growth to expenditure areas, including the scope for local government public consumption. On this basis, expenditure ceilings are reported to the individual ministries.

The individual ministries allocate the reported expenditure ceilings between government administrations and institutions etc., who draw up a budget complying with the

[9] The definitions concerning public net debt are consistent with those concerning net lending in the national accounts.

assigned expenditure levels. The budget proposal is subsequently compiled from the individual ministerial contributions.

Part of the central government cost-budget rests on fixed expenditure allocations. This applies for central government current expenses and some grants. The fixed expenditure allocations imply that the individual ministries are to a large extent allowed to make reallocations within the determined expenditure ceiling. The fixed expenditure allocations do not apply for cyclical expenditures, statutory transfer expenditures, interest expenditures on central government debt and EU-contributions.

In June, the central government enters an agreement with the local governments agree on their overall expenditure and tax levels and guidelines for political and economic priorities. The agreements are collective and apply for all municipalities and all regions as a whole, respectively. The agreement is not legally binding and may thus be hard to enforce. The system is described briefly in *box 4.2*.

The November 2007 government program states that the framework for agreements on the economy of the municipalities shall be discussed with Local Government Denmark (LGD), and on the basis hereof, proposals for a new budget framework will be put forward with a view to ensure that budgets for municipalities in total are in accordance with the tax freeze and the agreements with the central government.

The government presents the budget proposal for the coming year in August.[10] Subsequently, the budget proposal is subject to political reading in the Danish Parliament. Typically, a political agreement on the fiscal bill is reached between the government and one or more political parties in November, and the fiscal bill is thus normally adopted in December. Due to the holding of elections on November 13th 2007, the government presents a new Budget Proposal for 2008 around February 1st.

During the fiscal year the ministries are responsible for monitoring expenditure developments. The ministries are obliged to seek to finance any additional expenditure through savings elsewhere. The ministries are also obliged to inform The Ministry of Finance and the Danish Parliament about changes in the assumptions/premises for example in relation to cyclical expenditures. During the fiscal year the ministries prepare two or three reports on expenditure developments to the Ministry of Finance.

The Ministry of Finance therefore has the means to monitor developments in total central government expenditures. Expenditure developments are reported to the Danish Parliament in Budget Outlooks published in May, August and December. The public accounts are usually available in April, i.e. about 4 months after the end of the fiscal year.

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[10] The fiscal year follows the calendar year.

Box 4.2

Agreements on the economy in local governments

The local government budgeting is indirectly influenced by the government, partly through legislation and rules determining the span of local government activities in different areas, partly via a yearly agreement on the economy in local governments.

With one exception, every year in June since 1989 the government and each of the two local government organisations Local government Denmark and the Association of County Councils have reached an agreement. The agreements include agreement on the size of the local government block grant and other grants to local governments plus the rules applying for local government lending. Local government organisations, on the other hand, promise to recommend to their members (i.e. individual municipalities and counties/regions) to comply with the agreed expenditure limits regarding current expenses and capital expenses.

The legislation does not contain general rules for sanctions, if the agreements are not adhered to. Every year the government decides whether or not the agreements have been kept and whether or not to react to overruns of the agreements and/or the budgets. The individual municipalities and counties/regions adopt their budgets for the following year in October, while the accounts for the previous year are usually available in May. In 2007 the Association of County Councils is replaced by Danish Regions.

5. Long run projections and fiscal sustainability

5.1 The Welfare Agreement addresses long run pressure on public finances

The Welfare Agreement provides increased assurance against substantial financial imbalances developing over the longer run as life expectancy and the number of elderly citizens is set to increase.

The long-term projection underlying Convergence Programme 2007 incorporates already-decided economic policy initiatives, including the Welfare Agreement, which reaches far into the future. No political decisions have yet been made with respect to fiscal priorities after 2015. The projections after 2015 are based on technical calculation principles and also include the assumed effects of the Welfare Agreement, the Quality fund for public investments until 2018 and objectives in the energy- and climate area covering the period up to 2025.

After 2015, the following calculation principles are applied:

- Nominal public consumption expenditures increase in line with wage growth and the estimated demographically-induced demand for public services. Public sector wages grow in line with private wages, and net purchases of goods and services from the private sector are set to be a constant share of public consumption expenditures. These principles imply that the number of (private and public) employees "per user of public services" can be maintained unchanged in the projection.
- Income benefits are assumed to rise in line with private sector wages, so that replacement rates are constant.
- Labour participation rates and the incidence of various income benefits are assumed constant by age, gender and country of origin. The overall (structural) unemployment rate is constant. The assumed effects of the Welfare Agreement beyond 2015 are added to these assumptions. This mainly concerns the pension reform, including the agreed indexation of the age thresholds in the voluntary early retirement pension (VERP) and public old-age pension in line with longevity, and (with lesser impact) the initiatives regarding education.
- The projections of public investments are derived from the principle that the ratio between the gross public capital stock and public production of goods and services is constant from 2018, when the Quality fund ends.
- Public subsidies and net foreign transfers are constant relative to GDP.
- The tax burden is unchanged. Hence, tax rates remain constant and excise duties etc. are indexed to prices.
- The revenue from taxation of the North Sea activities are projected on the basis of The Danish Energy Authority's long run forecast of oil and gas production and the oil price projections of the International Energy Agency (IEA).

- A gradual improvement in energy efficiency is assumed in both consumption and production. The estimated fiscal consequences of the objectives in the energy and climate strategies are also included. This concerns subsidies to energy saving schemes and renewable energy and, most importantly, lower revenue from energy taxes because of lower energy consumption.

The projections imply a deterioration in the structural primary balance of the central and local governments (i.e., the actual balance purged of cyclical and transitory factors and excluding net interest payments) by some 2 per cent of GDP towards 2070, *cf. figure 5.1a*. Changes in the primary balance as a share of GDP are – aside from the effects of the Welfare Agreement – caused mainly by higher expenditure for health and elderly care related to demographics, higher tax revenue from private sector pension payments and lower revenues from North Sea activities as oil and gas reserves are gradually depleted.

Without the initiatives in the Welfare Agreement, the deterioration in the primary balance through 2070 would be several times larger, *cf. figure 5.1b*. This primarily reflects higher pension expenditures and lower employment in the absence of the Welfare Agreement. The new priorities and structural reform requirements in the 2015-plan only marginally affect the structural primary balance, *cf. chapter 2* and *appendix 1* for a more thorough account of the priorities and requirements in the 2015-plan.

Figure 5.1a

Change in revenues and expenditures and deterioration of structural primary balance

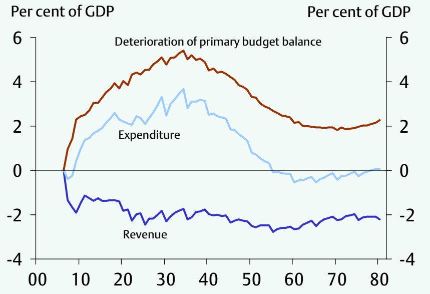
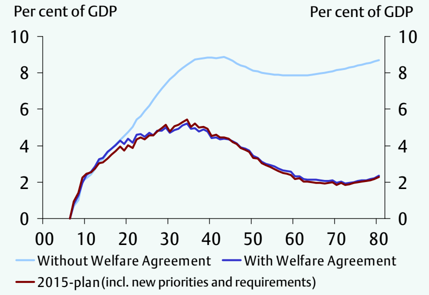


Figure 5.1b

Deterioration of structural primary balance with and without the Welfare Agreement



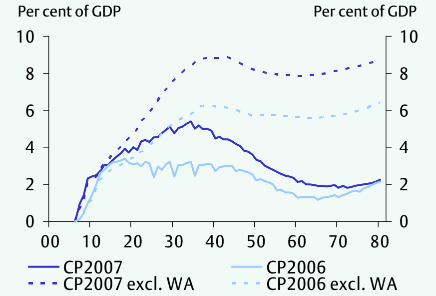
Source: Own calculations.

In a scenario without the Welfare agreement, the underlying deterioration in the structural primary balance is larger than in Convergence Programme 2006, *cf. figure 5.2a*. The main reason is a shrinking tax base for indirect taxes (as well as expenditures for energy saving schemes and support for renewable energy sources) because of improved energy efficiency over time and the objectives for reduced energy consumption in the Energy- and Climate Strategy, cf. *Towards New Goals – Denmark 2015, Technical background paper, Ministry of Finance, December 2007.*

The population projection is unchanged compared to Convergence Programme 2006. The expected increase in longevity in the current projection is broadly in line with projection of other institutions including e.g. Statistics Denmark and the UN, and also with the population scenario applied in the European Commission's evaluation of long-term sustainability (*The Long-term Sustainability of Public Finances in the European Union, European Commission, 2006*).

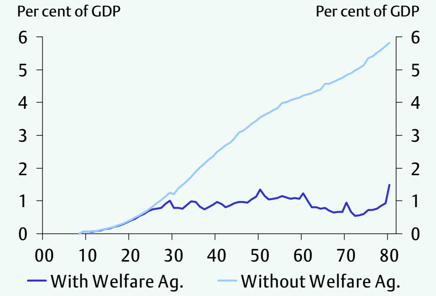
Figur 5.2a

Deterioration of structural primary balance compared with Convergence Program 2006



Figur 5.2b

Deterioration of structural primary balance owing to increased longevity for 60-year olds



Note: Fiscal policy is precisely sustainable in the 2015-plan, even though the deterioration of the structural primary balance exceeds the projection in the Convergence Program 2006 (where fiscal policy was slightly unsustainable). This is due to a better starting point in 2006 with a larger structural surplus and lower net public debt than in CP2006.

Source: DREAM and own calculations.

The Welfare Agreement addresses the long run fiscal challenges stemming from longer life expectancy, which more or less automatically would lead to more years in retirement in the absence of the Welfare Agreement.

The Welfare Agreement also partly helps finance increasing public spending on health and elderly care etc. that follow from longer life expectancy, because the reform strengthen employment, GDP and tax revenue.

Around four fifths of the deterioration in public finances that might otherwise be associated with longer life expectancy as of today is estimated to be offset by the agreed indexation of the age thresholds in the VERP and public old-age pension in line with longer longevity and better health[1].

From 2025 and onwards the indexation mechanism guards against any additional deterioration of the primary balance due to longer longevity, *cf. figure 5.2b*.

[1] In addition, the age thresholds for VERP and old age pension are raised by 2 years during 2019-22 and 2024-27 respectively. This increase in the retirement age is independent of future developments in longevity, but may be seen in light of the increase in life expectancy of 60 year olds since 1995.

5.2 Fiscal sustainability and the required public surplus

A key objective is to secure fiscal sustainability given the set of assumptions which has been adopted with respect to interest rates, life expectancy and so on. This means that fiscal policies – including the level of taxation – can be sustained after 2015 without leading to an uncontrolled rise in the net debt of central and local governments.

The sustainability calculation provides a test that fiscal policies are consistent over time, so that – given the underlying assumptions – no major adjustment needs arise after 2015. The computational principles after 2015 do not represent fiscal targets. No political decisions have been made with respect to fiscal priorities after 2015.

Table 5.1 illustrates that fiscal policies – under the assumptions made – precisely meet the requirement of fiscal sustainability.

Table 5.1

Fiscal sustainability in 2006

	Per cent of GDP
Pct. af BNP	
1. Central and local government primary budget balance, structural	2,2
2. Interest burden on public net debt	0,0
3. Contribution from increase in net expenditures, structural	-2,2
4. **Sustainability indicator (1-2-3)**	0,0

Source: Own calculations.

Essentially, the breakdown in table 5.1 shows that the primary surplus of central and local governments in 2006 corresponds to the necessary – or sustainable – level of savings required to finance the interest burden on public debt and future net obligations that result from population ageing and other factors (including the Welfare Agreement and in the absence of future policy changes)[2].

In 2006, the structural primary surplus of the central and local governments is estimated at 2.2 per cent of GDP, *cf. table 5.1* (row 1). This surplus – which excludes e.g.

[2] The calculated sustainability indicator basically corresponds to the s2-indikator in the EU Commission's calculations of fiscal sustainability, but with the Ministry of Finance's calculation model and –principles. The calculation principles deviates from the ones used in *The Long-term Sustainability of Public Finances in the European Union, European Commission, 2006* on a number of points. This primarily concerns: a) the calculation of the structural balance in the base year 2006 is based upon the Ministry of Finance's method, which among other things corrects for temporarily high revenues from the tax on pension yield and on activities in the North Sea (in total, corrections for special items amounts to 1.1 per cent of GDP in 2006, *cf. chapter 4*); b) includes the effects of the Welfare Agreement, which is decided policy; c) takes account of tax revenues from rising future net pension payouts; d) uses the population projection provided by DREAM (instead of the EU projection); and e) applies a different interest rate assumption in the long term. In addition, there are differences with regard to e.g. the time horizon of the calculations, the applied debt and primary budget balance definitions etc.

cyclical effects on public finances – may be seen as the current surplus needed to finance net interest expenditures and rising future net obligations for the public sector.

The net debt of central and local governments carries an interest burden of about 0.0 per cent of GDP (row 2). The burden consists of the part of interest expenditures not eroded by nominal GDP growth. The interest burden has to be financed to prevent public debt from rising as a share of GDP.

The future net obligations of the public sector can be converted into a fixed annual amount (annuity) of around 2.2 per cent of GDP in 2006 (*row 3*) [3].

Altogether the updated economic forecast and fiscal policy basis implies that the sustainability indicator is 0.0 per cent of GDP.

The initiatives in the Welfare Agreement lower the net future obligations of the public sector to the above mentioned 2.2 percent of GDP. When the effects of the Welfare Agreement are *not* taken into account the future net obligations are around 6 per cent of GDP in 2006, *cf. table 5.2 (row 2)*.

Net future obligations in the absence of the Welfare Agreement have been adjusted upwards compared to Convergence Program 2006. This is partly due to the inclusion of gradually improving energy efficiency in the projection and partly because of a lower real interest rate; hence future deficits have larger weight when converted into a fixed annual amount (annuity).

The future net obligations of the public sector without the Welfare Agreement reflect mainly increasing expenditures for health and elderly care and public pensions due to ageing, and an assumed decline in revenues from North Sea oil and gas activities (row 3a-c). However, the increasing tax revenue from net pension payouts (deferred taxes) pulls in the opposite direction as the taxable payouts from labour market and private pension schemes exceed the tax deductible contributions (row 3.d). The counterpart of these deferred taxes is lower public revenue – and thereby a lower public balance – today, since the pension contributions are tax deductible and the pension system is still being built up.[4]

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[3] The actual primary balance deteriorates by 4.1 per cent of GDP converted into a fixed annual amount. Around half reflects the assumed normalization of the cyclical conditions and other temporary factors. These temporary factor include contributions to the primary balance from non-cyclical public revenue that show large yearly fluctuations, i.e. corporate taxes and pension yield taxation etc.

[4] To get a correct picture of fiscal sustainability in Denmark and other countries with similar rules for taxation of pension savings, it is important to take the value of deferred taxes into account.

Tabel 5.2
Decomposition of future net obligations of the public sector

	Per cent of GDP
1. Contribution from Increase in net (structural) expenditures	-2,2
2. Increase in net expenditures etc. without the Welfare Agreement [1)]	-6,1
2.a) of which increasing expenditure on health and elderly care[2)]	-3,2
2.b) of which increasing net pension expenditures	-2,4
2.c) of which assumed lower revenues from North Sea activities	-0,8
2.d) of which tax on net pension payouts (deferred taxes)	1,1
2.e) of which other changes in revenue and expenditure	-0,9
3. Contribution from the Welfare Agreement reforms (incl. globalisation spending)	3,9
4. Contribution from new priorities compared to CP2006.	-0,8
5. Contribution from requirements for employment and working hours	0,8

1) Including the priorities in the Convergence Program 2006. I.e. including the tax freeze to 2010 etc. The contribution from future net expenditure is markedly higher compared to Convergence Program 2006. This is due, in part, to a lower real interest rate; hence future deficits have larger weight when converted into a fixed annual amount (annuity).
2) Covering expenditure on health care and social services. Social services include expenditure on both elderly care and child care.
Source: Own calculations.

As mentioned the Welfare Agreement contributes to reduce future net expenditure (primarily old age pension, health and elderly care). Overall the initiatives in the Welfare Agreement (including the resources in the globalisation fund for investments in research and education etc.) are estimated to reduce the net future obligations of the public sector by around 4 percent of GDP, *cf. table 5.2 (row 3)*.

The new priorities in the 2015-plan are estimated to increase future net obligations of the public sector by 0.8 percent of GDP, *cf. table 5.2 (row 4)*. This is, however, precisely offset by the positive contribution from the requirements for employment and average working hours towards 2015, *cf. table 5.2 (row 5)*.

Appendix 1. Comparison with convergence programme 2006

A1.1 Changes to GDP-growth and public finances since CP06

According to preliminary national accounts data, real GDP growth was 3.5 per cent in 2006 – considerably higher than expected in CP06, *cf. table A1.1*. The higher growth has been broadly based. Especially exports and investments but also public consumption have grown faster than expected in CP06.

Average annual GDP growth during 2006-10 is expected to be higher than in CP06. This reflects higher labour force growth, higher average hours worked and lower structural unemployment than assumed in CP06, partly owing to the employment and working time requirements in the 2015-plan.

Table A1.1
Comparison with KP06

	ESA	2006	2007	2008	2009	2010
GDP growth (per cent)	B1*g					
CP06		2.7	2.0	0.7	0.7	0.6
CP07		3.5	2.0	1.3	1.1	0.5
Change		0.8	0.0	0.6	0.4	-0.1
Output gap (per cent of GDP)						
CP06		1.6	1.6	1.1	0.6	0.0
CP07		1.8	2.1	1.8	1.0	0.5
Change		0.2	0.5	0.7	0.4	0.5
Public balance (per cent of GDP)[1]	EDP B.9					
CP06		3.1	2.8	2.5	1.8	1.2
CP07		4.6	3.8	3.0	2.0	1.2
Change		1.5	1.0	0.5	0.2	0.0
Public debt (per cent of GDP)[2]						
CP06[3]		29.9	25.8	22.7	20.4	18.9
CP07		30.1	25.6	21.6	19.2	18.6
Change		0.2	-0.2	-1.3	-1.2	-0.3

1) Excl. ATP.
2) No deduction of ATP's holdings of central government bonds
3) In CP06 the EMU debt was calculated with deduction of ATP's holdings of central government bonds. To ensure comparability with CP07 the EMU debt for CP06 in this table is calculated without deduction of the ATP's holdings of central government bonds as estimated in *Economic Survey, august 2006*.

Source: Own calculations

Based on preliminary data, the general government budget surplus – using the EDP-definition – was 4.6 per cent of GDP in 2006 and thus higher than the estimated surplus of 3.1 per cent of GDP in CP06. Part of the explanation is stronger cyclical conditions, and revenues from the pension yield tax were also higher (0.7 per cent of GDP larger than estimated in CP06).

GDP growth in 2007 is expected to be in line with CP06 assumptions. The output gap however, is expected to be higher (more positive) than in CP06 and the general government budget surplus in 2007 is 1 per cent of GDP higher than expected in CP06. This is due to higher revenues from income taxes and lower expenditures for social transfers. In addition, revenues from the pension yield tax were higher.

CP06 assumed a relatively subdued GDP growth in 2008 (the first medium-term projection year) since the estimated output gap of 1.6 per cent of GDP in 2007 (the last forecast year) was technically assumed to be closed by 2010.

In CP07, somewhat higher growth is expected in 2008 on the basis of the August forecast, which contributes to a higher expected public surplus in 2008 than in CP06. The increase in the expected public surplus is primarily caused by higher revenues from income taxes and lower expenditures on social benefits. Equally, higher corporate tax revenues contribute positively to the public surplus in 2008.

In 2009 and 2010, CP07 assumes moderate output growth of 1.1 and 0.5 percent, respectively, reflecting a technical assumption that the output gap of 1.8 per cent of GDP in 2008 is gradually closed by 2011. The positive output gap reflects, in particular, an unemployment rate at around 3 per cent of the labour force (national definition) in 2008, whereas structural unemployment is estimated to be approx. 4½ per cent in 2008, *cf. chapter 3*.

The scenario in CP07 implies a slightly larger reduction in EMU debt by 2010 than in CP06 (measured in per cent of GDP and with no deduction for ATP's holdings of central government bonds). Thus, in CP07 the EMU debt is assumed to be reduced by 11½ per cent of GDP from 2006-2010, while in CP06 the debt ratio was assumed to be reduced by 11 per cent in the same period.

New guidelines for the EDP-reporting imply that ATP's surplus is not included in the general government budget balance, and that ATP's holdings of central government bonds are no longer deducted in the calculation of EMU debt. This change in practice will in isolation cause a technical adjustment of the EMU debt by some 1¼ - 1½ per cent of GDP.

Compared to CP06, debt is anticipated to decline faster towards end-2009, reflecting higher budget surpluses in 2007-2009. Thus, in CP07, the projected debt ratio falls to 19.2 per cent of GDP by the end of 2009 against 20.4 per cent in CP07.

In 2010, CP07 technically assumes a less pronounced reduction in the stock of outstanding bonds (and an increase in the government's financial assets, for instance via The Social Pension Fund) than in CP06 whereas the budget surplus is the same.

A1.2 Changes to the medium-term assumptions up to 2010

The key changes in the CP07-projection (compared to CP06) include an updated short-term forecast and the government's medium-term economic plan *"Towards new goals – Denmark 2015"*, *cf. box A1.1*.

Box A1.1

Revised assumptions compared to CP06

- New national accounts data and short-term forecasts up to 2008, *cf. Economic Survey, August 2007*.
- Revised methods and assumptions underlying the medium and long term projections.
- New priorities and initiatives as specified in *"Towards new goals – Denmark 2015"*.

The sustainability indicator

The updated forecasts imply an improvement in the underlying structural balance of about 0.4 per cent of GDP in 2006, caused mainly by revisions in the estimated structural level for unemployment and the labour force. In addition, public net debt has been revised downwards in 2006, which in itself has improved the sustainability of public finances by about 0.1 per cent of GDP, *see table A1.2*.

In CP06, the labour market contribution rate was maintained at 8 per cent. When the draft budget bill for 2008 was presented in August, it would be required to reduce the contribution rate from 8.0 to 7.5 in 2008, given the estimated surplus in the labour market fund and existing law. A permanent reduction in the contribution rate to 7.5 per cent would reduce fiscal sustainability by 0.2 per cent of GDP (including indirect effects on the indexation of social benefits and the tax base for indirect taxes).

The technical assumptions underlying the medium- and long term projections have been revisited. The key technical revisions relative to CP06 concern interest rates over the longer term, the evolution in energy intensities in line with the assumptions underlying the energy- and climate strategies, and long-term effects of the retirement reform from 2006. Overall, the technical revisions reduce the fiscal sustainability indicator by 0.1 per cent of GDP.

Given the improved fiscal starting point and revised technical assumptions, fiscal policy is assessed to be sustainable. This scenario is the basis, on which the fiscal policy priorities and structural reform requirements concerning employment and working hours in the 2015-plan are implemented.

Tabel A1.2
Revisions to the fiscal sustainability indicator

	Per cent of GDP
1. Convergence programme 2006	**-0.2**
- Revision of the structural primary budget balance in 2006	0.4
- Revision of the interest burden on net debt	0.1
- Labour market contribution (according to former rules)	-0.2
- Revision of methods	-0.1
2. Updated 2010-scenario	**0.0**
3. Fiscal policy priorities	
- Quality fund (public investments)	-0.1
- Public service etc. (2007-2015)	-0.1
- Tax freeze until 2015[1]	-0.3
- Effects of tax agreement	0.0
Of which:	
- reduction in income taxes[2]	*-0.5*
- derived increased revenue from VAT etc.[3]	*0.1*
- abolition of labour market fund[4]	*0.15*
- indexation of energy taxes[5]	*0.15*
- increase in labour supply[5]	*0.1*
- Continued suspension of special pension contributions	0.0
- Energy strategy	-0.3
4. Structural reform requirements	
- Increase in employment of 20.000 persons	0.3
- Unchanged average working hours towards 2015	0.5
4. Convergence programme 2007 (2+3+4)	**0.0**

1) Excl. indexation of energy taxes.
2) Direct effect.
3) Higher revenue from indirect taxes caused by increased private consumption as a result of the reduction in (labour) income taxes.
4) Denotes the effect of maintaining the labour market contribution rate at 8.0 per cent in stead of reducing it to 7.5 per cent. Excluding the effects of the wage indexation of welfare benefits, cf. the tax agreement of September 3rd 2007.
5) According to table 3 p. 7 in "Lower tax on labour income" of September 3rd 2007, the permanent effect of the indexation of energy duties is estimated to be 4 bill. kr. (0.2 per cent of GDP) and the contribution from indirect effects on labour supply etc. is estimated at ¾ bill. kr. (approx. 0.0 per cent of GDP). The mentioned indirect effects on labour supply include indirect effects of the indexation of energy duties on the composition of consumption, which reduce the effect on fiscal sustainability of higher energy taxes. This table is based on simulations of the ADAM-model. Hence, the effects of indexation of energy duties on fiscal sustainability includes some indirect effects and amounts to 0.15 per cent of GDP, while the effect of increased labour supply does *not* include indirect effects concerning the indexation of energy duties and amounts to 0.1 per cent of GDP.

Source: ADAM databank and own calculations.

The 2015-plan includes new fiscal priorities concerning public consumption and investments, energy strategies and income taxes which were not included in CP06. Furthermore, CP07 includes new structural reform requirements for employment and working hours. The fiscal policy priorities and structural reform requirements combined do not affect fiscal sustainability. Hence the combined 2015-scenario is sustainable.

The priorities concerning expenditure and tax policies will, in themselves, weaken the government budget balance. In the absence of other initiatives there is a risk that the current budget surpluses will turn into deficits by 2015. In this vein, the requirements concerning employment and working hours ensure that fiscal policy meets the objectives of long-term sustainability and surplus or balance through 2015.

Overall the estimated fiscal sustainability indicator in CP07 is somewhat higher than in CP06, *cf. table A1.3*.

Higher public investments in view of the Quality fund reduce the general government surplus towards 2015 and reduce fiscal sustainability by 0.1 per cent of GDP compared to the path for public investments assumed in CP06.

The real growth in public service expenditures from 2006 to 2015 is slightly higher than in CP06. The scenario includes real spending growth of 1¾ per cent in 2007-2008 and lower expenditure growth in the following years. Overall the path for public consumption from 2006 to 2015 reduces fiscal sustainability by 0.1 per cent of GDP compared to CP06.

Continued freezing of excise duties in nominal terms and the nominal cap on the property value tax base in accordance with the tax freeze from 2011 to 2015 weakens the fiscal sustainability indicator by ¼ per cent of GDP – if energy duties were not indexed.

Overall, and relative to this basis, the tax agreement does not affect fiscal sustainability (in the sense that the income tax reductions replace reductions that would otherwise have taken place under previous rules etc., see below). The direct loss of revenue caused by the 9½ billion kr. combined reduction of income taxes (2008-level) – which is implemented with a 4.2 b. kr. tax cut in 2008 and a 5.5 b. kr. tax cut in 2009 – corresponds to a permanent reduction in the budget balance of 0.5 per cent of GDP as from today. As income taxes are reduced, higher private consumption causes what corresponds to a permanent increase in indirect tax revenues amounting to 0.1 per cent of GDP.

The income tax reduction replaces the reduction of the labour market contribution rate from 8 to 7.5 per cent, which would have been required under previous rules given the projected surplus in the labour market fund. Keeping the labour market contribution rate unchanged at 8 per cent strengthens fiscal sustainability by 0.15 per cent of GDP compared to a scenario where the labour market contribution rate had been reduced to 7.5 per cent (for given income benefit levels, but including consumption effects on indirect tax revenues etc.)

In addition, energy duties are indexed by the medium term inflation rate of 1.8 per cent, implying that the real value of excise duties will not be eroded by inflation as of 2008. The revenue caused by indexation of energy duties strengthens fiscal sustainability by 0.15 per cent of GDP (relative to frozen nominal duties). The entire revenue gain will - in accordance with the tax freeze – be used for lowering taxes on income. Moreover, the indexation of energy duties supports the objectives in the climate- and energy strategies.

The tax reduction is estimated to increase labour supply by approx. 8.000 full-time equivalents, in particular caused by an increase in average working hours as a result of lower marginal tax rates, which will affect a broad section of the labour market. The assumed dynamic effects of, in particular, the income tax reductions on labour supply contribute in themselves to the fiscal sustainability indicator by 0.1 per cent of GDP.

Overall, the September tax agreement is in itself neutral with respect to the projected general government budget balance for 2008. Subsequently the balance is estimated to be weakened by approx. 0.1 per cent of GDP for a short period. In the long run, the increasing revenue from the indexation of energy duties will cause the effects on the budget balance to be approximately neutral (marginally positive).

The effects on fiscal sustainability of the continued suspension of the special pension-scheme is negligible. The suspension is technically assumed to be permanent, which strengthens the budget balance by 0.3 per cent of GDP towards 2015, but weakens the budget balance in the long run.

The objectives in the climate and energy strategies to keep energy consumption unchanged, and at the same time increase the share of renewable energy, weakens fiscal sustainability by 0.3 per cent of GDP. Of this, 0.1 per cent point is due to the Energy plan from 2005. The public finance impact of the objectives and instruments in the climate and energy strategies depend on the ongoing political negotiations and are uncertain.

To ensure that the planned fiscal policies are sustainable, and that the budget position is at least in balance by 2015, the 2015-scenario sets out requirements in the areas of employment and working hours.

The requirement that new labour market initiatives permanently increase unsubsidized employment by 20.000 persons by 2015, strengthens fiscal sustainability by approx. 0.3 per cent of GDP.

The requirement that the average number of working hours does not decline up to 2015, strengthens fiscal sustainability by approx. ½ per cent of GDP.

Appendix 2. Sensitivity analysis

A2.1 Sensitivity to changes in foreign growth, interest rates etc.

External assumptions

The CP07 projection is based on the latest *Economic Survey* released in August 2007. The assumptions regarding the international economy are based in part on the Spring forecast of the Commission, adjusted for new information up until the beginning of August. The external assumptions (see appendix table B.8) are quite close to those of the Commission's Autumn projections and the common external projections, which Member States (especially Euro area and ERM II members) are invited to adopt in their Stability and Convergence Programmes.

The Autumn forecasts of the European Commission and the common external assumptions deviate from the external assumptions in the CP notably in the following areas, *see also table A2.1a*:

- The export market growth for industrial goods is unchanged in 2007 and 0.4 percentage points lower in 2008 than in the August *Economic Survey*.
- The Brent oil price is assumed to be 70.6 and 78.8 USD per barrel in 2007 and 2008 respectively. In the August *Economic Survey* the oil price was assumed to be 70 and 68 USD per barrel respectively.
- Short-term interest rates are 0.1 and 0.4 percentage points lower in 2007 and 2008 respectively than in the August survey.
- The dollar exchange rate is unchanged in 2007 and about 2 percent lower in 2008.

Table A2.1a
External assumptions

	2007		2008	
	Aug.	Based on EU fall projection	Aug.	Based on EU fall projection
Export market growth[1]	6.9	6.9	6.6	6.2
Brent oil price, USD per barrel	70.0	70.6	68.0	78.8
Interest rates, percentage points		-0.1		-0.4
Dollar exchange rate	5.5	5.5	5.4	5.3

1) Export market growth for manufactures, real annual growth in percent.

In view of the general elections held on 13 November 2007, fiscal policy for 2008 has not yet been finalized. Hence, the latest estimates for public consumption and investments in 2008 are from the August *Economic Survey*.

Model simulations suggest that applying the common external assumptions would leave GDP growth unaffected in 2007 relative to the August *Economic Survey* and would increase 2008 growth from 1.3 to 1.4 percent*, cf. table A2.1b*.

For 2007, a positive growth impact from lower interest rates is off-set by a negative impact of the (small) downward adjustment of the dollar exchange rate, the slightly stronger effective exchange rate and a somewhat higher oil price. The slightly higher GDP growth in 2008 primarily reflects lower interest rates in both 2007 and 2008, which outweigh the modest negative impact of lower export market growth and higher Brent oil prices.

The simulations show the isolated impact of the common external assumptions compared to the assumptions in the August survey. Meanwhile, quarterly national accounts data presently point to slightly lower growth in 2007 than anticipated in August, although with some renewed impetus more recently.

The general government budget balance is unaffected in 2007, while the 2008 budget balance is strengthened by higher activity and larger revenues from the North Sea activities related to the higher Brent oil price.

The balance of payments surplus is unaffected in 2007, but is reduced slightly in 2008, mainly because higher domestic demand increases imports.

In sum, the differences in the external assumptions give rise to only marginal changes in GDP growth, public finances and other variables.

Table A2.1b
Effects of alternative assumptions

	2007		2008	
	Aug. 07	Aug. 07 + EU-assumptions	Aug. 07	Aug. 07 + EU-assumptions
GDP growth, per cent	2.0	2.0	1.3	1.4
Per cent of GDP				
Government budget balance	3.9	3.9	3.1	3.2
Balance of payments	1.7	1.7	1.3	1.2

Source: Own calculations on the ADAM model.

Interest sensitivity of public finances

The short term *interest rate sensitivity* of public finances is illustrated in *table A2.1c*. A permanent rise in foreign and domestic interest rates of 1 percentage point along the entire yield curve is estimated to worsen the public balance by approximately 0.7 per cent of GDP in 2008, 1.1 per cent of GDP in 2009 and 1.0 per cent of GDP in 2010. Thus, the interest rate sensitivity of the public balance is rather high in the short run, primarily because taxes on pension fund yields are calculated on an accrual basis.

Table A2.1c

Estimated impact of a permanent 1 percentage point interest rate increase at home and abroad

	2008	2009	2010
Real GDP level, per cent	-0.3	-1.4	-1.6
Public balance[1)], per cent of GDP	-0.7	-1.1	-1.0
Primary balance[2)], per cent of GDP	-0.8	-1.1	-0.8
Public EMU-debt, per cent of GDP	0.7	2.0	2.9
Public net debt, per cent of GDP	2.0[3)]	3.0[3)]	3.8[3)]

1) Based on national account principles, i.e. excl. ATP
2) Defined as public balance excluding net interest payments
3) Including revaluation effects on net assets.
Source: Own calculations on the basis of ADAM and OECD standard multipliers

The worsening of the public balance in 2008 and 2009 is caused, in particular, by the change in interest rates from 2007 to 2008, which reduces the revenue from the tax on pension fund returns.[1] Rising bond yields imply losses on the bond holdings of tax-liable pension funds. This reduces the tax base for the pension yield tax considerably. In the August *Economic Survey,* revenue from the pension yield tax amounts to 0.7 per cent of GDP in 2008, which may entirely disappear if interest rates increase by 1 percentage point. In 2009, the revenue from the pension yield tax is estimated to be reduced by 0.4 per cent of GDP, since the interest rate increase implies that negative tax liabilities will be carried forward into 2009. Furthermore, the increase in interest rates dampens foreign and domestic activity. This weakens the public balance through the automatic stabilizers.

The direct impact of higher interest rates on public sector net interest payments is relatively modest in the years 2008-2010. This is because public debt is moderate, because higher yields only affect interest paid on the stock of outstanding bonds gradually, and because the public sector also has interest receipts.

As explained in the next section, higher interest rates would strengthen public finances over the longer term.

A2.2 Robustness of the public finances in the long run

Public finances over the longer run are sensitive to changes in e.g. demographics, employment, life expectancy and interest rates. This partly reflects equal and to some extent free access to central welfare services for all citizens, irrespective of their labour market status, as well as the ”pay-as-you-go” element in the Danish pensions system. Owing in part to concerns about income distribution and insurance, there is

[1] The lower revenue from the pension yield tax in the short term largely reflects a deference of tax revenue. In the longer term, higher yields will increase government revenue from the tax on pension fund returns. In fiscal sustainability terms, higher interest rates actually strengthen public finances.

no actuarial balance between what an individual receives or contributes to the public sector during his or her life.

Changes in the underlying assumptions about employment rates, the demand for public services or other factors may thus affect the assessment of fiscal sustainability. Such changes may pull either in the direction of better or worse public finances than in the central scenario, *cf. box A2.1*.

Box A2.1

Examples of factors that may affect the sustainability of public finances

May weaken public finances:	May strengthen public finances:
Greater demand for public services, increased coverage (take-up) of services, or for instance new costly treatments in health care may lead to higher public consumption than anticipated.	Lower costs or efficiency gains within the public sector may enable the provision of given services at a lower cost. Spending on e.g. collective public consumption may grow at a lower rate than anticipated.
Higher life expectancy and more elderly than anticipated may imply higher spending on health and long-term care.	The demographically-induced demand for health and long-term care may increase less than anticipated due to improved health.
The employment effect of reforms towards 2015 and of the Welfare Agreement may be smaller than assumed.	Retirement reforms may be associated with higher working hours in the affected age groups than assumed.
The requirements for non-declining working hours until 2015 and a lasting increase in employment of 20,000 persons are not met.	Structural employment today may be higher than currently assumed. This may increase the level of employment permanently.
An overvaluation of the fiscal starting point (the structural balance) may imply that the margin available to meet future challenges is too small.	Revenue from the extraction of oil and gas in the North Sea may be higher or last longer than anticipated, for instance due to higher oil prices or improvements in extraction technology beyond what is assumed.
Increased immigration from less developed countries may – given the current employment rates of immigrants – cause spending on public services and income transfers to rise by more than the positive contribution from higher tax revenues.	Increased immigration of highly qualified labour may cause the positive contribution from tax revenues to exceed the expenditure on income benefits and public services. The same effect may be attained through improved integration of immigrants in the form of higher participation rates and lower unemployment.
Increased internationalization may result in increased pressure on mobile tax bases.	The revenue from corporate taxes may continue at a high level, as has been the case since 2001.

Box A2.1 (continued)
Examples of factors that may affect the sustainability of public finances

May weaken public finances:	May strengthen public finances:
Interest rates may be lower over the long-term than anticipated.	Higher returns on equity than on bonds, e.g. for pension savings, may result in higher revenues from the pension yield tax and from income taxes, when increased pension wealth is paid out in higher pensions.
Reduced savings among younger generations as the Welfare Agreement extends working life and reduces the need to save up for retirement.	Less marked growth in household debt and interest payments than in the baseline, owing e.g. to liquidity constraints or because higher pension savings (after tax) may not fully lead to a corresponding reduction in "free" savings.

The sensitivity of public finances to changes in some of the key assumptions of the projection is illustrated below. The effects are shown both with and without the Welfare Agreement. The sensitivities are reported in terms of their impact on fiscal sustainability, *cf. table A2.2a*. That is, the effects on public finances, which typically occur gradually over many years, are expressed in terms of the permanent fiscal adjustment (in percent of GDP) that would be needed as of today in order to ensure a stable path for public debt-to-GDP over the long term.

The estimated sensitivities in themselves depend on the assumptions used in the baseline, particularly concerning interest rates, life expectancy etc.

The sensitivity analyses are explained below and in greater detail in *Towards New Goals – Denmark, 2015, Technical Background Paper, Ministry of Finance, December 2007 (available in Danish only).*

Demography

The higher numbers of older people in the future is mainly caused by the assumed increase in the remaining life expectancy of 60-year olds. What matters for fiscal sustainability is especially the longevity of the older age groups.

The assumed increase in the life expectancy of 60 year-olds is app. 7½ years by 2080. In a scenario without the Welfare Agreement, this accounts for about 2/3 of the prospective increase in public net expenditures. Other things equal, higher longevity weakens fiscal sustainability by 3.2 per cent of GDP compared with a scenario with unchanged life expectancy for 60 year-olds as of 2008. Hence, an increase in life expectancy for 60 year-olds of 1 year (through 2080) worsens fiscal sustainability by 0.43 per cent of GDP, cf. table A2.2.

However, the Welfare Agreement, including notably the indexation of the age thresholds in the retirement system to life expectancy, has made public finances more robust with respect to changes in longevity. A gradual increase of 1 year in the life expectancy of 60 year-olds weakens fiscal sustainability by just below 0.1 per cent of GDP in the scenario with the Welfare Agreement. Hence, the indexation mechanism counters a good 4/5 of the fiscal challenge associated with longer life expectancy of 60 year-olds. To this should be added the increase by 2 years in the age thresholds for the voluntary early retirement pension and the public old-age pension towards 2024 and 2027, respectively, which occurs irrespective of future developments in longevity.

Table A2.2a

Effect on the sustainability indicator in scenarios with and without the Welfare Agreement (WA), per cent of GDP

	Without WA	With WA
Demographics:		
- Mean life expectancy at birth gradually increases by 1 year[1)]	-0.35	-0.09
- Remaining life for 60 year olds gradually increases by 1 year[1)]	-0.43	-0.10
- Fertility is increased corresponding to 5,000 children per year	-0.25	-0.25
- Immigration from more developed countries increases by 5,000 persons per year	0.01	0.00
- Immigration from less developed countries increases by 5,000 persons per year	-0.29	-0.28
Labour market:		
- Employment is 20.000 lower by 2015 (no requirement)	-	-0.27
- Working hours follow demographics etc. to 2015 (no requirement)	-	-0.53
- Higher working hours when retirement age thresholds are increased	-	0.31
Assumptions about expenditures on healthcare and elderly care etc.:		
- Ageing related expenditures not adjusted for improved health	-	-0.82
- Extended correction for improved health (5 more years to death considered)	-	0.38
- Growth in health-spending 0.4 percentage points higher p.a.	-	-1.44
- Growth in collective consumption 0.4 percentage points lower p.a.	-	1.07
Key assumptions:		
- Nominal interest rates higher by ¾ per cent (as in 2010-plan)	1.18	0.29
- Nominal interest rate lower by 1 per cent (as in DREAM and DEC)	-2.21	-0.43
- Equity risk premium of app. 4 per cent. (as in DREAM and DEC)	-	1.92
- Less than full crowding out of other/free savings (85 per cent)	-	0.08
- Reduced ”free savings” as a consequence of the Welfare Agreement	-	-0.50

1) Through 2080.
Note: A negative value indicates a worsening of the fiscal sustainability.

An increase in *fertility* of app. 0.15 children per woman weakens fiscal sustainability by ¼ per cent of GDP in a scenario without the Welfare Agreement. Higher fertility leads to larger public expenditures for a number of years, notably for childcare and education. After about 16 years, the first children join the labour market. This expands the workforce and over time causes a gradual improvement in public finances. This improvement continues until app. 60 years after the initial increase in fertility.

From this point in time the expenditures for pensions and care increase. The positive contribution to the labour force and future revenues does not fully offset the increased expenditures (measured in present value) in the scenario without the Welfare Agreement. Hence, higher fertility reduces fiscal sustainability in the scenario.

The change in fertility causes a significant increase in population[2], employment and GDP in the long run. The magnitude is such so as to cause an increase in annual GDP growth of app. 0.2 percentage points. This implies an "erosion" of debt relative to GDP, which in the scenario without the Welfare Agreement is substantial. Other things equal, this erosion of debt implies a lesser deterioration in the fiscal sustainability indicator[3].

An equivalent increase in fertility in the scenario *with* the Welfare Agreement has about the same marginal effect on fiscal sustainability as in the scenario above, although from a sustainable baseline. The similarity in the estimated sensitivities partly reflects that the employment effect of higher retirement age thresholds only comes through in the long-term, and partly that higher GDP growth does not to the same extent erode debt-to-GDP when the baseline is sustainable and the future stock of debt thus much smaller.

The impact of higher *immigration* on public finances depends, among other things, on the level of education, language skills, family characteristics etc. of the immigrants (and their descendents). Overall, there is no basis for expecting substantive positive effects on fiscal sustainability of higher immigration.

Immigrants from *less developed countries* tend, on average, to exhibit lower participation rates and higher unemployment rates than the rest of the population. Among other things, this may reflect differences in education, cultural factors and the relatively high level of unemployment benefits and low-skilled wages in Denmark. Moreover, the number of children is typically relatively high among this group of immigrants.

Increased immigration of 5.000 persons per year, with the same characteristics concerning age, fertility and participation rates etc. as for immigrants from less developed countries today, weakens fiscal sustainability by app. 0.3 per cent of GDP, *cf. table A2.2*. This is mainly because immigrants often bring along spouses with, typically, relatively low participation. Moreover, the average employment rate among descendants is below the average for persons of Danish origin.

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[2] The size of the population is increased by 625,000 persons in 2080. This not only reflects the effect of more children, but also that these themselves have more children. Moreover, the impact on public finances reflects a number of assumptions about the future generations' degree of employment, probability of death, use of public services etc.
[3] Absent of this effect increased fertility would cause an adjustment need about twice as large in the scenario without the *Welfare Agreement* (i.e. app. – ½ per cent of GDP).

Figure A2.2a
Participation rates by age, 2005

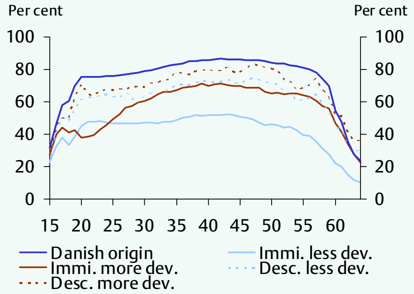
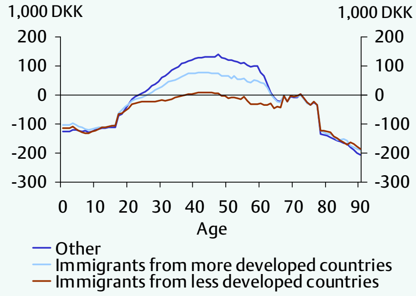


Figure A2.2b
Net contribution to public finances by age, 2004



The estimated effect of increased immigration from less developed countries broadly corresponds to the effect of increased fertility, even though immigrants on average have a lower participation rate than persons of Danish origin. The reason is that immigrants are often young persons in their twenties, for whom there are little or no costs for childcare and schooling etc., and also that the tax revenue on average is collected before expenditures on pensions etc. are required. Moreover, there is a certain degree of re-emigration of immigrants (especially for immigrants from more developed countries), which diminishes old age-related spending.

An increase of 5.000 persons in the annual immigration from *more developed countries* is app. neutral with respect to public finances. In particular, the employment rate (and hence the net contribution to public finances) is larger than for immigrants from less developed countries.

Achieving a noticeable public finance improvement from increased immigration would require attracting substantially higher numbers of well qualified immigrants, who attain a certain level of income and skills. In a situation where the supply of labour is scarce, increased immigration may underpin continued growth in employment, production potential and thereby support stable developments in the economy.

The labour market

The structural policy requirements in the 2015-plan in the areas of employment and working hours are described in chapters 2 and 3. If the requirements for increased employment (by 20,000 persons) and no decline in average workings hours are not included in the calculations, then fiscal sustainability is weakened by app. ¼ per cent of GDP and app. ½ per cent of GDP respectively, *cf. table A2.2*.

In the long-term projections it is moreover assumed that the declining trend in the number of working hours, which today is observable from the age of 60 to the age of 64 years, will remain when the public pension age is increased beyond 65 years and will continue also for the age groups older than 64 years when the pension age is higher than 65.

If the declining trend from 60 to 64 years is associated with the current age thresholds for the VERP and public old age pensions, then the number of working hours for the affected age groups may be higher than assumed, when the thresholds for the VERP and the public old age pension are increased in line with longevity and better health. In the calculations, this would improve fiscal sustainability by about 0.3 percent of GDP.

Expenditure on health, long-term care and other public consumption

The Welfare Agreement provides greater assurance that the increased spending on health and elderly care, which over time is associated with the increased number of elderly (the demographic demand for health and elderly care), may be financed on a sustainable basis – without causing pressure on taxes.

In the 2015-projection the demographically induced demand for health and elderly care is adjusted for the fact that increased life expectancy is accompanied by improved long-term health. This means that for a given age group the public expenditure on long-term and health care will decrease somewhat, when mortality rates go down and life expectancy up.

Specifically, a distinction is made between expenditure on persons within the 3 final years of their lives (the so-called terminal phase) and average expenditure on persons with more than 3 years remaining. The health-related costs for persons in the terminal phase is markedly higher for all age groups than spending on persons with more than 3 years remaining; *cf. Denmark 2015, Technical Background Paper, December 2007*.

Without this adjustment the implication would be that public spending (adjusted for wage increases) on, for instance, nursing home for a 70-year old would be unchanged in the future, irrespective of the fact that 70-year olds are expected to be in better health and to live considerably longer. The demographic changes in health-related public spending would therefore be larger for the older age groups than in the central 2015-projection, *cf. figure 7.9a*. With this assumption, the demographically induced demand for health and elderly care is increased by an extra 20 per cent towards 2080, *cf. figure 7.9b*. This worsens sustainability by 0.8 per cent of GDP.

Figure 7.9a
Health related spending by age in 2080

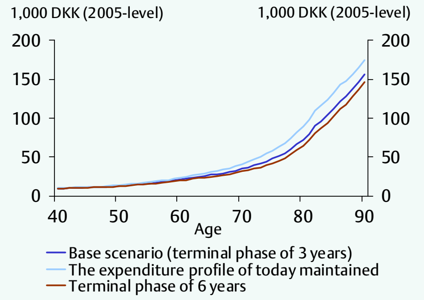
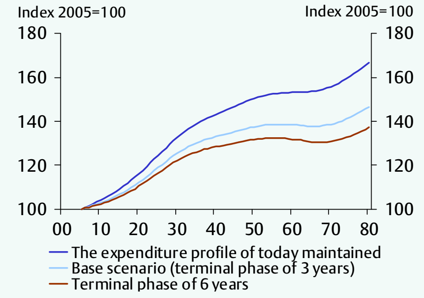


Figure 7.9b
Spending on health care and elderly care caused by demography



Source: Own calculations

Due to lack of data it has not until recently been possible to isolate the expenditure on persons with 4, 5 and 6 years of remaining lifetime, respectively. Newly available data makes this possible. Since expenditure on these persons is higher than average expenditure on persons with longer remaining lifetimes, the age-dependent public service expenditure, and thereby the demographically induced demand, is lowered when the extended correction with new data is incorporated. This improves sustainability by about 0.3 per cent of GDP.

In addition to the demographic changes, demand for health care may be affected by advances in treatment methods and the general improvement in living standards. This implies a risk of increased pressure on spending, particularly for health services. Expenditure on health services and elderly care will continue to constitute a central fiscal challenge.

Internationally there has been a tendency for spending on health care to increase by more than what is implied by the increase in the number of users and the general rise in wage costs. In recent years, this has also been the case in Denmark.

Thus, in the past 10 years spending on health care has increased by about 0.4 percentage points more per year (nominally) than what is implied by the changes in demographically induced demand plus the rate of wage growth, *cf. table A2.2b*.

Table A2.2b

Historical expenditure growth compared to technical assumptions[1)], average annual excess growth in per cent.

	1995-2000	2000-05	1995-2005
Health care	-0,7	1,4	0,4
Collective public consumption	-0,2	-0,6	-0,4

1) Demographically induced demand plus annual nominal wage increases.
Source: Statistics Denmark and own calculations.

If the tendency for higher growth in health care spending than what is implied by the number of users etc. continues in the future, this will bring about need for either lower spending growth in other areas or alternative sources of financing.

A scenario, which continues the historical excess growth in health care expenditure in the years after 2015, implies that health care spending as share of GDP will rise by an additional 1¼ percentage points towards 2050, *cf. figure 7.10a*. This weakens fiscal sustainability by about 1.4 per cent of GDP[4].

Conversely, in the last 10 years there has been a tendency for collective public consumption spending (defence, police, central administration etc.) to increase by less than what is implied by the standard technical assumptions. A scenario where growth continues to be 0.4 per cent less per year implies that collective public consumption is smaller by about 1 per cent of GDP in 2050, *cf. figure 7.10b*. This strengthens sustainability by just below 1.1 per cent of GDP.

Figure 7.10a

Health care expenditures as share of GDP with additional growth of 0.4 percentage point

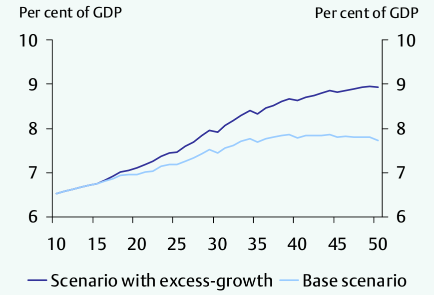
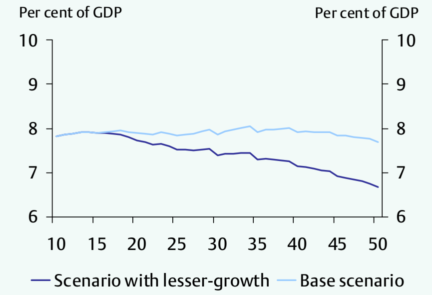


Figure 7.10b

Collective public consumption as share of GDP with a decline in growth of 0.4 percentage point



Source: Own calculations.

[4] An increase in prosperity can also contribute to raise demand and create upward pressure on expenditures for, e.g., education and social protection (childcare, home help etc.).

Central assumptions about interest rates, equity premia and savings

The baseline projection assumes a nominal interest rate of 5 ¾ per cent and an inflation rate of 1 ¾ per cent. Thus, the real interest rate is app. 4 per cent, which corresponds to the average real interest rate on government bonds in the period 1950-2006 and in 1990-2006. In the long term projections, productivity growth (in the private sector) is assumed to be 2 per cent. Thus, the excess real interest rate (i.e. the nominal interest rate on government bonds minus the nominal growth) is app. 1.9 per cent.

If the nominal interest rate is 1 percentage point lower in the long run than expected - i.e. if the nominal interest rate is 4 ¾ per cent rather than 5 ¾ percentage points – then fiscal sustainability is weakened by 2.2 percentage points in a scenario without the Welfare Agreement, *cf. table A2.2a.* A lower interest rate reduces asset accumulation in the pension sector. This reduces the future revenue from the tax on pension payments. Moreover, a lower discount rate implies that the distant future enter into the calculation with a higher weight. In the scenario without the Welfare Agreement large deficits are built up in the long run, and these deficits weigh more heavily on fiscal sustainability when a lower discount rate is applied.

In the scenario with the Welfare Agreement, fiscal sustainability is weakened by app. 0.4 percentage points by the lower interest rate, i.e. the effect is less than one fifth of the effect in the scenario without the Welfare Agreement. Thus, the public finances have become more robust with respect to the longer-run level of interest rates. This especially reflects the fact that the primary budget balance in the scenario with the Welfare Agreement in the longer run is relatively close to balance or surplus.

In the 2015-projection the return on all financial assets and liabilities, including equity, is assumed to be 5 ¾ per cent after 2015. More than a third of pension wealth is invested in shares. If one assumes a risk premium / excess-yield on shares of app. 4 per cent, then fiscal sustainability is strengthened by app. 1.9 per cent of GDP. This holds in a stylized calculation which does not include possible implication for the accumulation of capital[5]. An equity risk premium of 4 per cent is in line with the assumptions used by the Danish Economic Council and DREAM, who furthermore assume an interest rate of 4 ¾ per cent.

In the 2015-projection it is assumed that the increase in pension wealth, which among other things reflects the accumulation in labour market pension schemes, induces households to reduce their other savings and financial wealth. In the projection it is assumed that higher pension wealth (after tax) fully crowds out "free" or other financial wealth.

[5] Similar calculations conducted by the independent research institute DREAM reaches app. the same effect on the fiscal sustainability. However, DREAM includes more derived effects, including the effects on the accumulation of capital.

If households reduce their other saving by less than assumed – e.g. by 85 per cent of the increase in other pension welath, after tax, instead of 100 per cent – then fiscal sustainability is strengthened by 0.1 per cent of GDP. Pension assets are no perfect substitute for free financial assets, and some households may be liquidity constrained and therefore unable to increase borrowing when pension wealth increases.

On the other hand, the Welfare Agreement tends to reduce the need for savings for the time after retirement. If the younger generations reduce their other financial savings and wealth because of the Welfare Agreement, so that household debt increases by app. 40 per cent of GDP by 2040, then fiscal sustainability is weakened by close to ½ per cent of GDP. Such an increase in debt implicitly assumes that savings before the Welfare Agreement were optimal. It also presupposes that younger generations have a long planning horizon, and that no liquidity constraints or other imperfections limit the households' possibilities of increasing the borrowing to the presupposed extent.

Annex: Tables

Table 1a
Macroeconomic prospects

	ESA	2006	2006	2007	2008	2009	2010	2015
		Bill. DKK	Rate of change, per cent					
Real GDP	B1g	1431.9[1]	3.5	2.0	1.3	1.1	0.5	1.7
Nominal GDP	B1g	1642.2	5.8	4.0	4.0	3.3	3.2	3.7
Components of real GDP								
Private consumption	P.3	711.2[1]	3.1	2.2	1.5	1.2	1.1	1.8
Government consumption	P.3	356.0[1]	1.5	1.8	1.7	1.0	1.0	0.8
Gross fixed capital formation	P.51	339.0[1]	13.0	3.0	0.6	-2.3	-2.6	2.7
Changes in inventories[2]	P.52 +P.53	10.5[1]	0.4	0.0	0.2	0.0	0.0	0.0
Exports of goods and services	P.6	774.1[1]	10.1	4.9	3.0	3.5	3.6	3.9
Imports of goods and services	P.7	765.3[1]	14.4	5.7	3.5	2.2	3.3	4.0
Contributions to real GDP growth			Percentage points					
Final domestic demand		-	4.6	2.2	1.3	0.3	0.2	1.6
Changes in inventories[2]	P.52 +P.53	-	0.4	0.0	0.2	0.0	0.0	0.0
External balance of goods and services	B.11	-	-1.4	-0.2	-0.2	0.7	0.3	0.1

1) Based on chained 2000-prices. Growth rates are also based on chain indices.
2) Contribution of changes in stocks to GDP growth.
Source: Statistics Denmark and own calculations.

Table 1b
Price developments

	ESA	2006	2006	2007	2008	2009	2010	2015
		Level	Rate of change, per cent					
GDP-deflator		114.7	2.2	2.0	2.7	2.2	2.7	2.0
Private consumption deflator		111.6	2.1	1.7	2.6	2.0	2.1	1.6
Consumer price index		112.3	1.9	1.8	2.6	1.6	2.0	1.7
HICP		101.8	1.9	1.7	2.4	1.6	1.9	1.5
Net price index		113.2	2.0	1.9	2.6	1.9	2.2	1.8
Public consumption deflator		117.9	3.0	2.6	2.8	2.8	3.0	3.0
Investment deflator		108.7	2.8	3.3	2.8	1.8	3.2	1.3
Export price deflator		110.2	2.3	1.7	1.3	0.7	1.0	1.3
Import price deflator		105.1	2.9	2.2	1.4	0.6	0.6	1.1

Note: For all price indices 2000=100.
Source: Statistics Denmark and own calculations.

Table 1c
Labour market developments

	ESA	2006	2006	2007	2008	2009	2010	2015
		Level	Rate of change, per cent					
Employment, 1,000 persons		2780.5	2.0	1.7	0.0	-0.5	-0.8	-0.1
Employment, hours worked (mill. hours)		4470.8	2.7	2.0	-0.6	-0.7	-0.8	-0.1
Unemployment rate (per cent)[1)]		3.9	3.9	3.3	3.1	3.2	3.6	4.0
Labour productivity, persons (1,000 DKK)[2)]		515.0	1.5	0.3	1.3	1.5	1.3	1.7
Labour productivity, hours worked (DKK)[3)]		320.3	0.8	0.0	2.0	1.8	1.3	1.7
Compensation of employees (bill. DKK)[4)]	D.1	864.0	5.6	6.0	3.8	3.2	3.0	3.7
Compensation per employee[5)]		332.2	3.7	4.3	3.8	3.6	3.8	3.8

1) Harmonised definition, Eurostat, levels.
2) Calculated as real GDP per person employed, where GDP is based on constant 2000-prices.
3) Calculated as real GDP per hour worked, where GDP is based on constant 2000-prices.
4) Based on current prices, i.e. growth rates are in nominal terms.
5) Calculated as compensation per employed wage earner.

Source: Statistics Denmark and own calculations.

Table 1d
Sectoral balances

	ESA	2006	2007	2008	2009	2010	2015
		Per cent of GDP					
Net lending/borrowing vis-à-vis the rest of the world	B.9	2.4	1.7	1.3	1.9	2.2	1.4
Of which:							
- Balance on goods and services		3.0	2.4	2.1	2.9	3.3	3.2
- Balance of primary incomes and transfers		-0.6	-0.7	-0.8	-1.0	-1.1	-1.8
- Capital account	B.9	0.0	0.0	0.0	0.0	0.0	0.0
Net lending of the private sector	B.9	-2.2	-2.2	-1.8	-0.2	0.9	1.0
Net lending of general government[1)]	B.9	4.7	3.9	3.1	2.1	1.3	0.4
Statistical discrepancy		0.0	0.0	0.0	0.0	0.0	0.0

1) Public balance (net lending) is based on national accounts.
Source: Statistics Denmark and own calculations.

Table 2
General government budgetary prospects (EDP-basis)

	ESA	2006	2006	2007	2008	2009	2010	2015
		Bill. DKK			Per cent of GDP			
Net lending (EDP B.9) by sub-sector								
General government	S13	75.9	4.6	3.8	3.0	2.0	1.2	0.3
Central government	S1311	82.5	5.0	3.8	3.0	2.0	1.2	0.3
Local government	S1313	-7.2	-0.4	0.0	0.0	0.0	0.0	0.0
Social security funds	S1314	0.6	0.0	0.0	0.0	0.0	0.0	0.0
General government (S13)								
Total revenue[1)]	TR	898.5	54.7	53.4	52.9	52.0	51.7	51.4
Total expenditure[2)]	TE	822.7	50.1	49.6	49.8	50.0	50.5	51.1
Net lending	EDP B9	75.9	4.6	3.8	3.0	2.0	1.2	0.3
Interest expenditure	EDP D41	26.4	1.6	1.4	1.2	1.0	0.9	0.6
Primary balance[3)]		102.3	6.2	5.2	4.2	3.0	2.1	0.9
One-off effects[4)]			-1.1	0.4	0.6	0.2	0.3	0.0
Selected components of revenue								
Total taxes[5)]		786.7	47.9	47.0	46.6	45.7	45.3	45.1
Taxes on production and imports	D.2	295.0	18.0	17.7	17.5	17.1	16.8	16.3
Current taxes on income, wealth, etc.	D.5	488.3	29.7	29.1	29.0	28.4	28.3	28.6
Capital taxes	D.91	3.5	0.2	0.2	0.2	0.2	0.2	0.2
Social contributions[6)]	D.61	17.0	1.0	1.0	1.0	1.0	1.0	1.0
Property income[7)]	D.4	31.3	1.9	1.8	1.8	1.7	1.7	1.6
Other (residual)[8)]		63.5	3.9	3.5	3.4	3.5	3.6	3.6
Total revenue[2)]	TR	898.5	54.7	53.4	52.9	52.0	51.7	51.4
p.m: Tax burden[9)]		803.7	48.9	48.0	47.7	46.7	46.4	46.1

Table 2 (continued)
General government budgetary prospects (EDP-basis)

	ESA	2006	2006	2007	2008	2009	2010	2015
		Bill. DKK			Per cent of GDP			
Selected components of expenditure								
Compensation of employees and intermediate consumption	D1+P2	417.7	25.4	25.6	25.7	26.0	26.2	26.5
-compensation of employees	D1	277.6	16.9	16.8	16.7	16.8	16.9	17.1
-intermediate consumption	P2	140.1	8.5	8.8	9.1	9.2	9.3	9.5
Total social transfers	D62+ D63	278.6	17.0	16.6	16.7	16.9	17.3	18.0
- Social transfers in kind[8)]	P31	23.6	1.4	1.4	1.5	1.5	1.5	1.5
- Other than in kind	D62	255.0	15.5	15.2	15.2	15.4	15.8	16.5
Interest expenditure	EDP D41	26.4	1.6	1.4	1.2	1.0	0.9	0.6
Subsidies	D3	35.8	2.2	2.3	2.3	2.4	2.4	2.4
Gross fixed capital formation	P51	29.7	1.9	1.7	1.7	1.8	1.8	1.8
Other (residual)[8)]		34.3	2.0	2.0	2.2	1.8	1.8	1.7
Total expenditure[2)]	TE	822.7	50.1	49.6	49.8	50.0	50.5	51.1
Pm: public consumption		419.6	25.6	25.6	25.8	25.9	26.1	26.3

Note: Public balance figures are on EDP-basis excl. ATP.
1) Excl. central government revenues from sale of UMTS-licenses.
2) Adjusted for swap-related flows and spending on infrastructure investments.
3) Defined as EDP B.9 plus EDP D.41.
4) Based on the calculation of the structural budget balance and includes temporary variations in revenues from pension yield taxation, North Sea activitites, net interest, corporate taxes and other special items. The structural budget balance is *not* calculated on EDP-basis. The calculations of the structural budget balance are based on public finances according to national account principles, cf. also table 4.2.
5) Defined as the sum of taxes on production and imports, current taxes on income, wealth etc., and capital taxes. Does not include compulsory social contributions, which are traditionally included in the tax burden.
6) Does not include voluntary and imputed social contributions, since these are not included in the tax burden.
7) Incl. interest income and dividends and land rent etc.
8) Statistic Denmark does not publish figures for all the subgroups (P.11+P.12+P.131+D.39+D.7+D.9(other than D.91), D.6311, D.63121, D.63131, D.29+D.4 (other than D.41)+D.5+D.7+D.9+P.52+P.53+K.2 +D.8), and no estimates are available for these individual components in the projections.
9) Defined as the sum of taxes on production and imports (incl. those collected by the EU), current taxes on income, wealth etc., and capital taxes and compulsory social contributions.

Source: Statistics Denmark and own calculations.

Table 3

General government expenditure by function

	COFOG	2005	2006
		Per cent of GDP	
General public services	1	6.5	6.2
Defence	2	1.6	1.6
Public order and safety	3	1.0	1.0
Economic affairs	4	3.8	3.6
Environmental protection	5	0.5	0.5
Housing and community amenities	6	0.7	0.5
Health	7	6.7	6.6
Recreation, culture and religion	8	1.6	1.6
Education	9	7.8	7.5
Social protection	10	21.5	20.9
Total expenditure	TE	51.6	50.1

Note: Short-term and longer-term projections do not include general government expenditures by function. The focus of both short-term and longer-term projections is public expenditures by type of transaction.

1) Adjusted for swap-related flows and spending on infrastructure , i.e. comparable to expenditures in table 2.

Source: Statistics Denmark and own calculations.

Table 4
General government debt developments

	2006	2007	2008	2009	2010	2015
			Per cent of GDP			
Gross debt	30.1	25.6	21.6	19.2	18.6	15.5
Change in gross debt ratio[1)]	-6.2	-4.5	-4.0	-2.4	-0.6	-0.6
Change in gross debt[2)]	-4.2	-3.3	-3.0	-1.7	0.0	0.0
Contributions to changes in gross debt						
Primary balance[3)]	-6.2	-5.2	-4.2	-3.0	-2.1	-0.9
Interest expenditure[4)]	1.6	1.4	1.2	1.0	0.9	0.6
Stock-flow adjustment[5)]	0.4	0.5	0.0	0.3	1.2	0.3
p.m. implicit interest rate on debt[6)]	4.7	4.8	4.9	4.8	4.7	3.8
Other relevant variables						
Central government account in Danmarks Nationalbank	4.1	4.5	4.3	-	-	-
Public net debt[7)]	2.7	-1.2	-4.3	-6.5	-7.6	-9.2
Net debt in central and local Governments[7)]	2.8	-1.2	-4.2	-6.1	-7.2	-8.9

1) Change in gross debt ratio is defined as $D_t/GDP_t - D_{t-1}/GDP_{t-1}$, where D is public debt measured in nominal terms (DKK).
2) Change in gross debt is defined as $D_t/GDP_t - D_{t-1}/GDP_t$, where D is public debt measured in nominal terms (DKK).
3) As defined in table 2.
4) As defined in table 2.
5) At present information is not available to split stock-flow adjustment into subgroups.
6) Proxied by interest expenditures divided by the debt level of the previous year.
7) In the specification of public net debt and net debt in central and local governments the central government liquid assets in Danmarks Nationalbank as well as other assets are subtracted.

Source: Statistics Denmark and own calculations.

Table 5
Cyclical developments

	ESA	2006	2007	2008	2009	2010	2015
				Per cent			
Real GDP growth		3.5	2.0	1.3	1.1	0.5	1.7
				Per cent of GDP			
General government balance	EDP B9	4.6	3.8	3.0	2.0	1.2	0.3
Interest expenditure	EDP D41	1.6	1.4	1.2	1.0	0.9	0.6
One-off effects 1)		-1.1	0.4	0.6	0.2	0.3	0.0
				Per cent			
Potential GDP growth		2.3	1.6	1.6	1.5	1.4	1.7
Of which, contribution from:				Percentage points			
- Labour		0.5	0.1	0.2	0.2	0.1	0.0
- Of which labour force		0.3	-0.1	-0.1	0.0	-0.1	0.0
- Capital		0.9	1.0	0.9	0.8	0.9	0.8
- Total factor productivity		0.9	0.5	0.5	0.4	0.4	0.9
				Per cent of GDP			
Output gap		1.8	2.1	1.8 2)	1.4	0.5	0.0
Cyclical component 3)		-1.1	-2.5	-2.2	-1.4	-0.7	0.0
Structural budget balance 4)		2.4	1.7	1.5	0.9	0.8	0.4
Primary structural balance 4)		2.9	2.0	1.5	0.7	0.5	-0.4

1) Based on the calculation of the structural budget balance and includes temporary variations in revenues from pension yield taxation, North Sea activitites, net interest, corporate taxes and other special items.
2) Technically it is assumed, that the positive output gap in 2008 is closed gradually towards 2011.
3) The calculation of the cyclical component is based on the employment gap.
4) The structural budget balance is *not* calculated on EDP-basis. The calculations of structural budget balance are based on public finances according to national account principles, cf. also table 4.2. The primary structural budget balance is based on an actual primary balance defined via net interest expenditures and *not* gross interest expenditures.

Source: Statistics Denmark and own calculations.

Table 6
Divergence from previous update

	ESA	2006	2007	2008	2009	2010
				Rate of change, per cent		
Real GDP growth						
- Previous update		2.7	2.0	0.7	0.7	0.6
- Current update		3.5	2.0	1.3	1.1	0.5
- Difference		0.8	0.0	0.6	0.4	-0.1
				Per cent of GDP		
Actual budget balance[1)]	EDP B.9					
- Previous update		3.1	2.8	2.5	1.8	1.2
- Current update		4.6	3.8	3.0	2.0	1.2
- Difference		1.5	1.0	0.5	0.2	0.0
Gross debt level[1)]						
- Previous update[2)]		29.9	25.8	22.7	20.4	18.9
- Current update		30.1	25.6	21.6	19.2	18.6
- Difference		0.2	-0.2	-1.1	-1.2	-0.3

1) Excl. ATP.
2) In CP06 the EMU debt was calculated with deduction of ATP's holdings of central government bonds. To ensure comparability with CP07 the EMU debt for CP06 in this table is calculated without deduction of ATP's holdings of central government bonds as estimated in *Economic Survey*, *august 2006*.
Source: Statistics Denmark and own calculations.

Table 7
Long-term sustainability of public finances

	2000	2005	2010	2020	2030	2050	2060	2070
				Per cent of GDP				
Total expenditure	53.0	51.7	50.4	51.0	51.5	52.5	51.5	50.12
Of which:								
- Age-related expenditure	33.6	34.6	34.1	35.3	35.5	35.7	34.3	33.1
- Pension expenditure	9.1	9.3	9.6	10.4	10.0	9.5	8.5	7.9
- Social security pension	9.1	9.3	9.6	10.4	10.0	9.5	8.5	7.9
- Old-age and early pensions	6.9	7.2	7.6	8.4	7.8	7.3	6.4	5.6
- Other pensions	2.2	2.1	2.0	2.0	2.2	2.1	2.1	2.3
- Occupational pensions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Health care	6.0	6.4	6.5	6.9	7.4	7.7	7.7	7.4
- Long-term care	1.0	1.1	1.2	1.3	1.6	1.8	1.9	1.8
- Education expenditure	5.6	5.9	6.0	5.8	5.5	5.7	5.9	5.9
- Other age-related expenditures	11.9	11.9	10.8	10.9	11.0	11.0	10.3	10.1
- Interest expenditure	4.3	2.6	1.3	0.8	1.0	2.0	2.7	2.5
Total Revenue	55.3	56.3	51.7	50.6	49.6	49.7	49.0	49.1
Of which:								
- Property income[1)]	1.9	1.5	1.5	1.2	0.7	0.5	0.3	0.2
- Revenue from pension payouts net	-0.7	-1.1	-1.1	-1.0	-1.0	-0.2	0.0	0.6
Pension reserve fund assets	115.9	138.3	147.9	176.4	203.2	226.0	233.9	242.1
Of which:								
-Public pension fund assets[2)]	1.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Assumptions					Per cent			
Labour productivity growth	3.8	1.8	1.6	1.6	1.4	1.5	1.7	1.5
Real GDP growth[3)]	3.5	3.1	0.5	2.1	3.3	2.7	2.6	2.3
Participation rate males (aged 20-64)	85.5	85.6	86.1	86.9	89.3	90.1	90.0	90.1
Participation rate females (aged 20-64)	76.2	76.5	76.7	78.0	80.8	82.3	82.5	82.7
Total participation rate (aged 20-64)	80.9	81.1	81.4	82.5	85.1	86.2	86.3	86.4
Unemployment rate	5.2	5.5	4.0	3.9	3.9	3.9	3.9	3.9
Structural unemployment	6.0	5.5	4.0	3.9	3.9	3.9	3.9	3.9
Population aged 65+, 1,000 persons	791	818	916	1.137	1.315	1.437	1.398	1.495

Note: Figures are based on national account principles, i.e. not on EDP-basis.
1) Includes public revenues from interest income and dividends.
2) Public funds assets is adjusted downward by almost DKK 300 billion (20 per cent of GDP) in 2005 due to the changed classification of the ATP fund due to the revision of national accounts.
3) In some years after 2025 GDP growth is effected by the regulation of early- and old age person ages in line with longevity.
Source: Statistics Denmark and own calculations.

Table 8
Basic assumptions

	2006	2007	2008	2009	2010	2015
Short-term interest rate (annual average)	3.2	4.4	4.8	4.8	5.0	5.8
Long-term interest rate (annual average)	3.8	4.4	4.8	4.9	5.1	5.7
Exchange rate USD/EUR (annual average)	125.4	135.1	137.2	137.2	137.2	137.2
Nominal effective exchange rate (1980=100)	101.6	103.0	103.2	103.2	103.2	103.2
World excluding EU, GDP growth	5.8	5.3	5.4	4.5	4.5	4.5
EU GDP growth	3.0	2.9	2.7	2.4	2.4	2.4
Growth of relevant foreign markets	7.3	6.9	6.6	4.5	4.5	4.5
World import volumes, excluding EU	8.8	7.7	8.0	7.5	7.5	7.5
Oil prices, (Brent, USD/barrel)	64.9	70.0	68.0	65.5	63.0	61.5

Source: ADAM databank, European Commission Spring forecasts, April 2007 and own calculations.