



REGERINGSKANSLIET

Ministry of Finance

# Update of Sweden's convergence programme

---

*November 2004*



## **I Introduction**

In accordance with the Council's regulation (EC) 1466/97, Sweden submitted its convergence programme in December 1998. The programme was evaluated and approved by the Council during the spring of 1999. In accordance with the Council's regulation, an update of the convergence programme is to be submitted annually. Updates were submitted in November 1999, 2000, 2001, 2002 and 2003 and approved early the following year. This update has been drawn up in parallel with the Government Budget Bill for 2005, which was presented to the Riksdag on 20 September 2004. The Government Budget Bill is based on an agreement between the Social Democratic government, the Green Party and the Left Party.

The update of the convergence programme is based on the assessment of Sweden's economy contained in the Government Budget Bill for 2005. Forecasting was completed on 13 September 2004. This assessment involves a stronger outlook for 2004, compared with the forecast in the updated programme for 2003. The assessment for 2005 means that activity in the Swedish economy is estimated to be somewhat stronger than forecast in last year's programme. The Fiscal policy targets presented in the convergence programme for 1998 remain unchanged. This means, among other things, that public finances should show a surplus of 2 per cent of GDP on average over a business cycle and that central government expenditure should not exceed the expenditure ceilings set.

## **II Economic policy framework and targets**

Economic policy continues to focus on full employment and increased prosperity through good, sustainable growth. Stable prices and sound public finances are a precondition for achieving this. Sweden's long-term conditions for growth should be strengthened to achieve the target of 80 per cent regular employment and a halving of dependence on social benefits.

In accordance with the Stability and Growth Pact, the Member States shall aim for public finances, which are close to balance or in surplus in a medium-term perspective. The Riksdag has supported the government's target of a surplus in general government net lending of 2 per cent of GDP on average over a business cycle. Such a surplus provides a stable basis for the challenges resulting from the sharp increase in the proportion of older people in the population in the future. The surplus also provides a safety margin in public finances, making it possible to counter a recession with a counter cyclical fiscal policy.

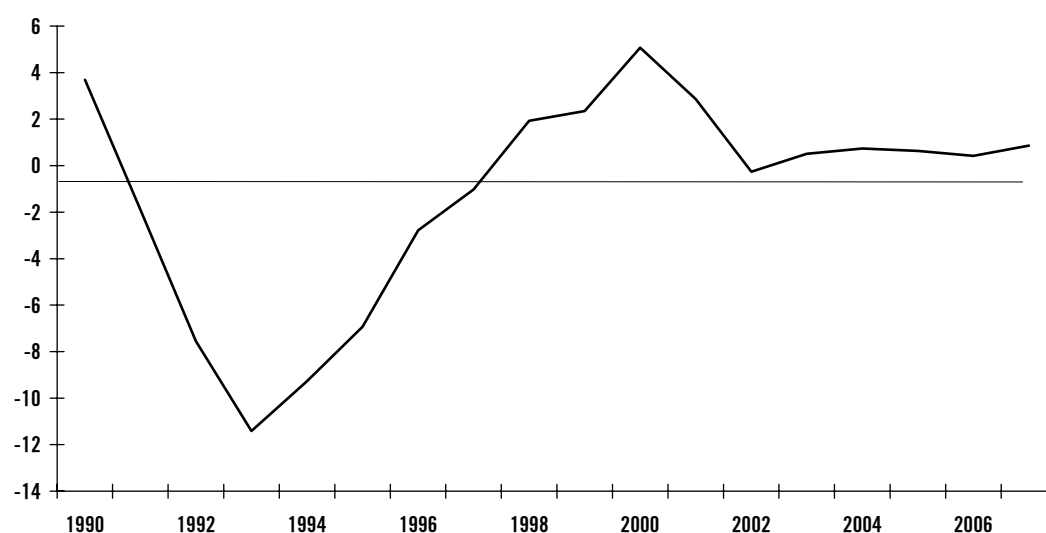
The overall surplus target of 2 per cent of GDP over a business cycle remains unchanged. The forecasts and estimates contained in the Government Budget Bill for 2005 mean that the surplus in total public finances strengthens to 0.9 per cent of GDP in 2007. This involves an improvement of 0.3 percentage points, compared with 2005. The strengthening is due to the improved economic situation. During the period 2000–2007, the average surplus is estimated at 1.4 per cent of GDP.

In the 2003 Spring Fiscal Policy Bill, the government stated that in future a specific surplus target would only be proposed for the coming budget year and not as previously for the next three years. In the Government Budget Bill for 2004, the government proposed that the target for general government net lending in 2004 should amount to at least 0.5 per cent of GDP, which was also approved by the Riksdag. Compared with the assessment in the Bill, GDP growth is now expected to be considerably stronger in 2004. However, there are still unutilised resources in the economy, since employment has not improved. In these circumstances, there is no reason to reconsider the previously determined target for 2004. Since actual lending is estimated at 0.7 per cent, the surplus target for 2004 is expected to be met.

In order to secure the overall surplus target, the government proposes in the Government Budget Bill for 2005 that general government net lending should amount to at least 0.5 per cent of GDP in 2005. The fiscal policy stance means that the surplus is estimated at 0.6 per cent of GDP in 2005. This provides a certain margin for uncertainty in the forecasts.

### Diagram 1: General government net lending

*Per cent of GDP*



Sources: Statistics Sweden and Ministry of Finance.

Since 1997, a new budget process has been applied, which includes three-year nominal ceilings determined by the Riksdag for central government expenditure, including expenditure on old-age pensions. The ceilings determined for the years 2005 and 2006 are SEK 870 billion and SEK 907 billion respectively or 32.4 and 32.2 per cent of GDP. In the Government Budget Bill for 2005, the government proposes no level for the expenditure ceiling for 2007. A proposal will be made in the Government Budget Bill for 2006. If the expenditure ceilings are then determined at a level, which implies that the expenditure ceiling remains unchanged as a percentage of potential GDP between 2006 and 2007, the expenditure ceiling for 2007 will be SEK 943 billion or 32.0 per cent of GDP. As from 2000, a statutory balanced budget requirement applies to municipalities and county councils.

In the legislation concerning the status of the Riksbank, which came into force in 1999, it is laid down that the objective of monetary policy is to maintain price stability. The legislation also means that independent monetary policy decisions are made by an Executive Board of the Riksbank. The Riksbank has defined the target as 2 per cent inflation,  $\pm 1$  percentage point, measured by the consumer price index (CPI). The Riksbank has clarified when a deviation from this rule may be justifiable. This may apply if the CPI is affected by temporary factors, which are not expected to have a permanent impact on inflation, or if major deviations occur and a rapid return to the target would be associated with large real economic costs. In such situations, the Riksbank makes clear in advance how large a deviation from the inflation target may be justified in a 1-2 year term. The result of the referendum in September 2003 on the introduction of the euro resulted in no changes in the monetary and exchange rate regime. In exchange rate policy, the government decides on the exchange rate system, while the Riksbank is responsible for the practical application, e.g. which central rate applies in a fixed exchange rate system. Sweden's experiences of the current monetary policy regime, with an inflation target and a floating exchange rate, are favourable. Pegging the Swedish krona to ERM2 is not under consideration.

**Table 1: Proposed central government budget reforms in 2005**

SEK billion

<b>Taxes<sup>1</sup></b>	<b>11.1</b>
Taxes on labour	9.3
Taxes on capital	2.2
Taxes on goods and services	-3.8
Other	3.4
<b>Expenditure reforms</b>	<b>16.7</b>
Administration and legal system	2.0
International development aid	0.6
Health and medical care, social services	0.8
Economic security in case of illness and disability	2.6
Communications, excl. loan-financed communications	0.3
Grants to local government sector	9.5
Other expenditure	0.9
Financing, reduced expenditure	0.4
<b>Increased expenditure including financing, etc.</b>	<b>16.3</b>
<b>Reforms including financing</b>	<b>27.5</b>

<sup>1</sup> Gross effects of rule changes, accrual accounting.

<sup>2</sup> Expenditure area.

Source: Ministry of Finance.

### III Economic policy

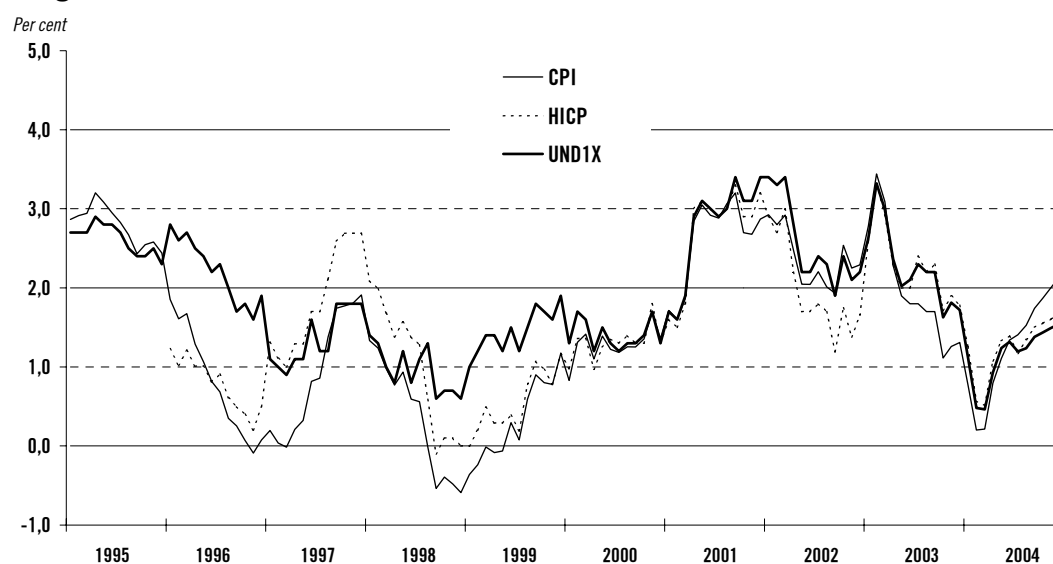
#### Fiscal policy

The reforms proposed in the Government Budget Bill together with decisions previously made result in the implementation of reforms of approximately SEK 28 billion in 2005, which is equivalent to approximately 1.0 per cent of GDP. Initiatives will be taken in the local government sector, international development aid and infrastructure. During the

period 2000-2002, the first three stages of a four-stage reform of household income tax were implemented.

For 2005, the government proposes that half of the fourth stage is implemented, which is equivalent to a tax cut of approximately SEK 7 billion or approximately 0.3 per cent of GDP. A green tax shift is proposed for 2005, which involves raising taxes on petrol, diesel oil, electricity and vehicles and lowering income taxes through an increased basic allowance for low- and middle-income earners. The tax shift comprises just under SEK 3.5 billion. In addition, gift tax and inheritance tax are abolished and the exempted amounts in wealth tax for married and cohabiting persons are increased. Overall, this involves tax cuts equivalent to just under SEK 4 billion. These tax cuts will benefit the corporate sector to no little extent. The changes are therefore balanced by certain changes in the taxation regulations for firms. For example, interest is charged on firms' allocation to periodization reserves. The tax changes proposed in the Government Budget Bill involve a reduction in the central government tax levy of approximately SEK 11 billion. The local government tax levy is expected to remain unchanged in 2005.

**Diagram 2: Inflation and the Riksbank's tolerance interval**



Source: EcoWin.

### Monetary policy

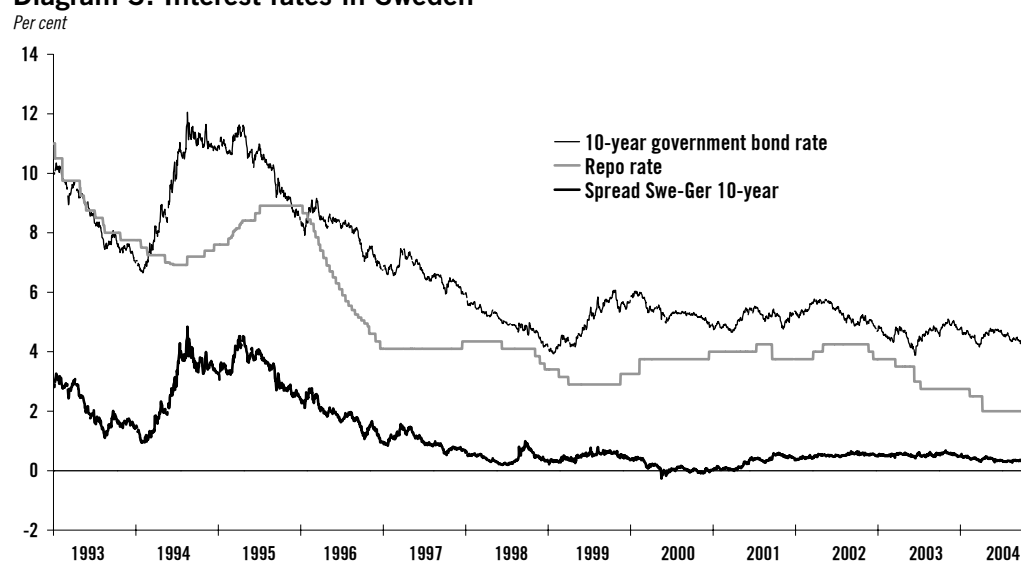
During 2003, the Riksbank lowered the key rate on three occasions by a total of 100 points to 2.75 per cent, in the light of weak Swedish and global economic developments and weak domestic inflationary pressure. During the autumn of 2003, inflation was expected to be in line with the inflation target and resource utilisation was estimated to be somewhat higher, compared with the previous assessment. However, the Riksbank lowered the key rate by 25 points to 2.50 per cent in February 2004, in the light of continued weak global and Swedish economic activity and low domestic inflationary pressure. The Riksbank then lowered the key rate by a further 50 points to 2.0 per cent in April. Inflation was lower than expected, partly as a result of low import prices, increased productivity and a weak labour market. Low resource utilisation and weak employment growth combined with a favourable inflation outlook and a stronger krona are expected

to lead to the Riksbank leaving the key rate unchanged during the rest of 2004. After that, there is scope for tightening monetary policy as the economy grows more rapidly and available resources are utilised.

### Market rates

Increased macroeconomic stability with stronger public finances and lower inflation were the basis of falling interest rates during the second half of the 1990s. The economic upturn in the late 1990s led to rising long-term rates in 1999 and early 2000. During 2000, growth expectations slowed and interest rates fell. The negative economic signals became more evident during 2001. The year 2002 was marked by increased nervousness in financial markets and continued uncertainty regarding the strength of the economic recovery. During the spring of 2003, market rates were at historically low levels. As the uncertainty in financial markets began to decline, market rates rose sharply during the summer of 2003, but signs of increasingly low inflationary pressure contributed to falling market rates during the autumn. During 2004, there were signals indicating that the economic upturn had accelerated and interest rates rose. During the summer of 2004, macroeconomic statistics gave different signals and uncertainty regarding the strength of the economic upturn again caused market rates to fall. Since the year-end, Swedish bond yields have fallen slightly more than in the rest of the world, partly in the light of continued low inflation expectations in Sweden. During the period 1997-2001, the differential between Swedish and German interest rates showed a falling trend. Rising inflation and inflation expectations combined with increased nervousness in financial markets in the second half of 2001 led to the interest rate differential between Sweden and Germany again increasing. The differential between Swedish and German 10-year government bond yields has been around 0.5 percentage points over the past few years, but somewhat lower in 2004. Stable Swedish public finances are expected to contribute to the somewhat lower interest rate differential, as well as a reduced differential between key rates in Sweden and the euro zone.

**Diagram 3: Interest rates in Sweden**



Source: EcoWin.

## The Swedish krona

Since November 1992, Sweden has had a floating exchange rate, which means that the exchange rate is not a target variable for monetary policy. With an explicit inflation target and a floating exchange rate, the value of the krona is determined, among other things, by capital flows, in addition to fundamental factors, such as terms of trade and relative productivity growth. Following a considerable depreciation of the krona in 2001, which can largely be explained by financial factors, the krona began to strengthen during the autumn of 2001. The krona increasingly stabilised during 2002 and its development has been relatively stable during 2003 and 2004. Reduced uncertainty in financial markets and a strong current account balance are factors contributing to a continued stable development of the krona.

**Diagram 4: The krona 1993 - 2004**



Source: EcoWin.

## IV Economic forecasts and estimates

The Swedish economy has shown surprisingly favourable development during 2004. Industrial activity is strong and exports are increasing at a rapid rate. The global economic recovery has had a positive impact on the development. Moreover, the falling investment trend of the past few years appears to have been broken. GDP is estimated to increase by 3.5 per cent. Adjusted for the effect of the unusually large number of working days, the increase is estimated at 2.9 per cent. The favourable development has so far not included the labour market. However, reduced income taxes and increasing central government grants to the municipalities are expected to help strengthen domestic demand in 2005. Consequently, employment is also expected to rise and GDP is estimated to increase by 3.0 per cent in 2005.

The global economic upturn is having a large positive impact on Swedish exports in 2004. Moreover, increased Swedish market shares are contributing to strong export growth. At the same time, imports are expected to be relatively low, mainly as a result of lower imports of crude oil and petroleum products. Foreign trade is estimated to contribute 1.7



percentage points to GDP growth in 2004. Next year, imports are expected to rise more rapidly, while export growth is expected to slow somewhat. The contribution to GDP growth is therefore estimated to fall to 0.6 percentage points. The current account surplus is expected to continue increasing and to amount to 7.1 per cent of GDP in 2004 and 7.7 per cent in 2005.

**Table 2: Demand and output<sup>1</sup>**

*Annual percentage change in volume*

	2003	2004	2005	2006	2007
Household consumption expenditure	1.9	2.4	2.7	2.0	2.0
General government consumption expenditure	0.6	0.9	0.8	0.6	0.1
Gross fixed capital formation	-2.0	3.2	4.0	5.2	5.1
Change in stocks <sup>2</sup>	0.2	-0.1	0.2	0.0	0.0
Exports	5.5	8.8	7.5	6.1	5.9
Imports	5.0	5.9	7.4	6.1	6.0
<b>GDP</b>	<b>1.6</b>	<b>3.5</b>	<b>3.0</b>	<b>2.5</b>	<b>2.3</b>
<b>GDP level, SEK billion current prices</b>	<b>2 439</b>	<b>2 548</b>	<b>2 687</b>	<b>2 817</b>	<b>2 946</b>

<sup>1</sup> The years 2004–2005 are forecast years. The years 2006–2007 are calculated on the assumption that the output gap will close in 2007.

<sup>2</sup> Change as per cent of GDP the previous year.

Sources: Statistics Sweden and Ministry of Finance.

Total investment fell during the period 2001–2003. During the first half of 2004, the decline slowed down and investment is expected to show an upturn after that. Both the domestic and the global economic upturn have resulted in rising capacity utilisation and improved profitability in the corporate sector. Combined with low interest rates, this has created good conditions for increased investment in the future. Investment is mainly expected to increase in industry and industry-related service sectors in 2004. Housing investment is also growing strongly, albeit from a low level. However, local government investment is developing weakly. Overall, investment is estimated to increase by 3.2 per cent this year and by 4.0 per cent in 2005. Investment growth is also expected to be favourable in subsequent years. Changes in stocks are assessed to dampen GDP growth by 0.1 percentage points in 2004 and stockbuilding is expected to contribute to increasing GDP growth by 0.2 percentage points in 2005.

Following a number of years of favourable income growth during the late 1990s and the early 2000s, household real income was largely unchanged in 2003, compared with the previous year. Nevertheless, household consumption expenditure rose by almost 2 per cent in fixed prices. In 2004, income is estimated to increase by just over 2 per cent, which combined with a strong wealth position gives households scope to further increase their consumption expenditure in the future. However, the recent weak development of the labour market has a restraining effect on the willingness to consume. Consumption growth is estimated at 2.4 per cent in 2004 and is expected to increase to 2.7 per cent in 2005.

To sum up, the increase in GDP growth from 1.6 per cent to 3.5 per cent in 2004 is explained by the strong improvement in net exports, stronger investment and to some extent stronger consumption. In addition, the calendar effect contributes 0.6 percentage points to GDP growth.

The strong increase in output in the first half of 2004 was achieved by means of rising average hours worked and high productivity growth. Capacity utilisation has still not risen sufficiently to be reflected in an increase in the number of persons employed. Open unemployment is estimated to have peaked in the second quarter and the annual average for 2004 is estimated at 5.6 per cent. The regular employment rate for persons aged 20 to 64 is expected to decline to 77.0 per cent from 77.6 the previous year.

**Table 3: Contribution to GDP growth**

*Percentage points*

	2003	2004	2005	2006	2007
<b>Final domestic demand</b>	<b>0.8</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.0</b>
Household consumption expenditure	0.9	1.2	1.3	1.0	1.0
General government consumption expenditure	0.2	0.3	0.2	0.2	0.0
Gross fixed capital formation	-0.3	0.5	0.6	0.8	0.8
<b>Change in stocks</b>	<b>0.2</b>	<b>-0.1</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>
<b>Net exports</b>	<b>0.6</b>	<b>1.7</b>	<b>0.6</b>	<b>0.5</b>	<b>0.5</b>
Exports	2.4	3.8	3.4	2.9	2.9
Imports	-1.9	-2.2	-2.8	-2.4	-2.5
<b>GDP</b>	<b>1.6</b>	<b>3.5</b>	<b>3.0</b>	<b>2.5</b>	<b>2.3</b>

Sources: Statistics Sweden and Ministry of Finance.

The stronger economic activity is not forecast to lead to rising employment until early 2005. Employment is stimulated by the income tax cuts proposed in the Government Budget Bill for 2005. Local government employment will also rise, as a result of the initiatives proposed. Labour market policy programmes will increase from 2.3 per cent of the labour force in 2004 to 2.5 per cent next year. Overall, open unemployment is estimated to decline to 5.1 per cent in 2005 and the regular employment rate to remain at 77 per cent.

**Table 4: Selected statistics<sup>1</sup>**

*Percentage change, unless otherwise stated*

	2003	2004	2005	2006	2007
CPI, Dec-Dec	1.4	0.9	2.1	2.0	2.0
HICP, Dec-Dec	1.8	1.3	1.5	-	-
UND1X, Dec-Dec	1.7	1.3	1.2	-	-
GDP deflator	2.3	0.9	2.4	2.3	2.3
Increase in hourly wages	3.5	3.4	3.5	3.5	3.5
Number of employed	-0.3	-0.6	0.8	0.8	0.7
Open unemployment <sup>2</sup>	4.9	5.6	5.1	4.4	4.2
Labour market policy programmes <sup>2</sup>	2.1	2.3	2.5	2.5	2.0
Employment ratio	77.6	77.0	77.0	77.2	77.4
Work productivity	3.5	3.2	2.5	2.3	2.3
Current account balance <sup>3</sup>	6.4	7.1	7.7	8.1	8.6
Disposable income	-0.1	2.1	2.2	1.4	1.2
Savings ratio <sup>4</sup>	3.5	3.2	2.6	2.0	1.3

<sup>1</sup> See also Table B.1 for forecast assumptions.

<sup>2</sup> Per cent of labour force.

<sup>3</sup> Per cent of GDP.

<sup>4</sup> Per cent of disposable income. Own savings, excluding saving in pension fund reserves.

Sources: Riksbank, Statistics Sweden and Ministry of Finance.

## Medium-term scenario

The Government Budget Bill contains forecasts for 2004 and 2005 as well as estimates for 2006 and 2007. In 2004, there are estimated to be available resources in the economy equivalent to an output gap of just under 1.5 per cent of GDP. The output gap is then estimated to decline to approximately 0.5 per cent of GDP in 2005. The output gap is expected to decline further in 2006 and close in 2007.

## V Public finances

The surplus in general government net lending is estimated at 0.7 per cent of GDP in 2004. Net lending is expected to decline in 2005 and 2006 and then increase again to 0.9 per cent of GDP in 2007. The continued positive net lending results in the financial wealth position strengthening. During the period 2004-2007, consolidated gross debt is estimated to decline as a percentage of GDP from 51.7 per cent to 49.0 per cent, and general government net assets are estimated to increase from 2.2 per cent of GDP to 3.6 per cent. Revenue is estimated to decline as a percentage of GDP from 55.5 per cent of GDP to 54.1 per cent. The expenditure ratio is estimated to decline from 54.8 per cent of GDP to 53.2 per cent.

**Table 5: General government finances<sup>1</sup>**

*Per cent of GDP*

	2003	2004	2005	2006	2007
<b>Revenue</b>	<b>56.1</b>	<b>55.5</b>	<b>54.7</b>	<b>54.3</b>	<b>54.1</b>
Taxes and charges	50.5	50.0	49.2	49.0	48.7
Capital income	2.2	2.2	2.2	2.2	2.2
Other revenue	3.4	3.3	3.2	3.2	3.2
<b>Expenditure</b>	<b>55.6</b>	<b>54.8</b>	<b>54.0</b>	<b>53.9</b>	<b>53.2</b>
Transfer payments	22.2	21.8	21.4	21.4	21.0
Consumption	28.3	28.0	27.6	27.3	26.9
Investment	2.9	2.9	2.9	2.9	2.9
Interest expenditure	2.2	2.1	2.2	2.3	2.4
<b>Net lending</b>	<b>0.5</b>	<b>0.7</b>	<b>0.6</b>	<b>0.4</b>	<b>0.9</b>
<b>Primary net lending</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.5</b>	<b>1.0</b>
<b>Consolidated gross debt</b>	<b>52.0</b>	<b>51.7</b>	<b>50.5</b>	<b>50.0</b>	<b>49.0</b>
<b>Net debt</b>	<b>-1.2</b>	<b>-2.2</b>	<b>-2.6</b>	<b>-2.9</b>	<b>-3.6</b>

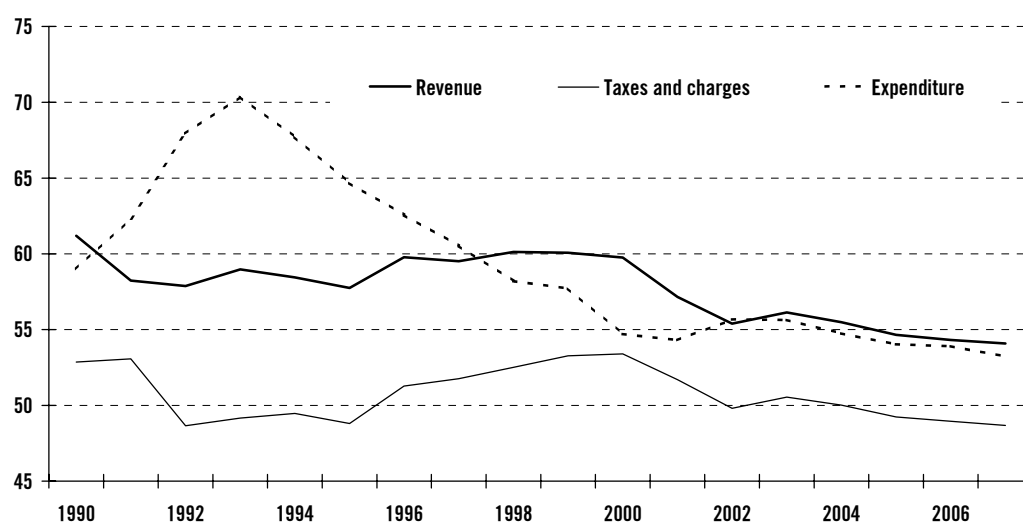
Note: Revenues and expenditure are larger according to harmonised accounting principles in the EU, i.e. 2003 revenues totaled 59.5 per cent and expenditure 58.8 per cent of GDP.

<sup>1</sup> A more detailed breakdown is presented in Table B.2.

Sources: Statistics Sweden and Ministry of Finance. Structural lending and fiscal policy stance

## Structural net lending and fiscal policy stance

The target of a surplus in general government net lending equivalent to 2 per cent of GDP on average over a business cycle forms the anchor of fiscal policy. In order to assess whether the surplus target is met in individual years, an indicator is used, which reflects the structural level of net lending including adjustment for temporary effects. Temporary effects mainly consist of cyclical variations in taxes and expenditure, but one-off effects may also occur.

**Diagram 5: General government revenue and expenditure***Per cent of GDP*

Sources: Statistics Sweden and Ministry of Finance.

An indicator that fiscal policy is in balance in relation to the surplus target is that the structural surplus in public finances is in the region of 2 per cent of GDP. Higher or lower structural lending may, however, be necessary, if initial lending differs greatly from the target, or if discretionary policy is used for the purpose of stabilisation. The calculation of structural lending is based on an assessment of the economic situation, through the output gap, as well as on the effects of the economic situation on public finances. The output gap is estimated on the basis of an overall assessment of a number of indicators of output, the labour market and price and wage formation. The Ministry of Finance's assessment is that a 1 per cent change in the GDP gap has on average an impact on general government lending of 0.7 per cent of GDP.

According to the preliminary National Accounts, general government net lending was 0.5 per cent of GDP in 2003. At the same time, the GDP gap is estimated to have been -1.4 per cent (see Table 6), which means that there were plenty of available resources in the economy. Using the above rule of thumb, the structural surplus is estimated at 1.5 per cent of GDP. The deviation from the target of 2 per cent was consequently relatively limited in 2003 and considerably smaller than in 2002. In 2004, the GDP gap is estimated to be largely the same size as in 2003. With somewhat larger net lending, structural lending will therefore also be somewhat stronger. The fiscal policy stance for 2005 results in structural lending declining to 1 per cent of GDP. This enables initiatives to strengthen employment and reduce unemployment in an economic situation, which has still not led to increased demand for labour, despite stronger export-led economic activity.

**Table 6: Structural surplus in public finances***Per cent of GDP*

	2003	2004	2005	2006	2007
<b>Net lending</b>	<b>0.5</b>	<b>0.7</b>	<b>0.6</b>	<b>0.4</b>	<b>0.9</b>
Adjustment for GDP gap	1.0	0.9	0.4	0.1	0.0
<b>Structural net lending</b>	<b>1.5</b>	<b>1.7</b>	<b>1.0</b>	<b>0.6</b>	<b>0.9</b>
<b>GDP gap</b>	<b>-1.4</b>	<b>-1.3</b>	<b>-0.5</b>	<b>-0.2</b>	<b>0.0</b>

Sources: Statistics Sweden and Ministry of Finance.

The annual changes in general government net lending may be regarded as a rough indicator of the effect of public finances on private sector income. The change can be divided into discretionary policy, automatic stabilisers and other factors.

Table 7 shows the change in general government net lending for the period 2003–2007. Discretionary fiscal policy was expansionary in 2003. The expansionary stance was strengthened by the automatic stabilisers, since the GDP gap widened between 2002 and 2003. Other factors affecting the balance offset the stimulus. Local government finances strengthened substantially, partly as a result of municipal tax increases. The improvement in central government net interest expenditure also contributed to strengthening public finances. Overall, public finances had a tightening effect on the economy, despite both discretionary fiscal policy and the automatic stabilisers being expansionary.

**Table 7: Indicator of effects on demand**

*Change in per cent of GDP*

	2003	2004	2005	2006	2007
<b>General government net lending</b>	<b>0.8</b>	<b>0.2</b>	<b>-0.1</b>	<b>-0.2</b>	<b>0.4</b>
Automatic stabilisers	-0.7	0.1	0.6	0.2	0.1
<b>Structural net lending</b>	<b>1.5</b>	<b>0.2</b>	<b>-0.7</b>	<b>-0.4</b>	<b>0.3</b>
Discretionary fiscal policy	-0.5	-0.4	-1.0	-0.4	-0.1
Capital expenditure, net	1.0	0.1	-0.1	-0.2	0.0
Other factors	1.0	0.4	0.4	0.1	0.4
<i>GDP gap, change in percentage points</i>	<i>-1.0</i>	<i>0.1</i>	<i>0.8</i>	<i>0.3</i>	<i>0.2</i>

Sources: Statistics Sweden and Ministry of Finance.

In 2004, net lending is expected to strengthen somewhat, which means that the public finances have a slightly tightening effect on the economy. The contribution of the automatic stabilisers to the balance change is negligible, since the GDP gap is largely unchanged. Structural lending therefore strengthens somewhat between 2003 and 2004. Fiscal stance thus is slightly tightening, despite discretionary fiscal policy being expansionary this year. The strengthening of public finances is partly due to the substantial improvement in local government sector finances.

In 2005, the automatic stabilisers are expected to strengthen public finances in the economic upturn. However, the automatic tightening is fully offset by an expansionary fiscal policy. Net lending is therefore largely unchanged, compared with 2004, and the effect on demand in the economy is thus neutral. Discretionary fiscal policy is expansionary, but is offset to some extent by further strengthening of local government finances.

During 2006 and 2007, net lending is estimated to strengthen by a total of 0.2 per cent of GDP. The whole strengthening is due to the automatic stabilisers, i.e. the gradual improvement in the economic situation, while structural lending is largely unchanged.

### **Allocation of net lending between sectors**

In 2004, net lending is allocated between the three areas of the general government sector, so that central government shows a deficit of 1.3 per cent of GDP, while the old-age pension system shows a surplus of 2.0 per cent of GDP and the local government sector a

surplus of 0.1 per cent of GDP. The central government deficit is estimated to increase to 1.8 per cent of GDP in 2005, while the pension system surplus and the local government sector surplus are expected to increase somewhat. The central government deficit is estimated to be the same size in 2006 as in 2005, but is expected to decline in 2007. Net lending in the old-age pension system is expected to remain stable at around 2 per cent of GDP during the period. The local government sector is expected to show small surpluses during these years.

**Table 9: Net lending and central government budget balance**

*Per cent of GDP*

	2003	2004	2005	2006	2007
<b>General government sector</b>	<b>0.5</b>	<b>0.7</b>	<b>0.6</b>	<b>0.4</b>	<b>0.9</b>
Central government	-1.4	-1.3	-1.8	-1.8	-1.2
Old-age pension system	2.0	2.0	2.1	1.9	1.9
Local government sector	-0.2	0.1	0.3	0.3	0.2
Central government budget balance	-1.9	-2.5	-1.4	-1.8	-1.3
Central government debt	48.6	48.7	47.6	47.2	46.4

Sources: Statistics Sweden and Ministry of Finance.

### Net financial wealth and gross debt

General government net financial wealth amounted to SEK 100 billion or 8 per cent of GDP in 1990. During the severe crisis of the early 1990s, the financial position deteriorated rapidly. Net wealth was replaced by net debt, which was SEK 467 billion or almost 27 per cent of GDP in 1996. The financial position has improved since 1996. Net financial wealth was equivalent to 1.2 per cent of GDP in 2003 and is expected to rise to 3.6 per cent of GDP in 2007. The forecast makes no assumptions regarding future changes in value, with the exception of the effects of the exchange rate on central government debt. This means that net debt develops in pace with net lending.

**Table 8: Consolidated gross debt**

*Per cent of GDP*

	2003	2004	2005	2006	2007
<b>Consolidated gross debt</b>	<b>52.0</b>	<b>51.7</b>	<b>50.5</b>	<b>50.0</b>	<b>49.0</b>
Change in gross debt	-0.6	-0.3	-1.2	-0.5	-1.0
<i>contribution to change</i>					
Net lending, excl. interest	-2.5	-2.6	-2.6	-2.5	-3.0
Interest (consolidated)	2.0	1.9	2.0	2.1	2.2
Consolidation	0.0	-0.4	-0.2	-0.1	-0.1
Net lending, old-age pension system	2.0	2.0	2.1	1.9	1.9
Nominal GDP growth	-2.0	-2.3	-2.8	-2.4	-2.2
Other factors	-0.1	1.2	0.3	0.5	0.4

Note: Consolidated interest is calculated by the Ministry of Finance on the assumption that interest on the consolidated debt is as large as on the gross debt.

Sources: Statistics Sweden and Ministry of Finance.

The allocation of net lending between central government and the old-age pension system means that the improvement in the financial position takes the form of increased assets in the pension system. The deficit in central government net lending results in the liability side of the general government sector balance sheet increasing during the forecast period.

However, the increase in debt is not large enough to prevent central government debt and consolidated gross debt from continuing to decline as a percentage of GDP during the period 2004–2007.

Consolidated gross debt consists of central government debt at par value plus the local government sector's liabilities in the credit market less the old-age pension system's holdings of government bonds. Table 8 shows the contribution of different factors to the development of consolidated gross debt. It should be noted that the old-age pension system's net lending does not contribute to a reduction in the debt, since the old-age pension system's investments are mainly in the form of shares and other assets than government bonds. The relatively large contribution of other factors to the increase in debt in 2004 is due to the cash taxes being lower and the interest payments higher than the accruals. Consolidated gross debt amounted to 52 per cent of GDP at the end of 2003, which is well below the EU reference value of 60 per cent of GDP. Gross debt for 2003 marginally exceeds the forecast in the convergence programme for 2003. At the end of 2007, consolidated gross debt is expected to be less than 50 per cent of GDP.

## **VI Alternative scenarios and comparison with updated programme for 2003**

### **Low-growth scenario**

In the low-growth scenario, the oil price is assumed to remain high at USD 55 a barrel throughout the period 2005–2007, due to continuing supply problems. Global growth is consequently estimated to decline by 0.7 percentage points, compared with the base scenario. Weakened global growth leads to Swedish exports slowing. Consumer prices rise more rapidly, as a result of higher petrol and domestic heating oil prices. In addition, it is probable that firms increase their prices in both the domestic market and the export market. Household disposable income weakens, due to weaker employment growth than in the base scenario. However, wages are assumed to be unchanged and no changes in monetary policy are anticipated. The Riksbank does not pursue a tighter monetary policy because consumer prices rise, since the effects of the higher oil price on inflation are considered to be temporary. Overall, the increase in GDP between 2004 and 2007 is estimated to be 0.7 percentage points lower than in the base scenario. Unemployment is higher each year and is estimated at 4.6 per cent in 2007.

Weaker economic growth, with lower tax bases and higher unemployment, results in general government revenue falling and expenditure rising, compared with the base scenario. Total lending in the general government sector is around zero in 2005–2007. Higher prices and unemployment lead to an increase in capped expenditure. Further measures would therefore be needed to manage within the expenditure ceiling. However, no such measures have been taken into account in the estimate. Local government sector finances also come under pressure. However, the negative effects on the tax base are limited by the reduction in wage income being partly offset by increased unemployment benefit payments. Moreover, the local government tax base includes old-age pensions and other transfer income, which are not directly affected by lower growth. Consequently, there are stabilising factors inherent in local government tax revenue. Operating volume is

assumed to be unchanged, compared with the base scenario. Despite the increased prices of intermediate consumption and purchased services, the local government sector as a whole is expected to maintain a positive financial outcome on average in the years 2005–2007. However, the build-up of equity, which is assumed in the base scenario, does not take place in the low-growth scenario.

**Table 10: Alternative scenarios**

*Per cent of GDP, unless otherwise stated*

	2003	2004	2005	2006	2007
<b>GDP growth</b>					
Base	1.6	3.5	3.0	2.5	2.3
Low	1.6	3.4	2.5	2.4	2.3
High	1.6	3.7	3.9	3.3	3.2
<b>GDP gap</b>					
Base	-1.4	-1.3	-0.5	-0.2	0.0
Low	-1.4	-1.4	-1.1	-0.9	-0.7
High	-2.4	-2.5	-1.3	-0.6	0.0
<b>Employment ratio<sup>1</sup></b>					
Base	77.6	77.0	77.0	77.2	77.4
Low	77.6	76.9	76.5	76.6	76.8
High	77.6	77.1	78.0	79.0	80.0
<b>Net lending</b>					
Base	0.5	0.7	0.6	0.4	0.9
Low	0.5	0.6	0.2	-0.1	0.2
High	0.5	0.9	1.3	1.5	2.0

<sup>1</sup> Number of persons employed aged 20-64, excluding those employed in cyclical labour market policy programmes, as a percentage of the population aged 20-64.

Sources: Statistics Sweden and Ministry of Finance.

### High-growth scenario

In the high-growth scenario, the labour market and wage formation are assumed to function better than in the base scenario. Open unemployment is assumed to remain permanently at a lower level without the labour market overheating. The labour supply is assumed to increase considerably more rapidly and the potential growth rate is therefore higher. Employment and output can therefore rise more rapidly without prices and wages developing in an unsustainable way. GDP grows by approximately 3.5 per cent per year in 2004–2007 and the GDP level is approximately 3 per cent higher in 2007 than in the base scenario. The employment target is met in 2007 and unemployment is 3.5 per cent. In order that employment and the labour supply can increase to such an extent, the number of persons in training, the long-term sick or persons receiving disability pensions must be lower than in the base scenario. The higher growth is mainly driven by stronger domestic demand, while world market growth is assumed to be unchanged.

Higher economic growth and employment strengthen the public finances. The tax bases increase and general government transfer payments to households in the form of unemployment benefits, sickness benefits, disability pensions etc. decline as more people enter employment. If the increased growth is solely due to stronger economic activity, public finances will weaken again when economic activity declines. Since the increase in



GDP is permanent in this scenario, due to a better functioning labour market, the strengthening of the public finances is permanent. Structural lending strengthens, creating scope for permanent reforms.

Increased employment strengthens the base for local government sector revenue. Moreover, expenditure on social benefits falls. In the estimate, employment in municipalities and county councils is assumed to rise by approximately 10,000 persons in 2007, compared with the base scenario. In addition, there is scope for a reduction in the average municipal tax of 0.3 percentage points. The tax cut is equivalent to an increase in household income of just over SEK 4 billion.

Central government finances are also strengthened substantially by the higher level of activity in the economy. Revenue rises, mainly due to higher indirect taxes, since household consumption expenditure is assumed to be higher than in the base scenario. Higher employment increases employer contributions. Corporate tax revenues also increase. In addition, the decline in transfer payments to households, compared with the base scenario, has a positive effect on central government finances. In the estimate, general government net lending strengthens in both 2006 and 2007 by just over 1 per cent of GDP, compared with the base scenario, so that structural lending amounts to 2 per cent of GDP in 2007. Besides strengthening net lending, higher economic growth creates scope for unfunded reforms in excess of the balance target. The scope for reform amounts to SEK 17 billion in 2007. In the estimate, this scope benefits households, contributing to considerably more rapid real income growth than in the base scenario.

### Comparison with updated programme for 2003

Table 11 compares this convergence programme with the updated programme for 2003. GDP growth in 2003 was 0.2 percentage points higher than stated in the previous year's programme. The forecast GDP increase for 2004 has been revised upward by 1.5 percentage points and the GDP increase for 2005 by 0.4 percentage points.

**Table 11: Comparison with updated convergence programme for 2003**

	2003	2004	2005	2006	2007
<b>GDP, percentage change in volume</b>					
Updated convergence programme for 2003	1.4	2.0	2.6	2.5	–
Updated convergence programme for 2004	1.6	3.5	3.0	2.5	2.3
Difference, percentage points	0.2	1.5	0.4	0.0	–
<b>Net lending, per cent of GDP<sup>1</sup></b>					
Updated convergence programme for 2003	0.4	0.6	1.4	1.9	–
Updated convergence programme for 2004	0.5	0.7	0.6	0.4	0.9
Difference, percentage points	0.1	0.1	-0.8	-1.5	–
<b>Consolidated gross debt, per cent of GDP</b>					
Updated convergence programme for 2003	51.7	51.5	50.0	48.3	–
Updated convergence programme for 2004	52.0	51.7	50.5	50.0	49.0
Difference, percentage points	0.3	0.2	0.5	1.7	–

<sup>1</sup> The net lending for the updated convergence programme for 2003 is in periodised terms.  
Sources: Statistics Sweden and Ministry of Finance.

Net lending in 2003 was 0.1 percentage points stronger than forecast in the convergence programme for 2003. The forecast for 2004 has been revised upward by 0.1 percentage points, but the forecast for 2005 has been revised downward by 0.8 percentage points.

Consolidated gross debt in 2003 was 0.3 percentage points higher than forecast in the previous updated convergence programme. For 2004 and 2005, gross debt is forecast to be 0.2 and 0.5 percentage points respectively higher than in the previous year's programme.

## **VII Structural policy and quality in public finances**

The broad reform agenda of the Lisbon strategy corresponds well with the government's view of how growth-promoting initiatives should be pursued. The government considers that the strategy creates added value in national growth initiatives. The extensive evaluations carried out at EU level can provide lessons for national growth initiatives. The exchange of good examples with other Member States can make a contribution to Sweden's growth initiatives. The instruments used at EU level can also be utilised to measure and evaluate national policy. There are therefore reasons to effectively integrate the Lisbon strategy into national policy.

### **Quality in public finances<sup>1</sup>**

The concept of quality in public finances has been high on both the national and international agenda for a number of years, among other things, through the Lisbon strategy and within the EU's framework for the coordination of public finances. The fact that Sweden and other EU countries have relatively high general government expenditure, at the same time as the demand for increased expenditure is expected to increase over the next 50 years (see Chapter VIII), further emphasises the importance of an effective allocation and use of general government revenue.

Total general government expenditure for 2003 amounted to 58.3 per cent of GDP (EU definition), which was unchanged compared with 2002. It is hard to determine how the size of the general government sector and the taxes used to finance general government expenditure affect growth and the prerequisites for an effective use of resources. One reason is that the composition of general government expenditure is also important. Roughly speaking, general government expenditure may be justified to achieve economic or redistribution policy objectives.

Quality in general government expenditure is often defined as expenditure in areas that increase the economy's production capacity, e.g. expenditure on investment in physical and human capital and on R&D.

---

<sup>1</sup> In this chapter, the EU harmonised definition of general government expenditure is used, which differs to some extent from the Swedish definition. The EU definition inflates general government expenditure through, among other things, gross accounting of revenue from sales and charges in general government activities.

**Table 12: General government expenditure by purpose***Percentage of GDP*

	1995	1997	1997	1998	1999	2000	2001	2002	Change 1995–2002
General public administration	11.9	11.7	12.0	11.0	10.2	10.2	8.8	8.8	–3.2
of which interest	6.6	6.6	6.3	5.5	4.8	4.1	3.2	3.2	–3.4
other	5.3	5.1	5.7	5.5	5.4	6.1	5.6	5.6	0.3
Defence	2.5	2.6	2.5	2.4	2.5	2.4	2.2	2.1	–0.4
Social responsibility and judicial system	1.5	1.5	1.4	1.4	1.4	1.3	1.4	1.5	0.0
Economic issues	6.1	4.9	4.6	4.6	4.9	4.2	4.5	4.8	–1.2
Environmental protection	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2
Provision of housing and social planning	2.9	2.7	2.1	1.8	1.4	0.9	1.0	0.9	–1.9
Health and medical care	6.4	6.6	6.4	6.3	6.4	6.3	6.8	7.1	0.7
Leisure, culture and religion	1.9	1.9	1.8	1.8	1.8	1.1	1.1	1.1	–0.8
Education	7.1	7.1	7.2	7.5	7.6	6.9	7.3	7.5	0.4
Social security	27.2	26.2	24.9	23.7	24.0	23.7	23.8	24.1	–3.1
<b>Total expenditure</b>	<b>67.7</b>	<b>65.3</b>	<b>63.0</b>	<b>60.7</b>	<b>60.3</b>	<b>57.3</b>	<b>57.1</b>	<b>58.3</b>	<b>–9.4</b>
excluding interest	61.1	58.7	56.7	55.2	55.5	53.2	53.9	55.1	–5.9

Sources: Statistics Sweden and Ministry of Finance.

However, quality in public finances is a multifaceted concept, which includes not only the allocation of expenditure between different purposes, but also how allocated resources are actually used, as well as the outcome of their use in relation to the objectives or priorities established. Since political decisions and priorities determine the amount, allocation and objectives of general government expenditure, quality in public finances is not just a categorisation of which expenditure is more or less "productive". The concept may also include other aspects, such as redistribution and social and environmental objectives.

**Table 13: Distribution of general government expenditure***Per cent of total expenditure*

	1995	1997	1997	1998	1999	2000	2001	2002	Change 1995–2002
General public administration	17.6	17.9	19.0	18.1	16.9	17.8	15.4	15.0	–2.6
of which interest	9.8	10.1	10.0	9.0	7.9	7.1	5.6	5.5	–4.3
other	7.9	7.8	9.0	9.1	9.0	10.7	9.8	9.6	1.7
Defence	3.7	4.0	3.9	4.0	4.1	4.1	3.9	3.6	–0.1
Social responsibility and judicial system	2.2	2.3	2.2	2.3	2.3	2.3	2.4	2.5	0.3
Economic issues	9.0	7.6	7.2	7.6	8.2	7.2	7.8	8.3	–0.7
Environmental protection	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.6	0.3
Provision of housing and social planning	4.2	4.1	3.3	2.9	2.2	1.7	1.7	1.6	–2.6
Health and medical care	9.4	10.1	10.2	10.4	10.6	11.0	11.9	12.1	2.7
Leisure, culture and religion	2.8	2.9	2.9	3.0	3.0	1.9	2.0	1.9	–0.9
Education	10.5	10.8	11.4	12.4	12.6	12.0	12.8	12.9	2.4
Social security	40.2	40.1	39.5	38.9	39.8	41.4	41.6	41.4	1.1
<b>Total expenditure</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
excluding interest	90.2	89.9	90.0	90.9	92.1	92.9	94.4	94.5	4.4

Sources: Statistics Sweden and Ministry of Finance.

In order to evaluate whether a change in the composition of general government expenditure has affected long-term growth, detailed information is required. The allocation of general government expenditure between different purposes and the change in

allocation over time provide, however, an indication of how different types of expenditure and purposes are prioritised.

Between 1995 and 2002, general government expenditure fell as a percentage of GDP by just over 9 percentage points from 67.7 per cent of GDP to 58.3 per cent of GDP. The reduction in interest expenditure accounted for 3.5 percentage points of this fall. Social security expenditure also declined during the period, mainly as a result of reduced unemployment. Expenditure fell sharply between 1995 and 1998 and then increased somewhat between 1999 and 2002. Expenditure on housing provision and social planning, including interest subsidies to households, fell by almost two-thirds from 2.9 per cent of GDP in 1995 to just under 1 per cent in 2002.

The allocation of general government expenditure between different types of expenditure also changed between 1995 and 2002. In 1995, transfer payments accounted for the largest proportion of general government expenditure, 44 per cent equivalent to 27 per cent of GDP. General government consumption expenditure, which largely comprises wage costs and consumption in the general government sector, amounted to 40 per cent of total expenditure. During the period 1995-2002, consumption expenditure was largely unchanged as a percentage of GDP. At the same time, both transfer payment expenditure and interest expenditure declined as a percentage of GDP. The development resulted in consumption expenditure rising as a proportion of total expenditure during the period, while the proportion of interest and of transfer payments fell. In 2002, consumption expenditure accounted for almost 50 per cent of total general government expenditure.

**Table 14: General government expenditure by expenditure type**

	1995	1997	1997	1998	1999	2000	2001	2002	Development 1995-2002
<i>Per cent of GDP</i>									
Total expenditure	67.7	65.3	63.0	60.7	60.3	57.3	57.1	58.3	-9.4
Consumption	27.2	27.8	27.2	27.4	27.4	26.6	27.1	28.1	0.9
Investment	3.8	3.0	3.2	2.2	2.9	2.6	2.8	3.1	-0.7
Interest	6.6	6.6	6.3	5.5	4.8	4.1	3.2	3.2	-3.5
Transfer payments	30.0	28.0	26.3	25.7	25.2	24.0	24.0	23.9	-6.1
<i>Per cent of total expenditure</i>									
Total expenditure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Consumption	40.2	42.5	43.2	45.2	45.5	46.4	47.4	48.1	8.0
Investment	5.7	4.5	5.0	3.5	4.8	4.6	5.0	5.4	-0.3
Interest	9.8	10.1	10.0	9.1	7.9	7.1	5.6	5.5	-4.4
Transfer payments	44.3	42.9	41.8	42.2	41.8	41.9	42.1	41.0	-3.3

Sources: Statistics Sweden and Ministry of Finance.

## Structural reforms

The effectiveness of the welfare systems is of great importance to economic growth. Over the past few years, major investment has been made in education and training, research and infrastructure. In the light of the challenges faced by the general government welfare systems, it is important to review the opportunities for improving and developing the social structure. The Committee of Public Sector Responsibilities (Fi2003:02) has in its supplementary directive been charged with analysing and assessing whether the structure

and the division of assignments within central government and between central government, the county councils and the municipalities need to change, in order to better meet the welfare challenges of the future.

### *Labour market*

In order to achieve the target of an 80 per cent employment rate, employment must increase in all groups, but special initiatives must be targeted at groups, which have difficulty in entering the labour market, such as young people and immigrants. In order to increase mobility, relocation grants are being streamlined. Subsidy for daily commuting is being increased and subsidy for weekly commuting reintroduced. The continued efforts to give labour market policy a more growth-oriented focus should be concentrated in seven areas (Government Bill 2002/03:44 Strengthening labour market policy, report 2002/03:AU8):

- Continued streamlining of labour market policy.
- Measures to maintain and increase the labour supply.
- Improved integration of immigrants into the labour market.
- Initiatives to get the long-term sick back to work.
- Adaptation of labour market training to the demands in the labour market.
- Measures to promote labour force mobility.
- Ensuring the legitimacy of unemployment insurance.

In order to strengthen the focus on work and skills and reduce marginal taxes, the tax change should be completed with compensation for the national pension contribution.

A parliamentary committee has been appointed to draw up rules and regulations, which allow expanded labour immigration from countries outside the EU and the EEA. The committee is expected to submit its draft report in 2006.

### *Structural education and training initiatives*

In order to improve competence and increase the supply of skilled labour, significant initiatives have been taken in the education and training sector in the last few years. The Adult Education Initiative and the substantial expansion of higher education have given new groups access to education and have moreover created strong higher education institutions, which are driving developments in each county.

In 2005, an average of 111,000 persons will be offered skills training. The aim is to equip the unemployed, so that they can take the new jobs created in the economic upturn. In this way, inflationary bottlenecks can be counteracted and exclusion from the labour market, due to long-term unemployment, is avoided.

In order to better utilise research results, it is important to promote academic entrepreneurship and strengthen links with the business sector. It is also important that small and medium-sized firms in traditional sectors utilise research results and strengthen their competence. During the period 2000-2004, central government grants to basic research and postgraduate studies were increased by almost SEK 1.5 billion.

*Medical care and ill health*

A special further training initiative for staff in the local government sector is being implemented during 2004–2005. The sharp increase in the number of early retirements and staff on sick leave entails major costs for the state, the individual and society as a whole. The target is to halve the number of days lost through sickness by 2008 and to reduce the number of new activity and sickness benefits.

During the autumn of 2004, the government has submitted a bill to the Riksdag on initiatives to reduce sickness absence. The proposal means that as from 1 January 2005 employers have a co-financing responsibility for 15 per cent of the sickness benefit cost for employees, while employer contributions will be reduced correspondingly. Co-financing ceases if the person on sick leave receives rehabilitation or returns to work full- or part-time.

*Fiscal policy*

The income tax reform described in Chapter III aims to reduce marginal taxes for low- and middle-wage earners through gradual compensation for social security contributions.

The government is striving to create tax regulations for different forms of small companies and their owners, which are as far as possible uniform and simple. The reform of the special regulations that apply to close companies, where the shareholder is active to a significant extent in the company, the so-called 3:12 regulations, was begun and is being completed. In order, among other things, to improve the conditions for enterprise, inheritance tax and gift tax are being abolished, which facilitates generation change. Moreover, the exempted amount in wealth tax is being increased.

Sweden is well advanced in the deregulation of different markets. Basic structural reforms have been implemented regarding taxes, pensions, wage formation and competition. High growth, which provides the prerequisites to develop welfare, presupposes well-functioning markets for capital, production and labour. The efforts to strengthen the economic driving forces for individuals, firms, public authorities and other institutions should continue.

Despite the improvements that have been made, there are prerequisites to considerably strengthen competition and thus the conditions for growth. Work should focus on securing effective competition in recently deregulated markets and increasing competition in areas where this is considered to be inadequate. The updating and tightening of competition legislation may also be necessary to ensure good competition.

**VIII Sustainability of public finances**

In Sweden, as in most other western industrialised countries, the proportion of older people in the population will increase markedly over the next 50 years. More people outside the labour force in relation to the economically active will put pressure on the tax-funded welfare systems. This trend is already making demands on economic policy today. In order to be able to maintain well-developed public welfare in the future, high

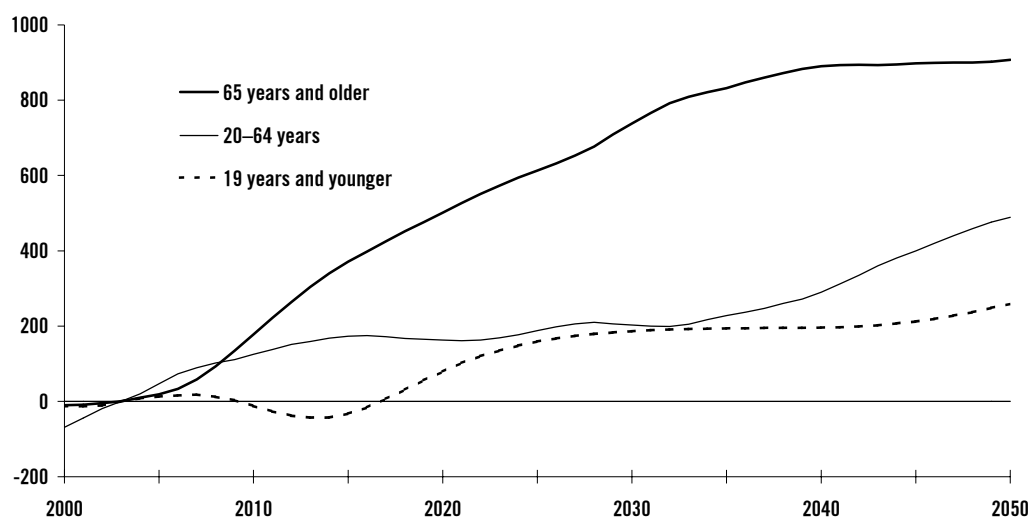
net lending in the general government sector is required over the next few years, while efforts must be made to increase the number of persons in employment. This chapter describes a scenario for how the population trend in Sweden may be thought to affect public finances.

### The demographic trend

Sweden's population recently passed the 9 million mark. According to the population forecast presented by Statistics Sweden during the spring of 2004, the population will continue to grow to just over 10.6 million by 2050. The main increase is in the number of persons over the age of 64. This group rises by just over 900,000 to almost 2.5 million, while the number of persons aged 20 to 64 only rises by approximately 500,000 to just under 5.8 million. In other words, the greater part of the population increase consists of persons who are not of working age (see Diagram 6).

#### Diagram 6 The population of Sweden

*Change compared to 2003, thousands*



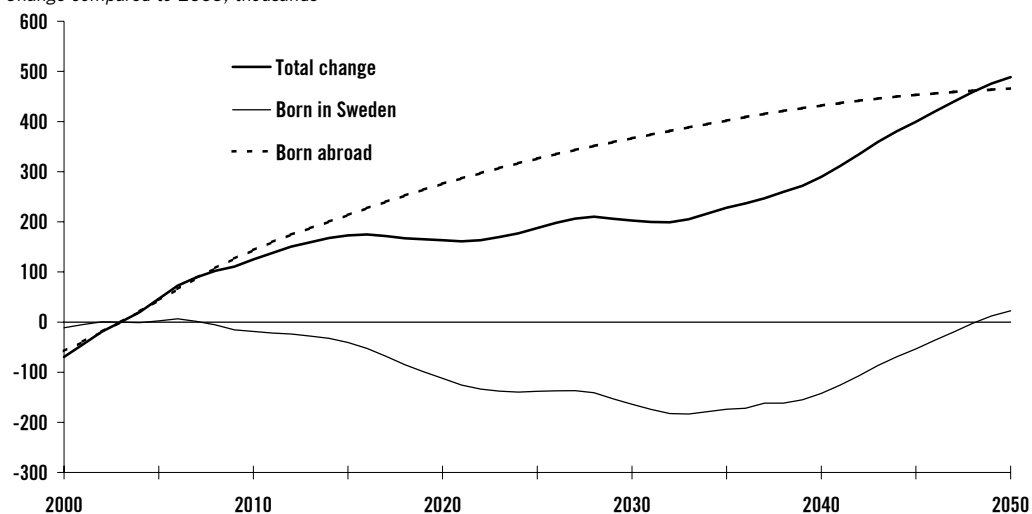
Sources: Statistics Sweden and Ministry of Finance.

During all years, immigration accounts for the greater part of the population growth. Immigration is of crucial importance not least for the growth of the working-age population. Without positive net immigration in the 20–64 age group, the number of persons in this age group would decline (see Diagram 7).

The clear majority of immigrants today are those born outside the EU. This group currently has a considerably lower employment rate than the average. A major challenge in the future will be to integrate these immigrants into the labour market. If this proves unsuccessful, the population increase forecast in the 20–64 age group will result in a considerably more modest increase in the number of persons employed.

### Diagram 7: Population aged 20–64 years

Change compared to 2003, thousands

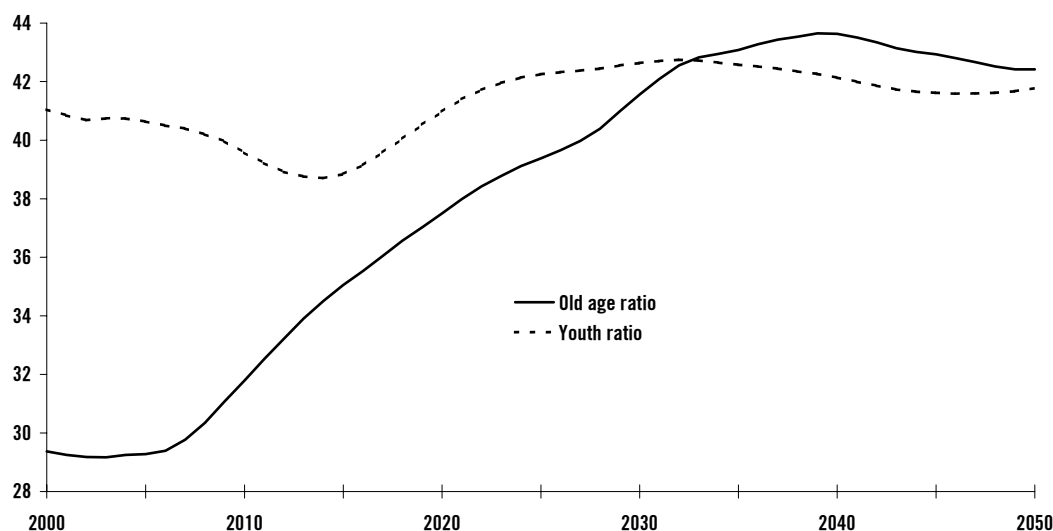


Sources: Statistics Sweden and Ministry of Finance.

The demographic trend may be summarised in dependency ratios, i.e. the ratio between the number of persons of non-working age and the number of persons of working age. The dependency ratio for older people, measured as the number of persons over the age of 64 per 100 persons aged 20 to 64, is estimated to rise from approximately 29 persons in 2003 to almost 44 persons in 2040. The dependency ratio for young people, measured as the number of persons under the age of 20 per 100 persons aged 20 to 64, is more stable and fluctuates around 41 persons (see Diagram 8). In the shorter perspective, up to around 2010, the rising ratio for older people and the falling ratio for young people tend to cancel each other out, leaving the total demographic dependency burden unchanged.

### Diagram 8: Demographic dependency ratios

Per cent



Sources: Statistics Sweden and Ministry of Finance.



## Economic development after 2007

The long-term projection of economic development is based on the estimate for the Swedish economy up to 2007 described in a previous chapter. Employment growth after 2007 is based partly on the anticipated population trend, and partly on assumptions concerning how the employment rate and the number of working hours will develop for different population groups. In the short term, the change in the age structure will play a major role. The proportion of persons aged 25 to 54, with a high labour supply, was high during the 1990s, but will decline in the future. In the slightly longer term, the changes in structure in terms of origin will be more important. The proportion of immigrants and particularly those born outside the EU in the 20-64 age group will grow rapidly, according to the population forecast.

In the estimate, Swedish-born individuals are assumed to work to the same extent in future as today, while the position of immigrants in the labour market continues to strengthen. Up to 2020, the difference in the employment rate between Swedish-born and foreign-born individuals is assumed to decline by one-third. Residual differences are assumed to remain after 2020. With such a trend, the proportion of persons employed among foreign-born individuals aged 20 to 64 rises to just over 65 per cent. However, the total employment rate is less than the target of 80 per cent throughout the period.

**Table 15: Macroeconomic assumptions**

	2000	2007	2010	2015	2020	2030	2040	2050
<b>Percentage change<sup>1</sup></b>								
Population in the 20-64 age group	0.5	0.3	0.2	0.2	-0.0	0.1	0.2	0.4
Number of employed	2.2	0.7	0.1	0.1	0.1	-0.0	0.2	0.3
Hours worked	1.0	0.4	-0.1	-0.0	-0.1	-0.2	-0.0	0.1
Business sector productivity	3.9	2.3	2.2	2.2	2.2	2.2	2.2	2.2
GDP	4.3	2.3	1.6	1.8	1.7	1.4	1.8	1.9
GDP per capita	4.1	1.8	1.2	1.3	1.2	1.1	1.5	1.6
GDP productivity	3.3	1.9	1.7	1.8	1.7	1.7	1.8	1.8
GDP deflator	1.3	2.3	2.4	2.4	2.4	2.4	2.3	2.2
CPI	1.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Hourly wage	5.0	3.5	4.3	4.3	4.3	4.2	4.2	4.2
<b>Per cent</b>								
Real interest rate	4.1	3.5	3.0	3.0	3.0	3.0	3.0	3.0
Labour force participation in 20-64 age group	81.2	80.4	80.0	79.8	79.8	78.9	78.9	78.7
Women	78.4	77.9	77.4	77.2	77.0	76.0	75.9	75.7
Men	84.0	82.8	82.5	82.4	82.5	81.8	81.9	81.7
Open unemployment <sup>2</sup>	4.7	4.2	4.0	4.0	4.0	4.0	4.0	4.0

Note: In the estimate of GDP growth it is assumed, in accordance with the convention in the Swedish National Accounts, that productivity growth in the general government sector is zero. An increased percentage of general government consumption entails reduced GDP productivity.

<sup>1</sup> For the period 2010-2050, the average yearly percentage change from the previous period is stated.

<sup>2</sup> National definition. Students looking for work are counted as unemployed in international statistics.

Sources: Statistics Sweden and Ministry of Finance.

GDP growth is also affected by the average working hours per person employed. In the scenario, average hours worked are assumed to decline somewhat in the long term. Such a decline may be justified by the probable increase in the demand for leisure, when household income and consumption opportunities increase in general. However,

households mainly choose to increase their consumption of goods and services. Working hours are assumed to decline by only 0.2 per cent per year, which is equivalent to a reduction in weekly working hours of approximately 3.5 hours by 2050. The number of hours worked thus declines by approximately 2 per cent between 2007 and 2050, despite the increase in the population aged 20 to 64 of approximately 7 per cent.

Productivity in the business sector increases in the estimate by 2.2 per cent per year. Productivity growth in the general government sector is assumed to be zero, in accordance with the calculation methods used in the National Accounts. Overall, this leads to a productivity increase in the whole economy of approximately 1.8 per cent per year (see Appendix B). Productivity growth varies somewhat over time, due to changes in the composition of private sector and general government sector output of goods and services. The productivity increase, combined with the labour force growth, gives rise to GDP growing on average by 1.7 per cent per year during the period 2007–2050. GDP per capita grows on average by 1.4 per cent per year. Despite these growth figures being somewhat lower than was usual in the last few decades, GDP will be 130 per cent higher in 2050 than in 2003, while GDP per capita will be 95 per cent higher. The most important calculation assumptions are summarised in Table 15.

### **General government revenue**

The long-term development of tax revenues depends to a great extent on employment growth. The majority of taxes are a direct or indirect taxation of work. The greater part of household income taxes and social security contributions are charged to the wage bill. These taxes account for more than half of general government revenue. The development of the labour market is also of major importance to revenue from taxes on household consumption expenditure, such as VAT and selective purchase taxes. Even if the tax rates remain unchanged in relation to the respective tax base, the total tax ratio, i.e. taxes and charges in relation to GDP, will increase in the next few decades. The reason is that a number of important tax bases may be expected to grow more rapidly than GDP. This applies, for example, to household consumption expenditure and taxed transfer payments, which grow when the number of pensioners increases.

### **General government expenditure**

The change in the population structure has major effects on public finances. The increasing number of older people in the population affects expenditure on pensions, medical care and care of the elderly. The estimate of pension expenditure is based on the demographic trend, the macroeconomic assumptions and current rules and regulations. Pension expenditure as a percentage of GDP is estimated to increase from 8.5 per cent in 2007 to just over 10 per cent in the mid-2030s and then decline somewhat.

Expenditure on medical care and care of the elderly is estimated to increase from 10.2 per cent in 2007 to 14.2 per cent of GDP in 2050. An improved state of health is assumed to limit the increase in expenditure in care of the elderly. Expenditure per person shifts upward in the age groups in the estimate, as average life expectancy increases. This leads to savings equivalent to approximately 1.2 per cent of GDP in 2050, compared with

unchanged expenditure per person in the respective age group. No equivalent assumption is made for medical care. The reason is that medical advances often lead to increases in quality, new treatment methods for new patient groups etc. The cost-saving potential is therefore lower in this area. Overall, expenditure on pensions, medical care and care of the elderly increases as a percentage of GDP by 5 percentage points during the estimate period.

The estimates assume a standard guarantee in general government transfer payment systems. For a large part of transfer payments, there are rules and regulations, which automatically increase expenditure per beneficiary in line with the wage trend. This applies to pensions, which are adjusted upward in line with the earnings index, and partly to transfer payments, which compensate for loss of earnings, e.g. health and parental insurance. Transfer payments, which lack this type of automatic standard guarantee, e.g. child benefit and study allowance, are assumed in the estimate to increase in line with the nominal wage trend. Such a standard guarantee offsets the erosion, which would take place in the longer term, if the estimate were based on strictly unchanged regulations. The standard guarantee therefore assumes that certain reforms are implemented in pace with economic growth.

Staff intensity, e.g. the number of teacher hours per student, may be regarded as a standard indicator of general government services output. In the estimates, it is assumed that these services are carried out with the same staff intensity as today. This means that the number of persons employed in the general government sector needs to increase by approximately 110,000 persons between 2007 and 2020 on an expansion in pace with the demographic needs. Since the average age of staff in many activities is relatively high today, the recruitment needs will be considerably larger. The number of public sector employees needs to increase by an additional approximately 330,000 persons between 2020 and 2050, in order that the standard of services output can be maintained. The large recruitment needs are likely to contribute to wages being driven up relative to other areas of the economy. In the estimates, it is assumed that the increase in hourly wages in municipalities and county councils will be on average 0.5 per cent more rapid per year than in other areas of the economy during the period up to 2020.

Between 2007 and 2015, primary general government expenditure, i.e. expenditure excluding interest, is only estimated to increase slightly more rapidly than GDP (see Table 16). The total demographic pressure on expenditure is still limited. Fewer children and young people of school age mean that expenditure on primary and secondary education can decline as a percentage of GDP, while the demand for medical care and care of the elderly only rises weakly. The estimate assumes that municipalities are able to contract activities in areas where demand declines. Transfer payments linked to persons under the age of 20 also fall as a percentage of GDP. However, pension expenditure increases, which leads to total household transfer payments increasing as a percentage of GDP between 2007 and 2015.

Between 2015 and 2050, primary expenditure increases as a percentage of GDP by just over a further 3 percentage points. The expenditure ratio peaks in the mid-2030s. General government consumption of medical care and care of the elderly mainly increases, but

household transfer payments in the form of pensions also grow. However, general government investment expenditure falls as a percentage of GDP throughout the period. Investment volume admittedly increases in pace with general government consumption volume, but the price of investment goods increases more slowly than the average price trend in the economy as a whole.

**Table 16: Primary expenditure as a percentage of GDP**

*Change in percentage points*

	2007–2015	2015–2050
<b>Primary expenditure</b>	1.1	3.2
Household transfer payments	1.1	0.4
General government transfer payments to firms and abroad	0.0	0.0
General government consumption	0.4	4.0
Investment	–0.5	–1.3

Sources: Statistics Sweden and Ministry of Finance.

### The surplus target and sustainable public finances

The sustainability of public finances may be defined in various ways. In the strict sense, public finances are sustainable, if the present value of all future revenue and expenditure, excluding interest, is the same as the amount of debt at the beginning of the period. If this requirement is fulfilled, future revenue covers not only future expenditure, but is moreover sufficiently large to pay back the debt in the long term. The problem with this definition is that revenue and expenditure must be projected over very long time periods with all the inherent uncertainty.

**Table 17: Public finances**

*Per cent of GDP*

	2000	2007	2010	2015	2020	2030	2040	2050
<b>Primary revenue</b>	<b>56.6</b>	<b>51.8</b>	<b>53.5</b>	<b>53.6</b>	<b>53.9</b>	<b>54.6</b>	<b>54.7</b>	<b>54.2</b>
Taxes and charges	53.4	48.7	50.4	50.6	51.0	51.8	52.0	51.7
Other revenue	3.2	3.2	3.1	3.0	2.9	2.8	2.6	2.5
<b>Primary expenditure</b>	<b>50.6</b>	<b>50.9</b>	<b>51.3</b>	<b>51.9</b>	<b>52.9</b>	<b>55.7</b>	<b>55.9</b>	<b>55.2</b>
Transfer payments	21.4	21.0	21.4	22.1	22.4	23.1	23.2	22.6
Consumption	26.6	26.9	27.1	27.4	28.3	30.7	31.2	31.4
Investment	2.6	2.9	2.7	2.4	2.2	1.9	1.5	1.2
<b>Primary net lending</b>	<b>6.0</b>	<b>1.0</b>	<b>2.2</b>	<b>1.7</b>	<b>1.0</b>	<b>–1.1</b>	<b>–1.2</b>	<b>–1.0</b>
Net capital income	–1.0	–0.1	–0.2	0.3	0.8	0.9	0.5	0.2
<b>Net lending</b>	<b>5.1</b>	<b>0.9</b>	<b>2.0</b>	<b>2.0</b>	<b>1.7</b>	<b>–0.2</b>	<b>–0.7</b>	<b>–0.8</b>
<b>Financial position</b>								
Consolidated gross debt	52.8	49.0	45.8	39.3	33.2	31.9	38.8	45.9
Adjusted gross debt <sup>1</sup>	31.9	26.5	19.3	8.6	0.6	–0.6	9.8	16.1
Net debt	1.3	–3.7	–11.1	–21.8	–30.3	–33.0	–23.1	–17.1

<sup>1</sup> Consolidated gross debt minus pension system assets in addition to government securities.

Sources: Statistics Sweden and Ministry of Finance.

An alternative sustainability criterion is that the debt situation should not deteriorate over a more foreseeable period, which is nevertheless sufficiently long to include the demographic structural change. If general government debt as a percentage of GDP is no

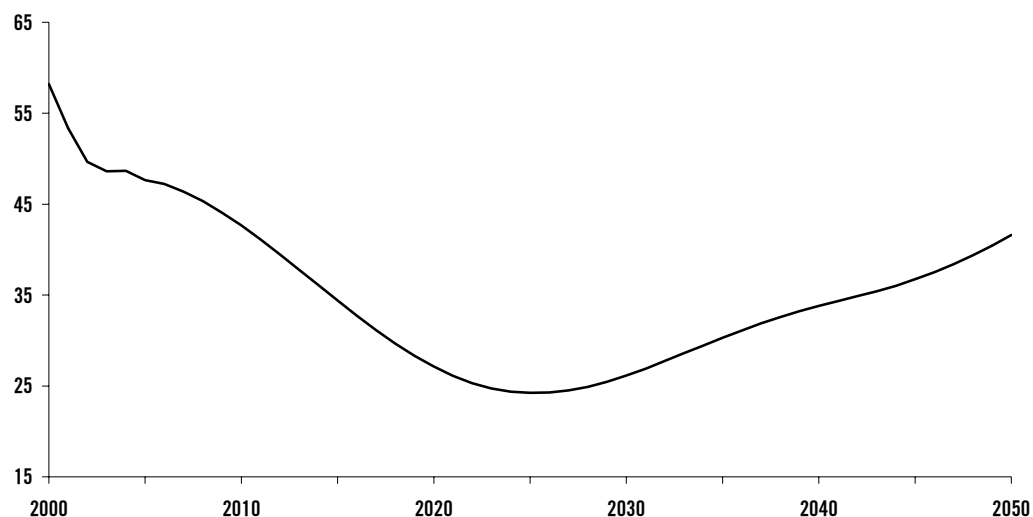
larger at the end of the period than at the beginning, fiscal policy may be considered sustainable.

Diagram 9 illustrates the development of central government debt as a percentage of GDP up to 2050. In the estimate, public finances are assumed to show a surplus of 2 per cent of GDP up to 2015. This presupposes some budget strengthening in relation to a development with unchanged tax regulations and a real standard guarantee of welfare expenditure. A stronger increase in employment than assumed in the scenario would reduce the need for budget strengthening.

The estimate results in a lower debt ratio in 2050 than today. Consequently, the development of public finances may be considered sustainable over the period 2003–2050. At the same time, the increase in the debt ratio during the latter part of the period shows that sustainability problems may arise after 2050.

### Diagram 9 Central government debt

*Per cent of GDP*



Sources: Statistics Sweden and Ministry of Finance.

The scenario illustrates the importance of the surplus target, in order to be able to maintain the standard in tax-funded welfare systems. In order that central government debt as a percentage of GDP should not approach unsustainable levels and force cut-backs in the long term, the debt ratio must decline rapidly in the future and be almost halved by the mid-2020s.

## Appendix A: Calculation methods

The calculation methods used in the estimate of public finances during the period 2007–2050 are discussed in more detail below.

### Demographic assumptions

The estimate is based on Statistics Sweden's population forecast of 2004 shown in Table A.1. Eurostat is currently working on new population forecasts for all EU countries. During the spring of 2005, estimates of the public finances will be made based on these forecasts.

**Table A.1: Demographic assumptions**

	2000	2006	2010	2020	2030	2040	2050
<b>Statistics Sweden</b>							
Birth rate	1.55	1.81	1.86	1.85	1.85	1.85	1.85
Average life expectancy, women	82.0	82.7	83.2	84.2	85.0	85.7	86.2
Average life expectancy, men	77.4	78.5	79.2	80.8	81.9	82.9	83.6
Net migration, thousands	24 600	32 600	28 200	25 100	24 400	23 600	23 200

Sources: Statistics Sweden and Eurostat.

**Table A.2: General government taxes and charges**

*Per cent of GDP*

	2000	2007	2010	2015	2020	2030	2040	2050
<b>Taxes and charges</b>	<b>53.4</b>	<b>48.7</b>	<b>50.4</b>	<b>50.6</b>	<b>51.0</b>	<b>51.8</b>	<b>52.0</b>	<b>51.7</b>
<b>Household direct taxes and charges</b>								
Percentage of GDP	21.6	18.6	20.3	20.3	20.5	20.8	20.9	20.8
Implicit tax rate for direct taxes	29.6	25.7	28.1	27.6	27.6	27.6	27.6	27.6
Tax base for direct taxes as percentage of GDP	63.5	61.8	62.5	63.5	64.1	65.2	65.5	65.1
Implicit tax rate for charges	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Tax base for charges as percentage of GDP	46.0	43.8	44.0	44.1	44.4	45.0	45.3	45.8
<b>Corporate direct taxes</b>								
Percentage of GDP	3.8	2.7	2.6	2.6	2.6	2.5	2.5	2.5
Implicit tax rate	14.3	9.6	9.6	9.6	9.6	9.6	9.6	9.6
Tax base as percentage of GDP	26.6	27.8	27.7	27.4	27.0	26.1	25.8	25.8
<b>Indirect taxes<sup>1</sup></b>								
Percentage of GDP	13.7	13.5	13.5	13.8	13.9	14.3	14.3	14.0
Implicit tax rate	27.8	28.4	28.3	28.0	27.9	27.8	27.6	27.5
Tax base as percentage of GDP	49.1	47.6	47.6	49.1	49.9	51.4	51.9	50.7
<b>Employer contributions and self-employed contributions<sup>2</sup></b>								
Percentage of GDP	14.3	13.8	13.9	14.0	14.0	14.2	14.3	14.5
Implicit tax rate	34.6	34.5	34.6	34.6	34.5	34.5	34.5	34.5
Tax base as percentage of GDP	41.3	40.1	40.3	40.4	40.7	41.2	41.6	42.0

<sup>1</sup> Excluding wage-dependent indirect taxes.

<sup>2</sup> Including wage-dependent indirect taxes.

Sources: Statistics Sweden and Ministry of Finance.

### General government revenue

A standard method for projections of general government revenue is to set taxes and charges as a constant percentage of GDP. This method means in practice that tax regula-

tions are assumed to change, unless the tax bases grow in pace with GDP. The estimates described here are based on an assumption of constant tax rates relative to the tax bases. Consequently, the aggregated tax ratio will vary, since the tax bases develop in a different way than GDP. This method reflects unchanged tax regulations. Stable tax rates over time are advantageous both on grounds of effectiveness and redistribution policy. Table A2 shows in detail general government taxes and charges as a percentage of GDP and as a percentage of the respective tax base (implicit tax rate) as well as the tax base as a percentage of GDP.

In order that the surplus target is met each individual year up to and including 2015, a certain tax increase is required in 2008, which using the standard method is added to household income tax. Tax regulations are assumed to be unchanged after 2015. Nevertheless, the tax ratio (taxes and charges as a percentage of GDP) increases by 3 percentage points during the period 2007–2050. The reason is that important tax bases, such as the wage bill, taxable transfer payments (including pensions) and household consumption, grow more rapidly than GDP.

### General government consumption expenditure

The estimate of general government consumption expenditure is based on age- and gender-distributed unit costs for childcare, primary and secondary education (compulsory school and upper secondary school), adult education (municipal adult education and higher education), medical care (outpatient and inpatient care) and care of the elderly (home help service and sheltered accommodation). All these expenditure areas are projected in volume terms by the population change in the relevant age group for women and men respectively. Other consumption expenditure, which mainly consists of general administration, the legal system and defence, is assumed to follow the change in the total population. The price trend in general government consumption is a weighting of the wage trend and the price trend, with weights reflecting the composition of consumption in the respective operating area. It is assumed in the estimates that productivity growth in all general government activities is zero, which results in the price of general government consumption growing approximately 1.5 percentage points more rapidly than the consumer price index per year (see Appendix B).

**Table A.3: General government consumption**

*Per cent of GDP*

	2000	2007	2010	2015	2020	2030	2040	2050
<b>Total consumption</b>	<b>27.7</b>	<b>26.9</b>	<b>27.1</b>	<b>27.4</b>	<b>28.3</b>	<b>30.7</b>	<b>31.2</b>	<b>31.4</b>
Childcare	1.7	1.6	1.7	1.8	1.9	2.0	2.0	2.0
Primary and secondary education	3.9	3.8	3.7	3.5	3.8	4.1	4.1	4.0
Adult education	2.1	1.9	2.0	2.0	1.9	1.9	2.0	1.9
Medical care	6.2	6.2	6.3	6.6	7.0	7.6	7.9	8.0
Care of the elderly	3.9	4.0	4.1	4.1	4.4	5.7	6.0	6.2
Other activities	10.0	9.4	9.4	9.3	9.3	9.5	9.3	9.2

Sources: Statistics Sweden and Ministry of Finance.

## Transfer payments

The estimates assume a certain standard guarantee in general government transfer payment systems. For a large part of transfer payments, there are rules and regulations, which automatically increase expenditure in line with real growth in the economy. This applies to pensions, which are adjusted upward in line with the earnings index, and also partly to transfer payments, which compensate for loss of earnings, e.g. health and parental insurance. Transfer payments, which lack an automatic standard guarantee, e.g. child benefit and study allowance, are assumed to increase in line with wages. Such a standard guarantee offsets the erosion of household transfer payments, which would take place, if the estimate were only based on a price projection over a period of almost 50 years.

**Table A.4: General government transfer payments**

*Per cent of GDP*

	2000	2007	2010	2015	2020	2030	2040	2050
<b>Total transfer payments</b>	<b>21.4</b>	<b>21.0</b>	<b>21.4</b>	<b>22.1</b>	<b>22.4</b>	<b>23.1</b>	<b>23.2</b>	<b>22.6</b>
Transfer payments to households	18.4	17.9	18.4	19.1	19.4	20.0	20.1	19.5
Old age	8.5	8.5	8.9	9.6	9.8	10.1	10.2	9.4
Ill health	3.9	4.5	4.6	4.6	4.7	4.9	4.9	5.1
Children/studies	2.4	2.4	2.4	2.4	2.5	2.6	2.6	2.6
Labour market	1.9	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Other	1.7	1.3	1.2	1.2	1.2	1.2	1.2	1.1
Transfer payments to firms	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Transfer payments abroad	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6

Note: Old age comprises old-age pension, survivor's pension, central government and municipal pensions as well as supplementary housing benefit to pensioners. Ill health comprises health insurance, occupational injury insurance, disability pension and carer's allowance. Children/studies comprises child benefit, parental insurance, maintenance support and study allowance. Labour market comprises unemployment benefit, labour market training grants and wage guarantee.

Sources: Statistics Sweden and Ministry of Finance.

## Old-age pension system

Table A5 shows the old-age pension system's revenue and expenditure and its financial position. Net lending deteriorates as pension expenditure increases, as a result of the increasing number of pensioners. Despite the growing expenditure, the old-age pension system has considerable assets at the end of the estimate period.

**Table A.5: Old-age pension system**

*Per cent of GDP*

	2000	2007	2010	2015	2020	2030	2040	2050
<b>Revenue</b>	<b>10.8</b>	<b>8.4</b>	<b>8.6</b>	<b>8.7</b>	<b>8.8</b>	<b>8.9</b>	<b>8.8</b>	<b>8.9</b>
Charges	6.7	6.5	6.5	6.5	6.6	6.7	6.7	6.8
Premium pension funds	2.6	0.9	0.9	1.0	1.0	1.0	1.0	1.0
Interest, dividends, etc.	1.5	1.1	1.2	1.2	1.2	1.2	1.0	1.0
<b>Expenditure</b>	<b>8.6</b>	<b>6.6</b>	<b>6.9</b>	<b>7.7</b>	<b>7.9</b>	<b>8.2</b>	<b>8.4</b>	<b>7.7</b>
Pensions	6.3	6.4	6.8	7.6	7.8	8.1	8.3	7.7
Other	2.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0
<b>Net lending</b>	<b>2.2</b>	<b>1.9</b>	<b>1.6</b>	<b>1.0</b>	<b>0.9</b>	<b>0.7</b>	<b>0.4</b>	<b>1.2</b>
<b>Net financial assets</b>	<b>35.6</b>	<b>30.4</b>	<b>33.2</b>	<b>34.4</b>	<b>34.5</b>	<b>34.3</b>	<b>30.7</b>	<b>31.6</b>

Sources: Statistics Sweden and Ministry of Finance.



## Appendix B: Calculation conventions for prices, wages and productivity

### Background

The long-term estimates described in Chapter VIII are based on a division of the economy into two production sectors: the business sector and the general government sector. In the business sector, goods and services are produced, which are used for private consumption, consumption of intermediate goods and services in the general government sector, investment and export. In the general government sector, services are produced, which are mainly tax funded.

Productivity measurements are a major problem in all services output. This applies particularly to general government services, which have no market price. General government services are therefore valued at production cost in the Swedish National Accounts. This method of measuring the price trend in general government output is of great importance for the estimate of real growth in the economy, since it means that productivity growth for labour in the general government sector is assumed to be close zero.<sup>2</sup> With a given development of total employment, the reported real GDP growth is affected by the assumption regarding productivity growth in the general government sector. This applies, of course, to a particularly great extent to Sweden, which has a relatively large proportion of employees in the tax-funded service sector. However, the growth in nominal GDP is not affected by the productivity assumption for the general government sector, but is roughly determined by the nominal wage trend and employment growth (hours worked).

### Price and volume

The long-term estimates are based on a fixed base year for price and volume estimates<sup>3</sup>. The central calculation relationships may be described in a simplified manner using the following variables:

fv	=value added
h	=hours worked
w	=labour cost per hour
$\lambda$	=labour productivity (value added per hour worked)
bv	=gross profit share of value added

The suffix "l" represents current price, "f" fixed price and "p" price index. "n" represents the business sector (private sector) and "o" the general government sector. "fvnl" thus represents the business sector's value added in current prices.

In order to simplify the presentation, indirect taxes are totally disregarded. Moreover, the prices of exports, imports and domestic consumption of the business sector's output are

---

<sup>2</sup> It should be emphasised that the productivity measure is an assumption and not an expression of measured productivity.

<sup>3</sup> The Swedish National Accounts use a chained price index for the estimate of the development in volume.

assumed to be the same. It is assumed that there are no charges for general government services are assumed not to arise.<sup>4</sup>

It should be noted that all reported relationships are identities and part of a consistent accounting system. The relationships must consequently be fulfilled in the estimates irrespective of which specific assumptions are made regarding future development.

GDP in current and fixed prices can be written as the sum of the value added in the two production sectors:

$$bnpl = fvnI + fvol ; \quad bnpl = fvnf + fvof$$

For business sector output, the following identities apply:

$$fvnI = \frac{hn * wn}{1 - bvn} ; \quad fvnf = hn * \lambda n \quad \Rightarrow$$

$$fvnp = \frac{fvnI}{fvnf} = \frac{hn * wn}{(1 - bvn) * hn * \lambda n} = \frac{wn}{(1 - bvn) * \lambda n}$$

If the profit share is assumed to be unchanged, the price trend for the business sector's value added will be determined by the wage trend and productivity growth:

$$\Delta fvnp \approx \Delta wn - \Delta \lambda n$$

where the prefix "Δ" represents percentage change.<sup>5</sup>

For the general government sector, the following correspondingly applies:

$$fvop = \frac{wo}{(1 - bvo) * \lambda o}$$

In the general government sector, the gross profit share only includes consumption of fixed capital, since net profit by definition is not included in general government output. With an unchanged level of productivity, the price of general government output (value added) will develop in pace with the wages of public sector employees:<sup>6</sup>

$$\Delta fvop \approx \Delta wo$$

A weighted price index for the whole economy, i.e. GDP, can be calculated as:

<sup>4</sup> None of these simplifications are assumed in the calculation model used.

<sup>5</sup> The exact relationship can be written  $\Delta fvnp = \frac{1 + \Delta wn}{1 + \Delta \lambda n} - 1$

<sup>6</sup> The price trend for general government consumption is moderated in the estimates by the prices of intermediate goods purchased from the business sector increasing more slowly than wages.

$$bnpp = \frac{bnpl}{bnpf} = \frac{fvnl + fvof}{fvnf + fvof} = \frac{fvnp * fvnf + fvop * fvof}{fvnf + fvof} = \alpha * fvnp + (1 - \alpha) * fvop$$

where  $\alpha$  = the business sector's proportion of GDP in fixed prices.

Weighted productivity can be calculated as:

$$\frac{bnpf}{h} = \frac{fvnf + fvof}{hn + ho} = \frac{hn * \lambda n + ho * \lambda o}{hn + ho} = \beta * \lambda n + (1 - \beta) * \lambda o$$

where  $\beta$  = the business sector's proportion of employment (in hours)

If wages develop in the same way in the private sector and the general government sector (and if the profit shares are unchanged), the price of business sector output will develop more slowly than the price of general government output. The difference consists of the business sector's productivity growth. The price of GDP increases more rapidly than the price of business sector output, but more slowly than the price of general government output.

### Consequences of the estimates

The relationships are illustrated numerically in Table B1. In the long-term estimates, the price of business sector output is assumed to rise by 2 per cent per year. The productivity increase in the business sector is estimated at 2.2 per cent per year. This means that there is scope for wage rises in the business sector of 4.2 per cent per year, if the profit share is unchanged. Wages in the general government sector are assumed to follow the development in the business sector. During the period up to 2020, the wage increase in the local government sector is, however, assumed to be 4.7 per cent, which results in the hourly wage in the aggregated general government sector increasing by 4.6 per cent per year.

As a consequence of the assumption regarding unchanged productivity in the general government sector, the weighted productivity growth for GDP as a whole will be 1.8 per cent, i.e. considerably lower than the productivity increase in the business sector. The GDP deflator will therefore increase more rapidly than the price of business sector output, which in turn determines the consumer price index. GDP in current prices is not affected by the assumption made regarding productivity growth in the general government sector. The nominal development of GDP is determined by the wage bill and the profit share in the economy. The table shows that the hourly wage in the long term is assumed to increase by 4.2 per cent per year in both production sectors. Between 2020 och 2050, the number of hours worked is largely unchanged in the estimate, which results in the total wage bill increasing by approximately 4.2 per cent per year. At the same time, the proportion of wages increases in the economy as a whole, since the proportion of persons employed in the general government sector increases. As a result, GDP in current prices will grow slightly more slowly than the wage bill.

**Table B.1: Prices, wages and productivity***Average change in per cent*

	1993-2003	2003-2007	2007-2020	2020-2050
<b>Labor productivity</b>				
Business sector	3.2	2.6	2.2	2.2
General government sector	0.4	0.1	0.0	0.0
GDP	2.4	2.0	1.8	1.8
<b>Hourly wage (wage bill/hours worked)</b>				
Business sector	4.3	3.4	4.2	4.2
General government sector	3.7	3.3	4.6	4.2
Total	4.1	3.4	4.3	4.2
<b>Prices on value-added</b>				
Business sector	0.9	1.8	2.0	2.0
General government sector	4.4	3.4	4.3	4.0
GDP	1.7	2.0	2.4	2.3
<b>GDP growth</b>				
Hours worked	0.5	0.8	-0.1	0.0
GDP, constant prices	2.9	2.8	1.7	1.7
GDP, current prices	4.7	4.8	4.1	4.0

Sources: Statistics Sweden and Ministry of Finance.

## Appendix C: Table appendix

### Table C.1: Forecast assumptions

Annual average, unless otherwise stated

	2003	2004	2005	2006	2007
GDP global <sup>1</sup>	3.7	4.7	4.1	4.0	3.9
GDP global, excluding EU <sup>1</sup>	4.4	5.3	4.6	4.4	4.3
GDP EU-15 <sup>1</sup>	0.8	2.1	2.3	2.4	2.4
HICP EU <sup>1</sup>	2.0	2.1	2.0	1.9	1.9
Hourly wage in Sweden, cost <sup>1</sup>	3.5	3.4	3.5	3.5	3.5
TCW index	127.7	126.4	124.2	123.3	123.3
SEK/EUR <sup>2</sup>	9.02	9.10	9.00	9.00	9.00
EUR/USD <sup>2</sup>	1.22	1.25	1.30	1.30	1.30
German 10-year government bond rate, annual average	4.1	4.3	4.8	5.0	5.2
Swedish 10-year government bond rate, annual average	4.6	4.7	5.1	5.3	5.5
Swedish 6-month interest rate, annual average	3.0	2.4	3.0	3.8	4.4
Oil price, (Brent, USD/barrel)	30	37	34	32	32
World market growth, global excl. EU <sup>1</sup>	5.0	9.8	9.4	8.3	7.5

<sup>1</sup> Annual percentage change.

<sup>2</sup> Value at year-end.

Source: Ministry of Finance.

### Table C.2: General government finances

Per cent of GDP

	2003	2004	2005	2006	2007
<b>Revenue</b>	<b>56.1</b>	<b>55.5</b>	<b>54.7</b>	<b>54.3</b>	<b>54.1</b>
Taxes and charges	50.5	50.0	49.2	49.0	48.7
Direct taxes	19.0	18.9	18.5	18.6	18.6
Product and production taxes	17.2	17.1	16.9	16.6	16.4
Social security contributions	14.2	13.9	13.9	13.8	13.7
Capital income	2.2	2.2	2.2	2.2	2.2
Other revenue	3.4	3.3	3.2	3.2	3.2
<b>Expenditure</b>	<b>55.6</b>	<b>54.8</b>	<b>54.0</b>	<b>53.9</b>	<b>53.2</b>
Transfer payments	22.2	21.8	21.4	21.4	21.0
Households	19.1	19.0	18.3	18.2	17.9
Business sector	1.8	1.5	1.5	1.5	1.5
International	1.3	1.3	1.6	1.7	1.6
Consumption	28.3	28.0	27.6	27.3	26.9
Investment, etc.	2.9	2.9	2.9	2.9	2.9
Investments and stocks	3.1	3.0	3.0	3.0	3.0
Purchase and sale of land and properties, net	-0.1	-0.1	-0.1	-0.1	-0.1
Interest expenditure	2.2	2.1	2.2	2.3	2.4
<b>Net lending</b>	<b>0.5</b>	<b>0.7</b>	<b>0.6</b>	<b>0.4</b>	<b>0.9</b>
Primary net lending	0.5	0.6	0.6	0.5	1.0
Fixed capital consumption and capital transfers, net	2.5	2.5	2.4	2.3	2.3
Fixed capital formation	2.9	2.9	2.9	2.9	2.9
Lending, net	0.9	1.1	1.1	1.1	1.5
<b>Consolidated gross debt</b>	<b>52.0</b>	<b>51.7</b>	<b>50.5</b>	<b>50.0</b>	<b>49.0</b>
<b>Net debt</b>	<b>-1.2</b>	<b>-2.2</b>	<b>-2.6</b>	<b>-2.9</b>	<b>-3.6</b>

Sources: Statistics Sweden and Ministry of Finance.