

# CENTRAL GOVERNMENT BORROWING FORECAST AND ANALYSIS

## 2005:3

### BORROWING REQUIREMENT

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# HALVING OF THE BORROWING REQUIREMENT

The Swedish National Debt Office's new forecast for the central government borrowing requirement entails a substantial downward adjustment for both 2005 and 2006 compared with our June report. The assessment for 2005 is a borrowing requirement of SEK 10 billion compared with SEK 31 billion in June. The borrowing requirement for 2006 is now estimated at SEK 26 billion instead of SEK 41 billion in June.

The main explanation for the improvement in the current year is larger tax income than expected. During the summer and early autumn, companies have continued to pay more tax than we expected. We have probably underestimated company profits for 2004 and 2005. Value-added tax in-payments have also been larger than expected, which could be due to increased investment by companies.

The improved profits in 2005 will also have an effect in 2006, which is the foremost reason we are adjusting the borrowing requirement downwards for next year. Another explanation is that we expect to have rather higher tax revenue than before due to companies reducing their tax reservations since interest is being charged on these reserves.

It has been possible to note the greatly reduced borrowing requirement in 2005 in the actual payment flows while the forecast for 2006 is more uncertain. It is therefore important not to mortgage the improvement in the borrowing requirement anticipated for next year.

For borrowing, the reduced borrowing requirement will mainly mean that the increase of the volume of bond issues from SEK 2 to 3 billion that was announced for the turn of the year will be postponed to June 2006.

The report also presents two articles that take up current issues within the Debt Office's areas of activity. The first article summarises our proposed guidelines for central government debt management in 2006, which we submitted to the government in September. The second article presents our forecasting activity and the methods we use to make forecasts of the borrowing requirement.

The guideline proposal agrees in all essentials with the guidelines that apply for the current year. It is proposed that the total maturity of the debt be unchanged since the basic assessment underlying last year's decision on a reduction of the time to maturity is still valid. The direct costs for short borrowing are lower than for long borrowing.

To obtain a control measure that better serves its purpose, it is proposed that the maturity of the debt should be stated in terms of the interest rate refixing period instead of duration. This means that changed market rates do not affect the control measure and will not therefore lead to any change in loan planning. This means in turn that loan planning will become more predictable and the Debt Office can avoid unnecessary transaction costs to obtain the correct maturity measure.

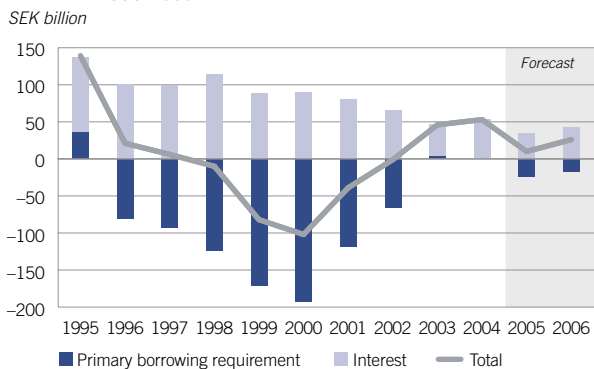
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# CENTRAL GOVERNMENT BORROWING REQUIREMENT

The Swedish National Debt Office's forecast for 2005 indicates a borrowing requirement of SEK 10 billion, SEK 21 billion less than in the June forecast. The borrowing requirement for 2006 will increase by SEK 16 billion to SEK 26 billion, despite continued good growth. This is mainly due to increased expenditure combined with tax revenue not increasing at a corresponding rate.

Figure 1. CENTRAL GOVERNMENT BORROWING REQUIREMENT, 1995-2006



## FORECAST FOR 2005

The Debt Office's revised forecast for 2005 indicates a borrowing requirement of SEK 10 billion, which is SEK 21 billion lower than in the June forecast.

Table 1. CENTRAL GOVERNMENT BORROWING REQUIREMENT AND CENTRAL GOVERNMENT DEBT 2004-2006, SEK BILLION

	2004	Forecast 2005	Forecast 2006
Primary borrowing requirement	-2	-24	-17
Interest payments on debt	53	34	43
Net borrowing requirement	51	10	26
Debt adjustments	-14	23	0
Re-evaluation, foreign currency loans etc.	-9	20	0
Short-term investments	-8	6	0
Change in central government debt	29	39	26
Debt at year-end	1 257	1 296	1 322

The primary borrowing requirement (all central government payments excluding interest on central government debt) has been revised downwards by SEK 21 billion compared with the June forecast. The new forecast thus indicates a surplus of SEK 24 billion. The downward adjustment is explained by increased incoming tax payments of approximately SEK 13 billion, larger customs income of approximately SEK 2.5 billion, smaller disbursements by some government agencies of around SEK 3.5 billion and approximately SEK 2 billion lower net lending to central government agencies and state-owned enterprises.

In June, we adjusted our annual forecast downwards by about SEK 7 billion. We then regarded the larger incoming payments in the spring as temporary and considered that they would not affect the rest of the year to any great extent. The assessment that these were temporary payments was substantially correct.

However, in the past months, incoming tax payments have been considerably greater than expected and there are indications that this is of a more durable nature. Companies have continued to pay in more tax than expected although unlike the large incoming payments in the spring, which were mainly the effect of reversals of tax reservations, the higher corporate tax payments now seem to be more an effect of increased profits. VAT payments have also been larger than expected which could be due to higher investments in the companies.

It is still uncertain how large a part of the change in forecast this year can be assigned to temporary effects and what can be a change in level due to better development in the corporate sector. The preliminary tax outcome for the 2004 income year indicates that corporate taxes were larger than previously estimated. A part of the high incoming payments of corporate tax this year can be assigned to the larger profits last year and a part is due to reversed tax reservations. This year we believe that the major part of the additional incoming tax payments which are to be made due to reversals of tax reservations for previous income years have already been paid. However, we cannot give an account of the size of the respective effect, since the monthly outcome only shows the total incoming payment of corporate tax. However, we will be able to make a more certain assessment when the final tax assessment for 2004 has been completed in December this year.

The Debt Office's net lending to central government agencies, public enterprises and state-owned enterprises is expected to total SEK 21 billion, which is SEK 2 billion lower than the previous forecast. This is explained by lending to the Defence Administration, the Swedish National Board of Student Aid (CSN) and certain infrastructure investments being less than expected. We have taken into consideration in the forecast that net lending



will increase by SEK 7 billion due to the Debt Office taking over maturing loans from Stockholmsleder AB and Göteborgsleder AB which these have raised with state guarantees. The Debt Office is also taking over additional loans of SEK 5 billion although the borrowing requirement will be affected only when the loans mature after 2006.

*Interest payments* for 2005 are expected to be SEK 34 billion, which is unchanged compared with the previous forecast.

### FORECAST FOR 2006

The borrowing requirement for 2006 is estimated at SEK 26 billion, which is SEK 15 billion lower than the forecast we made in June. The downward adjustment is mainly due to taxes being expected to be higher. The tax cuts and a part of the increased expenditure announced in the Budget Bill will not lead to any major adjustments since these were already expected by us in our forecast in June.

*The primary borrowing requirement* (all central government payments excluding interest on central government debt) is expected to show a surplus of SEK 17 billion. Compared with the forecast in June, this is an improvement by SEK 18 billion for central government finances.

The state of the Swedish economy appears rather better than it did in June when we made our last forecast. Among other things, there are indications of a slight improvement in the labour market. However, this will not have a significant effect on our forecast of the borrowing requirement for next year since these changes are not so great. Our assessment of the development of gross wages is therefore in principle unchanged since June, even if the risks of a weaker development have decreased.

The downward adjustment is explained above all by our having assumed larger tax revenue from companies. We calculate that the higher level of corporate profits during 2005 will be maintained in 2006 as well, at the same time as we adjust upwards the effect of interest being charged on tax reservations. The major difference compared with June as regards the tax reservations is that new allocations to the tax reserves are now expected to be lower. This will lead to an increase in the tax actually paid in each month.

The forecast for corporate taxes is unusually uncertain. We do not know how large a part of the increase for 2005 is due to changed rules for tax reservations and how much is due to larger profits in companies. This makes it difficult to forecast development for 2006. We expect that the effect of reversals will be lower in 2006 than in 2005, which will lead to lower additional incoming tax payments.

At the same time, we assume that allocations to new tax reserves will decrease during 2006, which will in turn lead to increased incoming tax payments. Taken together, the reduced provisions during 2006 will lead to our adjusting upwards corporate taxes compared with in June. However, the effect of the changed rules for tax reservations is expected to be less in 2006 than in 2005.

Besides increased corporate taxes, it is also expected that customs income will be greater. Customs income is governed by the development of imports through our trade with countries outside the EU. According to the National Institute of Economic Research, NIER, the development of imports is driven to a greater extent by domestic demand than before. The increasingly high pace of increase in investments and also stronger private consumption are leading to increased imports.

Disbursements to local government have been adjusted downwards compared with in June. In September 2005 the municipal adjustment factors were set which determine the size of the advance payment to the municipalities in 2006 and they were lower than we had expected. The adjustment factors reflect the development of gross wages and these can, of course, deviate during 2006 from the set adjustment factor. Disbursement to local government is therefore settled with a two-year time lag, when the development of gross wages is set for the intended year. If local authorities, for instance, receive too little money in advance in 2006, they will be compensated for this by a positive final settlement in 2008.

A comparison between 2005 and 2006 shows that the borrowing requirement increases by SEK 16 billion despite a relatively strong upswing. This is mainly due to increased expenditure combined with tax revenue not increasing at a corresponding rate. Expenditure under the expenditure ceiling, excluding the old age pension scheme, increases by approximately SEK 30 billion between the years, which corresponds to a rate of increase of over 4 per cent. It is above all expenditure for transfers that is increasing, followed by expenditure on development assistance and universities and other institutions of higher education. Transfers are increasing due to, among other things, proposals in the Budget Bill on increased income ceilings in sickness insurance and parental insurance as well as increased child allowances.

Tax revenue is also increasing between the years through tax bases becoming larger when the economy grows. However, tax reductions and also job initiatives, which are paid over the income side of the state budget, mean that the increase in tax revenue will not fully compensate for the

increased expenditure. We have already taken the major part of the tax cuts presented in the Budget Bill, above all the final step of the income tax reform, into account in the June forecast. In addition, the borrowing requirement for 2005 includes income that can be regarded as temporary and which will therefore not recur in 2006.

*Net lending by the Debt Office* to central government agencies, public enterprises and state-owned enterprises is expected to total SEK 15 billion in 2006, which is unchanged compared with the previous forecast.

*Interest payments* are expected to be SEK 43 billion, which is SEK 3 billion more than in the previous forecast. This increase is explained by interest payments in foreign currency and capital losses in borrowing in Swedish kronor being expected to be greater. The increase between the years of SEK 9 billion is explained mainly by the exchange gains in 2005 of SEK 10 billion being transformed into a loss of SEK 3 billion in 2006. The low interest rate levels have an impact on the debt, however, and provide lower current interest payments, especially in Swedish kronor. This means that interest payments despite the upswing between the years will remain at a relatively low level.

## COMPARISONS

### Central government financial net lending

From this report onwards, we are presenting a forecast of central government financial net lending. The intention is to be able to analyse central government finances over time in a better way. Central government financial net lending is a

more appropriate measure for this than the budget balance. To simplify the presentation, we speak here of the budget balance instead of the borrowing requirement, which is the same thing although in reverse.

What is the difference between the state budget balance and central government financial net lending? In the first place, the budget balance is on a cash basis and is based on actual payments. Income and expenditure are accrued in central government financial net lending. This means that payments are “recorded” in the period to which they refer and not the period when they are paid. The most important areas where this has an impact are for central government interest payments (cost-based interest payments are used) and taxes (taxes are assigned to the correct income year). However, it also has effects on the expenditure side; for instance, the shifts of payments made over the year-end to cope with the expenditure ceiling have no effect on financial net lending since they are restored to the correct period.

In the second place, the financial net lending is based on the change in central government net financial wealth. This means that sales and purchase of financial assets do not affect the financial net lending since effects of this kind only entail a redistribution between different types of assets (e.g. from shares to cash). An example is sales of shares and additional dividends from the Riksbank which affect the budget balance but not financial net lending. Another example is central government lending to CSN. In this case, the state receives an equally large claim on an external party (the students).

## CONDITIONS UNDERLYING THE FORECAST

In the areas where the forecast of the borrowing requirement requires macroeconomic assessments, the Debt Office bases itself on the National Institute of Economic Research's (NIER) macro scenario. In this forecast, we are using the macro forecast presented by NIER in the Wage Formation Report of October 13, 2005.

NIER estimates that GDP will increase by 2.5 per cent this year and by 3.2 per cent in 2006. The cyclical scenario looks rather brighter than it did at the time of the June forecast. However, the labour market is still weak although there are some signs of improvement. Growth is mainly driven by investments and private consumption unlike in 2004 when exports were the strongest growth motor. Consumption and investments are more favourable for the borrowing requirement than

exports. Even if the prospects for the Swedish economy appear to be improving, there are longer-term risks in the international cyclical development, which can, of course, have repercussions on the Swedish economy.

The Debt Office is making a more cautious forecast of the increase in gross wages than NIER. Gross wages is the most important tax base and we assess that it will increase by approximately 3.5 per cent in 2005 and by slightly over 4 per cent in 2006.

The Debt Office's forecast for interest payments on central government debt is based on the interest rates and exchange rates at the time of the forecast. The stop date for the current forecast was October 12, 2005. We have also weighted in the outcome of the borrowing requirement until October 12, 2005.



The rules for calculating financial net lending comply with the international standard, which is to be found in ENS 95 (European National Accounts System). The Government's surplus target of 2 per cent of GDP on average over a business cycle is formulated in financial net lending. The target applies for the whole public sector, which besides the state consists of the local government sector and the old age pension scheme. There are no explicit targets for central government financial saving, but it is possible indirectly to calculate it as being approximately zero per cent. Local authorities are to report zero results and the old age pension scheme is at present reporting a stable surplus of approximately 2 per cent per year, which means that the central government financial net lending is also to be in balance to achieve the target.

Table 2. CENTRAL GOVERNMENT FINANCIAL NET LENDING 2002-2006, SEK BILLION

	2002	2003	2004	Forecast 2005	Forecast 2006
Budget balance	4	-47	-51	-10	-26
Adjustment items	-48	4	27	-9	6
<i>Inpayment Riksbank</i>	-20	0	0	0	0
<i>Sale of limited companies</i>	0	0	0	-7	-5
<i>Transfer from AP fund</i>	-9	-13	-4	-2	0
<i>Loans, net repayment</i>	7	10	15	15	15
<i>Exchange and capital losses</i>	11	8	19	-3	11
<i>Accruals, other</i>	-37	-1	-3	-13	-14
Financial net lending	-44	-43	-23	-19	-20

### Comparisons with other forecasts of the borrowing requirement

The Debt Office's forecast for the current year indicates a borrowing requirement of SEK 10 billion, which is SEK 18 billion less than the Government's calculation in the Budget Bill. The Financial Management Authority (ESV) and NIER estimate a borrowing requirement of SEK 22 and 37 billion respectively.

The differences in the borrowing requirement are probably explained to a large part by the development in the primary borrowing requirement in the past few months being considerably lower than most calculated. We have now taken this into consideration in our forecast, but the Financial Management Authority (ESV) and the Government reported their forecasts for the central government borrowing requirement in September and NIER in August.

Our assessment is that the shift in level of the borrowing requirement will continue next year, which will mean that we can also estimate a considerably lower

borrowing requirement in 2006 compared with other forecasters.

In common for all forecasters is that we believe in an increase in the borrowing requirement between 2005 and 2006, despite an upswing. This is largely explained by an expansive fiscal policy.

Table 3. COMPARISON BETWEEN BORROWING REQUIREMENT FORECASTS, SEK BILLION

	Debt Office		Govt.		NIER		ESV	
	05	06	05	06	05	06	05	06
Primary borrowing requirement	-24	-17	-7	-6	3	1	-13	1
Interest on central government debt	34	43	35	43	34	46	35	42
Borrowing requirement	10	26	28	37	37	47	22	43
Borrowing requirement with Debt Office interest and sales income	10	26	26	47	36	44	21	43

### MONTHLY FORECASTS

The Debt Office publishes an annual forecast three times a year. At the same time, we publish monthly forecasts for the intervening months. Between regular publications, the

### SENSITIVITY ANALYSIS

All forecasts include elements of uncertainty. The Debt Office does not produce any overall uncertainty analysis for the borrowing requirement. Instead, we present a partial analysis of the impact on the borrowing requirement that changes in some important macro variables. The table shows an estimate of the effect different changes will have on the borrowing requirements in a one-year perspective. If one wishes to make an assessment of an alternative scenario in which several variables develop differently, their effects must be added together.

SENSITIVITY ANALYSIS, SEK BILLION

Increase by one per cent/ percentage point	Effect on the borrowing requirement
Gross wages <sup>1</sup>	-6
Household consumption, current prices	-2
Registered unemployment	4
Swedish interest rates	4
International interest rates	1
Exchange rate	0.5

<sup>1</sup> Local taxes from employment are disbursed to local government with a one-year time lag. As a result, the effect on the central government borrowing requirement in a one-year perspective – the time horizon in the table – is larger than the permanent effect.

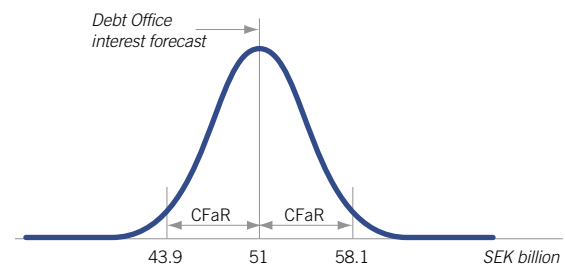


### INTERVAL OF UNCERTAINTY FOR THE INTEREST FORECAST

The Debt Office has developed a model for calculating the market risk in our interest forecasts. We call this measure Cash Flow at Risk (CFaR) (see "Cash Flow at Risk – a measure of market risk for interest forecasts", Central Government Borrowing 2005:2). The measure shows how sensitive interest forecasts are to market risk measured as changes in interest rates, exchange rates and inflation. More specifically, CFaR specifies an upper limit for how much interest payments can be expected to deviate from the interest forecast during a given time period and with a particular probability. CFaR can be used to illustrate the uncertainty of our interest forecasts with the aid of a confidence interval, where the interval limits are stated by CFaR at the 5th and the 95th percentile.

The current interest forecast for the period September 30, 2005 to December 31, 2006 amounts to

#### PROBABILITY DISTRIBUTION



We are 95 per cent certain that interest payments will not exceed or be less than the interest forecast by more than 7.1 SEK billion over the forecast period.

SEK 51 billion, of which SEK 43 billion refers to 2006. Our CFaR calculations show that we can be 95-per cent certain that interest payments will not deviate from this by more than SEK 7.1 billion. This constitutes approximately 13.9 per cent of the interest forecast.

Debt Office only makes revisions of annual and monthly forecasts in exceptional cases. The revised forecast is then presented with the announcement of the monthly borrowing requirement outcome five working days after the end of each month.

The forecast of the borrowing requirement in October 2005 is SEK 5.5 billion, which largely agrees with the previous forecast. The large borrowing requirement in December is mainly explained by large disbursements for excess tax being paid, while the borrowing requirement in January is explained by the annual disbursement to the premium pension scheme. In February large incoming tax payments take place which lead to a surplus this month.

Table 4. MONTHLY CENTRAL GOVERNMENT BORROWING REQUIREMENT 2005/2006, SEK BILLION

	Oct	Nov	Dec	Jan	Feb
Primary borrowing requirement	4.0	-0.1	25.9	30.2	-31.4
Interest on central government debt	1.5	-2.7	9.2	2.8	-0.6
Borrowing requirement	5.5	-2.8	35.1	33.0	-32.0

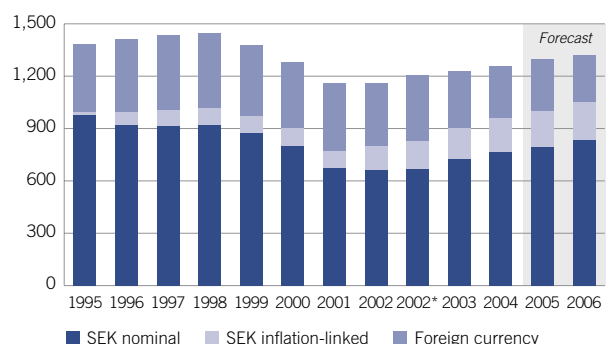
### CENTRAL GOVERNMENT DEBT

At the end of September, central government debt was SEK 1 258 billion, an increase of SEK 0.5 billion since January 1. The borrowing requirement has reduced central government debt by SEK 28.0 billion since January 1,

while debt-related dispositions and short-term investments have increased central government debt by SEK 28.5 billion. An example of a debt-related disposition is revaluation of the foreign currency debt, which affects the size of the debt but not the borrowing requirement.

The Debt Office does not take into account the expected debt-related dispositions in its forecast of the development of central government debt. Central government debt is therefore expected to increase at the same rate as the borrowing requirement. At the end of 2005, central government debt is thus expected to amount to SEK 1 296 billion and at the end of 2006 to SEK 1 322 billion.

Figure 2. CENTRAL GOVERNMENT DEBT 1995-2006  
SEK billion



\* A new measure of the central government debt was introduced in the beginning of 2003.





interest rate refixing period in the nominal debt should be 3.1 years, which corresponds to a duration of 2.5 years. In December, the Debt Office will decide how the interest rate refixing period is to be allocated between the nominal krona and foreign currency debt. The change of maturity measure is not expected to affect borrowing other than marginally.<sup>1</sup>

As shown in Table 3, the outstanding bond stock will decrease by SEK 27 and 22 billion during 2005 and 2006.<sup>2</sup> The exposure in bond rates, taking into consideration planned swaps, is estimated to decrease by SEK 49 and 43 billion respectively in 2005 and 2006. Swaps are discussed in more detail in the sections on T-bills and foreign currency borrowing.

Table 3. CHANGE IN OUTSTANDING GOVERNMENT BONDS, NET INCL. SWAPS, SEK BILLION

	2004	2005	2006
Nominal government bonds, issues	91	56	61
Maturities, buybacks and exchanges	-69	-83	-82
Change in nominal government bond stock	22	-27	-22
Swaps, net	-21	-22	-21
Nominal government bonds and swaps, net change	1	-49	-43

#### Half of the issues in the ten-year loan

Bond issues are usually made in the benchmark loans with two, five and ten year maturities that are traded in the electronic interbank market.<sup>3</sup> The issues are usually concentrated on new loans in order for these to have sufficient liquidity.

A new ten-year government bond, loan 1050, maturing on July 12, 2016, was introduced on September 14. The outstanding volume is now SEK 24 billion. We are also planning to introduce a new ten-year loan in 2006. More information will be presented in the next central government borrowing report.

To avoid excessively long duration in the debt, the issues have been allocated evenly between the two, five and ten-year maturities in 2005.

In 2006, the issues will be allocated so that approximately half of them are made in the ten-year segment. We expect to make a few issues in the two and

<sup>1</sup> See also the article *The guideline proposal in brief, Central Government Borrowing – Forecast and Analysis 2004:3 p. 11.*

<sup>2</sup> Information about outstanding stocks in the different types of debt is published in the Debt Office's monthly report *Swedish Central Government Debt.*

<sup>3</sup> The loans treated as reference loans in electronic trading are determined by which loans are closest in terms of maturity to two, five or ten years. However, benchmark loans change only on IMM dates (the third Wednesday of March, June, September and December) with the criteria that in terms of maturity the loans should be closest to two, five or ten years on the following IMM date. With this change, an underlying loan in the forward contracts will always be the same as a reference loan in the last three months of the contract.

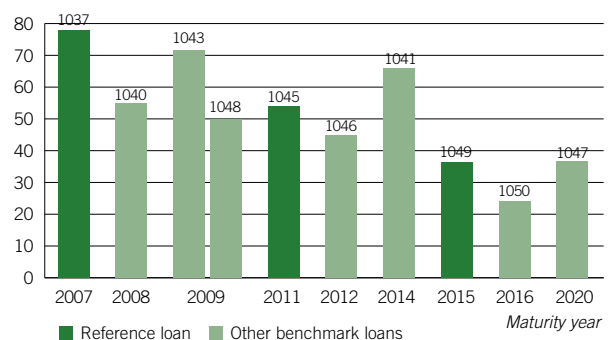
fifteen-year maturities respectively and the remainder in the five-year segment. More information is available in the fact box on our issue decision.

Table 4. REFERENCE LOANS IN THE ELECTRONIC INTERBANK MARKET <sup>1</sup>

Date for exchanges of reference loans (IMM date)	2-year	5-year	10-year
Today	1037	1045	1049
December 21, 2005	1040		1050
June 21, 2006	1043		
December 21, 2006		1046	

<sup>1</sup> The above date for change of reference loans refer to the payment date. The first trading date for a new reference loan is normally the Friday before the IMM date.

Figure 2. NOMINAL GOVERNMENT BONDS (BENCHMARK LOANS) SEK billion



#### T-bills and interest rate swaps

##### Increased borrowing with T-bills

Funding in T-bills is expected to be unchanged in 2005 compared with 2004. This is a reduction of almost SEK 26 billion compared with the June forecast and reflects the lower than expected net borrowing requirement in recent months. In 2006, funding in T-bills is expected to increase by SEK 31 billion compared with 2005. The major part of the increase in funding will thus be made in T-bills to ensure the decrease in duration to be carried out during 2005. The outstanding stock is expected to increase by SEK 50 billion in 2006.

Borrowing in T-bills varies over the calendar year due to seasonal variations in the funding requirement. In late autumn, as well as early in the year, the borrowing requirement and thus bill issues are usually relatively large. However, the borrowing requirement is usually lower in the period February to May. Bill maturities are concentrated to the IMM months, contributing to relatively large borrowing in bills at auctions these months. T-bill borrowing can, however, deviate from the normal pattern due to changes in the borrowing requirement. See also the fact box on the Debt Office's issue decisions.



Table 5. CHANGE IN OUTSTANDING T-BILLS, NET INCLUDING SWAPS, SEK BILLION

	2004	2005	2006
T-bill borrowing, net <sup>1</sup>	-35	-36	-5
Exchanges of government bonds for T-bills	50	64	55
Change in T-bill stock	15	28	50
Interest rate swaps, net	30	38	28
T-bill stock and swaps, net change	45	66	78

<sup>1</sup> Net of issues (excluding exchanges) and maturities

#### SEK 45 billion in interest rate swaps

The Debt Office can also create short-term borrowing by issuing bonds and then using interest rate swaps. Provided that the difference between the swap rate and the government bond rate is sufficiently large, this borrowing technique reduces government borrowing costs.

In 2006, around SEK 45 billion of bond issues will be swapped to short exposure in SEK or to foreign currency. The estimated increase in the swap volume in comparison with 2005 contributes to reducing the duration and thus also maintaining issue volumes in government bonds. Interest rate swaps can also be used as part of the foreign currency borrowing. The interest rate swap is then combined with a foreign currency swap so that the exposure in kronor is replaced by exposure in foreign currency.

The outstanding stock of swaps is expected to increase by over SEK 20 billion in both 2005 and 2006. Despite a slightly larger swap volume next year, the outstanding stock will thus not increase more quickly.

If market conditions change, the actual swap volume can deviate from the forecast. Swaps will continue to be done at a relatively even pace throughout the year.

<sup>4</sup> See fact box on borrowing instruments and swaps on p.9 in *Central Government Borrowing – Forecast and Analysis 2004:2*. For an extended discussion on the use of swaps, see Holmlund, A. (2002), "Swaps in central government debt management", in *Central Government Borrowing – Forecast and Analysis 2002:3*, p.17-20. An account of how funding is allocated to different loan instruments can be found in Olofsson, T. (2002), "How central government debt is funded", *Central Government Borrowing – Forecast and Analysis, 2002:3*, p.13-16.

Table 6. CHANGE IN OUTSTANDING SWAPS, SEK BILLION

	2004	2005	2006
Interest rate swaps <sup>1</sup>	30	38	30
Currency swaps <sup>2</sup>	2	2	15
Swaps total	32	40	45
Swaps, maturities	-11	-18	-24
Swaps, net change	21	22	21

<sup>1</sup> Interest rate swaps from long to short interest rate exposure in SEK.

<sup>2</sup> Interest rate swaps from long to short interest rate exposure combined with currency swaps to foreign exchange.

## INFLATION-LINKED BORROWING

### *Unchanged issue volume*

Demand for inflation-linked bonds has, like the interest rate spread in relation to nominal government bonds, varied during the past six months. The interest rate spread narrowed before the summer but has widened again in the past few months.

To date this year, we have issued inflation-linked bonds for approximately SEK 9 billion. We expect the total issue volume to be around SEK 14 billion for 2006. Despite periodically weak demand, it is considered that inflation-linked borrowing for the year as a whole will be close to our February forecast of SEK 15 billion. Uncertainty about how inflation-linked bonds will be treated in Finansinspektionen's (Swedish Financial Supervisory Authority) supervision of the pension institutions next year, has now decreased. There may then be prospects for an increasing demand next year. However, it is too early to draw any definite conclusions about the demand trend. Our assessment of the market prospects for inflation-linked borrowing is therefore unchanged from the June forecast. We expect to continue to issue at a pace of around SEK 15 billion a year.

It is difficult to assess the market growth. The annual pace only provides an approximate estimate. The costs of inflation-linked borrowing must also be reasonable if the planned pace of emission is to be maintained.

### *Flexible issue volumes abandoned*

Inflation-linked bonds are issued every other week. The announced issue volumes are normally the same at each auction. At an issue pace of SEK 15 billion, this means that the auction volume is normally SEK 750 million. However, large deviations cannot be ruled out at times when market conditions are special, such as on coupon maturities.

The Debt Office is abandoning flexible issue volumes and will in future only make issues with fixed volumes. Flexible volumes meant that the issue volume could be increased at the time of auction by an amount announced in advance. This was intended to make it easier for us to meet any demand on the part of investors for larger auction volumes.

We have earlier emphasised that it is natural to place greater weight on the predictability of the auctions apace with the development of the market for inflation-linked bonds. After a dialogue with the participants in the inflation-linked bond market, we conclude that we should take another step in this direction. Flexible issue volumes in the form we have used, are not considered to provide good transparency: it is difficult for investors to see how the allocation at the

auction is decided. Issues of fixed volumes, which have been announced in advance, provide better predictability and facilitate bidding and market pricing of the issues. The fixed volumes probably also contribute to being able to reduce the loan costs on the margin. A high level of responsiveness with the assessed state of demand and flexibility to meet temporary variations can be particularly justified during a build-up phase. The market must now, after over ten years, be considered to have developed to a sufficient degree that priority should be given to the need for predictability.

#### *Current loans*

The Debt Office introduced a new inflation-linked bond (loan 3106) maturing on April 1, 2012 at the auction on September 22. The new loan now has an outstanding volume of around SEK 10 billion.

Loan 3101 matures in 2008. The loan is to be successively phased out. During the autumn SEK below 1 billion of the loan has been exchanged for the new loan 3106. During 2006 at most an additional SEK 8 billion will be exchanged for longer bonds. In 2007, investors will be offered exchange opportunities corresponding to the remaining outstanding amount. No exchange or buyback opportunities will be offered in 2008.

Loans 3106, 3105, 3102 and 3104 will be issued during 2005 and 2006. The issues will be spread relatively evenly among the different maturities, market conditions permitting. Based on our assessment of demand, some additional weight will be placed on loans 3106 and 3105. The choice of bond for each particular option will mainly comply with a pre-determined internal issue plan, see fact box.

### THE DEBT OFFICE'S ISSUE DECISIONS

The policy of the Debt Office is to create predictability and transparency in its borrowing. Funding is allocated between funding instruments and maturities depending on borrowing requirement, duration target and the need to contribute to liquidity in our benchmark loans. The approximate allocation between instruments and maturities is announced in *Central Government Borrowing – Forecast and Analysis*.

Before every auction in nominal government bonds, inflation-linked bonds and T-bills, a decision is made on the maturities to be issued. This decision is based on an internal issue plan decided upon in connection with the publication of our forecast. Before the auction decisions, the primary dealers and investors are given an opportunity to state their points of view. However, we do not engage in a dialogue with our counterparties prior to issue decisions. This communication is of value for us but we only receive points of view.

As regards *nominal government bonds*, we normally comply with the issue plan – individual players must not be able to affect our issue decisions. However, in certain situations, there may be a consensus of assessments that certain maturities should be avoided. It may also be the case that the duration target compels changes to be made in relation to the issue plan. We are then able, if we find it clearly justified, to deviate from the issue plan. These deviations are relatively infrequent.

No explicit issue plan has been adopted in advance for issues of *inflation-linked bonds* – even though we have aimed at somewhat spread out between dif-

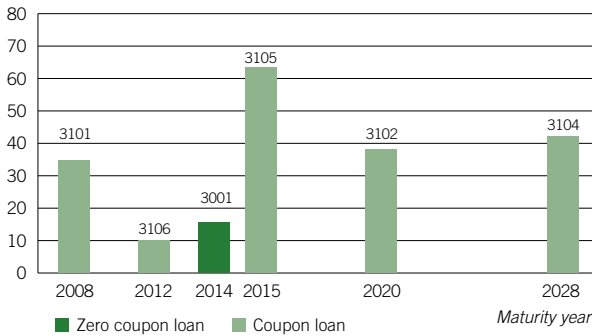
ferent maturities. In future, we will also make an explicit internal issue plan for inflation-linked bonds and apply it in substantially the same way as for nominal bonds. However, we will, especially to start with, apply the issue plan for inflation-linked bonds with somewhat greater flexibility. Here as well, a relatively high level of consensus in assessments will be required for us to deviate.

Decisions on *T-bill* issues are also based on an issue plan. This is partly governed by our issue policy which entails that we issue a twelve-month bills every IMM month (March, June, September and December) and a three-month bill in the other months, and by our short-term financing requirement that varies between the months. The borrowing in T-bills varies depending on seasonal variations in the funding requirement. The maturities concentrate to the IMM months, which contribute to a relatively large T-bill borrowing at the auctions in these particular months.

Our short-term funding forecast is revised continuously due to unexpected changes in our cash flows. In practice, volumes are governed, and to some extent the choice of time to maturities as well, by the current funding requirement. The issue plan must therefore be successively revised. There is therefore limited scope for taking the market condition into consideration: we do not issue larger volumes than what corresponds to the borrowing requirement. Just as in the case of the bond issues we have a certain amount of flexibility and can make certain deviations from the issue plan if there is a consensus in assessments that certain maturities should be avoided.



Figure 3. INFLATION-LINKED GOVERNMENT BONDS  
SEK billion



### FOREIGN CURRENCY BORROWING

In 2005 and 2006, foreign currency loans equivalent to SEK 53 and 55 billion respectively will mature. We will accordingly need to borrow SEK 28 and 30 billion respectively in 2005 and 2006 in foreign currency to achieve the target for the pace of amortisation of SEK 25 billion per year.

Table 7. FOREIGN CURRENCY BORROWING 2004-2006,  
SEK BILLION

	2004	2005	2006
Foreign currency borrowing requirement, gross	12	28	30
Foreign currency amortisation	-26	-25	-25
Maturities and exchange rate differences	37	53	55
Foreign currency bonds <sup>1</sup>	22	43	30
Foreign currency swaps <sup>2</sup>	11	18	21
Realised exchange rate differences	5	-9	3
Foreign currency borrowing, gross	13	28	30
Foreign currency bonds	10	26	15
Currency swaps, gross <sup>2</sup>	2	2	15

<sup>1</sup> Valued at current exchange rates.

<sup>2</sup> Interest-rate swaps from long to short interest rate exposure combined with currency swaps to foreign currency

We can borrow in foreign currency by issues of bonds in krona that are swapped to exposure in foreign currency (krona/swap borrowing)<sup>5</sup> or by issues of foreign currency bonds (direct currency borrowing in the capital market). The allocation of foreign currency loans between direct currency borrowing and krona/swap borrowing will depend on the interest rate and conditions that can be achieved.

In 2005, the major part of borrowing was executed by direct currency borrowing since it has been possible to

<sup>5</sup> Government bond issues are first swapped to short interest rate exposure. Floating interest rates in SEK are then exchanged to short foreign interest rate by a currency swap with the same maturity as the interest rate swap. At the same time, the Debt Office receives the foreign currency spot when the transaction is made. At the time of the swap, we pay the same amount in foreign currency. The currency swap thus creates a debt in foreign currency.

obtain very good loan terms. To date this year, foreign currency loans equivalent to SEK 24 billion have been raised. In January, a eurodollar bond was issued with a volume of 1 billion dollars maturing in 2010. In October a eurodollar bond was issued with a volume of 1.25 billion dollars maturing in 2009. The size, maturity and public offering of the loan make it a benchmark loan. The remaining borrowing requirement during the forecast period has been evenly allocated in a standardised way between direct currency borrowing and krona/swap borrowing; see Table 7. However, the actual allocation can deviate from this scenario.

We expect to issue two benchmark loans in 2006 as well.

### SUMMARY

The issue volumes in nominal government bonds will remain unchanged at SEK 2 billion per auction. The reason for this is the reduced net borrowing requirement compared with the June forecast. The total bond borrowing is expected to be SEK 56 billion this year.

The previously announced increases of the issue volume to SEK 3 billion at the year-end will be postponed to June 2006. The increase is justified by the increase in the funding requirement in 2006.

The issues in nominal government bonds in 2005 have been allocated between the two, five and ten-year loans. In 2006, the issues will be allocated so that half are made in the ten-year bond. We expect to make a few issues in the two-year and fifteen-year maturities and the remainder in the five-year segment.

T-bill borrowing is largely unchanged in 2005 compared with 2004. This is a downward adjustment compared with the last forecast. During 2006, funding with T-bills is expected to increase by SEK 31 billion compared with 2005.

We expect to make interest rate swaps for around SEK 45 billion per year. This is an increase of SEK 5 billion compared with 2005.

The Debt Office expects to be able to continue to issue inflation-linked bonds at an annual pace of SEK 15 billion. The Debt Office is abandoning the use of flexible issue volumes at auctions in inflation-linked bonds and will to a greater extent than before comply with a pre-determined internal issue plan.

The Debt Office is amortising the foreign currency debt at an annual pace of SEK 25 billion. Foreign currency borrowing is expected to total SEK 28 and 30 billion respectively in 2005 and 2006.

# THE PROPOSED GUIDELINES FOR 2006 IN BRIEF

This year's proposed guidelines for the management of the central government debt correspond roughly to the guidelines presently in effect. New for this year is that the Debt Office recommends that the benchmark for the maturity of the nominal debt be stated in average interest-rate refixing period instead of in duration. Furthermore, it is proposed that the scope of the Debt Office's interest rate positions be fixed at 0.5 year's duration.

The Swedish National Debt Office annually submits proposed guidelines to the Government regarding the management of the central government debt. The starting point of the proposal is the goal of the central government debt management prescribed by law, i.e., to minimise the long-term cost of the debt while taking into account the risks inherent in the management. In addition, the management shall be within the framework of the demands imposed by the monetary policy.

In this year's proposed guidelines, the Debt Office has in particular studied what the maturity of the central government debt should be. This work has occasioned a renewed analysis of an appropriate measurement for the maturity of the central government debt.

The main points of the proposal are:

- The percentage of foreign currency debt in the central government debt should be reduced to 15 per cent in the long term. The proposed benchmark for amortisation of foreign currency debt during 2006 is SEK 25 billion. The Debt Office may deviate from this benchmark by SEK  $\pm$ 15 billion. The preliminary benchmark for amortisation of foreign currency debt in 2007 and 2008 is SEK 25 billion per year.
- The percentage of inflation-linked loans in the central government debt should increase to 20-25 per cent in the long term. The increase should be weighed against the growth in demand for inflation-linked bonds and the borrowing costs of other types of debt, with due consideration to risk.
- The remainder of the gross borrowing need should be covered by nominal krona borrowing.
- The benchmark for the average maturity (measured as average interest-rate refixing period) of the aggregate nominal krona and foreign currency debt should be set to 3.1 years. This corresponds to the present benchmark of a duration of 2.5 years.
- The Debt Office may take interest-rate positions of a maximum of 0.5 year's duration.

## MATURITY OF THE CENTRAL GOVERNMENT DEBT

Developments in the interest market have been eventful during the past year. Both short- and long-term interest rates have fallen to historically low levels. Despite long-term interest rates having fallen more than short-term rates, it is still true that the yield curve has a positive slope, i.e., the direct expenses for short-term borrowing are lower than for long-term borrowing. The basic assessment of cost conditions that formed the basis for last year's decision to shorten the maturity is thus still valid. Two conditions – the relation between short-term and long-term interest rates and the present interest-rate situation – do however deserve special attention in the analysis of the maturity that the central government debt should have in the future.

### Slope of the yield curve

The recent interest rate trend gives rise to the question of whether there has been – or may be – a long-term change in the relation between short- and long-term interest rates.

One factor that may support a flatter yield curve in the longer term is that insurance companies with long-term pension obligations are expected, as a result of changed rules and the problems caused by deficient matching, to want to hold more bonds. This would lead to a greater demand for long-term bonds and lower interest rates. There is however uncertainty with respect to how large reinvestments would be necessary, among other things because the work on the body of regulations and its application is not yet finished.

As long as the yield curve has a positive slope, the strategic choice in the maturity of the central government debt is about weighing cost against risk; the longer the maturity, the higher the cost and the lower the interest rate renewal risk. Consequently, the flatter the curve, the lower is the additional cost in order to reduce the risk. All else being equal, and in particular on the assumption that the central government's view of the balancing of cost and risk has not changed, a flattening of the curve would justify that the central government extend the maturity of the debt.



In our opinion, the changes that have so far occurred, support the notion that it has become less costly to reduce the risk by extending the maturity of the nominal debt. The assessment is however uncertain, since the period of observation is so short and, e.g., the effects of the change that is currently taking place for the life insurance companies cannot yet be overviewed.

The issue is also whether any long-term change is of the magnitude that it in and of itself would cause a long-term change of the maturity of the central government debt. The interest-rate spread between short-term and long-term borrowing (up to 10 years) is not remarkably low, seen in a longer-term perspective. It is furthermore not lower than the model assumptions we made in last year's scenario calculations, which formed the basis for the Government's decision to shorten the maturity of the debt. Merely to compare today's yield curve with its development during the past year may provide an erroneous picture of the considerations we have made in former guideline proposals. The Debt Office is therefore not prepared at this point to recommend an extension of the maturity.

#### **The relevant interest rate situation**

There is also reason to discuss how the maturity should be handled in a more short-term perspective, even if the starting point for the guideline discussion should be the more long-term balancing of cost and risk.

According to the guidelines presently in effect, the Debt Office has a mandate to select its own benchmark for maturity of the nominal krona and foreign currency debt, which may deviate by  $\pm 0.3$  year's duration from the Government's benchmark of 2.5 years. A decision to deviate shall be handled as a position and primarily be based on an assessment of the current interest rate situation in relation to the long-term interest rate trend and shall primarily be evaluated in terms of market value.

The allocation of responsibility between the Debt Office and the Government means that it is the Debt Office's assignment to monitor the interest rate trends and adapt its actions thereto. The Government's guidelines have a longer time perspective and shall primarily express the view of the balancing of cost and risk, even if it is not excluded that the Government's guideline decisions in certain cases are affected by current market conditions.

The Debt Office has so far not assumed any strategic maturity position. We have in later years monitored the issue whether the long-term interest rates are so low that

it would be profitable temporarily to extend the maturity in order to fix low long-term interest rates.

Our opinion has been that so far there have not been sufficient reasons to take such a position. There have been factors indicating that interest rates would not rise sufficiently great or soon enough in order to outweigh the additional costs that follow from a longer maturity of the debt. So far, these assessments have proven correct. There has not merely been an absence of a rise; long-term as well as short-term interest rates have instead continued to fall.

The Debt Office has an ongoing discussion whether and how to use the mandate for deviation that the Government has given us. If we were to find reason to take a strategic maturity position and in addition, find that it should be greater than the present guidelines permit, the Debt Office has the possibility to turn to the Government with proposed changed guidelines.

Since we have not taken any strategic interest position, we do not propose that the Government change the guidelines based on such considerations.

#### **CHANGE OF MATURITY MEASURE FROM DURATION TO INTEREST-RATE REFIXING PERIOD**

The Debt Office recommends that the guidelines for the maturity of the central government debt be stated in terms of interest-rate refixing period instead of duration. From a calculation point of view, the difference between duration and interest-rate refixing period is small. Both constitute a measure of the average time remaining until a bond's future cash flows (coupons and redemption amount). The difference is that while the duration is calculated by the time remaining until each cash flow being weighted with the net present value of the cash flow (calculated at present market interest rates), the interest-rate refixing period is calculated by weighting the time until the cash flows with the nominal value of the cash flows without a net present value calculation.

The primary motive behind the proposal to change the measure of maturity is that the interest-rate refixing period is a more suitable control measure for the maturity of the central government debt than duration, since it is not affected by changes in the market rates. What we would like to control in the selection of maturity is the interest rate refixing risk, i.e., the risk of great swings in the costs for the debt. This is possible to do by controlling the composition of short and long maturity. Seen in this light, it is therefore more suitable to have a control measure that is



not affected by the changes in interest rates. That way, our borrowing strategy will not be affected by the changes and the composition of short- and long-term maturity will be the same regardless of the interest rate situation.

Another advantage in changing the measure of maturity is that this leads to a clearer connection between our borrowing plans and our borrowing requirement forecasts, since changes in the market rate no longer affect the borrowing. Thus, an increased borrowing requirement will lead to greater volumes in the bond issues, while a reduced borrowing requirement will lead to reduced volumes. At present, this is not a given situation. Today, for example, an increased borrowing requirement in combination with falling interest rates may mean that bond issuance volumes fall. The reason is that the duration of the debt increases when the interest rate drops, which must be compensated by reducing the maturity of the borrowing, i.e., reduce the bond issuances in favour of an increased borrowing in treasury bills.

The Debt Office's calculations show that with a maintained distribution between short- and long-term borrowing according to the borrowing plan presented in the June forecast, the present duration guideline of 2.5 years corresponds to a guideline for the average interest-rate refixing period of 3.1 years.

#### THE DEBT OFFICE'S MANDATE FOR INTEREST RATE POSITIONS

If the guidelines for the maturity are changed so that the benchmark is stated in terms of average interest-rate refixing period instead of duration, then the guidelines for the Debt Office's risk mandate should be adapted accordingly, at the same time as their meaning is maintained. The guidelines should therefore no longer be expressed in terms of deviation from the benchmark, but instead as before in terms of duration.

The reason that the Debt Office's risk mandate should be expressed in terms of duration is that duration is not merely a measurement of maturity but also a measurement of interest-rate sensitivity (i.e., how much the value of any position is changed if the interest rate is changed).

The Debt Office's mandate to take interest-rate positions should be fixed at 0.5 year's duration, thereby formalising and clarifying our earlier view that the position scope of the operational management has been outside the risk mandate given by the Government. The active management in foreign currency has for a number of years

been allocated a position scope of 0.2 year's duration. In order not to limit this possibility of the Debt Office to reduce the costs of the central government debt, by taking short-term interest-rate positions, the aggregate position scope should be fixed at 0.5 years.

#### GUIDELINES FOR PERCENTAGE CONTROL AND A COMPREHENSIVE MATURITY MEASURE

Finally, it may be mentioned that the Debt Office in preparing this year's guideline proposal, has been charged with making a more in-depth analysis of how the fluctuation intervals around the benchmarks of the different parts of the debt should be designed, and how a joint measurement of maturity should be defined and managed. The initial investigations show however that the issues are complex and that more time is needed in order to investigate the operational consequences of the issues. The Debt Office therefore intends to come back to these issues in the next guideline proposal.

#### THE GUIDELINE PROCESS

- The Debt Office submits proposed guidelines to the Government before October 1.
- The Government decides on the guidelines before November 15.
- The Debt Office's board of directors decides on operational guidelines before December 31.
- The management period runs between January 1 and December 31.
- The Debt Office evaluates the operations in its annual report to the Government before February 15.
- The Government evaluates the management and reports to Parliament before April 25.
- Parliament evaluates the central government debt management during May – June.
- The Debt Office takes the opinion of Parliament into consideration in its proposed guidelines for the following year.

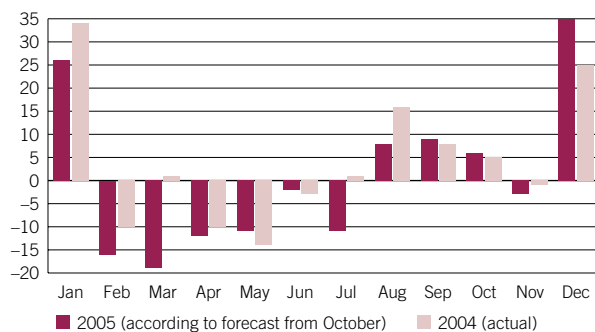


# HOW AND WHY THE DEBT OFFICE FORECASTS THE GOVERNMENT'S BORROWING REQUIREMENT

The Swedish National Debt Office's borrowing requirement forecasts constitute the basis for our borrowing planning. The annual forecasts primarily control the borrowing at maturities exceeding one year. The monthly and the daily forecasts control the short-term borrowing in the form of, e.g., treasury bills and overnight loans. By monitoring the central government payment flows at a detailed level on a daily basis, and supplementing the information with statistics from, e.g., the National Tax Agency, we are able to discover changes in the payment flows relatively early. This provides us with an advantage in relation to other forecasters. The accuracy of the forecasts provides good advance planning of the borrowing and thereby contributes to lower interest costs for the central government.

The central government's borrowing requirement varies from day to day and month to month, and even if the aggregate borrowing requirement of the year may be negative (budget surplus), there are still certain days and months during the year when we need to borrow. Generally speaking, the central government borrows less during the spring. This is, among other things, attributable to the design of the taxation system, where the spring is the time when the majority of the supplementary tax is paid.

Figure 1. Annual borrowing requirement by month 2004 and 2005  
SEK billion



*The central government's greatest borrowing requirement is in January and December. During February to May, large tax payments are made and the central government has a negative borrowing requirement.*

## WHY DOES THE DEBT OFFICE MAKE BORROWING REQUIREMENT FORECASTS?

The Debt Office is not the only public authority that forecasts the borrowing requirement. The National Institute of Economic Research (NIER) and the Swedish National Financial Management Authority (ESV) makes borrowing requirement forecasts four times a year. In addition, the Government publishes forecasts of the borrowing requirement twice a year, in April and in September. Could we not use these forecasts in our operations?

No, we cannot, since the purpose of our forecasts is different. Our forecasts are to form the basis for our borrowing planning. The purpose of the NIER's forecasts of the public finances is to calculate the financial savings. The ESV's forecasts are in turn consequential calculations in the sense that they are based on the currently applicable rules, since their purpose is to function as a basis for the decisions concerning future fiscal policy. Finally, the purpose of the Government's forecast is to set the framework for the central government budget.

Since our purpose is different from that of the other public authorities we also handle the forecast issues in different ways. For example, the Government is counting on a standard SEK 15 billion in privatisation income each year without having made any decisions on privatisations. In the past three years, privatisation income has however been very low. On the other hand, the central government received approximately SEK 60 billion when parts of Telia were sold in 2000. To count on a standard SEK 15 billion in privatisation income therefore will lead to overestimated or underestimated borrowing requirement forecasts.

Our forecasts serve as a basis for the borrowing planning and we have therefore elected to await any decisions about privatisations before including these in the forecast. In certain cases, however, we attempt to take the effects of future fiscal policy into consideration in our forecasts. For example we calculated already in the June forecast that the final step in the tax reform will be carried out in 2006. Forecast mistakes may lead to more expensive borrowing for the central government. Therefore the goal is to make the most probable estimate of the borrowing requirement.

We have one important advantage in comparison to other forecasters, in that we monitor the payments and receipts of the public authorities on a daily basis. This affords us the ability to compare directly actual results and forecast.

Thereby, we gain a unique insight into the payment flows of the central government, which can be used in the forecasting process. In addition, the interest payments on the central government debt and the borrowing and lending of the public authorities are a part of the operations of the Debt Office. This means that we have the detailed information necessary in order to forecast these flows. As a result, we service both the Government and other public authorities with forecasts of interest payments and net lending, which then forms the basis for their own calculations.

Another advantage in making our own calculations of the borrowing requirement is that we can make an independent assessment of the central government's income and expenses, among other things based on our own analysis of the macro-economic conditions. We always start from the NIER's most recent assessment of the economic development, but have the possibility to adapt it to our opinion of the central government's receipts and payments related to the NIER's view of the economy. We may also choose the degree of detail and the time of our calculations, as well as the number of times per year that we wish to update our calculations.

## HOW DOES THE DEBT OFFICE MAKE BORROWING REQUIREMENT FORECASTS?

### Definition of the central government's borrowing requirement

The central government's borrowing requirement is the same as the central government's budget balance but in reverse. A borrowing requirement arises for two reasons. First, the central government needs to borrow if the payments from the central government are greater than the payments to the central government. Second, the central government must borrow in order to repay outstanding loans that mature. The joint name for all cash flow to and from the central government is the net borrowing requirement. The aggregate of both the net borrowing requirement and the maturing loans is called the gross borrowing requirement.

In this article we will discuss only the central government's borrowing requirement as it refers to the central government's net borrowing requirement, and we will not discuss in detail the financing of maturing loans. For ad-

## THE CENTRAL GOVERNMENT'S BORROWING REQUIREMENT AND ITS ALLOCATION

The central government's borrowing requirement may be divided into *the primary borrowing requirement* and *interest payments on the central government debt*.

The primary borrowing requirement in turn consists of a *primary balance* and *the Debt Office's borrowing from and lending to public authorities and state-owned companies*. The primary balance is the net of all central government payments and receipts, connected to the central government budget, exclusive of interest payments on the central government debt. We use this allocation in order to monitor the payments of the central government during one day. The daily monitoring is therefore primarily focused on the primary balance.

Primary balance
+ Debt Office's net lending to public authorities and state-owned companies
-----
= Primary borrowing requirement
+ Interest on the central government debt
-----
= The central government's borrowing requirement

ditional information about the liquidity management, see the article in *Central Government Borrowing - Forecast and Analysis 2005:1*.

### Calculation of the borrowing requirement

We use a bottom-up method. First we divide the borrowing requirement into approximately 50 forecast flows, where a forecast flow corresponds to one public authority. The public authorities that are so small that their payments or receipts during one year aggregate less than SEK 1 billion are aggregated into one miscellaneous item. In addition, there are forecast flows for the Debt Office's borrowing from and lending to public authorities and state-owned companies plus interest payments on the central government debt. For each forecast flow we make an annual forecast, divided by month, and then all individual forecast flows are added together to form an annual forecast, divided by month, for the central government's borrowing requirement.



Certain greater forecast flows (public authorities) have *partial flows*, which are forecast as well. In that manner we may monitor for example payments of pensions, child subsidies and sick pay, which are all paid by the Social Insurance Agency. The methods we use to calculate the different forecast flows differ to some extent depending on the type of receipts and payments in question. For the smaller public authorities it is sufficient to monitor forecasts in the budget and spring bills, while for the larger public authorities, calculations of our own are required.

When we make our own calculations we take our opinion of the macro-economic development into consideration. It is primarily in areas for which we have access to regular statistics where we may have a different opinion than the NIER. With respect to the taxes based on wages and consumption, we get a receipt every month on how well our forecast accords with actual results. In the event that we are of the opinion that the trend of aggregate wages is weaker than the figure used by the NIER in its forecasts, we adjust our forecast for the present year, and most frequently also the level for the following year.

Generally, the trend of the GDP does not in and of itself particularly affect the borrowing requirement in the short term; instead it is factors which directly affect the labour market and household consumption that have the greatest effect. For example, a reduction in unemployment has a great effect on the borrowing requirement, since the expenses for unemployment compensation are reduced at the same time as the central government receives additional tax income.

### Examples of forecast flows

#### *The Social Insurance Agency*

The Social Insurance Agency is the public authority that is responsible for the greatest payments and is therefore the greatest public authority flow. During 2004, the Social Insurance Agency made payments in excess of SEK 600 billion, which corresponds to approximately 35% of the aggregate payments.

The Social Insurance Agency manages the insurance and subsidies that form the social insurance system. In total there are in excess of 50 different benefits or subsidies. However, we do not forecast each and every one of the different benefits, but aggregate similar benefits to some ten partial flows. For example, a joint forecast is made for all forms of pension payments. In addition, the Social Insurance Agency is responsible for payments to the AP Funds and the PPM of the part of the employer taxes that are to

finance the pension systems. In a corresponding manner, the Social Insurance Agency requisitions money from the AP Funds each month for the payment of pensions.

The forecasts are largely based on statistics from the public authority's own budget monitoring, primarily with respect to the number of persons receiving a certain benefit and the amount of the average compensation. In addition, the forecast is based on the appropriations calculations in the budget and spring bills from the Government, Statistics Sweden's latest population forecast and the NIER's macro economic picture.

The latest known results are extrapolated on the basis of the macro-economic preconditions, taking into consideration the population trend and any changed regulations. The macroeconomic variables that affect the social insurance payments the most are changes in the price base amount, the hourly wage trend and the income index. In the short term, it is primarily the change in the number of beneficiaries that has effect.

#### *Interest on the central government debt*

Interest payments on the central government debt are a part of the central government's borrowing requirement. The Debt Office pays the interest on the central government debt and has a special appropriation for this purpose. The interest on the appropriation is accounted for on a cash basis. This means that it is the actual interest having been paid during a certain period that will be accounted for. For example, interest payments on a treasury bill will not be charged against the appropriations until the day of maturity, since it is not until that day that the interest payment will be made. For bonds, it is the actual coupon payment that is charged against the appropriations.

Uncertainty factors in the interest forecast include, among other things, rate effects in the issuance and repurchase of bonds, profits and losses on derivatives and exchange rates. When the Debt Office issues or repurchases bonds, there is a rate effect that, somewhat simplified, is the difference between the market price and the nominal amount. Rate effects on bonds and profits/losses on derivatives are booked as a reduction or an increase of the interest payments. These may amount to a significant part of the aggregate interest payments during the course of a year.

The basis for the forecast of the interest payments is comprised by all outstanding instruments of the central government debt. In addition, a financing plan is made for the borrowing that will take place during the forecast period. Financing is, somewhat simplified, required for maturing loans

and the central government's net borrowing requirement. It is possible to add to the calculation scenarios for future interest and exchange rate trends. But we have elected to base our forecasts on the interest and exchange rates at the time of the forecast, the so-called stop date. This means that we take the interest and exchange rates that prevail when we make the calculation and maintain these constant for the entire calculation period. It can be discussed whether it is possible to make better forecasts of the interest payments with another method for future interest and exchange rate trends. So far we have however elected to use rates at the stop date.

The trend for future interest and exchange rates are, naturally, uncertainty factors in the forecast of interest payments. Changes in interest rates have a short-term effect primarily on the short-term borrowing since this is frequently renewed and on the long-term borrowing through rate effects, due to changed market prices for the bonds. Exchange rates affect the interest rate payments when loans mature and derivatives are renewed. Other uncertainty factors are that the size of the central government's borrowing requirement, as well as its financing plan, may change.

#### Tax account

The tax account as a forecast flow differs from the other flows in that it is more dependent on the macro-economic trend. In addition, the taxes that are paid in during a certain year may be attributable to one or more years in the past.

The tax account comprises most taxes, such as preliminary wage taxes, corporate taxes, VAT and excise taxes. The design of the tax account, however, means that we only know aggregate incoming and outgoing payments each day. We do not receive the allocation between different taxes until a few days into the following month. As we forecast per type of tax, this is problematic. The tax account is forecast by extrapolating actual numbers for the latest year by the economic development within the area that is taxed. The effect of any changes in legislation is estimated and added to the calculation. Preliminary wage taxes and payroll taxes are thus extrapolated by the rate of development of wages, while VAT and excise taxes are extrapolated *inter alia* by the trend in household consumption spending.

Payments into the tax account comprise also taxes that are not paid on a preliminary basis, e.g., capital tax and wealth tax. These taxes are paid by the tax subject in arrears. We call these payments *supplementary payments*. These may refer to several different income years and taxes and are therefore difficult to forecast and monitor (see more about this below).

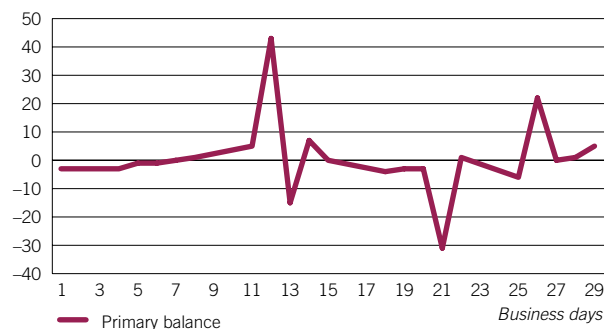
#### Forecasts distributed by day

All our forecast flows are distributed by day, three months in advance. In practice, this is carried out by defining different allocation keys for different forecast flows (sometimes by partial flow) and months. A great deal of the central government's payments is governed by rules. We know for example that pensions are paid on the 18th and 19th of each month, while a great deal of the tax payments are made on the 12th. The allocation by day is important for the short-term borrowing, i.e., the liquidity management.

The daily forecasts are updated on a continuous basis based on new information. A public authority may for example let us know that a large payment will be made or that such payment has been moved from one date to another. Sometimes the forecasts may even be updated over the course of one day.

Figure 2 shows how the primary balance (i.e., the central government's payments, excluding the Debt Office's net lending and interest payments on the central government debt) may vary between different days in the typical month (in this case April). For example, tax is paid to the central government on the 12th and the 26th, while the municipalities receive their funds from municipal taxes and state subsidies around the 21st.

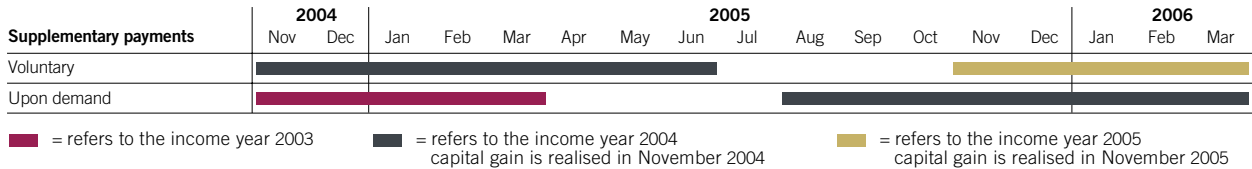
Figure 2. Primary balance distributed by day – April 2005  
SEK billion



The daily borrowing requirement may however be significantly greater than the primary balance shown above due to maturing loans, interest payments and net lending. If we include the maturing loans, the Debt Office finances, on an average, a daily cash deficit of SEK 15-20 billion. The daily balance however varies significantly. One fourth of the days, a surplus is invested that frequently may amount to SEK 10-15 billion. Certain days, the surplus may even be as great as SEK 30-40 billion, while deficits may amount to SEK 40-50 billion.



Figure 3. Supplementary payments – examples of the payment flow



### MONITORING OF FORECASTS

We monitor our forecasts by the day, month and year. The daily monitoring is made as a part of the liquidity management and the days when we have great deviations between forecast and actual results, we have the possibility to adjust the forecast. We may adjust the daily forecast during the same day or in advance depending on when we get the information. The monthly result is published on the fifth business day of each month on the Debt Office's homepage. The annual results are published five business days after the new year.

If a great difference between forecast and result were to arise for one day, we initiate something very similar to detective work. We first attempt to find out whether the difference is attributable to us having received more or less money than we had expected or whether payments have deviated from the forecast. If we know that some public authority will make a large payment during one month, we verify whether it has deviated from its payment plan.

Not later than the following day, the actual results system will show whether a public authority has incurred a great deviation in relation to forecast. For most forecast flows, an unexpected payment most frequently entails a shift in time and will thus only lead to an adjustment of the borrowing requirement for the remaining days of the month. With respect to taxes, however, we have no information of the types of tax that have been paid until after the end of the month. It may therefore be difficult to determine how a forecast deviation affects the borrowing requirement for the remainder of the month or year (see below).

### DEVIATIONS FROM THE FORECAST – THE EXAMPLE OF THE TAX ACCOUNT

The borrowing requirement varies from month to month and day to day. For most parts, it is the supplementary tax payments that give rise to the greatest forecast deviations, both from an amount and time point of view.

Anyone who has ever submitted an income tax return is aware that the final tax payable with respect to a year is seldom the same as the preliminary wage tax that has already been paid. Sometimes, not enough has been paid, and you end up owing the central government money in the form of back taxes; other times, too much has been paid, and you get money back in the form of tax restitution.

Why is this? The greater part of the income of both private individuals and companies is taxed on a preliminary, monthly basis. As to wage income, this is fairly simple. The employer withholds tax on wages paid. When households and companies realise gains, e.g., sell real property or securities, it however becomes more complicated. In anticipation of the final settlement of the income year being made the year after, it becomes the household's/the company's own responsibility to calculate the amount of the supplementary tax that needs to be paid on the capital gains.

If a person or a company realises capital gains one year, he, she or it has the option of paying tax during a number of years. Assume for example that a person realised a capital gain in November 2004. This person will then have the option of either making voluntary payments between November 2004 and June 2005 or to pay upon demand some time between August 2005 and March 2006 (depending on when he or she gets his/her final tax assessment). This is illustrated in figure 3.

By studying the payment patterns (see the example in figure 3), it is possible to determine that a large part of the supplementary tax payments for a certain year are made between January and June of the following year. During the first months of the year, voluntary as well as on-demand payments are made. This means that the supplementary payment we see in the tax account refers to the economic trend both one and two years back. The aggregate supplementary payments during one year may in turn be referable to three different income years. In order to determine how the rest of the year will be affected by a forecast deviation, we must therefore first attempt to estimate





the parts of the deviation that refer to voluntary payments and upon-demand payments, respectively.

One reason for the supplementary tax payments deviating from forecast is that the payment pattern may have changed. This may in other words not mean that the *aggregate* payments will be greater or lesser than we expected. There may for example be lower voluntary payments in February, which are later compensated by greater payments in June.

There are requirements that the supplementary tax be paid not later than February 12 if a person has a deficit in the tax account that exceeds SEK 20,000, otherwise interest is payable on the amount exceeding SEK 20,000. This requirement causes payments during February to be greater than during the other months. During this past year, it appears however that payments are not as concentrated to February as before. Last year, almost no voluntary payments were made in June, while they this year amounted to almost SEK 5 billion.

Since the tax account is relatively new, it is difficult to draw any conclusions regarding the nature of a normal payment pattern. It is always possible to speculate whether the amount of the profits of the households and companies are significant for when the voluntary payments are made. The explanation may even be that the increased number of simplified income tax returns and the new possibilities of filing by telephone and internet have resulted in later payments.

Another explanation to why the supplementary tax payments deviate from forecast may be that we have over- or underestimated the capital gains of the households or the companies. We will not find out the final result of the amounts of gains that households and companies have realised until the month of December in the year after the income year. Unusually large supplementary tax payments may be an indication that gains have been greater than we expected. But it is not really until we get the first preliminary tax assessment results in the middle of August during the year after the income year that we can get a better picture of the levels of gain.

#### **EFFECT ON THE ANNUAL FORECAST**

In summary, this means that a forecast deviation in a month or maybe even an accumulated forecast deviation during the course of several months does not necessarily mean that an annual forecast must be revised. Payments that are made during the course of the first six months

may vary in amount and between months for a number of different reasons.

There is also a difference in how different forecast deviations affect the annual forecasts. Extra supplementary payments during one year may be a temporary additional income to the central government during that year without having any effects on future years. However, if for example the salary-based taxes yield more than the forecast, this may be a sign that the economy is developing more strongly than expected. Such a deviation would then probably mean that we adjust not only the forecast for the current year but also those for the following years.

*Håkan Carlsson, Analyst*  
*Sofia Olsson, Analyst*



# MARKET INFORMATION

Source: The Swedish National Debt Office, unless otherwise stated

## TREASURY BONDS, OUTSTANDING AMOUNTS, SEPTEMBER 30, 2005

Nominal Bonds (Nominal amount)			
Maturity Date	Coupon %	Loan no.	SEK m
2007-08-15	8.00	1037	79,900
2008-05-05	6.50	1040	54,783
2009-01-28	5.00	1043	71,619
2009-12-01	4.00	1048	49,990
2011-03-15	5.25	1045	54,033
2012-10-08	5.50	1046	44,696
2014-05-05	6.75	1041	63,774
2015-08-12	4.50	1049	36,489
2016-07-12	3.00	1050	23,991
2020-12-01	5.00	1047	36,702
Total benchmarks			515,977
Non-benchmarks			39,432

## T-BILLS, OUTSTANDING AMOUNTS, SEPTEMBER 30, 2005

T-Bills (Nominal amount)		
Maturity Date	SEK m	
2005-10-19	27,589	
2005-11-16	25,038	
2005-12-21	64,054	
2006-03-15	54,079	
2006-06-21	26,560	
2006-09-20	41,549	
Total treasury bills		238,869

## INFLATION-LINKED BONDS, OUTSTANDING AMOUNTS, SEPTEMBER 30, 2005

Maturity Date	Coupon	Loan no.	SEK m
2008-12-01	4.00	3101	34,839
2012-04-01	1.00	3106	4,891
2014-04-01	-	3001	15,696
2015-12-01	3.50	3105	63,549
2020-12-01	4.00	3102	38,232
2028-12-01	3.50	3103	3
2028-12-01	3.50	3104	42,184
Total inflation-linked bonds (incl. inflation comp.)			199,395

## RATING

	Debt in SEK	Foreign currency debt
Moody's	Aaa	Aaa
Standard & Poor's	AAA	AAA

## NOMINAL BONDS, AUCTION DATES

Announcement date	Auction date	Settlement date
2005-10-19	2005-10-26	2005-10-31
2005-11-02	2005-11-09	2005-11-14
2005-11-16	2005-11-23	2005-11-28
2005-11-30	2005-12-07	2005-12-12
2006-01-04	2006-01-11	2006-01-16
2006-01-18	2006-01-25	2006-01-30
2006-02-01	2006-02-08	2006-02-13
2006-02-15	2006-02-22	2006-02-27
2006-03-01	2006-03-08	2006-03-13
2006-03-15	2006-03-22	2006-03-27
2006-03-29	2006-04-05	2006-04-10
2006-04-12	2006-04-19	2006-04-24
2006-04-26	2006-05-03	2006-05-08
2006-05-10	2006-05-17	2006-05-22
2006-05-24	2006-05-31	2006-06-05
2006-06-07	2006-06-14	2006-06-19
2006-06-21	2006-06-28	2006-07-03

## T-BILLS, AUCTION DATES

Announcement date	Auction date	Settlement date
2005-10-26	2005-11-02	2005-11-04
2005-11-09	2005-11-16	2005-11-18
2005-11-23	2005-11-30	2005-12-02
2005-12-07	2005-12-14	2005-12-16
2005-12-28	2006-01-04	2006-01-09
2006-01-11	2006-01-18	2006-01-20
2006-01-25	2006-02-01	2006-02-03
2006-02-08	2006-02-15	2006-02-17
2006-02-22	2006-03-01	2006-03-03
2006-03-08	2006-03-15	2006-03-17
2006-03-22	2006-03-29	2006-03-31
2006-04-05	2006-04-12	2006-04-18
2006-04-19	2006-04-26	2006-04-28
2006-05-03	2006-05-10	2006-05-12
2006-05-16	2006-05-23	2006-05-26
2006-05-31	2006-06-07	2006-06-09
2006-06-14	2006-06-21	2006-06-26
2006-06-28	2006-07-05	2006-07-07
2006-07-19	2006-07-26	2006-07-28

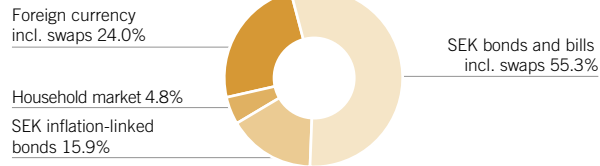
## INFLATION-LINKED BONDS, AUCTION DATES

Announcement date	Auction date	Settlement date
2005-10-27	2005-11-03	2005-11-08
2005-11-10	2005-11-17	2005-11-22
2005-11-24	2005-12-01	2005-12-06
2005-12-08	2005-12-15	2005-12-20
2006-01-12	2006-01-19	2006-01-24
2006-01-26	2006-02-02	2006-02-07
2006-02-09	2006-02-16	2006-02-21
2006-02-23	2006-03-02	2006-03-07
2006-03-09	2006-03-16	2006-03-21
2006-03-23	2006-03-30	2006-04-04
2006-04-04	2006-04-11	2006-04-18
2006-04-20	2006-04-27	2006-05-03
2006-05-04	2006-05-11	2006-05-16
2006-05-16	2006-05-23	2006-05-29
2006-06-01	2006-06-08	2006-06-13

### DEBT STRUCTURE

Total debt SEK 1,258 billion

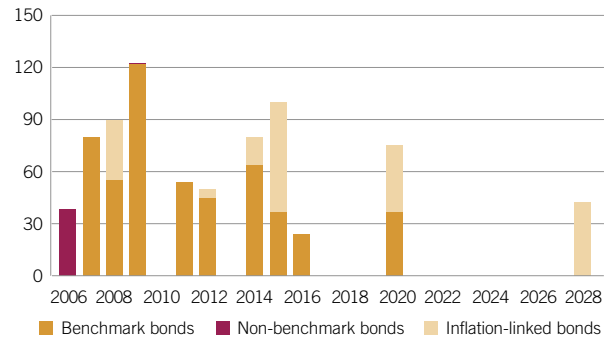
September 30, 2005



### MATURITY PROFILE, SEK NOMINAL AND INFLATION-LINKED BONDS

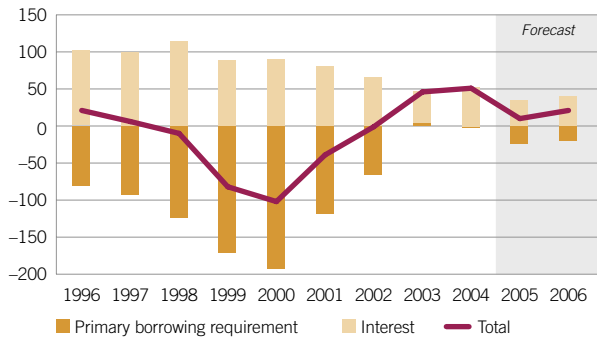
SEK billion

September 30, 2005



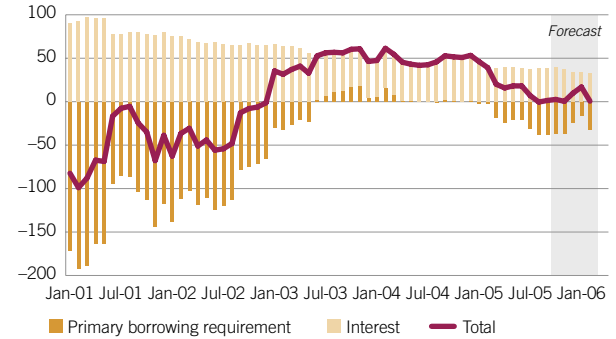
### CENTRAL GOVERNMENT BORROWING REQUIREMENT, 1996-2006

SEK billion

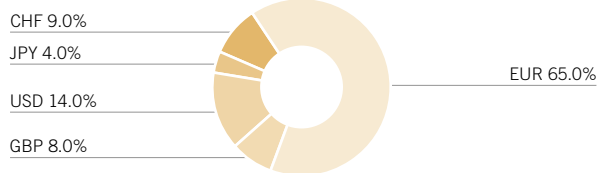


### SWEDISH GOVERNMENT BORROWING REQUIREMENT, 12 MONTHS

SEK billion

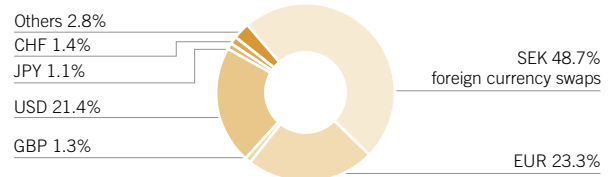


### BENCHMARK FOR THE CURRENCY COMPOSITION



### FUNDING IN FOREIGN CURRENCIES

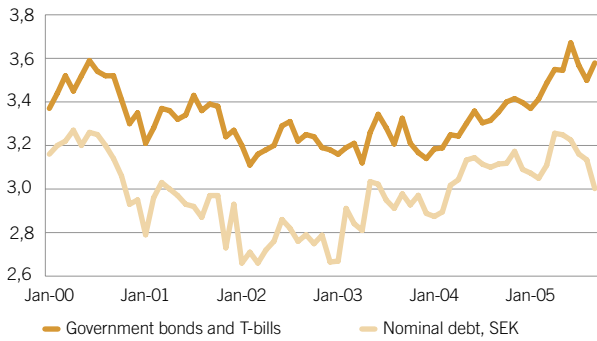
September 30, 2005





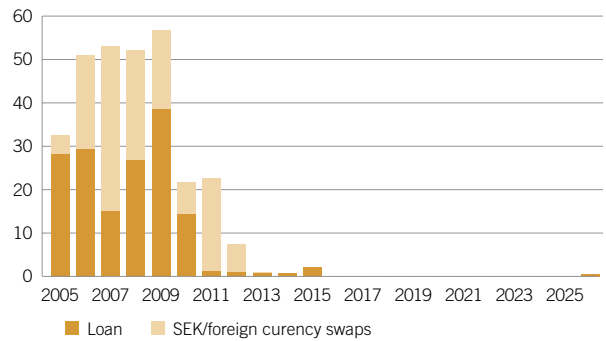
DURATION OF NOMINAL DEBT  
Years

September 30, 2005



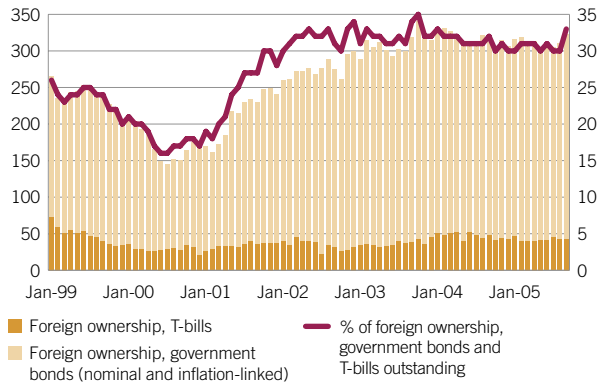
MATURITY PROFILE, FOREIGN CURRENCY LOANS  
EXCL. CALLABLE BONDS  
SEK billion

September 30, 2005



FOREIGN OWNERSHIP OF GOVERNMENT BONDS AND T-BILLS  
SEK billion

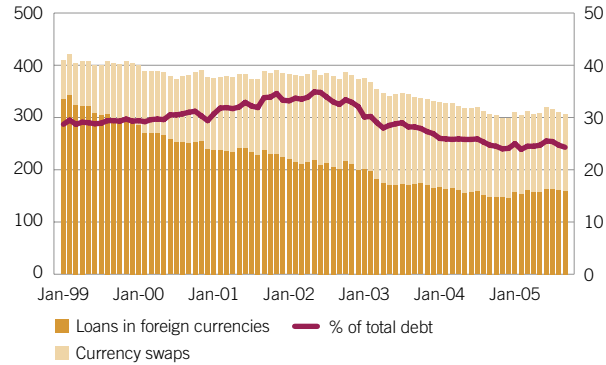
%



Source: The Riksbank

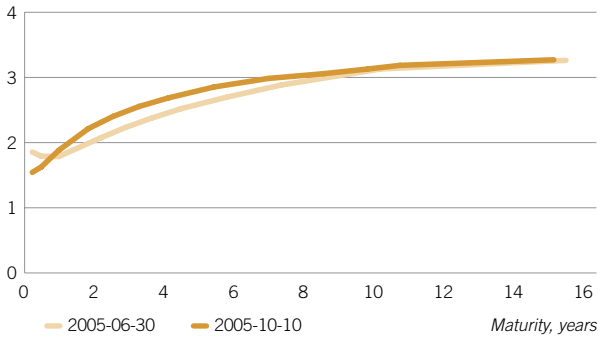
CENTRAL GOVERNMENT DEBT EXPOSURE IN FOREIGN CURRENCIES  
SEK billion

%

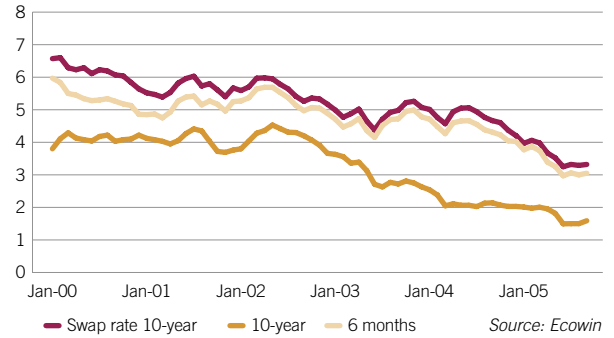




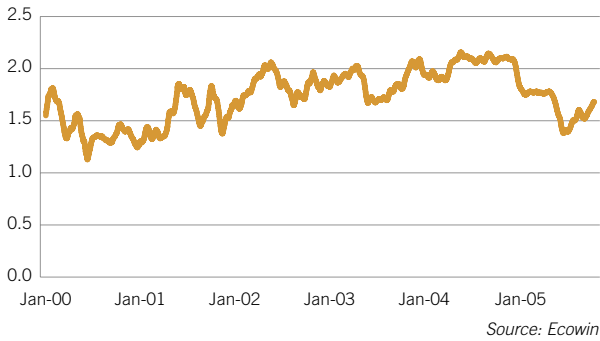
YIELD CURVE, SWEDISH GOVERNMENT SECURITIES  
%



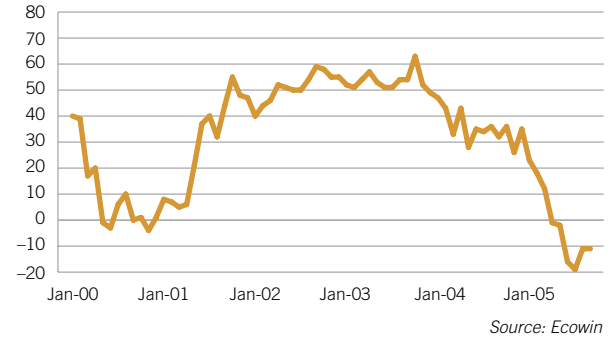
INTEREST RATE DEVELOPMENTS  
%



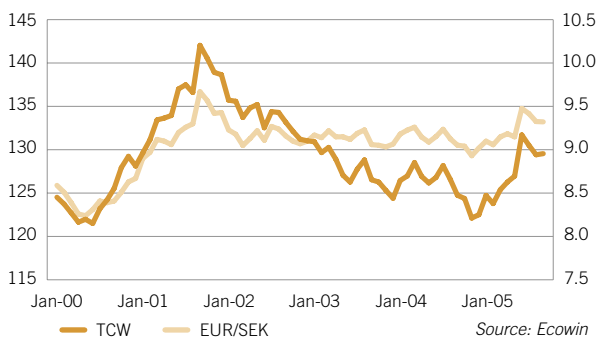
BREAK-EVEN INFLATION  
%



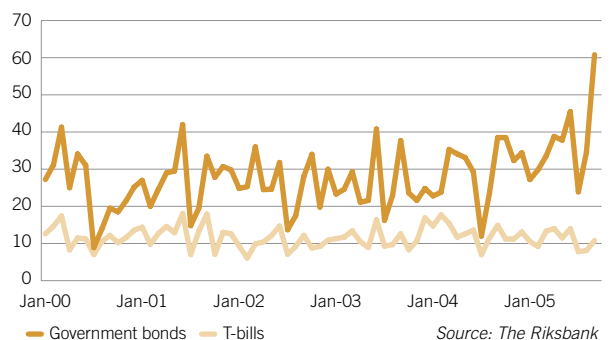
INTEREST RATE SPREAD VS GERMANY – 10-YEAR  
Basis points



HISTORICAL EXCHANGE RATES  
TCW – Trade-weighted index

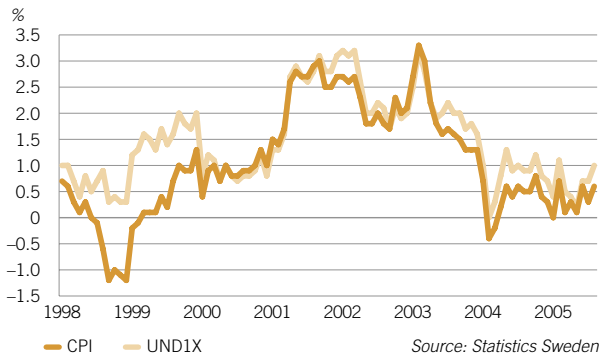


TRADING VOLUME, SWEDISH GOVERNMENT SECURITIES  
Total turnover including options and forward contracts, SEK billion

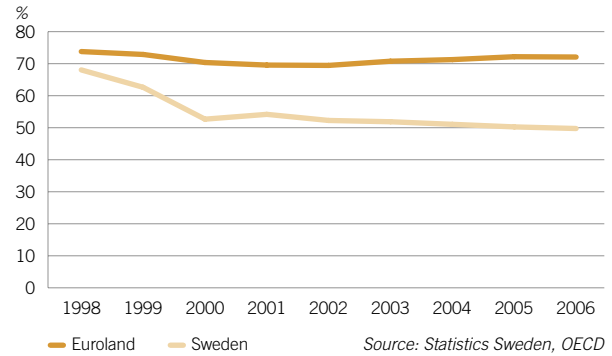




INFLATION INDEX: UND1X AND CPI IN SWEDEN 1998–2005



GENERAL GOVERNMENT DEBT IN RELATION TO GDP



NATIONAL ACCOUNTS, PERCENTAGE CHANGE

Supply and demand		2004	2005	2006	
Gross domestic product <sup>1</sup>		3.6	2.4	2.9	
Imports		6.9	4.0	6.9	
Household consumption expenditure		1.8	2.1	2.8	
Government consumption expenditure		0.3	0.0	0.8	
Gross fixed capital formation		5.5	9.0	6.9	
Stock building		-0.3	0.0	0.2	
Exports		10.5	3.1	5.6	
Selected Statistics	Jul-04	Aug-05	2004	2005	2006
CPI, year-on-year		0.6	0.4	0.7	1.5
Unemployment rate		6.5	6.0	5.8	5.4
Current account	7.1		7.8	5.9	4.9

<sup>1</sup> SEK 2,546 billion (current prices 2004).

Sources: Statistics Sweden, The Riksbank; forecasts: National Institute of Economic Research.

	Telephone	Reuter-page
ABN Amro Bank NV	+46-8-506 155 00	PMAA
Danske Consensus	+46-8-568 808 44	PMCO
E Öhman J:or Fondkommission AB	+46-8-679 22 00	PMOR
FöreningsSparbanken	+46-8-700 99 00	PMBF
Nordea	+45-33-33 17 58	PMUB
SEB	+46-8-506 23 151	PMSE
Svenska Handelsbanken AB Publ.	+46-8-463 46 50	PMHD





The next issue of Central Government Borrowing: Forecast and Analysis will be published on Wednesday March 1, 2006, at 9.30 am.

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Articles published earlier	Author	Issue
Government debt policy and the budget political goals	Lars Hörngren	2005:2
Currency hedging for government agencies	Mikael Bergman	2005:2
Cash Flow at Risk – a measure of market risk for interest payments forecasts	Martin Lanzarotti	2005:2
Last year in review		2005:1
The Debt Office borrowing scores high in client survey	Maria Norström	2005:1
The state's liquidity management	Anna Sjulander	2005:1
Credit cards and purchasing cards - a good deal for the state	Anita Schönbeck	2005:1
The proposed guidelines in brief		2004:3
Retail borrowing in Sweden and comparisons to other countries	Malin Holmlund	2004:3
The lending of the state should be regulated	Sara Bergström and Christina Hamrén	2004:2
A new budget target for long-term sustainable central government finances	Per Franzén	2004:2
Common maturity dates for nominal bonds		2004:1
Inflation-linked bonds – an instrument for risk diversion	Joy Sundberg and Thomas Wigren	2004:1
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New risk indicator for central government debt – Cost-at-Risk	Anders Holmlund	2004:1
The inflation-linked market is growing – Italy is now issuing inflation-linked bonds		2003:3
Strategic EUR/USD position closed – foreign currency- and interest gain of 4.5 billion		2003:3
Market development work in Sweden and a few other European countries	Anders Holmlund	2003:3
Pricing of state guarantees in practice	Niclas Hagelin and Magnus Thor	2003:3
The state payment system and new framework agreements	Lennart Sundquist	2003:3
Small borrowers in the euro zone	Eric Morell and Thomas Wigren	2003:2
Borrowing strategy if Sweden joins the currency union	Thomas Olofsson	2003:2
State guarantees – proposal for an even better rule system	Lars Hörngren	2003:2
Risks and derivatives	Anne Gynnerstedt and Per-Olof Jönsson	2003:2
The Debt Office's method for risk analysis	Johan Palm	2003:1
Analysis of foreign currency debt structure	Magnus Andersson and Lars Andrén	2003:1
Borrowing and funding during 2002		2003:1



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