RIKSGÄLDS KONTORET
THE SWEDISH NATIONAL DEBT OFFICE

2003:3

Central Government Borrowing:

Forecast and Analysis

Government borrowing requirement and debt are increasing

After several years of surpluses in Swedish central government finances and falling central government debt, the borrowing requirement and the debt are now increasing again. Our forecast for the borrowing requirement during 2003 and 2004 indicates a less favourable trend than we estimated in June. In 2003, the net borrowing requirement is projected to total SEK 45 billion, a deterioration of SEK 18 billion compared to the June forecast. Next year the borrowing requirement will be SEK 56 billion. Adjusted for nonrecurring payments, however, we estimate that thanks to the expected macroeconomic upturn in Sweden next year, the borrowing requirement will improve somewhat during 2004 compared to 2003. The central government debt will increase by SEK 76 billion in 2003 and 2004. In relation to Gross Domestic Product (GDP), the debt will in principle be unchanged, at approximately 51 per cent.

The fact that we have a deficit in the central government budget is in keeping with the plans in force. The Riksdag (Swedish Parliament) has stated that the overall public sector should show a surplus of 2 per cent of GDP over a business cycle. But since the publicly administered pension system is currently showing a surplus of more than 2 per cent, this means that the central government's finances may show a continuing deficit. This implies that in practice, the financial savings of the public sector are found in the pension system.

In its proposed guidelines for central government borrowing, the Debt Office has raised the issue of whether the official target should be to show a balanced central government budget over a business cycle. This would take into account both that the pension system should be independent and that Sweden's ageing population will cause strains on the central government budget in the future. A target of balanced central government finances, with lower debt and interest expenditures, will increase safety margins. Such a change will imply that the overall surplus target for the entire public sector is also raised correspondingly.

Early next year, the Debt Office will introduce a new long-term bond loan maturing in 2020. A longer-term loan makes debt management easier when the borrowing requirement is increasing. At the same time, pension managers need to match their pension commitments with long-term investments. The maturity of the new bond loan will be the same as one of the Debt Office's inflation-linked bond loans, which will benefit liquidity, especially in the inflation-linked bond market.

The guarantee model that the Debt Office has applied since 1998 is described in one of the articles in this issue. The purpose of this model is to show clearly – and thereby place on an equal footing – the costs that a state guarantee implicitly entails, compared to other central government expenditures for such purposes as road construction or health care. In this way, the model promotes sound central government financial management.

Thomas Franzén
Director General

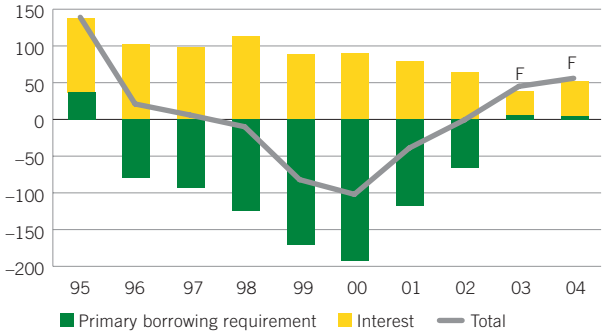
The central government borrowing requirement

The Swedish National Debt Office's forecast of the borrowing requirement in 2003 indicates a deficit in central government payments of SEK 45 billion, which is SEK 18 billion more than in the June forecast. The increased borrowing requirement is largely explained by lower incoming tax payments during the third quarter and larger disbursements of refunds for excess tax payments than forecasted. The borrowing requirement is expected to rise to SEK 56 billion in 2004. Adjusted for nonrecurring payments, however, central government finances will improve by SEK 20 billion from 2003 to 2004.

To date, the recovery in the Swedish economy has been slower than expected. In the June forecast, we mentioned that there was a risk of weaker economic performance. Due to falling employment, payroll-based incoming tax payments have turned out weaker than forecasted. This is one reason why central government finances have been less favourable than we anticipated last spring. Disbursements from central government agencies have largely followed our forecast. It is worth noting that the cost of sickness insurance benefit has been lower than projected. Sickness benefit disbursements are now shrinking for the first time since 1997. To some extent, this is an effect of reduced benefit levels and the introduction of the third employer-financed sick pay week.

Central government borrowing requirement, 1995–2004

SEK billion



Forecast for 2003

The Debt Office's forecast for 2003 indicates a borrowing requirement of SEK 45 billion. Due to a higher borrowing requirement during the period June up to and including September and expected continued weak growth, we anticipate that the full-year 2003 borrowing requirement will be SEK 18 billion larger than we stated in the June forecast. Since June, the outcome for the borrowing requirement has been SEK 10 billion larger than projected. The Debt Office believes that this less favourable trend will continue, mainly owing to smaller tax payments during the rest of the year and larger disbursements of refunds for excess tax payments in December.

The primary borrowing requirement (all central government payments excluding interest payments on the debt) is estimated at SEK 6 billion, which is SEK 20 billion more than in the June forecast. The outcome for the months of June, July, August and September was SEK 12 billion less favourable than expected. The increased borrowing requirement is largely explained by smaller preliminary tax payments and larger tax-related disbursements. Among preliminary taxes, corporate tax revenues have been lower than expected as a consequence of tax refunds from 2002. Payroll-related tax payments have also been smaller than expected and are also projected to be smaller during the remainder of 2003.

Another factor that has contributed greatly to the increase in the primary borrowing requirement is disbursements of refunds on excess tax. In August these disbursements were SEK 20 billion, which is SEK 5 billion more than forecasted. The excess tax was attributable to the 2002 income year and is a result of the fact that preliminary tax invoicing was larger than the final tax.

Among disbursements, sickness benefit has declined since the June forecast and to date has been SEK 1 billion lower than projected. This trend is expected to continue during the rest of 2003. Disbursements of study allowances have also been lower than expected, mainly due to fewer students. During the period June, July, August and September, the Debt Office's net lending was smaller than expected. Net lending is projected at SEK 14 billion for the full year, which is marginally lower than the June forecast.

Based on forecasts from the Swedish National Financial Management Authority (ESV) and the National Institute of Economic Research (NIER), last spring we anticipated that during the autumn the Government would implement SEK 2 billion worth of reductions in cash expenditures in order to keep its budget below the expenditure ceiling. We now estimate that the Government will not need to carry out any further cost-cutting measures this year.

Interest payments on the central government debt will amount to an estimated SEK 39 billion, which is SEK 2 billion less than the previous forecast. The main reason for the lower forecast is that capital losses associated with buy-backs are assumed to be smaller than previously estimated. The Debt

Office's forecast of interest payments on the central government debt is based on the interest rates and exchange rates prevailing on the forecast date. The cut-off date for the current forecast is October 13, 2003.

Forecast for 2004

The Debt Office's revised forecast for 2004 indicates that there will be a deficit of SEK 56 billion in central government payments, which is SEK 15 billion more than in the previous forecast. Although the economy is expected to perform more strongly in 2004 than in 2003, the borrowing requirement will rise. Adjusted for nonrecurring payments, however, central government finances will improve by SEK 20 billion between 2003 and 2004. During 2003, nonrecurring payments will reduce the central government borrowing requirement by SEK 20 billion, while in 2004 they will increase the borrowing requirement by SEK 10 billion. A more detailed description of how nonrecurring payments affect the borrowing requirement is found in the section entitled *Borrowing requirement adjusted for nonrecurring payments* on page 5. The Debt Office's forecasts of the central government borrowing requirement and debt are summarised in the table below, which also presents the outcome for 2002.

Central government borrowing requirement and debt, 2002–2004, SEK billion

	2002	2003 (forecast)	2004 (forecast)
Primary borrowing requirement	–66	6	4
Interest payments on debt	65	39	52
Net borrowing requirement	–1	45	56
Debt adjustments	51	–22	0
Deposit Guarantee Board, Nuclear Waste Fund and Premium Pension Authority	39	–	–
Re-evaluation, foreign currency loans etc	–32	–22	0
New measure of debt*	44	–	–
Short-term investments	–2	0	0
Change in central government debt	48	23	56
Debt at year-end	1,204	1,227	1,283

** A new measure of central government debt was introduced on January 1, 2003. A detailed description of this new measure is found in Central Government Borrowing, 2003:1.*

The primary borrowing requirement is estimated at SEK 4 billion in 2004. This is SEK 10 billion more than we anticipated in the June forecast. The increase is largely due to a downward revision in tax revenues. Owing to weaker economic performance, total payroll growth is expected to be lower than we anticipated on the last forecast date. As a result, payroll-based taxes are projected to decline. Increased supplementary and back tax payments will have the opposite effect. One reason for this is that during 2003, capital gains are projected to be larger than in 2002. Since total payrolls are rising more slowly, disbursements of local government taxes will decline. This is because the income tax revenues of local governments are collected by the central government and then disbursed to the local governments. Central government disbursements for sickness benefit have also been revised downward since the June forecast. A comparison between 2003 and 2004 indicates that disbursements for daily social insurance benefits, which mainly consist of sickness benefit, are expected to decline for the first time since 1997. Due to lower benefit levels and a smaller number of sickness benefit days, partly owing to the introduction of the third employer-financed sick pay week, sickness benefit payments are declining.

The Debt Office's net lending to central government agencies, state enterprises and state-owned companies is projected to total SEK 21 billion. This is SEK 2 billion more than in the June forecast. The reasons for the increase are that the Government has announced that repayments of principal on loans for infrastructure projects will be postponed and that lending to the state-owned passenger railway company SJ AB will increase.

According to forecasts from ESV and the NIER, the Government will exceed its 2004 budget expenditure ceiling by SEK 8 billion and SEK 1 billion, respectively, if it does not take steps to remedy this. Some of these steps will presumably lead to cutbacks in cash expenditures. We are therefore anticipating that the Government will implement SEK 4 billion worth of reductions in cash expenditures in order to keep its budget below the ceiling. In addition we are assuming, exactly as for 2003, that there will be no divestments of state-owned property during 2004. This is SEK 15 billion lower than the Government's estimate in the budget bill, but in line with the experiences of recent years, when such divestment revenues have not materialised.

Interest payments on the central government debt will amount to an estimated SEK 52 billion in 2004. The increase compared to 2003 is mainly explained by a decrease in premiums on prices of newly issued bonds and an increase in capital losses associated with buy-backs. The net effect will be an increase of SEK 14 billion in interest payments during 2004 compared to 2003. Interest payments will thus be at a more normal level, in relation to the size of central government debt and current interest rates.

Compared to the previous forecast, interest payments are projected to rise by SEK 5 billion during 2004. This increase, too, is explained by a reduction in premiums, while capital losses will increase. During 2004, the Debt Office is planning to introduce three new loans. These introductions will include exchanges between old and newly issued bonds. The exchanges will affect interest payments by causing capital losses or gains. The scale and structure of these bond exchanges will not be decided until later. This means that there is some uncertainty as to how they will affect interest payments during 2004. For more information on the new loans, see the article on *Funding*.

Sensitivity analysis

All forecasts include an element of uncertainty. The Debt Office does not produce any overall uncertainty analysis for the borrowing requirement, but presents a partial analysis of the impact on the borrowing requirement that changes in some important macro variables, roughly estimated, will have 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

One per cent/ percentage point increase	Effect on borrowing requirement
Total wages and salaries[1]	–6
Household consumption, current prices	–2
Registered unemployment	4
Swedish interest rates	3
International interest rates	1
Exchange rate	0.5

[1] *Local taxes based on working income are disbursed to the local governments 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.*

Conditions behind the forecast: The Debt Office bases its forecast on the macroeconomic scenario that the NIER presented in its publication *The Swedish Economy* in August. The NIER's August report predicts continued weak economic growth during 2003, while economic performance is projected to improve during 2004. However, in the judgement of the Debt Office, the recovery will be slower than the NIER anticipated in its August report. This picture is also reflected in the September issue of the NIER's *Business Tendency Survey*.

Borrowing requirement adjusted for nonrecurring payments

In a long-term analysis of central government finances, the borrowing requirement adjusted for nonrecurring payments provides a more correct picture of developments. During the period 2000 to 2004, the deterioration in underlying central government finances is SEK 95 billion.

The borrowing requirement is forecasted at SEK 45 billion during 2003 and SEK 56 billion next year. Adjusted for nonrecurring payments, calculations indicate a borrowing requirement of SEK 65 billion this year and SEK 45 billion next year. The underlying borrowing requirement will thus shrink by SEK 20 billion next year, even though the actual borrowing requirement will increase. The expected cyclical upturn in the economy is the most important reason why the underlying borrowing requirement will decline next year. Nonrecurring payments will thus reduce the borrowing requirement by around SEK 20 billion in 2003, while nonrecurring payments next year will increase the borrowing requirement by around SEK 10 billion.

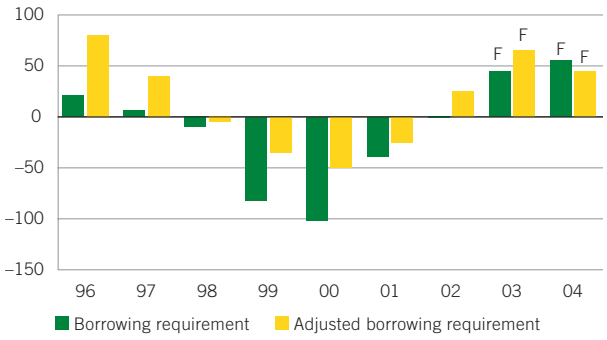
This year's nonrecurring payments of SEK 20 billion consist mainly of SEK 13 billion worth of maturing mortgage bonds that were transferred from the National Pension Funds and of premiums of SEK 15 billion on bond issues. Working in the opposite direction is the Debt Office's SEK 12 billion in net lending, mostly study loans. The latter are defined as nonrecurring disbursements since the loans are eventually expected to be repaid to the central government. The following table shows the borrowing requirement adjusted for nonrecurring payments for 2000 – 2004.

Borrowing requirement adjusted for nonrecurring payments, SEK billion

	2000	2001	2002	2003	2004
Borrowing requirement	–102	–39	–1	45	56
Divestment of government property	76				
Extra dividend from the central bank			20		
Transfers from National Pension Funds	45	42	7	13	4
Net lending to state agencies	–56	–25	–3	–12	–19
Interest payments	–14	–5	–1	15	5
Other	1	2	–2	4	0
Adjusted borrowing requirement	–50	–25	20	65	45

Reported and adjusted borrowing requirement

SEK billion



In 2004, nonrecurring disbursements are expected to be larger than nonrecurring payments to the central government. We anticipate that the central government must borrow a total of SEK 10 billion to fund nonrecurring payments. During 2004, SEK 4 billion worth of mortgage bonds will mature, and premiums related to bond issues are expected to total SEK 5 billion. Nonrecurring disbursements from the Debt Office's net lending will total an estimated SEK 19 billion.

Comparisons to other forecasts of the borrowing requirement

The Debt Office's forecast for 2003 indicates a borrowing requirement of SEK 45 billion, which is SEK 1 billion more than the Government's forecast. The NIER and ESV anticipate a borrowing requirement of SEK 33 billion and SEK 38 billion, respectively. Adjusted for known differences in divestment and interest rate assumptions, the Debt Office's forecast indicates a higher borrowing requirement than the NIER, ESV and Government forecasts. The differences compared to the NIER and ESV are relatively large, considering that most of the year has already passed. The NIER presented its most recent forecast of the central government borrowing requirement in August, ESV and the Government in September.

Comparison between borrowing requirement forecasts, SEK billion

	Debt Office		Government		NIER		ESV	
	03	04	03	04	03	04	03	04
Primary borrowing requirement	6	4	2	–6	–9	–9	–4	6
Interest payments	39	52	42	48	42	45	42	47
Net borrowing requirement	45	56	44	42	33	36	38	53
Borrowing requirement including Debt Office interest payments and divestment revenues	45	56	41	61	30	43	35	58

The Debt Office's forecast for 2004 indicates a borrowing requirement of SEK 56 billion, which is somewhat higher than the ESV forecast, and substantially higher than both the Government and NIER forecasts. Adjusted for known differences in divestment and interest rate assumptions, the borrowing requirement is SEK 2 billion lower than ESV forecasted, SEK 5 billion lower than the Government's projection, but SEK 13 billion higher than the NIER forecast.

The big differences between these borrowing requirement forecasts for 2004 should perhaps be viewed in light of a comparison between years. In the NIER forecast, the borrowing requirement is not expected to change especially much, which is surprising, considering the decline in nonrecurring payments in 2004. The Government's lower forecast is largely due to the assumption about SEK 15 billion in divestment revenues.[1] The Debt Office also anticipates higher interest payments on the central government debt.

1 Like ESV and the NIER, the Debt Office assumes no divestment revenues during 2003 and 2004. The Government assumes that such revenues will amount to SEK 15 billion in 2004.

Monthly forecasts

The Debt Office publishes annual forecasts three times per year. At the same time, we publish monthly forecasts for the intervening months. Between regular publications, the Debt Office only makes revisions of annual and monthly forecasts in exceptional cases. In these cases, the revised forecast is presented in conjunction with the presentation of the monthly borrowing requirement outcome, which occurs five working days after the end of each month. The forecast for the October 2003 borrowing requirement is SEK 5.2 billion, which is SEK 2.5 billion more than the previous forecast. The large deficit in January is explained by the annual disbursement to the premium reserve system. Large tax revenues are the reason for the surplus in February.

Monthly central government borrowing requirement, SEK billion

	Oct.	Nov.	Dec.	Jan.	Feb.
Primary borrowing requirement	4.4	1.2	14.4	34.1	–32.8
Interest payments	0.8	–0.2	7.4	5.6	8.1
Net borrowing requirement	5.2	1.0	21.8	39.7	–24.7

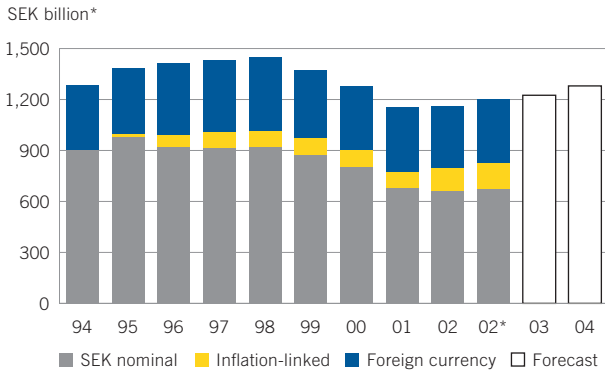
The central government debt

At the end of September 2003, the central government debt was SEK 1,199 billion, which represented a decline of SEK 5 billion since the close of 2002. Debt-related transactions reduced the debt by SEK 22 billion, while the borrowing requirement increased the debt by SEK 17 billion compared to the close of 2002.

Among debt-related transactions, the re-evaluation of foreign currency debt due to the stronger krona exchange rate reduced the debt by SEK 17 billion, and other debt-related transactions by SEK 5 billion.

Looking ahead, there are no other known effects influencing the debt other than the net borrowing requirement, which is projected to total SEK 28 billion during the remaining months of 2003. This means that the central government debt at the close of 2003 is projected to total SEK 1,227 billion. At the close of 2004, the central government debt is projected to total SEK 1,283 billion.

Government debt



** A new measure of central government debt was introduced in the beginning of 2003. The comparisons in the text are made using the new measure, which is marked by * in the chart.*

Funding

A new 17-year bond loan, with the same maturity as one of the Debt Office's inflation-linked bonds, will be introduced in January and a new five-year bond loan will be introduced in March 2004. Issue volumes in nominal bonds will be unchanged at SEK 4 billion kronor per auction. The Debt Office estimates that there will continue to be potential to issue inflation-linked bonds at an annual pace of approximately SEK 15 billion. Foreign currency borrowing will decrease from SEK 20 billion to SEK 8 billion next year.

Gross borrowing

As indicated in the preceding sections, *the net borrowing requirement* will be an estimated SEK 45 billion in 2003. The net borrowing requirement is expected to climb to SEK 56 billion next year. In addition, the Debt Office needs to fund maturing bond loans and buy-backs. The total funding requirement will be an estimated SEK 135 billion this year and SEK 178 billion in 2004. Of this, the Debt Office plans to fund SEK 136 billion and SEK 111 billion, respectively, with bond loans in kronor and foreign currencies.

Funding, 2003 and 2004, SEK billion

	2003	2004
Net borrowing requirement	45	56
Changes in cash equivalent holdings[1]	–3	20
Maturing bonds, plus exchanges and buy-backs	93	102
Maturing Treasury bonds	10	16
Maturing foreign currency loans[2]	30	22
Buy-backs and exchanges of bonds to bills	53	64
Total	135	178
Retail borrowing	2	2
Net funding with Treasury bills[3]	–3	65
Bond issues, gross	136	111
Foreign currencies[2]	14	4
Inflation-linked bond issues[4]	17	15
Nominal Treasury bond issues[5]	105	92
Funding	135	178

[1] *Change in outstanding deposits, liquidity bills and repos.*
[2] *Direct foreign currency loans, spot market, valued at acquisition prices.*
[3] *Change in the stock of Treasury bills.*
[4] *Average issue volume per auction month* 1.9 1.5
[5] *Average issue volume per auction* 4.6 4.0

Note: The table presents the allocation of the funding requirement by types of debt. A number of items are technical assumptions rather than forecasts or plans.

The above table presents an assessment of the allocation of bond issues during 2003 and 2004 among nominal Treasury bonds, inflation-linked bonds and foreign currency borrowing that the Debt Office expects to use in order to achieve its targets for duration and for the pace of foreign currency debt amortisation.

Nominal krona borrowing

Nominal borrowing in Treasury bills

Three new bond loans next year

On January 28, the Debt Office will introduce a new Treasury bond loan with a maturity of longer than ten years. There is currently no such loan. The bond loan will have a maturity of about 17 years and the same maturity date as inflation-linked loan 3102, that is, December 1, 2020.

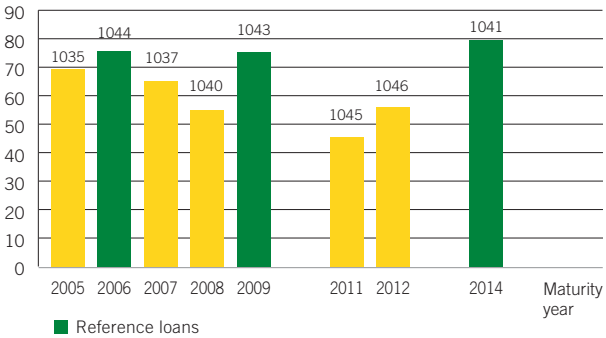
Such a bond will make it easier to control duration with limited issue volumes during periods when borrowing requirements are growing. This will facilitate pricing in the Swedish bond market, since it will become easier to compare Swedish and foreign long-term interest rates. By selecting the same maturity date as for an inflation-linked bond loan, it should be possible to strengthen liquidity in both markets. The development of the long-term swap market will also benefit.

Reactions from investors have been positive. Among other things, investors can more easily match their obligations on their liability side with corresponding nominal interest-bearing assets in Swedish kronor. The proposal of the Government-appointed Investment Commission[1] would, if implemented, probably strengthen such a need. Since the demand for a long-term bond loan is expected to be strong and also to contribute to market development, the introduction of a long-term bond is justified in terms of cost.

[1] *Proposal for a Modernised Solvency System for Insurance Undertakings,* Final Report of the Investment Commission, SOU 2003:84.

Nominal Treasury bonds (benchmarks)

SEK billion



A new five-year loan maturing on December 1, 2009 will be introduced on March 10, 2004. This loan will fill a gap between loans 1043 (January 2009) and 1045 (March 2001). Otherwise the five-year reference loan would have become too short and later too long under much of next year.

The two new loans will be introduced by auction. During subsequent banking days, it will be possible to exchange other bonds for the new ones. The terms of these exchanges will be announced in a press release on December 4, 2003.

Early in the autumn of 2004, the issuance of a new ten-year loan is planned. More information will be presented in a future *Central Government Borrowing* report.

New bond loans – maturities and issue dates

Loan	Maturity	Issue
17-year (1047)	Dec 1, 2020	Jan. 28, 2004
5-year (1048)	Dec 1, 2009	Mar. 10, 2004
10-year (1049)	2015 or 2016	Early autumn 2004

Schedule

Date	Activity
Dec. 4	Press release on exchanges of 1047 and 1048 for bonds
Jan. 7	Press release on exchanges of 1035 for Treasury bills
Jan. 14	Issue terms for 1047 announced
Jan. 28	Issuance of new 17-year bond loan 1047
Jan. 29-Feb. 3	Exchanges of bonds for 1047
Feb. 9-13	Exchange of bond loan 1035 for Treasury bills
Feb. 25	Issue terms for 1048 announced
Mar. 10	Issuance of new five-year bond loan 1048
Mar. 11-16	Exchanges of bonds for 1048

Four loans to be included in planned issues

The Debt Office's bond issues have consisted mainly of its reference (or "super-benchmark") loans with maturities of two, five and ten years that are traded in the electronic interbank market. The loans thus enjoy what is usually referred to internationally as "on the run status".[2] Since a 17-year loan is being introduced, this bond loan will also be issued during 2004.

[2] *The loans treated as benchmark loans in electronic trading are determined by which loans are closest, in terms of maturity, to two, five and ten years. However, benchmark loans change only on IMM dates (the third Wednesday in March, June, September and December), with the criterion that in terms of maturity, the loans should be closest to two, five and ten years on the following IMM date. With this change, an underlying loan in forward contracts will always be the same as a benchmark loan during the first three months of the contract.*

Borrowing instruments and swaps

Somewhat simplified, the guidelines for central government debt policy imply that the Debt Office shall achieve a given exposure in short-term and long-term borrowing, respectively, and between kronor and foreign currencies (in terms of a given pace of amortisation of foreign currency debt), respectively. These targets can be achieved by allocating government borrowing between Treasury bills, Treasury bonds and foreign currency borrowing. The Debt Office also uses derivatives (mainly interest rate and currency swaps) to order to achieve the desired exposure.

In order to create a short-term interest rate exposure via the swap market, as a first step the Debt Office issues a bond in Swedish kronor. Then it carries out an *interest rate swap* in Swedish kronor, in which the Debt Office receives fixed interest and pays floating interest (Stockholm Interbank Offered Rate, STIBOR). The gain on this transaction is that the interest rate on the bond is lower than the interest rate that the Debt Office receives in the interest rate swap (the difference is called swap spread). Meanwhile the Debt Office pays a somewhat higher interest rate (STIBOR) than the Treasury bill interest rate. This borrowing technique leverages the central government's relative strength as a borrower in long maturities, enabling it to reduce its borrowing costs.

Creating foreign currency exposure via the swap market involves using the domestic bond market as a source of borrowing *(krona/swap borrowing)*. First the Debt Office issues a bond, which is swapped to short-term interest (see above). Then it carries out a "basis swap", which involves changing a floating interest rate in kronor for a floating interest rate in a foreign currency. Meanwhile the Debt Office buys the foreign currency in the spot market when it enters into the transaction and sells the foreign currency when closing it. The basis swap has the same maturity as the interest rate swap but interest payments are based on three- or six-month floating interest rates. In the basis swaps, the Debt Offices receives floating STIBOR and pays floating interest in euro at the European Interbank Offer Rate (EURIBOR). Using this technique, the Debt Office can take advantage of the swap spread minus a small cost for implementing the swap. In principle, the borrowing cost is thus the floating EURIBOR rate minus the swap spread.

Foreign currency borrowing can thus be implemented as borrowing in a foreign currency (direct foreign currency borrowing) or via krona/swap borrowing. *Short-term borrowing* can be implemented by issuing Treasury bills or by first issuing a Treasury bond and then carrying out an interest rate swap (synthetic bills).

In practice, the room for interest rate swaps is limited by the fact that the Debt Office is a large player in this market. This room can be used to replace Treasury bills or as a part of foreign currency borrowing. In the trade-off, the costs of direct foreign borrowing are important.

For an extended discussion on the Debt Office's use of swaps, see Holmlund, A. [2002], "Swaps in central government debt management", *Central Government Borrowing: Forecast and Analysis,* 2002:3, pp. 17-20.

Loan 1043 (5.00%, Jan 2009), with an outstanding volume of SEK 75 billion, is currently being traded as a five-year loan in the electronic system. The new five-year loan 1048 will be traded as a five-year super-benchmark in the electronic system beginning on June 16, 2004. However, the new loan will be issued as early as March.

Loan 1041 (6.75%, May 2014) with an outstanding volume of SEK 80 billion kronor is currently being traded as a ten-year super-benchmark. The new ten-year loan 1049 to be issued early in the autumn will become a reference loan on December 15, 2004.

During the spring, the Debt Office will mainly issue the new five- and 17-year loans at its auctions. During the autumn, it will mainly issue the 17-year loan and the new ten-year loan. On average, one issue per quarter will occur in the two-year loan segment.

Issue volume per auction unchanged

The Debt Office expects a funding requirement in nominal bonds of SEK 105 billion during the current year and SEK 92 billion in 2004. The new 17-year bond loan will lengthen the duration. The larger net borrowing requirement next year can therefore be financed with shorter loans.

Issue volume was SEK 5 billion per auction starting in March 2003 and was decreased to SEK 4 billion in September. The new plan for bond issues in 2004 implies an unchanged issue volume of SEK 4 billion per auction.

Discontinued stripping of nominal bonds

In 1999, the Debt Office introduced stripping of nominal bonds. Stripping means dividing certain nominal bonds into coupons and principal amounts, which can then be traded separately from each other. Stripping was introduced according to the international pattern, but to date the interest in it has been practically nonexistent in the Swedish market. The Debt Office will therefore discontinue this facility.

Net borrowing in Treasury bills

Increased funding with Treasury bills

The stock of Treasury bills is projected to increase both in kronor terms and as a percentage of the central government debt during 2004.[3] This reflects the reduced volume of bond issues during 2004. To ensure that the nominal krona debt will not have too long an average maturity, it will be necessary to increase borrowing in Treasury bills.

How large the increase in the stock of Treasury bills will be depends on various relatively uncertain parameters.[4] The change in the stock of Treasury bills between 2003 and 2004 may thus deviate substantially from the estimate stated in the above table.

Interest rate swaps equivalent to SEK 30 billion

The Debt Office may also create short-term borrowing by issuing bonds and then using interest rate swaps in order to shorten the interest rate refixing period.[5] Provided that the difference between the swap interest rate and the Treasury bond interest rate is sufficiently large, this technique provides an opportunity to lower central government borrowing costs. Given the limited need to use swaps in foreign currency borrowing, there is also room for this technique. We anticipate that it will be justified from a cost standpoint to carry out about SEK 25 billion of the Debt Office's short-term borrowing in this way next year.

This implies that the total scale of interest rate swaps, with and without a connection to foreign currency borrowing, should be limited to an annual pace of approximately SEK 30 billion. If market conditions change, however, the actual scale may deviate from this estimate.

Swaps will be carried out at a relatively uniform pace during the year and at maturities that are cost effective.

Inflation-linked borrowing

Issue policy

Unchanged pace of issues

The demand for inflation-linked bonds has remained good so far this year. The difference between the interest rates on nominal and inflation-linked bonds has been consistent with inflationary expectations and inflation targets. So far this year, the Debt Office has issued SEK 13.5 billion in inflation-linked bonds, or an average of about SEK 1.9 billion per issue month.

Inflation-linked bonds provide investors with unique protection against inflation. As the market for inflation-linked bonds develops, there is reason to assume that the liquidity premium will decline. There should thus be room for a wider interest rate differential between nominal and inflation-linked bonds, which will make it more advantageous for the central government to issue inflation-linked bonds (all else being equal).

The Debt Office anticipates an unchanged issue pace of SEK 15 billion. This annual pace provides only an approximate estimate of what market conditions allow. Assuming that demand continues to grow at the same pace as so far this year, there is potential to issue somewhat larger volumes.

[3] *The table on page 7 also presents changes in cash equivalent holdings. This item includes changes in outstanding short-term funding (i.e. liquidity management instruments such as liquidity bills, overnight loans and repurchase agreements=repos), which mainly arise as a consequence of cash flows around the turn of the year that are difficult to predict. The item is included in order to achieve consistency in reporting. The net change in Treasury bill borrowing is of greatest interest when discussing longer-term funding.*

[4] *The short-term funding requirement and how much Treasury bills are issued over the turn of the year will affect the size of the change. The scale of the planned exchange of a short-term bond to bills and the terms for exchanges when introducing new bond loans will also be important factors. Changes are measured between the last banking day of each respective year, which means that the changes do not necessarily provide a correct picture of how the average size of the stock of Treasury bill changes.*

[5] *See the box on "Borrowing instruments and swaps", page 8.*

Increased predictability

The Debt Office adapts issue volumes at individual auctions to the market situation. The purpose of this policy has been to make it possible for investors to increase the share of inflation-linked bonds in their portfolio over a reasonable time horizon.

Inflation-linked bond issues have thus not really been as predictable as nominal issues. It is natural to attach greater importance to predictability as the inflation-linked bond market develops. More investors as well as better liquidity and market depth improve the preconditions for greater predictability. Looking ahead, the Debt Office intends to reduce the variations in issue volumes between auctions, although it cannot rule out larger deviations at times when market conditions are very special. The announced issue volumes will thus normally be about equally large at each auction.

Auction every two weeks

The Debt Office is currently using two issue days, Thursday and Friday, during the last week of each issue month. This has been justified in order to achieve sufficient focus on the auctions, since the volumes issued have been relatively small. However, as a result of such infrequent issues, both we and investors are exposed to the interest rates and interest differentials that prevail during one limited period per month. This contributes to uncertainty and occasionally some drama as the auctions approach.

Beginning after January 1, 2004, the Debt Office will carry out auctions every second week. Today, issue volumes are larger which have improved the conditions for more frequent auctions. This should help reduce uncertainty and provide a shorter period until the next opportunity to bid at an auction. Dependence on interest rates during limited periods should also diminish.

The Debt Office's assessment of the value of more frequent auctions applies to the inflation-linked bond market. In considerably more liquid markets, such as the nominal bond market, the arguments are not as strong.

Inflation-linked bond auctions will be held on Thursdays during the weeks, but not all the weeks, that the Debt Office issues Treasury bills. (See Auction dates on page 26.)

Phasing out inflation-linked loans with short remaining maturities

An inflation-linked bond tends to lose liquidity and pricing becomes volatile when the remaining maturity begins to be short. The loans gradually lose their characteristic qualities as instruments for long-term protection against inflation.

In the June Report, we discussed the possibility of introducing a clear policy for how short inflation-linked bonds should be phased out. Such a policy would provide better predictability and transparency.

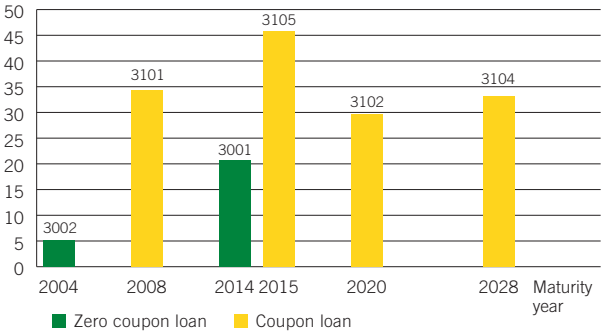
We proposed that a maximum volume of SEK 10 billion, for example, could be exchanged for one or more longer-term inflation-linked bond loans every year that the phase-out continues. Such a timetable would mean that the outstanding stock would be reduced at the pace that investors want to change to longer-term inflation-linked bonds, but no faster than SEK 10 billion per year. The point of departure for a more orderly phase-out of short inflation-linked loans should be that when the exchange program is completed, the Debt Office's obligation to maintain liquidity and the secondary market would cease entirely. Reactions to this proposal have been positive.

Loan 3101, maturing in December 2008, is deemed to have good market prerequisites this year and next and to be capable of contributing to liquidity and pricing in the short segment of the inflation-linked yield curve. The Debt Office therefore believes that a phase-out of loan 3101 for the purpose of enabling investors to change to longer, more liquid loans should not begin until 2005.

A more detailed phase-out plan will be announced later.

Inflation-linked Treasury bonds

SEK billion



Loans to be included in planned issues

Loans 3105, 3102 and 3104 will remain issue candidates (see chart for information on maturity years and outstanding volumes). We are not anticipating issues of loan 3101.

The issue terms are determined after suggestions from primary dealers and investors and are based on the prevailing demand situation and pricing picture. Both investors and dealers are welcome to pursue a continuous dialogue with the Debt Office concerning inflation-linked bonds and to submit suggestions before individual issue dates.

As discussed above, the announced issue volumes will normally be in the same range at each auction. However, on occasions when demand is deemed strong but uncertain, the Debt Office intends to continue using flexible issue volumes. This flexibility means that in case of good but uncertain demand, the issue volume of an auction can be increased by an amount stated in advance. One precondition is that this can occur at a reasonable interest rate and without significant impact on the interest rate.

The choice of loans, issue mechanisms and volume on individual issue dates is decided in the customary way and announced one week before the auction. If the auction is implemented with a flexible volume, the volume being offered is announced as an interval.

No stripping of inflation-linked bonds

Stripping means dividing bonds into coupons and principal amounts, which can then be traded separately from each other. Stripping of inflation-linked bonds allows the creation of instruments with genuinely long maturities, which is attractive to market players that want to extend their duration significantly. After a dialogue with market players, we have concluded that the demand is not sufficiently strong to introduce such a stripping facility.

Foreign currency borrowing

At present, the Debt Office is amortising foreign currency debt at an annual pace of SEK 25 billion. Its borrowing plan is based on the same pace of amortisation during 2004.

The borrowing requirement consists of the difference between maturing loans and the pace of amortisation. During 2003, loans including exchange rate losses equivalent to SEK 44 billion will fall due. In order to achieve the targeted pace of amortisation, the Debt Office thus needs to borrow the equivalent of SEK 20 billion in foreign currencies.

During 2004, maturing loans will decline to SEK 33 billion. Foreign currency borrowing will thus decline to SEK 8 billion. This is somewhat lower than in the June report.

Foreign currency loans can be funded by issuing Treasury bonds, which are swapped to foreign currency exposure (krona/swap borrowing) or by means of direct borrowing in foreign currencies. The allocation of foreign currency loans between direct foreign currency borrowing and krona/swap borrowing will depend on what interest rate conditions can be achieved.

Foreign currency borrowing in 2003 and 2004, SEK billion

	2003	2004
Gross foreign currency borrowing requirement	20	8
Benchmark for foreign currency borrowing	–25	–25
Maturing foreign currency loans[1]	30	22
Maturity, currency swaps	10	11
Realised exchange rate differences	4	0
Gross foreign currency borrowing	20	8
Direct foreign currency borrowing[1]	15	4
Net short-term foreign currency borrowing[2]	–1	0
Gross foreign currency swaps	6	4

[1] Direct foreign currency loans in the spot market, valued at present exchange rates.
[2] Commercial paper (Treasury bills in foreign currencies).
Note: The table presents the allocation between different types of debt.
A number of items are technical assumptions rather than forecasts or plans.

The Debt Office has been able to take out a somewhat larger share of direct foreign currency borrowing than previously forecasted, since it has been possible to achieve favourable borrowing terms. So far this year, the Debt Office has taken out direct foreign currency loans equivalent to SEK 11 billion and krona/swap borrowing equivalent to SEK 6 billion.

For 2004, the Debt Office has stated a standardised allocation between direct foreign currency borrowing and krona/swap borrowing. The actual allocation may, however, end up deviating substantially from this scenario.

Summary

A new 17-year bond loan, with the same maturity date as one of the Debt Office's inflation-linked bond loans, will be introduced on January 28, 2004. A new five-year bond loan will be introduced on March 10. During the early autumn of 2004, a new ten-year bond loan will be introduced.

Despite a larger funding requirement next year, bond issues will decrease from SEK 105 billion to SEK 92 billion. The issue volume will be unchanged at SEK 4 billion per auction. The new 17-year loan will lengthen the maturity (duration) of central government debt. To ensure that the nominal krona debt will not have too long an average maturity, it will be necessary to increase borrowing in Treasury bills.

The Debt Office will carry out interest rate swaps at an annual pace of about SEK 30 billion. Most of these will be implemented instead of borrowing in Treasury bills.

The demand for inflation-linked bonds has remained good during 2003. The Debt Office estimates that there will be continued prerequisites for issuing inflation-linked bonds at an annual pace of approximately SEK 15 billion.

After January 1, 2004, inflation-linked bonds will be issued at an auction every two weeks instead of at two auctions towards the end of each month. Predictability will also be strengthened. The volume offered will normally be roughly about the same size at each auction.

The Debt Office amortises the foreign currency debt at an annual pace of SEK 25 billion. This implies that foreign currency borrowing this year will be limited to SEK 20 billion and next year to SEK 8 billion.

The facility for stripping (dividing up bonds into coupons and principal amounts) that now exists for certain nominal bonds will be discontinued, in light of the non-existent interest. A corresponding facility for inflation-linked bonds is not being planned either.

The inflation-linked market is growing – Italy is now issuing inflation-linked bonds

The inflation-linked bond market is continuing to grow. It expanded during September as a result of a new five-year loan issued by Italy. This is the first time that Italy has issued inflation-linked bonds. The global inflation-linked bond market has grown from USD 190 billion 1998 to USD 440 billion in October 2003.

Aside from national markets, today a euro market for inflation-linked bonds also exists. France was the first country to link such loans to a harmonised index of inflation in the euro zone. To date, it has issued a 10-year and a 30-year loan of this type. Italy's launch has now added a five-year bond to the euro inflation-linked yield curve. Earlier this year Greece also issued a small loan with a 20-year maturity linked to the same inflation measure.

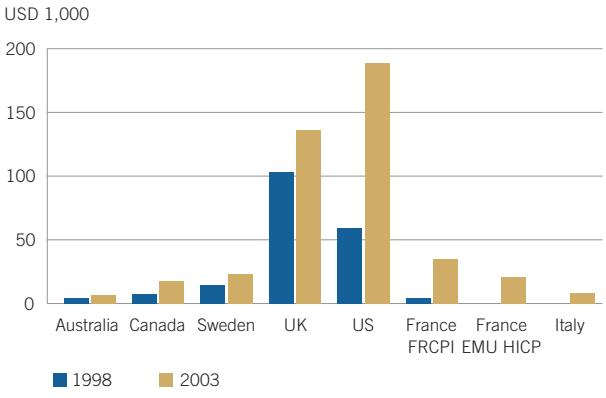
The international market for such bonds has grown sharply in the past five years. In 1998, the inflation-linked bond market consisted mainly of the United Kingdom, the United States, Sweden, Canada, France and Australia. The total market value was about USD 190 billion, with the UK accounting for half the outstanding stock.

Starting out as an offbeat niche market, inflation-linked bonds have evolved into a sizeable international market for a separate asset class. A continued focus on inflation-linked borrowing among a majority of previous issuers and the addition of new issuers have caused market volume to increase. By October 2003, volume had more than doubled to the current USD 440 billion.

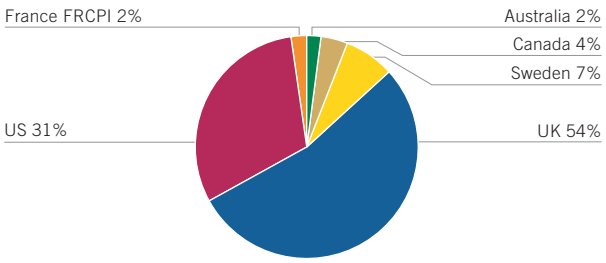
Now that more countries are active in this market and are continuing to expand their inflation-linked borrowing as a percentage of total central government debt, and with Japan poised to enter the inflation-linked market, its total volume will probably continue to grow in size and importance.

The entry of new issuers in this market will contribute favourably to its development. A broader, larger supply of inflation-linked bonds will improve availability and liquidity. More investors are beginning to regard inflation-linked bonds as an established asset class, which will fuel greater demand.

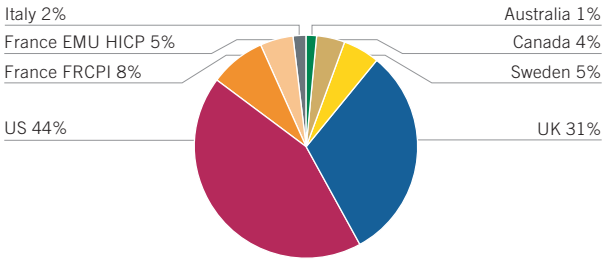
The size of the international inflation-linked bond market has doubled in five years



Distribution of the international inflation-linked bond market 1998



Distribution of the international inflation-linked bond market 2003



Strategic EUR/USD position closed – foreign currency- and interest gain of 4.5 billion

For the past three years, the Debt Office has carried a position of a larger dollar and smaller euro debt than normal. The entire position is now closed, and exchange gains equivalent to SEK 4,200 million have been locked in. The Debt Office made further gains on the interest rate differential, given a larger debt in dollars and smaller assets in euros. This added an estimated SEK 300 million. In all, the Debt Office thus realised gains of SEK 4,500 million. As these gains have been realised, they have helped to lower the interest costs on the foreign currency debt.

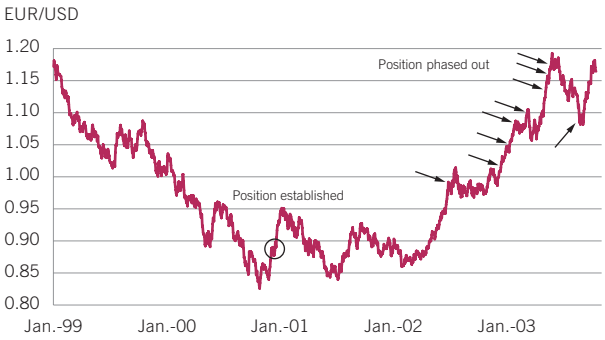
After the introduction of the euro in January 1999, the new common currency weakened more or less continuously over a two-year period. By late 2000, however, the euro had rebounded slightly from its low point, when a euro cost only 82.5 American cents.

At that time, the Swedish National Debt Office decided to take a position in the euro vs dollar exchange rate. This decision was taken in light of the then already very large American current account deficit. The Debt Office believed that in the long term, the dollar had to weaken in order to correct this external imbalance. At the time, most projections of a reasonable exchange rate for the euro were in the USD 1.10-1.20 range, a view that the Debt Office also shared.

To position itself, on December 20 and 21 in 2000 the Debt Office bought euros and sold dollars with a value equivalent to six per cent of its total foreign currency debt.[1] It made these purchases in the form of forward contacts, thereby reducing its debt exposure in euros and increasing it in dollars. The purchases were made at an average exchange rate of USD 0.8970 per euro.

It would take about a year and a half until the predicted correction began. To manage its position in a disciplined way, on June 26, 2002 the Debt Office began to unwind it in phases, closing one twelfth of its original position at an exchange rate of about USD 0.99 per euro. The week before Christmas 2002, another one twelfth was locked in at an exchange rate just above USD 1.0150.

Management of the Debt Office's strategic position



After that the position was gradually unwound, at levels around USD 1.05, 1.09, 1.12, 1.15 and just below 1.17. After this very rapid and sharp weakening of the dollar, a consolidation phase began, driven primarily by improved statistics on American economic growth and hopes that large-scale fiscal and monetary policy stimulation of the economy would have an effect. The consolidation of the dollar was surprisingly strong, but at the same time the original target levels for the Debt Office's position had already been achieved. To ensure the large gains that it had already made, early in the autumn 2003 the Debt Office chose to unwind the remaining one fourth of its original position at an exchange rate just below USD 1.10.

[1] *The underlying debt portfolio consists of dollar-denominated bonds in a larger percentage than the benchmark approved by the Debt Office. In order to achieve the desired dollar exposure level, the Debt Office thus had to buy dollars and sell other benchmark currencies. Since the Debt Office, with its new position, sold dollars and bought euros on forward contracts, these contracts could be netted against the already existing forward contract. In this way, during the period the Debt Office was able to lower the total contracts outstanding and save on transaction costs. These savings can be estimated at between SEK 10-20 million for the period.*

Market development work in Sweden and a few other European countries

The goal of the Swedish National Debt Office is to minimise the cost of central government debt. One part of working toward this goal is to develop the Swedish government securities market. This involves a variety of measures aimed at increasing liquidity and decreasing uncertainty in the government securities market. The Debt Office has conducted two surveys to evaluate how market development efforts have worked in recent years.

It is impossible to measure exactly what savings market development work generates, since we do not know what the interest level would have been if it had not occurred. For this reason, the Debt Office has chosen to conduct a qualitative evaluation of market development work and the functioning of the Swedish market as it has looked in recent years. In brief, the conclusions of the evaluation are that:

- The Debt Office's system of benchmark loans and primary dealers follows well-established practice in many countries. However, the number of primary dealers in the Swedish market is lower than in other countries.
- The Debt Office's liquidity-enhancing repo facility is utilised substantially more often than corresponding facilities in other countries. Its pricing structure is also more complicated in Sweden than in the countries used for comparative purposes.
- The Debt Office is considered to be one of the most open national debt offices in the world. Market participants believe that the information from the Debt Office has become increasingly good since the mid-1990s.
- The Debt Office's contacts with investors can be made more structured.

Market development is an important element of the Debt Office's day-to-day work. One reason is that Sweden is a relatively small market. This increases the need for an active issuer to support liquidity, for example. Larger markets have higher natural liquidity and usually manage without the assistance of the issuer. In large government securities markets such as France and the United States, the issuer consequently does not need to support or develop the market in the same way or on the same scale as issuers in smaller countries.

The Debt Office's market development survey

The evaluation of the Debt Office's market development work is based on two surveys: one a questionnaire about market development work targeted to other sovereign borrowers, the other an interview survey with participants in the Swedish government securities market.

The questionnaire awas sent to national debt managers in five European countries: Belgium, Denmark, France, the Netherlands and the United Kingdom. This selection is admittedly small but still covers both small and large borrowers, as well as countries both inside and outside the euro zone.

The debt managers were asked to reply to questions about repo activities, borrowing plans and market communication, among other things.

The interview survey included 16 individuals from 12 institutions. The group included traditional asset managers, hedge funds and international investment banks.

The questionnaire was sent to a small but representative selection of countries in Europe

	Market size	
	Small/Medium	Large
Euro zone	Belgium Netherlands	France
Non-euro zone	Denmark	United Kingdom

The interviews focused on a number of themes, such as:

- Liquidity and price formation in the Swedish market
- The Debt Office's activities and market communication
- Examples from other issuers that the Debt Office should emulate.

The Debt Office's efforts to boost liquidity

The Debt Office's efforts to boost the liquidity of the Swedish government securities market have three fundamental elements: benchmark loans, the primary dealer system and repo facilities.

A system of *benchmark loans* implies focusing the debt portfolio on a small number of loans, thereby increasing the prospects of liquid trading in the secondary market.

Primary dealers function in Sweden as intermediaries between the Debt Office and investors at auctions, and also as secondary market makers.

The repo facility, finally, means that the Debt Office lends out government securities on a short-term basis. This decreases the risk of shortages of individual securities and contributes to better liquidity and price formation in the secondary market. A repurchase agreement (repo) means that the Debt Office takes out a short-term loan and the interest is therefore linked to the shortest market interest rates.

Benchmark loans

The Debt Office's nominal bond portfolio is evenly distributed among nine benchmark loans with maturities of between two and just over ten years. In keeping with an internationally common pattern, bond issues also concentrate on certain maturities, in Sweden two, five and ten years. Total issue volume is allocated to accommodate the requirements of the duration target, the redemption structure and market demand.

The Debt Office's benchmark philosophy follows well-established practices in many countries. Especially among small and medium-sized borrowers, the system of large and continuously re-opened benchmark loans is predominant.

The Debt Office's methods for introducing new loans and phasing out old ones through various forms of exchanges also gets good marks from investors and banks: these methods have been used for years, are well described and work smoothly.

Primary dealer system

Most government securities markets are organised with a system of primary dealers and market makers. The reason is that the order flow in government securities trading is characterised by larger but less frequent transactions than equities trading, for example. There is thus a need for intermediaries that can smooth out temporary differences between supply and demand.

Another task for primary dealers is to help broaden the investor base, both in terms of the number and categories of investors. The larger and more heterogeneous the investor base is, the greater is the likelihood that there will be counteracting interests, thereby increasing the liquidity of the market.

In their responses to the interview survey, some investors point out that the number of primary dealers in the Swedish market has decreased sharply in the past five years, from thirteen to seven, and that this has had a negative impact on liquidity.

In an international perspective, too, Sweden has few primary dealers in government securities. The countries included in the questionnaire survey have 15 primary dealers on average, a large proportion of which are foreign. Denmark is missing from the table, since it did not have an primary dealer system when the survey was conducted.

Sweden has few primary dealers compared to reference countries

	Total	Foreign
Belgium	16	13
France	22	11
Netherlands	13	10
United Kingdom	16	13
Sweden	**7**	**1**

Sources: Web sites and OECD [2002a] *(foreign dealers).*

Many market participants believe that having more primary dealers would favourably affect liquidity, provided that they have access to a different investor base than the existing primary dealers. From this perspective, it would be good if Sweden could add further international banks to its group of primary dealers.

At the same time, the Debt Office's experience indicates that foreign intermediaries sometimes have rather sporadic involvement in the market and only contribute marginally to increased liquidity, a pattern that has also existed in Denmark. Furthermore, we can note that although the Debt Office only has one large international investment bank as a primary dealer (ABN Amro), several others operate as a kind of semi-primary dealers without being formally tied by a dealer agreement and without having the same direct channel to the Debt Office.

Liquidity-enhancing repo facility

The market participants who were interviewed generally believe that the Swedish repo market has been very good over a long period and that the Debt Office's repo facilities have contributed to this.

However, several market participants believe that the repo market has periodically functioned more poorly over the past year. One explanation for this is that for various reasons, several market participants with large holdings of government securities have not taken part in the repo market (and thus have not lent out their holdings).

If we compare the Debt Office's liquidity-enhancing repo facility with its counterparts in the reference countries, we see two differences.

The first is that the Debt Office's repo facility has a complicated structure. For example, there are maximum per-loan, counterparty and total volumes. Pricing is not fixed, but varies depending on demand. New loans and loans that are traded in the electronic trading system enjoy better pricing and larger volumes. Additional rules apply to inflation-linked bonds and Treasury bills.

The other difference compared to the reference countries is that the Debt Office's repo facility is utilised substantially more often than those of other countries. This is true even though the pricing in Sweden is not markedly better than elsewhere (except in the UK). However, the Debt Office offers larger volumes and generally seems to have a more positive attitude towards participating in the repo market than a number of other national debt offices.

In addition, there is a connection between the size of the market and the need for repos. In the questionnaire survey, Sweden and Denmark are the two countries that use the largest number of liquidity-enhancing repos. In bigger markets, natural liquidity is larger, and a higher proportion of government securities holders perhaps also participate directly in the repo market.

More liquidity-enhancing repos in Sweden than in reference countries

	Price (bps below repo rate)	Number/ year (2002)	Volume as percentage of nominal bond portfolio
Belgium	25	30	0.5%
Denmark	50	85	3.8%
Netherlands	25	<10	0.5%
France	10-200	1	0%
UK	360	15	1.7%
Sweden	**60**	**300**	**10%**

Source: Swedish National Debt Office.
The above figures refer primarily to nominal bonds.

It is not self-evident that the Swedish National Debt Office should endeavour to decrease the scale of liquidity-enhancing repos, for example to the same level as the above countries. On the contrary, the Debt Office's repo facility may be one important reason why the Swedish government securities market is as liquid as it is, even though it is relatively small.

However, the Debt Office believes it is justified to re-examine and simplify the pricing of repos, primarily in order to make the system more transparent but also to simplify the administration related to repos.

Measures to decrease uncertainty

Aside from its efforts to increase liquidity, the Debt Office also works to decrease uncertainty in the Swedish government securities market. Much of this work is a matter of information and communication.

Issue plans

The Debt Office's forward planning and information about issue plans are quite comparable to those of other countries. Forecasts of the borrowing requirement and its implications for borrowing are presented three times a year, with a maximum horizon of 18 months. What loans may be issued follows well-known rules, and how much will be issued at each auction is publicised well in advance. Beginning in June 2003, the Debt Office has also stated an approximate allocation of issue volume between different loans.

Information about borrowing at auctions in Sweden and reference countries

	BE	NL	FR	UK	**SE**
Planned issue volume/year (in months)	12	12	12	12	**18**
Auction dates (months)	12	12	12	12	**6**
Loans to be issued (months)	12	3	12	12	**6**
Exact information (days)					
loans	7	90	4	90	**7**
volume	1	6	4	7	**7**
Number of auctions/year (2002)	4	10	21[1]	6[1]	**22[1]**

[1] *In nominal bonds.*
Denmark is missing from the table since it does not issue government securities at auctions. Sources: Swedish National Debt Office, web sites

It should be noted that it is a little difficult to compare different countries in this purely quantitative way. Participants in the various markets have experience and knowledge of their respective market, which often enables them to estimate loans and volumes further in advance than the table indicates.

Information and market communication

The respondents in the interview survey believe that the Swedish National Debt Office is one of the most open sovereign debt offices in the world. This is probably related to the fact that many important policy documents are public, for example the Government's annual guideline decisions.

The Debt Office's four-monthly report, *Central Government Borrowing: Forecast and Analysis,* gets good marks from the banks in particular and is a good channel for explaining how the Debt Office thinks and what determines its borrowing. The four-monthly report fills a previous gap in the Debt Office's information, since other countries such as the United Kingdom and Denmark have published extensive Annual Reports targeted to market participants.

The Debt Office's web site is regarded as packed with information but somewhat difficult to search.

The perception in the market is that in recent years, the Debt Office has become more aware of the importance of communication and has succeeded in its ambition to be consistent and transparent. One market participant characterises the shift in the Debt Office's communication policy as a journey "from the ECB to the Fed."

Information from the Debt Office rarely generates volatility in the market. The exception was the Swedish state's divestment of Telia shares in 2000. Many market participants believe that the Debt Office should have waited before specifying the volume of related bond buy-backs until it was sure that the data it provided were correct and final.

Direct contacts with investors

The Debt Office's investor contacts are less structured than those of a few reference countries. For example, the UK Debt

Management Office (DMO) has a well-established system of quarterly meetings. The British also issue "consultation papers" in written form before major changes.

The Debt Office meets all its primary dealers individually at least once a year. In the same way, it could also meet major investors bilaterally each year. Consultation papers may also be considered. One disadvantage of the latter, however, is that an issuer may feel too bound by (the written) results.

Another interesting possibility is to expand the Debt Office's seminar activities concerning various issues. This idea elicited a positive response from the individuals in the interview survey – "you meet when you have something important to discuss." The seminars that the Debt Office has already held concerning auction methods, index-linked bonds and the euro zone were also appreciated.

Other opinions about the Debt Office

Market participants perceive the Debt Office as attentive and market-oriented. The Debt Office is always willing to listen, but it does not always go along with the wishes of the market, which is regarded as good. Given the mobility between the private and state sectors in Sweden, there are also good personal contacts between the Debt Office's employees and market participants.

A few market participants feel that the Debt Office has been too quick at adjusting and helping the market to cope with minor disruptions in supply and demand. They would prefer a steadier policy, with fewer *ad hoc* efforts. Some respondents also believe that the inflation-linked bond market has been a little too much of an experimental workshop. However, most of the respondents feel that the Debt Office's efforts are valuable and necessary – "we know that the Debt Office will not leave the market or certain loans to their fate."

One suggestion from a market participant was to establish a government securities market council including representatives of the Debt Office, Stockholmsbörsen (formerly the OM Stockholm Stock Exchange), primary dealers and investors, and to discuss issues of common interest. The Debt Office has previously experimented with this type of council, but with weak results. One risk of organising councils of this type is that there are not so many common issues to discuss and for this reason, a council becomes a forum for special interests.

Again, another alternative is to develop a system of seminars focusing on specific issues, to which government authorities and representatives of various market participants can be invited.

Anders Holmlund
Head of Analysis

References and further reading

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Other debt offices

- The Debt Office's web site, *www.rgk.se,* includes links to other government debt offices, including descriptions of their market development work.

Pricing of state guarantees in practice

In order to ensure that the economic risk assumed by the Swedish state due to the issuance of guarantees can be controlled, such risks must be priced correctly. This pricing determines how much resources the state will set aside to be able to meet future indemnifications. The Swedish National Debt Office uses three different types of pricing methods. These three methods are option pricing, implicit guarantee valuation and simulations.

Today the guarantee portfolio of the Swedish National Debt Office totals about SEK 166 billion. A large share of this volume consists of loan guarantees. A state loan guarantee means that a risky loan becomes largely risk-free to the lender. For a lender, a state guarantee is the best form of collateral, which is also reflected in the low interest costs that state-guaranteed projects and companies incur. Reducing a bank's risk does not mean that the risk disappears, but only that it is transferred to the state.

To ensure that the risks associated with the issuance of state guarantees will be managed in a financially responsible way, *a new guarantee model* was introduced in the State Budget Act (1996:1059). One fundamental principle of this guarantee model is that all guarantees must be priced. Pricing guarantees correctly is of crucial importance if the guarantee model is to function as intended. This pricing determines how much resources the state will set aside to be able to meet future indemnifications.

The purpose of this article is to present the three methods that the Debt Office uses when pricing guarantees. The article is organised as follows: we begin by describing what is to be priced when issuing state guarantees, i.e. whether pricing will be based on an *at-cost principle* or a *market cost principle*. Then we describe the financial outcome that a guarantee leads to. Finally, we present the three pricing methods.

What is to be priced?

In addition to the State Budget Act, the issuance of state guarantees is regulated by the Guarantee Ordinance (1997:1006) and the European Union's state aid rules. Hörngren (2003) describes how this rule system works and how the principles for pricing can be changed in order to improve the rule system further. Here we will limit ourselves to a brief description of the rule system, so that the reader can understand how the three pricing methods are related to the rule system in force.

The Budget Act stipulates that the fee charged for a guarantee commitment shall correspond to the state's financial risk and the other costs of the commitment, provided that the Riksdag (Swedish Parliament) does not decide otherwise. In the valuation and pricing of guarantee commitments, the Debt Office applies the definition of financial risk used in the preparatory documents of the Budget Act, i.e. the financial risk of the guarantee commitment is equated with its *expected cost*. This means that the guarantee model that the Debt Office applies is based on an actuarial at-cost principle, in the sense that on average, the fees should cover the costs of indemnifications and guarantee operations should thereby break even in the long term.

The at-cost principle results in a lower fee than would be the case if the market cost principle were applied, since as a condition for issuing a guarantee, a private market participant would demand a *risk premium* in addition to coverage of expected costs. The risk premium is the compensation desired by investors in order to bear the risk that the cost may be higher than expected. The lower fee that is fixed under the at-cost principle may be viewed as an *indirect subsidy*. The size of this subsidy varies between guarantees but may be substantial. Studies of the American corporate bond market, including credit risk, may give us some indication of the size of this indirect subsidy.[1] These studies indicate that the risk premium that is not included in the pricing of guarantees under the at-cost principle may exceed the value of the expected cost of the guarantee commitment.

In those instances where the EU's state aid rules are applicable, however, a market-related return requirement is used, which means that a risk premium is also charged. For a discussion of the advantages associated with the market cost principle, we refer the reader to Hörngren (2003).

The financial outcome of a guarantee

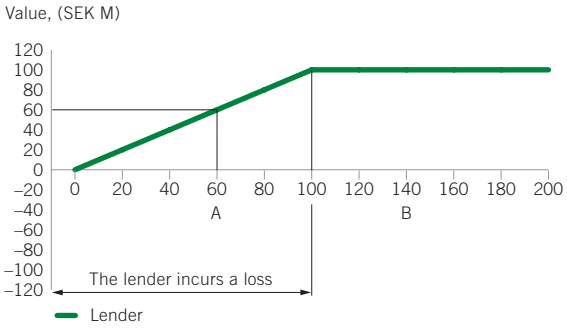
When a guarantor issues a loan guarantee, this transfers the risk from the lender to the guarantor. Put simply, it means that the guarantor assumes the risk in case the borrower's equity does not suffice to cover any losses. At the same time, the guarantor is not entitled to any profits, aside from the premium that the guarantee recipient pays for the guarantee. One customary observation is that a guarantor accepts the downside of an investment without benefiting from its upside. The box above describes how the outcome for various interested parties will differ, depending on whether there is a guarantee or not.

Considering how the financial outcomes are allocated among the various interested parties, the ratio between equity

[1] *See, for example, Elton, Gruber, Agrawal and Mann (2001).*

Economic outcomes with and without a guarantee, respectively

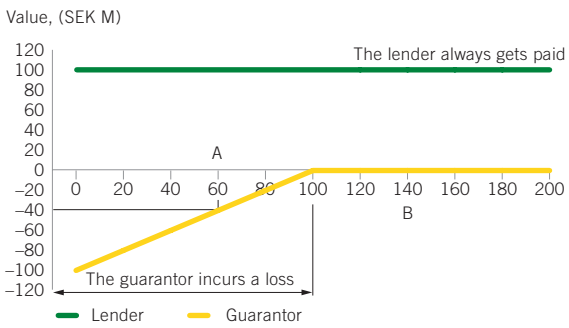
Without guarantee – Repayment to the lender depends on the profitability of the project



The left-hand chart shows a simplified example of how repayments to a lender depend on the outcome of a project. The example assumes that the nominal amount to be repaid is 100.

The green line shows how much the lenders get back. If the project has a favourable outcome, the borrower will be able to pay all his debts. At point B the project generates 140 and the lenders then get back their capital. The surplus of 40 accrues to the shareholders. But if the outcome instead ends up at point A the lender only gets back 60, which means the lender incurs a credit loss of 40.

With guarantee – The guarantor takes over the risk



The right-hand chart shows the same example, with the difference being that the state has issued a loan guarantee. Here the lender is guaranteed to get back 100, which is shown with the straight green line.

The yellow line shows the outcome for the state as guarantor. If the project generates at least 100 the state does not lose anything (for example at point B), but if the outcome is less than 100 the state incurs a loss.

capital and debt is of great importance to the guarantor's risk. A higher percentage of equity capital decreases the risk that the guarantee will need to be indemnified. How well a company or project is capitalised will thus influence what risk the guarantee commitment will carry and thereby influence the price of the guarantee.

Another important factor is the risk or uncertainty found in the cash flows and asset values of a company or project. Greater uncertainty increases both the possibility of large profits and the risk of major losses. The fact that the guarantor is exposed to possible losses without benefiting from any profits signifies that this uncertainty is exclusively negative for the guarantor. Greater uncertainty about the future financial outcome thus means that the risk and the price of the guarantee will rise.

A guarantee is like a put option

For those readers who are familiar with how options work, there are obviously great similarities between guarantees and options. A call option is a financial instrument that entitles but does not oblige the holder to purchase a particular asset at a price agreed in advance. A put option, in contrast, entitles but does not oblige the holder to sell a particular asset at a price agreed in advance. Whoever issues a put option will thus need to buy the asset from the holder on a given date at the agreed price, if the holder so desires. Since the holder will choose to exercise his option when current market value is below the agreed price, the issuer will receive an asset whose value is below what he promised to pay. In corresponding fashion, whoever issues a loan guarantee will need to redeem the loan when the guarantee holder so wishes, thereby obtaining a recourse claim whose value is probably lower than the redemption amount for the loan.

During the thirty years that have passed since Fisher Black and Myron Scholes published their path-breaking article[2] on option valuation, there have been major advances in research about option pricing. The realisation that a guarantee is comparable to a put option implies that the accumulated knowledge concerning the pricing of options can also be used in the pricing of guarantees. By using option models, we can thereby price guarantees, but also gain an insight concerning how various factors influence the price.

Two of the factors that influence the value of a loan guarantee, according to option pricing theory, were mentioned: the ratio between equity capital and debt, and the risk (often referred to in option contexts as *volatility*) associated with the value of the guaranteed item. Two other factors that influence the price are the lifetime of the guarantee and the level of the risk-free interest rate.

Chart 1 (page 20) illustrates how the price of a guarantee varies with the debt level and the volatility of the guarantee item. It is apparent from the chart that these two parameters have a major influence on the value of the guarantee. If a company that receives a guarantee does not have sound finances, the guarantee fee will thus be very high. For the same reason, it is extra important for a company to have sound finances if its operations can be characterised as risky.

Option pricing is based on a risk-neutral valuation. This means that options are priced without taking into account any

[2] *See Black and Scholes (1973).*

Chart 1: The value of a guarantee at different debt and risk levels (volatility)

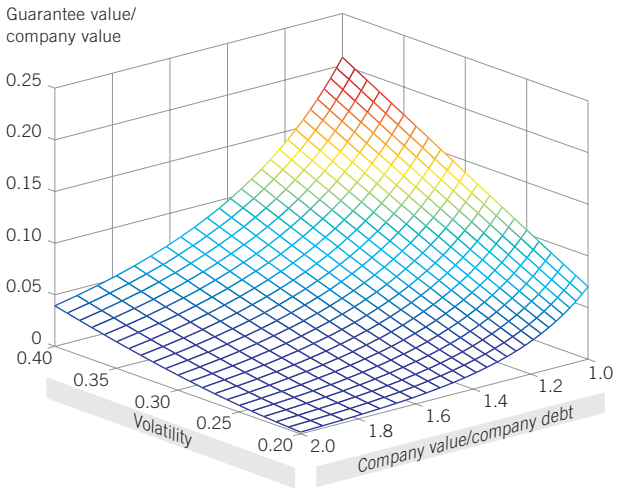
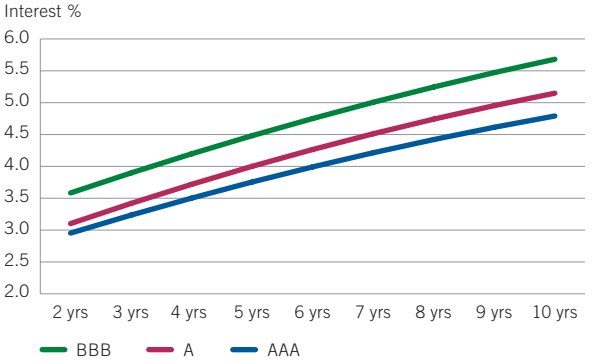


Chart 2: Interest, depending on credit rating and maturity of European bonds



Source: Reuters

risk premium. The principle assumes that it is possible to trade in the underlying asset continuously and thereby manage the risk an outstanding option carries. However, this opportunity for risk management does not exist for the Debt Office and other guarantee-issuing authorities, which means that the basis for risk-neutral valuation when pricing guarantees is questionable. It should be pointed out that in most cases, this does not cause any problems as long as the main principle is that guarantees should be priced according to the at-cost principle, i.e. without adding a risk premium.

Implicit guarantee values

Another type of valuation is based on the realisation that the market value of a risky loan (without a guarantee) plus the value of a guarantee are equal to the value of a risk-free loan. Put differently, the value of a guarantee may be described as the difference between the value of a risk-free loan and the value of a risky loan. More formally, this can be written as:

Value of a guarantee ≡ Value of a risk-free loan – Value of a risky loan.

The implication is that the value of a guarantee can be established by subtracting the value of a non-guaranteed bond issued by the borrower from the value of a risk-free government security. The value obtained with the help of this method also includes the "risk premium". In practice, the method is often difficult to use, since it presupposes that the borrower has issued bonds quoted in the market. The method also presupposes that the borrower does not already have a guarantee and that those market participants that assign a value to the bond do not expect the borrower to obtain a guarantee. An additional problem is that market participants often assume that state-owned companies have "implicit" guarantees. These guarantees are based on the market's expectation that the state will take steps to prevent state-owned companies from failing, which in turn influences the valuation of these companies' bonds.

One variant of the method is to use a bond issued by a comparable company. "Comparable" means that the risk to a bond holder is of the same magnitude and nature as that of the borrower. In practice, pricing means estimating the credit rating of the borrower, then inferring how much higher interest rate a bond with this rating (i.e. risk) would carry, compared to a government security.

Chart 2 illustrates how large the interest rate spread is, depending on maturity and credit rating. One problem with this approach is that in many cases, the borrowers covered by state guarantees are unique in character. It is consequently difficult to find comparable companies and thereby estimate a credit rating for the borrower.

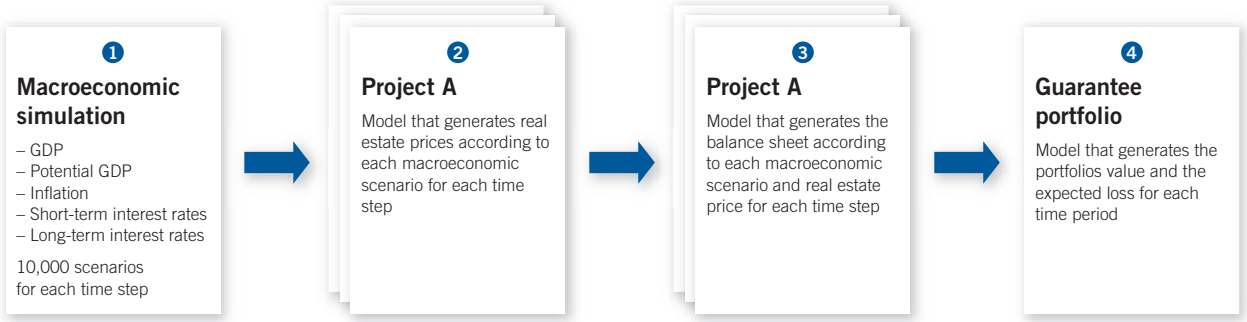
Simulation models

One alternative to the two above approaches is to use a simulation model. This method has fundamental similarities with option pricing, but is less restrictive in the sense that many different considerations may be taken into account. For example, a model can be designed to take into account the actions of the company's top management, based on assumptions about their behaviour. Simulation models are also appropriate if we are interested in studying risks in relation to various macroeconomic outcomes.

The purpose of a simulation model is to generate a probability distribution of the expected loss. This distribution can then be used to price the guarantee and, moreover, estimate the maximum losses that may occur at a given probability. A simulation model normally consists of a number of modules. The first module generates a number of macroeconomic outcomes, which are used in the subsequent modules to describe how the borrower covered by the guarantee evolves over time.

Chart 3 describes how a simulation model for risk evaluation and pricing can be designed. The model in question estimates the risk that the Debt Office assumes as a result of the guarantees it issues to the Venantius company. Venantius is a

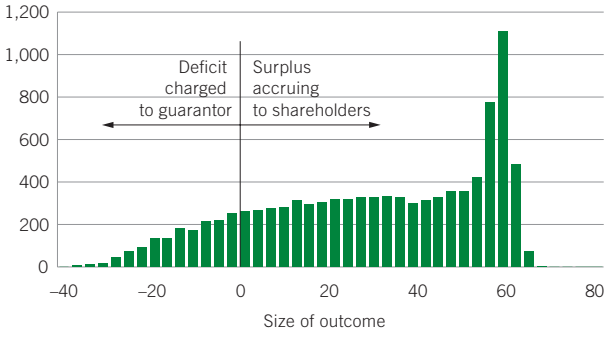
Chart 3: The Debt Office's simulation model



wholly state-owned financing institution, whose assets consist mainly of loans to co-operative apartment associations. As collateral, the bank has taken out a lien on the properties that the borrower owns. The Debt Office's risk depends on the financial position of the bank, which in turn depends on the value of the underlying loans, where the collateral value of the properties is an important element. The model used by the Debt Office therefore places great emphasis on how these collateral values change over time

Chart 4 illustrates the results of a simulation for a fictitious company. More specifically, the chart illustrates the simulated distribution of the company's net capital (assets minus liabilities) on the date the guarantee expires. In cases where liabilities are larger than assets, the deficit accrues to the guarantor, and in those cases where the assets are larger than the liabilities, the surplus accrues to the shareholder. In some cases, the state is also the shareholder.

Chart 4: Examples of results from a simulation of a fictitious guarantee recipient's net capital at the expiration of the guarantee



Which method should be used?

Which of the three methods does the Debt Office use? The answer is that we use all of these methods, but their suitability varies in different cases. For example, the methods differ in terms of risk premium, but this is not something that ordinarily causes any problem, since it is often relatively easy to adjust for this. The factors that mainly influence the choice of method are the existence of comparable companies and the cost of the chosen method.

When the operations and risk of the borrower covered by a guarantee can be characterised as fairly "normal", it is relatively easy to find comparable companies. In these cases, the method that estimates implicit guarantee values is an important element in the Debt Office's analysis. If similar reference companies are difficult to find, simulation models are often a viable method. Unfortunately, developing a simulation model is both time-consuming and expensive. To justify such an investment of resources, the guaranteed amount has to be large. In cases where the guarantees are relatively small and there is thus no reason to develop a simulation model, an option pricing model may serve as a good substitute.

In closing, it should be emphasised that the Debt Office's pricing is not based exclusively on any single model. In practice, pricing is often done with the help of several different models. Aside from quantitative assessments, pricing is also influenced by qualitative assessments.

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Magnus Thor
Credit Risk Analyst

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The state payment system and new framework agreements

Sweden's 270 central government agencies make a total of about 100 million payments per year. In monetary terms, this added up to some SEK 4,200 billion during 2002. Most of these payments are for relatively small amounts that are disbursed regularly, such as pensions, child allowances and other benefits and grants known as transfer payments. In terms of amounts, incoming tax payments represent a large percentage of payment flows. Beginning in 2004, each individual agency will pay for its incoming and outgoing payments in the form of fees. This will serve as an added incentive for each agency to streamline its payments, thereby lowering the cost to the Swedish state as a whole.

The state payment system, 2002

Users: 270 agencies (authorities)
Banks with framework agreements: 3 banks
Number of state bank accounts: 5,400
Number of payment transactions: 100 million
Number of salary payments: 215,000/month
Total payment volume: SEK 4,200 billion

In principle, the state uses the commercial banking system. This means that agencies may choose among different banks that compete with each other. To satisfy the overall needs of the state, there are certain special rules. The state's central liquidity management system, via the Swedish National Debt Office, requires a "Group account" where bank accounts of all agencies are co-ordinated. The agencies also have separate accounts for incoming and outgoing payments.

Daily liquidity management for the state as a whole

The bank accounts of all agencies are linked together at each respective bank in Group account-like structures. The balances in the transaction accounts of the agencies are transferred to and gathered in main accounts, first in each respective bank and then onward to the government's cheque account at the Riksbank (Swedish central bank), known by its Swedish acronym SCR. This occurs at a number of predetermined times during the day. The sum of incoming payments thus goes to the SCR. Financing of outgoing payments also occurs from SCR.

In SCR, we can thus track the results of the state's overall incoming and outgoing payments, regardless of what agencies have disbursed or received the funds and regardless of what bank has served as intermediary for these payments. This makes it possible to carry out centralised management of the resulting liquidity deficits or surpluses.

If a day's aggregate net incoming and outgoing payments result in a deficit, the Debt Office finances this by means of borrowing in the capital market, which increases central government debt and interest expenses. If these payments instead generate a net surplus, this is invested in the same market, yielding interest income to the state. Another possibility is to use the surplus to amortise central government debt. At the end of each day, the balance is zero in all accounts – both in SCR and in the agencies' non-interest bank accounts.

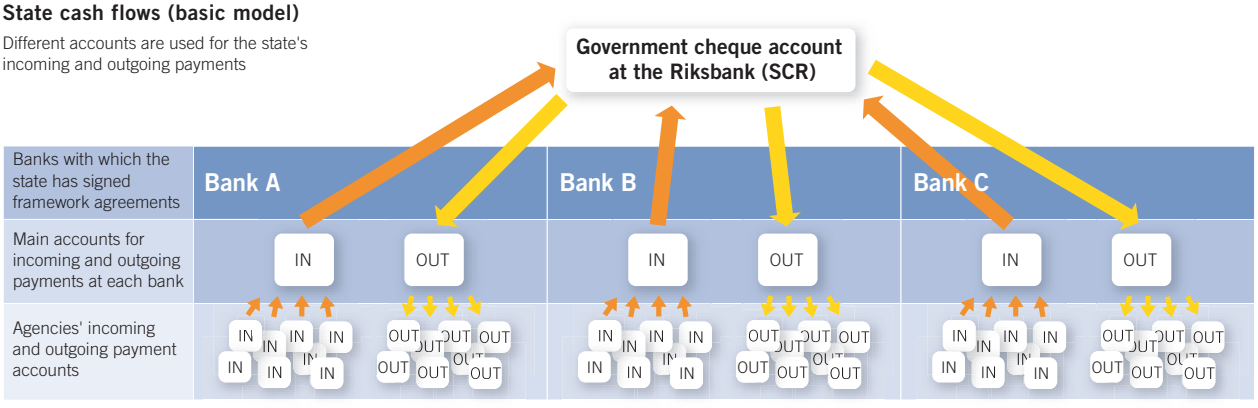
Basic principles and special features

Different accounts for incoming and outgoing payments

An agency must have separate accounts for incoming payments to the agency and for outgoing payments from the agency. This

State cash flows (basic model)

Different accounts are used for the state's incoming and outgoing payments



gross principle characterises the Swedish state payment system and is very strictly enforced. No offsetting entries may be made in the same account, not even to correct errors.

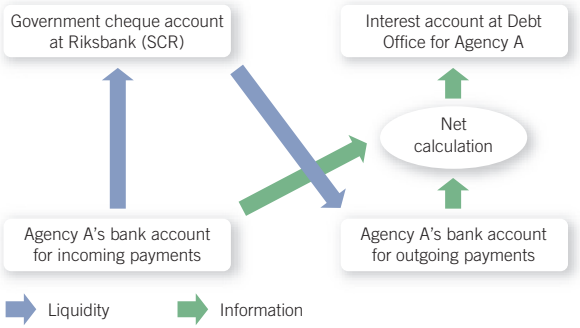
One reason why incoming and outgoing payments must occur in separate accounts is that in an easy way, this provides the information needed to make forecasts of state payments and the central government borrowing requirement. Another reason is that these payments are closely connected to the central government budget, where expenditures and revenues must be reported on a gross basis, that is, under separate appropriation and revenue headings. Accounting practices at agencies and in the Swedish national accounts have been formulated according to this gross principle.

Different accounts for interest-bearing and non-interest-bearing funds

Aside from the flow of payments between bank accounts and SCR, each agency reports the appropriated funds that the Government and the Riksdag have approved for the agency's operations. This applies to the funds that are used to pay for such expenditures as salaries, rents, computers and office supplies. They are reported in an agency account known as the interest account. Each month, interest accounts normally receive 1/12 of the annual amount that the Riksdag has approved.

Also reported in this account is the net amount of a day's incoming and outgoing payments. The account balance shows the agency's assets or liabilities. Based on the account balance, the Debt Office calculates the interest to be charged or credited to the agency; this is why terms like interest account and interest flow are used. The purpose of interest reporting is to stimulate efficient cash management and local active liquidity planning by each agency.

Liquidity and information in the interest flow



However, an agency may also handle payments that do not involve its own organisation or management. For example, this may apply to the collection of taxes and the disbursement of pensions, child allowances and study allowances. This is the type of payments aimed at redistributing funds between different groups in society, regions of the country and periods of an individual's life. These funds are not interest-bearing. When making payments, different bank accounts should thus be used for interest-bearing and non-interest-bearing funds.

Intra-state payments

Intra-state payments refer to payments within an agency or between agencies. Such payments must not affect state liquidity. Regardless of whether a payment is sent between accounts at the same bank or between accounts in two banks, it must be identifiable and must be completed according to special procedures in order not to affect state liquidity.

Payments to and from other countries

In principle, the state payment system uses only Swedish kronor – even for payments abroad. In case of a payment from abroad to an agency, the payment intermediary must exchange the payment to Swedish kronor according to the spot exchange rate in effect. The krona amount is deposited in the agency's incoming payments account. When making a payment to a recipient abroad, in corresponding fashion the payment intermediary exchanges the payment to a foreign currency, after which the agency's outgoing payments account is charged for the krona amount.

Exceptions from these normal procedures apply only when payment can be made, for example, to or from a euro account at a Swedish bank or an account at a bank abroad. With permission from the Debt Office, under certain prerequisites an agency may open such an account. These accounts, which are few in number, lie outside the state liquidity management system (see the section on this).

An agency may need this type of account if it is a co-ordinating agency for an EU project. In that case, the funds administered in these accounts are normally not from the Swedish state. And there is a need for exchanges to Swedish kronor only for the agency's own activities in the project. Other funds are to be paid to partner organisations abroad.

Agencies that are involved in long-term projects abroad, such as development assistance efforts in developing countries or UN peacekeeping efforts, may often also need bank accounts abroad.

Electronic payments as a rule

Payments from agencies are normally transferred electronically to the state's payment intermediaries. This is mainly done by transmitting computer files over the telecommunications network or the Internet. It is also possible to transmit individual payments via a terminal. Non-electronic procedures – for example payment forms or cheques that are sent in envelopes to payment intermediaries – may only be used on an exceptional basis as a back-up.

Most recipients of state payments receive these in the form of deposits in their account. Both the banks and the Debt Office would like to limit the use of giro cheques and similar payment documents by asking payment recipients to submit information on the accounts to which payments can be made. In 2001, five per cent of payments were made by giro cheques or similar documents.

New framework agreements beginning in 2004

New framework agreements were signed early in July 2003. These agreements will be in force until March 31, 2006, with an option for the Debt Office to request an extension by one year at a time until March 31, 2008. During the autumn of 2003, banks and agencies will make technical and contractual preparations, so that payments based on the new agreements can take place beginning on January 1, 2004.

The new framework agreements were signed with FöreningsSparbanken (Swedbank), Nordea och SEB. FöreningsSparbanken is completely new as a framework agreement bank. Nordea and SEB previously had framework agreements with the state. Postgirot, which also previously had a framework agreement, was taken over by Nordea in 2002.

Six banks initially informed the Debt Office that they were interested in participation in the procurement round, but agreements were finally signed with three.

Fees replace float

The new framework agreements include new forms of compensation. The banks will not, as earlier, receive interest income when money is transferred inside and between banks. This "float" has been part of the state's general interest cost, but the individual agency has not seen or noticed this cost in its payment operations. Agencies will now instead pay fees for their payments. These costs will then be visible, which creates a more businesslike relationship between the agencies and the banks. This should also increase incentives for agencies to streamline their payment operations.

Framework agreements replace various special agreements

The framework agreements now also replace most of the agreements outside of the framework agreements that some individual agencies have had with the banks in order to meet special requirements and needs that the earlier framework agreements did not cover.

This – combined with a broader range of services within the framework agreements – help increase the choices and the freedom of choice for agencies. Competition for state payments should thus increase, which in turn is expected to help streamline payment operations and decrease overall costs to the state.

Services in the framework agreements

The framework agreements include traditional services related to invoice payments, salary payments and the like, as well as services adapted to the state's special type of tax and transfer payments (public payments), plus other banking services besides pure payment services. Examples of the latter are Internet services, management of cash in hand, card redemptions, e-archives, securities account services, travel funds in foreign currencies and letters of credit.

The framework agreements set the applicable prices and payment terms for these services as well as rules on when and how requests for any price adjustments may be made.

Basic principles and rules for the payment system

The framework agreements also include basic principles and rules for the state payment system. Requirements that are not product-specific are thus established through the framework agreements. These include technical and security issues, account structure, liquidity management, feedback and further development of payment services. These requirements are extensive and sometimes very detailed. This article will only describe their general direction and provide some examples. (The full agreements are posted on the Debt Office web site, www.rgk.se but only in Swedish.)

Technical and security issues

Technical and security-related requirements aim at ensuring that a bank can supply the services specified in its framework agreement in a functional manner and with high availability, with the help of relevant IT systems. The bank must supply technical systems that allow secure administration of these services at agencies. There must also be good preparedness for service interruptions and crisis situations. There must be good access to technical customer service. The technical and service sections of framework agreements also focus on rules and procedures in case of service interruptions and disruptions.

Framework agreement

Agreement signed by a procurement unit and one or more suppliers for the purpose of establishing all terms of sub-orders placed during a given period.

For payment services to and from the Swedish state, the Debt Office is a procurement unit. Central government agencies place sub-orders under the framework agreements by means of written agreements with the affected bank that has a framework agreement.

The framework agreements are designed to meet the needs of all agencies, regardless of their size or how extensive their payment operations are. The differences are large:

- The agency with the biggest incoming payments receives SEK 1,240 billion per year. The smallest only SEK 2,000.
- Outgoing payments vary from SEK 660 billion for the agency with the largest disbursements to SEK 139,000 for the smallest.

Account structure

A special section on account structures states rules and terms for the various kinds of accounts that the bank is to provide. The bank must be able to provide transaction accounts for deposits and withdrawals of both interest-bearing and non-interest-bearing payment flows. Tax payments must be separately reported. Group accounts, client fund accounts and foreign currency accounts must be available.

For special coverage and emptying transactions – which are a prerequisite for centralised liquidity management – the agencies' accounts must be identifiable as state accounts and be part of the Group structure that the Debt Office specifies. The agreements also stipulate that the bank shall be responsible for the coverage and emptying transactions that must occur between the agencies' accounts and the main accounts at the bank.

Managing liquidity [1]

Liquidity management between the bank and the Debt Office – emptying and coverage procedures between the main accounts at the bank and the government cheque account at the Riksbank, as well as between the agencies' accounts and the main accounts – are also regulated. The main principle beginning in 2004 is that emptying and coverage between agencies' accounts and main accounts in the account structures must occur the same day as payment arrives or is disbursed, i.e. the same banking day. Settlement between the bank and the Debt Office must occur at agreed times during the day. The number of settlements per day will also increase compared to previously. If the emptying or coverage is delayed, interest compensation must be paid to the counterparty. Settlement procedures and schedules are part of the framework agreements. However, these differ somewhat between banks.

Another important principle that is now also being established is that the bank must deposit funds in the agencies' accounts with the least possible delay and that this must occur the same banking day as the bank received the payment. In case of disbursements, in corresponding fashion a transfer must occur to the recipient's account or bank the same day that the agency has specified as the payment date.

These rules on coverage, emptying and deposits are important prerequisites for the new compensation model, i.e. that compensation must be paid for clearly billable fees (see the section entitled "Fees replace float"). Unlike previously, the bank will not be able to generate revenues by having money at its disposal for a certain period before it becomes available to the recipient.

Feedback

For accounting, forecasts, clearing and settlement between the Debt Office and the banks, continuous feedback and information on payments are important. The framework agreement prescribes the bank's duty to provide daily feedback to agencies about their incoming and outgoing payments. The bank must be able to provide both paper-based and electronic accounting. For reconciliation and inspection purposes, accumulated figures must also be provided on a monthly and yearly basis.

During the banking day, the Debt Office must be able to obtain online information for settlement. The bank must also provide the Debt Office with product statistics as well as lists of the accounts that belong to state agencies.

Lennart Sundquist
Cash Management

[1] ***Coverage:*** *Transfer of funds from the government cheque account at the Riksbank to the Debt Office's main account at a framework agreement bank for disbursement or transfers of funds from this main account to an agency's transaction account.*

Emptying: *Transfer of funds from an agency's transaction account to the Debt Office's main account at the bank or transfer of funds from this main account to the government cheque account at the Riksbank.*

Settlement: *Final resolution of a liability or receivable.*

Market information

Source: The Swedish National Debt Office, unless otherwise stated

Swedish government debt

Treasury bonds, outstanding volumes, September 30, 2003

Nominal bonds (nominal amount)

Maturity date	Coupon %	Loan. no	SEK M
2005-02-09	6.00	1035	69,294
2006-04-20	3.50	1044	75,596
2006-08-15	8.00	1037	65,205
2008-05-05	6.50	1040	54,783
2009-01-28	5.00	1043	75,418
2011-03-15	5.25	1045	45,532
2012-10-08	5.50	1046	55,970
2014-05-05	6.75	1041	79,721
Total benchmarks			**521,518**
Non-benchmarks			**15,019**

Inflation-linked bonds (outstanding amount)

Maturity date	Coupon %	Loan. no	SEK M
2004-04-01	–	3002	5,125
2008-12-01	4.00	3101	34,419
2014-04-01	–	3001	20,726
2015-12-01	3.50	3105	45,772
2020-12-01	4.00	3102	29,722
2028-12-01	3.50	3103	3
2028-12-01	3.50	3104	33,213
Total inflation-linked bonds			**168,980**
Total Treasury bonds (nominal and inflation-linked)			***705,517***

Treasury bills, outstanding volumes, Sept. 30, 2003

Maturity date (nominal amount)	SEK M
2003-10-15	23,235
2003-11-19	27,383
2003-12-17	80,771
2004-03-17	58,515
2004-06-16	30,008
2004-09-19	15,000
Total Treasury bills	**234,912**

Rating

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

Treasury bonds, auction dates

Nominal bonds

Announcement date	Auction date	Settlement date
2003-10-29	2003-11-05	2003-11-10
2003-11-12	2003-11-19	2003-11-24
2003-11-26	2003-12-03	2003-12-08
2003-12-10	2003-12-17	2003-12-22
2004-01-07	2004-01-14	2004-01-19
2004-01-21	2004-01-28	2004-02-02
2004-02-04	2004-02-11	2004-02-16
2004-02-18	2004-02-25	2004-03-01
2004-03-03	2004-03-10	2004-03-15
2004-03-17	2004-03-24	2004-03-29
2004-03-31	2004-04-07	2004-04-14
2004-04-14	2004-04-21	2004-04-26
2004-04-28	2004-05-05	2004-05-10
2004-05-12	2004-05-19	2004-05-25
2004-05-26	2004-06-02	2004-06-07
2004-06-09	2004-06-16	2004-06-21
2004-06-23	2004-06-30	2004-07-05

Inflation-linked bonds

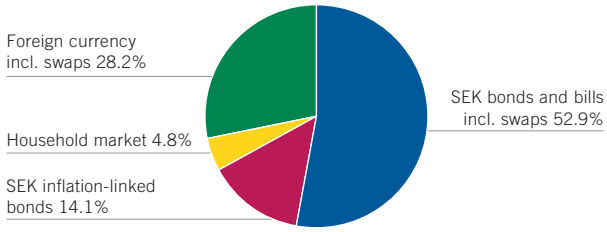
2003-10-16	2003-10-23	2003-10-28
2003-11-20	2003-11-27	2003-12-02
2004-01-15	2004-01-22	2004-01-27
2004-01-29	2004-02-05	2004-02-10
2004-02-12	2004-02-19	2004-02-24
2004-02-26	2004-03-04	2004-03-09
2004-03-11	2004-03-18	2004-03-23
2004-03-25	2004-04-01	2004-04-06
2004-04-08	2004-04-15	2004-04-20
2004-04-22	2004-04-29	2004-05-04
2004-05-06	2004-05-13	2004-05-18
2004-05-19	2004-05-27	2004-06-02
2004-06-03	2004-06-10	2004-06-15

Treasury bills, auction dates

Announcement date	Auction date	Settlement date
2003-10-22	2003-10-29	2003-10-31
2003-11-05	2003-11-12	2003-11-14
2003-11-19	2003-11-26	2003-11-28
2003-12-03	2003-12-10	2003-12-12
2003-12-31	2004-01-07	2004-01-09
2004-01-14	2004-01-21	2004-01-23
2004-01-28	2004-02-04	2004-02-06
2004-02-11	2004-02-18	2004-02-20
2004-02-25	2004-03-03	2004-03-05
2004-03-10	2004-03-17	2004-03-19
2004-03-24	2004-03-31	2004-04-02
2004-04-07	2004-04-14	2004-04-16
2004-04-21	2004-04-28	2004-04-30
2004-05-05	2004-05-12	2004-05-14
2004-05-19	2004-05-26	2004-05-28
2004-06-02	2004-06-09	2004-06-11
2004-06-16	2004-06-23	2004-06-25

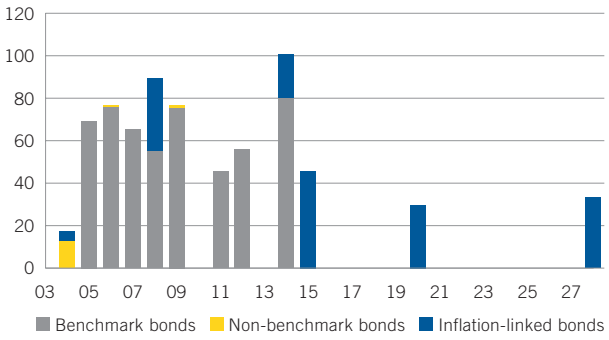
Debt structure

Total debt SEK 1,199 SEK billion September 30, 2003



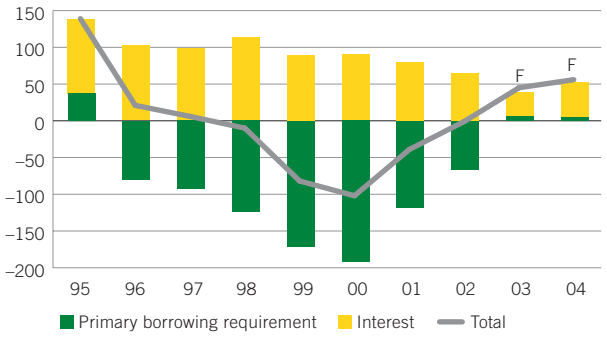
Maturity profile, SEK nominal and inflation-linked bonds

SEK billion September 30, 2003



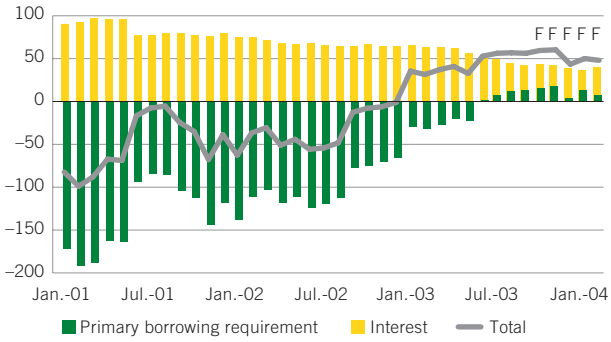
Central government borrowing requirement, 1995–2004

SEK billion



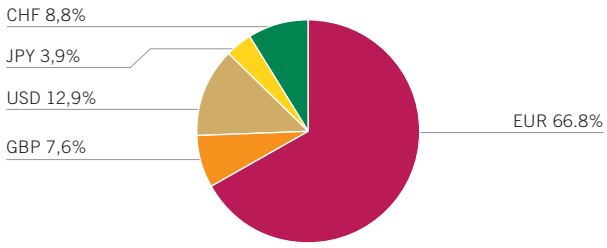
Swedish government borrowing requirement, 12 months

SEK billion



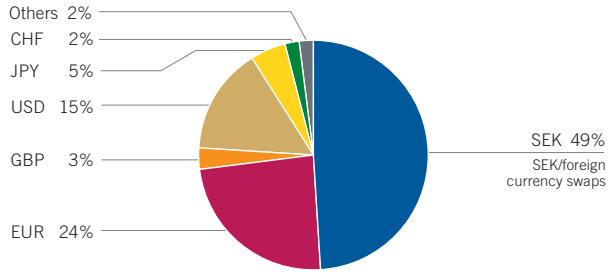
Benchmark, foreign currency debt

September 30, 2003



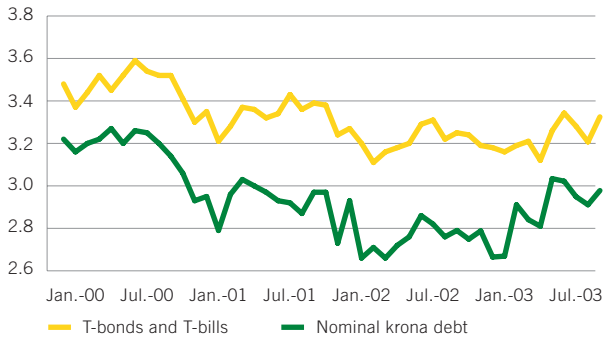
Funding in foreign currencies

September 30, 2003



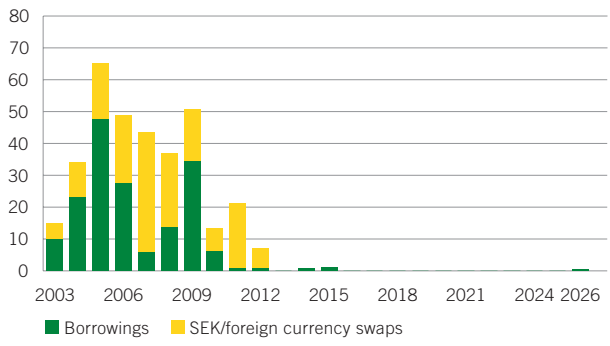
Duration of nominal debt

Years



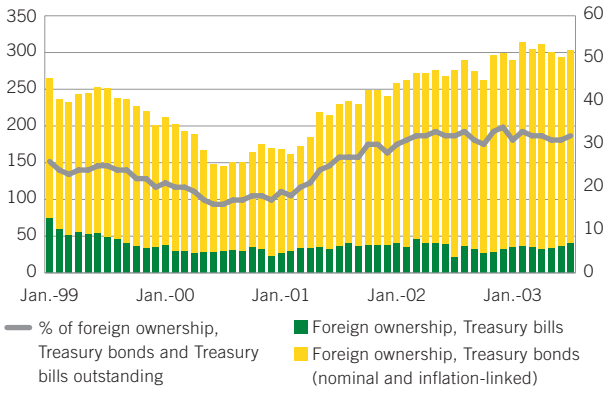
Maturity profile, foreign currency loans excl. callable bonds

SEK billion September 30, 2003



Foreign ownership of Treasury bonds and Treasury bills

SEK billion



% of foreign ownership, Treasury bonds and Treasury bills outstanding

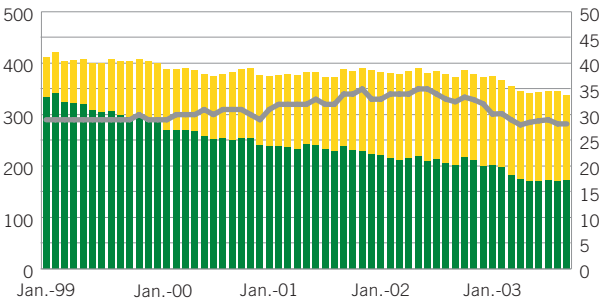
Foreign ownership, Treasury bills

Foreign ownership, Treasury bonds (nominal and inflation-linked)

Source: The Riksbank

Central government debt exposure in foreign currencies

SEK billion



% of total debt

Loans in foreign currencies

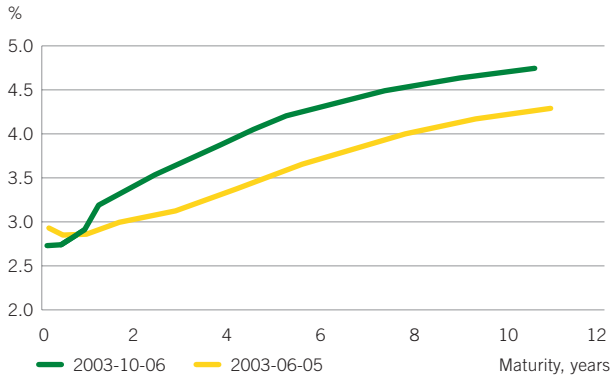
Currency swaps

Source: The Riksbank

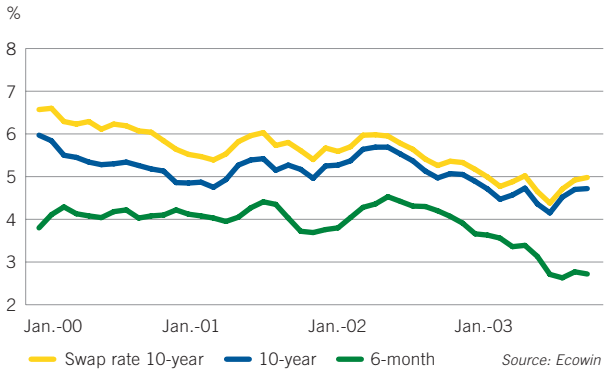
Financial markets

All values up to September 30, 2003

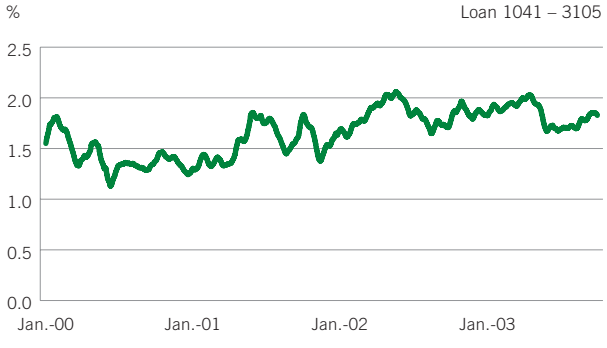
Yield curve, Swedish government securities



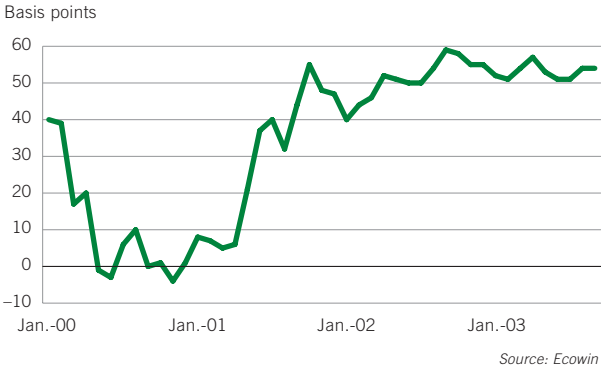
Interest rate developments



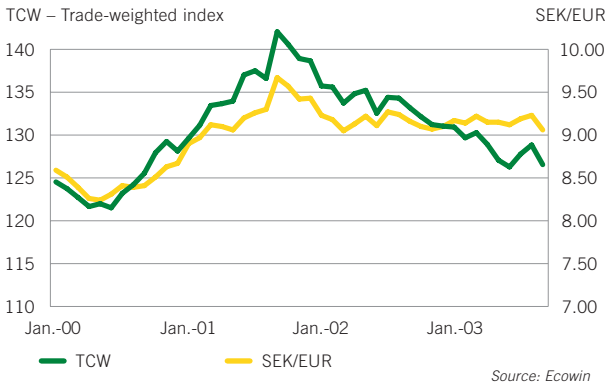
Break-even inflation



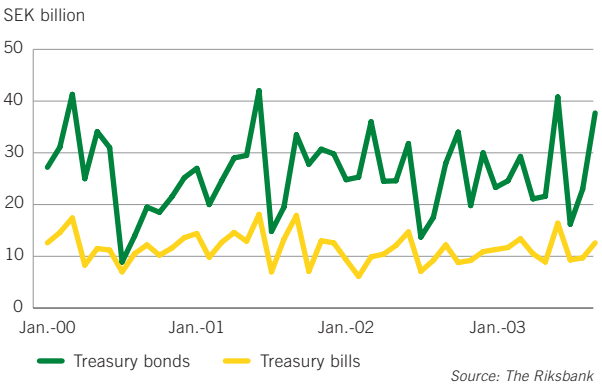
Interest rate spread vs Germany – 10-year



Historical exchange rates



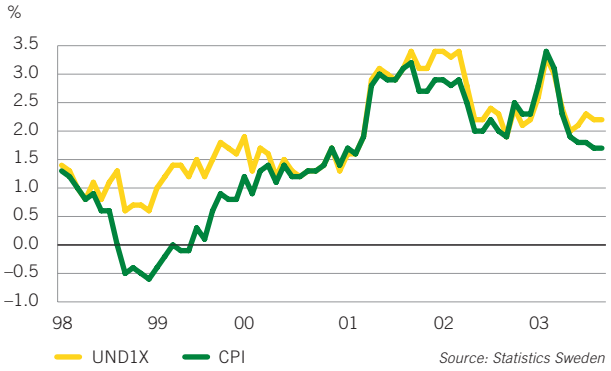
Trading volume, Swedish government securities



Swedish economy

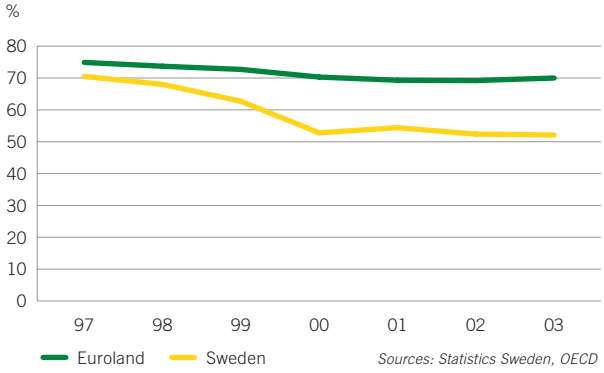
All values up to September 30, 2003

Inflation indexes:
UND1X and CPI in Sweden 1998–2003



Source: Statistics Sweden

General government debt in relation to GDP according to the Maastricht criteria



Sources: Statistics Sweden, OECD

National accounts

Percentage change Supply and demand			2001	2002	2003	2004
Gross domestic product 1			1.1	1.9	1.3	2.5
Imports			–3.5	–2.7	4.0	7.3
Household consumption expenditure			0.2	1.3	2.0	3.3
Government consumption expenditure			0.9	2.1	0.7	0.8
Gross fixed capital formation			0.8	–2.5	–1.4	3.1
Stock building			–0.4	–0.1	0.2	0.0
Exports			–0.8	0.4	3.8	6.5
Selected statistics	**Jun.-03**	**Sep.-03**	**2001**	**2002**	**2003**	**2004**
CPI, year-on-year		1.7	2.9	2.3	1.2	1.4
Unemployment rate		4.8	4.0	4.0	4.7	4.6
Current account	4.1		4.2	4.2	3.8	4.3

[1] *SEK 2,340 billion (current prices 2002).*

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

Primary dealers

	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, February 25, 2004, at 9.30 am.

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Borrowing strategy if Sweden joins the currency union	*Thomas Olofsson*	2003:2
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Risks and derivatives	*Anne Gynnerstedt och 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
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How central government debt is funded	*Thomas Olofsson*	2002:3
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Real return on equities and inflation-linked bonds	*Magnus Andersson*	2002:1
Borrowing and funding during 3001		2002:1
Proposed guidelines in brief		2001:3
Account balances exchanged for bonds		2001:3
New Treasury bill policy – a proposal		2001:3

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