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1 Summary

The Government's decision on the guidelines for central government debt management has a multiyear perspective with the aim of creating conditions for a central government debt policy that is predictable and long term in nature. This year's decision on the guidelines covers 2004 to 2006, but the guidelines for 2005 and 2006 are considered preliminary and may be changed in the decision on the guidelines in future years.

The Government is of the view that the guidelines for central government debt management should be characterized by stability and they should not have the character of short-term, tactical decisions that need to be changed with varying degrees of frequency. The Government is also of the view that the guidelines have so far functioned satisfactorily and that there has not been any new analysis presented that conclusively changes the picture of how central government debt should be managed. Therefore, the Government's guidelines for central government debt management in 2004 are, in principle, unchanged from the guidelines for 2003.

The long-term aim continues to be a reduction in the foreign currency debt as a percentage of the central government debt and an increase in the percentage of krona debt. In 2004 amortisations of the foreign currency debt will therefore come to SEK 25 billion. For 2005 and 2006, the aim will be an amortisation rate corresponding to SEK 25 billion a year. The Debt Office may deviate from the established amortisation rate by SEK ±15 billion. Given this amortisation rate and the current estimate of the borrowing requirement and a stable exchange rate for the krona, it has been decided to adjust the proportion of foreign currency debt downward from 27 per cent at the end of 2003 toward 20 per cent at the end of 2006.

The percentage of inflation-linked loans in the central government debt will increase in the long term. The borrowing will be weighed against the growth in demand for inflation-linked bonds and the costs and risks in other borrowing.

In addition to inflation-linked borrowing in krona and borrowing in foreign currencies, the financing needs of the central government are met by nominal krona loans, which have traditionally made up the central government's most important source of financing.

The benchmark for the average duration of the nominal krona and foreign currency debt is to remain unchanged at 2.7 years. The Debt Office may decide on targets for the average duration in the nominal debt that deviate by a maximum of ±0.3 years from the benchmark. Inflation-linked borrowing is to be in loans with a long maturity.

The maturity profile restriction, which states that borrowing should have as an objective that no more than 25 per cent of the central government debt falls due in the next twelve months, is being removed. The restriction, which had the task of ensuring an even maturity profile, is considered unnecessary because limiting the refinancing risk is a natural element of a well-thought out debt management.

2 Introduction

In 1998 the Sveriges Riksdag decided on a new formulation of objectives and a new decision-making structure for central government debt policy (Government Bill 1997/98:154, bet. 1997/98:FiU29, rskr. 1997/98:253). The statute (1988:1387) on central government borrowing and debt management stipulates that the central government debt is to be managed in a way that minimises the cost of the debt in the long term while taking into consideration the inherent risk. In addition, the debt is to be managed within the constraints imposed by monetary policy.

The Riksdag's 1998 decision means that the Government is to establish guidelines for the structure, average duration and maturity profile of the central government debt. The decision on the guidelines for the coming year is to be made no later than November 15. The decision is made after the Debt Office has presented its proposed guidelines and the Riksbank has been given the opportunity to comment. The Debt Office submitted its proposed guidelines on September 26, 2003. The Riksbank's comments on the Debt Office's proposals on central government debt management were received on October 20, 2003. According to the Riksbank, the Debt Office's proposed guidelines are compatible with the constraints imposed by monetary policy.

The Debt Office is responsible for restating the goal of central government debt policy and the Government's guidelines as intermediate objectives and benchmarks. It is also responsible for the operational management of the debt.

After the completion of each year of debt management, the Government presents an evaluation of central government borrowing and debt management to the Riksdag no later than April 25. The report contains both an evaluation of the Government's guidelines and an evaluation of the decisions taken by the Board of the Debt Office as well as decisions taken at the operational level.

3 The Basis for the Government's Guidelines[1]

3.1 The Structure of the Central Government Debt

The overall goal of central government debt policy is to manage the central government debt so as to minimise the cost of the debt in the long term while taking into account the risks inherent in such management. Thus the decision on the guidelines for managing the debt means a trade-off between expected total costs and the total risk that the central government is prepared to assume. Because the total risk in central government debt management is not equal to the sum of the risks in the various portfolios, the interaction between the various risks is important.

The debt's characteristics are primarily determined by the distribution between the three types of debt:

- nominal loans in Swedish kronor;
- inflation-linked loans in Swedish kronor, and
- nominal loans in foreign currency

and the choice of average maturity and its distribution across various types of debt. These quantities, along with the absolute size of the debt, are critical in estimating the total costs and risks that may be expected in the management of the central government debt.

[1] Chapter 7, the Technical Appendix, gives a more detailed explanation of some of the core concepts, such as foreign currency borrowing and debt management measures.

The decision on the guidelines therefore has to be designed so that the central government debt taken as a whole will have the characteristics sought in relation to the goal of central government debt policy.

At the end of 2002, the central government debt came to SEK 1,160 billion, which is equivalent to about 50 per cent of GDP.[2] However, the Government's decision on the guidelines refers to the entire debt managed by the Debt Office; that is, it also includes the debt held by other central government authorities. In addition, the decision for those parts of the guidelines that concern the structure of the debt requires the correct reporting of borrowing with a foreign currency exposure. This requirement means that debt management measures taken in foreign currency borrowing also have to be taken into account. To reduce costs, the Debt Office has chosen to borrow in Swedish kronor and then use currency swaps to convert the loans into foreign currency debt. In most instances, this approach has proved to be less costly than direct borrowing in foreign currency and in recent years, it has been the predominant technique for creating foreign currency debt. Debt management instruments currently make up almost half of the value of the foreign currency debt.

Measured in accordance with the new debt measure that came into effect in 2003, the central government debt came to SEK 1,204 billion at the end of 2002. The new definition of central government debt makes the official debt measure work well as a starting point for discussion and analysis of the guidelines for central government debt management. After declining for a number of years, the central government debt is now expected to start increasing again, owing to the rising borrowing requirement.

The percentage of borrowing in foreign currency grew rapidly during the first half of the 1990s, from less than 10 per cent to almost 29 per cent of the central government debt in the fiscal year

[2] Refers to the unconsolidated central government debt, i.e., the official debt that the Debt Office manages and reports. The Budget Bill and the central government's annual report generally show a consolidated debt measure that excludes the holding of government securities by public authorities.

1994/95. Since then, the percentage has been relatively stable at about 30 per cent of the debt. At the end of 2002, the foreign currency debt amounted to more than 31 per cent of the debt's value. The strengthening of the krona accounts for most of the reduction in the foreign currency debt in 2002. This strengthening has continued in 2003 and has led to a further reduction in the foreign currency debt.

Table 1. Size and Structure of the Central Government Debt 2000–2002 and Projections for 2003 (SEK billion and per cent).

	2000	**2001**	**2002**	**2003**
Nominal debt in kronor	811	687	670	721
Per cent	*61*	*56*	*56*	*59*
Inflation-linked loans	138	117	158	172
Per cent	*10*	*10*	*13*	*14*
Foreign currency debt	395	407	376	334
Per cent	*29*	*34*	*31*	*27*
Unconsolidated central government debt	**1,344**	**1,211**	**1,204**	**1,227**

Source: The Swedish National Debt Office.

Note: The foreign currency debt has been valued at the exchange rates in effect at year end. The evaluation as of December 31, 2003 is based on closing exchange rates on October 13, 2003, which the Debt Office used in its most recent debt projections. Beginning in 2003, the central government debt is reported using a new and more accurate measure. (See, for example, the Debt Office's 2002 annual report). For comparative purposes, the central government debt for 2000-2002 shown in Table 1 has been recalculated in line with the new definition.

Inflation-linked loans in Swedish kronor fill an important function, both because they offer investors a chance to protect themselves against the risk of inflation and because they contribute to diversifying central government borrowing to include one more type of financing in addition to nominal krona and foreign currency borrowing. The total risk in the central government debt can be reduced in that way. Since inflation-linked loans were first issued in 1994, they have steadily increased as a percentage of central government debt. At the end of 2002, they came to over 13 per cent of the central government debt. The relatively sharp increase in 2002 was

due in part to an increase in the volume that was issued as a result of increased demand for inflation-linked investments, but it was primarily due to the conversions of some public authorities'[3] deposits with the Debt Office to government bonds in accordance with a decision by the Riksdag and the Government. The decision meant that the outstanding stock of inflation-linked bonds increased by about SEK 32 billion.

Nominal krona loans traditionally represent the most important source of financing central government borrowing. Most of the nominal krona borrowing takes place in the domestic securities market using treasury bonds (loans with a maturity of more than one year at issuance) and treasury bills (loans with a maturity that is generally less than one year at issuance). The bulk of borrowing in the private market falls under this type of nominal loan, which offers the Debt Office the opportunity to diversify borrowing to several lenders such as private persons, smaller companies and organisations. The private market includes, for example, lottery bonds and National Debt Savings accounts, which in a short time have generated deposits of about SEK 15 billion. The percentage of nominal loans has decreased since the middle of the 1990s and came to just under 56 per cent at the close of 2002.

3.2 The Basis for the Decision on the Guidelines

The basis for the Government's decision: The guidelines are to have a multiyear perspective in order to create the conditions for long-term planning and predictability in central government debt policy. The decision covers 2004 to 2006, but the guidelines for 2005 and 2006 are preliminary and may be changed at the time of future decisions.

[3] The change on July 1, 2002 concerned the Deposit Guarantee Board [Insättningsgarantinämnden (IGN)], the Swedish Nuclear Waste Fund [Kärnavfallsfonden (KAF)] and the Premium Pension Authority [Premiepensionsmyndigheten (PPM)].

The trade-off between costs and risk should always be taken into account in central government debt management. The long-term direction of debt management is still to reduce the percentage of foreign currency debt and increase the percentage of krona debt.

Key Positions Taken in the Decision on the Guidelines

In previous decisions on the guidelines, the Government has taken a position on a number of matters for the purpose of clarifying the principles and conditions on which central government debt policy rests. The time perspective, measures of costs and risk, and the long-term structure of the debt are among the issues that have been considered. The key positions taken are summarised in the text that follows.

Time Perspective and Long-Term Planning

The overall goal of central government debt policy is formulated in long-range terms. Because it takes time to have any obvious impact on the cost and risk characteristics of the debt, it means that the core positions taken in the guidelines, for example, the structure of the central government debt, maturity in the nominal debt and the foreign currency amortisations, need to be worked out using a long-range time perspective and foresight. In recent years, the guidelines have therefore had a three-year perspective. The Government's choice of a three-year time perspective is based on the view that it is natural for the perspective in the decision on the guidelines to coincide with the time horizon for the expenditure ceiling in the central government budget.

The direction for the last two years of the time perspective in the guidelines is considered preliminary and is examined regularly in connection with the annual decision on the guidelines. It is also possible to change guidelines that have already been adopted if

there are fundamental changes in the reasons for the decision. One such change was made in July 2001 when the Government decided to lower the benchmark for the amortisation of the foreign currency debt from SEK 35 billion to SEK 25 billion.

This year's decision on the guidelines has, as usual, a three-year perspective and refers to the years 2004 to 2006, but the guidelines for 2005 and 2006 are considered preliminary and may, in future, be changed.

Costs and Risk in Central Government Debt Management

There is always some uncertainty about the future development of central government finances, as well as financial variables. As the Government's decision on the guidelines is made under uncertainty, debt management has to be structured so that there are margins for coping with negative shocks. The decisions in the guidelines on the structure of the debt and its maturity thus involve a trade-off between the debt's expected costs and risk.

In earlier proposals and decisions on the guidelines, definitions and methods of measuring the central government debt's costs and risk have been a recurring topic. For example, the Government stated in the decision on the guidelines for 2000 that costs should be measured in terms of the average running-yield-to-maturity[4] and the risk as the distribution for the average-running-yield-to-maturity, the average running-yield-at-risk. Other subordinated risks that have been identified are the financial-savings-at-risk (the risk that interest payments will reduce financial savings) and the value-at-risk (refers to fluctuations in the debt's market value). These measures of cost and risk are expressed in nominal terms.

The Government has noted that the risk in managing the central government debt should also be stated as the central government

[4] The measure is defined as a weighted average of the issuing rates in the debt portfolio. The nominal amount of the respective securities in relation to the total debt constitutes the weights. The issuing rates are the interest rates at which the securities were issued. Consequently the measure shows the costs in the form of the interest rate level expressed as a percentage.

debt portfolio's contribution to fluctuations in the budget balance and the central government debt. The real debt measure is inspired by the Asset and Liability Management (ALM) technique, in which the basic idea is that financial risks can be minimised by matching the characteristics of the liabilities with the assets. Under an ALM analysis, a debt portfolio that typically has low costs when central government finances are weak (for example, as a consequence of a recession) is considered to have less risk than a portfolio in which the reverse is true. From the viewpoint of central government debt policy, this means that the central government can reduce the risk in central government debt management by constructing a debt portfolio in which interest costs co-vary with the budget surplus (excluding interest payments on the central government debt). It is the Government's view that ALM analysis represents an interesting framework that could be developed for the future analysis of central government debt management.

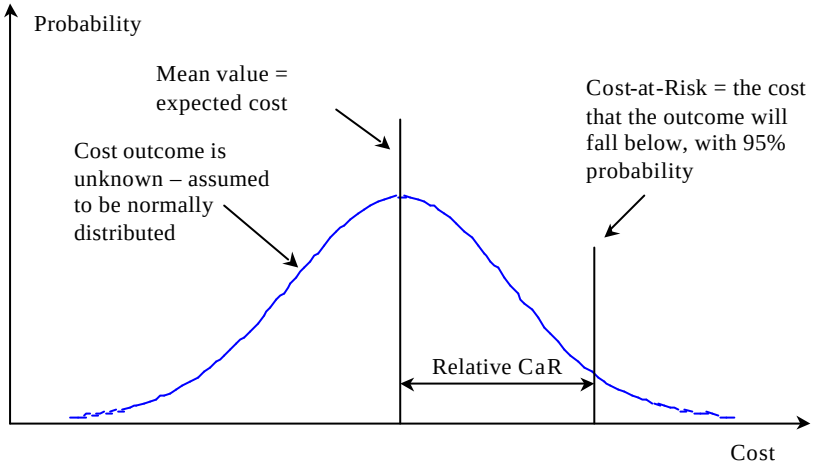
In this year's proposed guidelines, the Debt Office has produced a new quantitative risk measure for the central government debt called Cost-at-Risk (CaR). It measures the risk that the debt's current interest costs will increase.[5] One common method of calculating CaR is to simulate future trends in interest rates, exchange rates, etc. and calculate the costs of various borrowing strategies a number of years ahead. The risk measurement is shown as the five per cent worst outcomes in a given period.

The difference between Cost-at-Risk and the expected cost best captures the risk of an unexpected cost upturn. This measure is called the relative CaR (RCaR). It shows how much higher than expected the cost could be for a given time horizon. The Debt Office has developed a simple model to arrive at an approximate figure for short-term RCaR for the Swedish central government debt. However, the method is not based on a simulation but on analytical

[5] For a more detailed description of the measure, see the Debt Office's proposal on the guidelines for central government debt management in 2004.

calculations.[6] The analytical RCaR measure shows how much interest costs could exceed expected costs in the course of one year. It is thus a relative rather than an absolute measure. The expected interest costs are based on a scenario in which interest and exchange rates are at their current level and the inflation rate is two percent, which is in keeping with the Riksbank's target.

Figure1. Illustration of Cost-at-Risk.



[6] For a more detailed description of the model, see *En analytisk approximation för relativ Cost-at-Risk (An analytical approximation for relative Cost-at-Risk)*, the Swedish National Debt Office, 2003.

The calculation of RCaR is based on three risk factors that affect the cost of the central government debt: the interest rate level (all types of debt), the exchange rate (the foreign currency debt) and inflation (the inflation-linked debt).

- If the *interest rate* climbs, the debt's average interest rate increases by the rise in the interest rate multiplied by the percentage of debt that has the interest rate refixed.
- If the *krona* weakens, the coupon payments on the foreign currency debt measured in kronor rise. In addition a larger (smaller) exchange loss (gain) is realised on the maturing foreign currency debt.
- If *inflation* is higher than expected, the coupon payments on the inflation-linked debt increase. In addition more inflation compensation is realised on that part of the inflation-linked debt that falls due.

Based on the amount of debt falling due in the coming year, the percentage of inflation-linked debt and foreign currency debt in the total debt and the debt's average coupon, one can calculate how much costs will increase for a one unit increase in each risk factor. With the help of historical, market based[7] or assumed relationships between the factors, one can then calculate confidence intervals for cost upturns. In other words, one can arrive at an analytical approximation of RCaR. To the changes in the financial variables, one can add unexpected increases in the primary borrowing requirement.

[7] Option prices have been used to infer market players' risk assessment of interest and exchange rates. The inflation risk is based on historical data.

Table 2. Relative Cost-at-Risk Over the Course of One Year, with a 95 Per cent Confidence Level (SEK billion).

	Primary balance	
	Expected	SEK 20 billion worse
Historical periods:		
1994-2002	16.3	17.9
1994-1997	19.4	21.3
1997-2002	12.6	13.9
Market implicit (Sept. 2003)	16.8	18.3

Source: The Swedish National Debt Office.

The preceding table shows a 95 per cent RCaR over the course of one year for the current debt portfolio, with various assumptions about risks and co-variation between interest rates, the exchange rate and inflation. It also shows how an (unexpected) deterioration in the primary balance affects RCaR.

The RCaR measure varies somewhat depending on the period from which the data are drawn. Since the first half of the period was more turbulent than the second half, the risk measure also rose. According to the market's assessment of the risk, which is derived from the market's expectations of future rate changes measured via options prices, an unexpected rise in the primary borrowing requirement of SEK 20 billion at the same time that interest rates, exchange rates and inflation perform unfavourably means that there is a five per cent risk that the cost of the debt will be SEK 18 billion (or more) higher than forecast. Given the current forecast of interest payments on the central government debt equivalent to about SEK 52 billion in 2004, this means that there is a five per cent risk that the costs instead will be SEK 70 billion, which, in itself, is not an abnormally high cost from a historical perspective.

By relating the risk measure to GDP and budget restrictions, one can get a reasonable idea of the magnitude of the risk. A risk of SEK 18 billion is equivalent to just under 0.8 per cent of the projected GDP for 2004. A financial savings of 0.4 per cent of

GDP in 2004 was forecast in the Budget Bill. Based on the preceding RCaR calculations, there is thus a five per cent probability that the surplus of 0.4 per cent of GDP will instead turn into a deficit of equivalent size owing to climbing interest rates and a weakening exchange rate. Even a small deficit in the financial savings is, of course, seen as a serious matter, but nevertheless there is still a good margin before the EU's critical limit, which states that the deficit in the public sector financial savings may not exceed 3 per cent of GDP. In addition, the risk that this will happen is as low as 5 per cent.

Risk in the central government debt varies with the size and structure of the debt. Increasing the maturity and reducing the proportion of foreign currency debt may lower the risk. By reducing the debt that falls due within a year from the current 25 per cent to 14 per cent, for example, means that RCaR falls by a third. The same result is obtained if the proportion of foreign currency debt falls to 10 per cent. In terms of borrowing, narrower maturity profiles imply a larger percentage of long-term borrowing and thus a higher expected cost (given a yield curve with a positive slope). For example, a maturity profile of 14 per cent can be achieved if the Debt Office ceases to issue treasury bills, but retains its current allocation between two-, five- and ten-year bonds. A maturity of ten per cent a year requires all borrowing to be in ten-year bonds.

Table 3. Relative Cost-at-Risk for Different Debt Portfolios (SEK billions).

	Maturity profile		
	10%	14%	25%
Foreign currency debt as a percent of total debt:			
10%			10.2
30%	8.0	10.4	16.3

Source: The Swedish National Debt Office.
Note: Calculations are based on the period 1994-2002.

Calculations show that Relative Cost-at-Risk in the central government debt with its current size and structure over the course of

one year is nearly SEK 20 billion. A possible cost increase of SEK 20 billion over the course of one year may, at first sight, appear quite large. However, if the risk is related to GDP, or if the higher interest cost is interpreted in a historical perspective, the conclusion is that the risk in managing the central government debt is acceptable. In addition it should be noted that the probability of a deterioration of this size is as low as five per cent, given the model's assumptions.

Relative Cost-at-Risk can function as a good indicator of the risk in central government debt management. However, it is important to observe that the calculations shown are to be interpreted with some caution because the risk measure is founded on simplified statistical relationships and it is dependent on the assumptions made.

The Long-Term Structure of the Central Government Debt

It is the Government's view, as in recent years' guidelines, that the long-term aim for the structure of the central government debt should be to reduce the proportion of foreign currency debt and to increase the proportion of inflation-linked debt.

The basis for the original decision in 2001 to reduce foreign currency debt as a percentage of total debt in the long term was that the arguments for borrowing in foreign currencies have become weaker while the risks have become evident. Borrowing in foreign currencies has been reduced for cost reasons while the risk premiums that made domestic borrowing more expensive in the 1990s, have gradually decreased. At the same time, the foreign currency debt has been found to have relatively more risk than domestic borrowing because the krona exchange rate directly affects the central government's interest costs and the value of the foreign currency debt. Matching and ALM arguments can be added to the reasons already given because higher interest charges on the foreign currency debt risk coinciding with bigger budget deficits in times when central government finances for cyclical reasons may

be expected to be weak. A large foreign currency debt thus risks strengthening the swings in the central government finances.
The explicit aim of increasing the percentage of inflation-linked loans is primarily motivated by the risk argument. Inflation-linked loans have been found in principle to have the opposite characteristics to nominal krona borrowing. This comparison leads to the conclusion that for diversification reasons, the debt portfolio should contain both types of instruments. As well, when compared with foreign currency borrowing, the stock of inflation-linked loans appears to be less risky as the exchange rate for the krona is not explicitly included in the interest charges on the inflation-linked debt. Consequently the conclusion is that the percentage of inflation-linked bonds is too low and should increase.

The Government notes that there is not yet any basis for establishing an optimal structure for the central government debt in terms of the proportions for various types of debt. However, work should continue in order to find the optimal structure. This work is important, not least in the light of the result of the referendum on full membership in economic and monetary union. Based on the current allocation of the foreign currency benchmark, joining EMU would mean a fifty per cent reduction in the percentage of foreign currency debt, from the current 30 per cent to less than 15 per cent of the central government debt. With the krona to remain Sweden's currency, the gradual reduction of the percentage of foreign currency debt must be continued and it is important to try to make clear how long the process should take. In future proposals on the guidelines, the Debt Office is expected to return with an in-depth analysis of how big the proportion of foreign currency debt should be in the long term.

4 Decision on the Guidelines for Central Government Debt Management in 2004

4.1 The Foreign Currency Debt

The Government's decision: The foreign currency debt is to be amortised by SEK 25 billion in 2004. The aim for 2005 and 2006 is an amortisation rate of SEK 25 billion a year.

The Debt Office may deviate from the specified amortisation rate by SEK ±15 billion.

The Debt Office's proposal: The Government's ambition to reduce the foreign currency debt as a percentage of the central government debt should be maintained. The proposed benchmark for the amortisation of the foreign currency debt in 2004 is SEK 25 billion. The Debt Office should be permitted to deviate from this benchmark by SEK ±15 billion. The aim of the amortisation of the foreign currency debt in 2005 and 2006 should be SEK 25 billion a year.

Reasons for the Government's decision: The decision on the guidelines should be based on long-term and strategic considerations about costs and risk in central government debt management. The Government's long-term aim for amortising the foreign currency debt should thus be founded on what is thought to be an appropriate structure for the central government debt, rather than on current exchange rates or short-term forecasts of exchange rate

developments. Instead it is the responsibility of the Debt Office to adjust the amortisation rate within the prescribed foreign currency mandate, based on a strategic view of the exchange rate for the krona.

Table 4. Foreign Currency Borrowing and Foreign Currency Debt, the Borrowing Requirement, Changes in the Unconsolidated Central Government Debt and Size of the Debt and the TCW Index (SEK billion and per cent).

	2001	2002	2003	2004	2005	2006
Govt. guidelines, net foreign currency borrowing	-35[1]	-15	-25	-25	-25	-25
Actual net foreign currency borrowing[2]	-15	-2	-25	-25	-	-
Foreign currency debt, per cent of total debt[2]	34	31	27	24	-	-
Central govt. borrowing requirement[3]	-39	-1	44	42	14	13
Central govt. debt, change	31	-7	22	40	18	12
Unconsolidated central government debt[4]	1,211	1,204	1,226	1,266	1,284	1,296
Central govt. debt, per cent of GDP[4]	53	51	51	50	49	47
TCW index in 2004 Budget Bill, closing rates	137	131	129	127	127	127

Source: Ministry of Finance. Forecasts for 2003-2006 have been drawn from the 2004 Budget Bill.

[1] In July 2001 the Government lowered the amortisation rate on the foreign currency debt to SEK 25 billion.

[2] The figures shown for 2003 and 2004 are taken from the Debt Office's forecasts from October 2003.

[3] The borrowing requirement in any given year is not synonymous with the change in the size of the central government debt. Both the change in value of the foreign currency debt and transactions that affect the borrowing requirement, but not the reported central government debt and vice versa, have to be taken into consideration.

[4] The unconsolidated central government debt refers to the central government debt managed and reported by the Debt Office, without taking into account debt instruments held by central government agencies. The central government debt for 2001 and 2002 shown here has been recalculated in accordance with the new definition that came into effect in 2003. (See, by way of example, the Debt Office's 2002 annual report).

In last year's decision on the guidelines, the medium-term amortisation rate stated was SEK 25 billion a year from 2003 to 2005. This rate forms the starting point for this year's decision on the guidelines. Although the central government financial outlook and the estimated borrowing requirement have worsened a little from one year ago, the Government sees no reason to abandon its medium-term direction. Nor are exchange rate developments of the krona over the next few years expected to provide any reason to deviate from the benchmark. The Swedish krona has strengthened in 2003. The benchmark for the amortisation of the foreign currency debt in 2004 may thus be set at SEK 25 billion.

The Government is of the opinion that the analysis of the long-term direction is still valid and that the foreign currency debt as a percentage of the central government debt should be reduced. The amortisation rate for 2005 and 2006 should thus remain unchanged at SEK 25 billion a year. Given current estimates of the borrowing requirement and exchange rate developments, foreign currency debt as a percentage of the total debt is projected to decline from 27 per cent at the end of 2003 to close to 20 per cent at the end of 2006.

The Government is of the opinion that the interval around the amortisation benchmark should also in future amount to SEK ±15 billion. The mandate constitutes an appropriate trade-off between control and flexibility, given the position taken that the Debt Office is not to take into consideration the percentage of foreign currency in the central government debt in decisions on how the foreign currency mandate is to be used.

4.2 Inflation-Linked Krona Debt

The Government's decision: Inflation-linked borrowing as a percentage of central government debt will increase in the long term. The rate of increase is to be weighed against the growth in demand for inflation-linked bonds and the borrowing costs of other types of debt, with due consideration for risk.

The Debt Office's Proposal: Inflation-linked borrowing as a percentage of central government debt should increase in the long term. The borrowing should be weighed against the growth in demand for inflation-linked bonds and the borrowing costs of other types of debt, with due consideration for risk.

Reasons for the Government's decision: The main argument behind the decision to increase the percentage of inflation-linked borrowing in the long term is, as before, that inflation-linked borrowing helps lower the risk in the central government debt. Inflation-linked borrowing and nominal borrowing are mirror images and thus the debt portfolio should contain both types of loans. In that way, the central government can reduce the risk of unwanted swings in interest charges on the central government debt.

There is also a cost argument, since inflation-linked borrowing in the long term should cost less on average than nominal borrowing in kronor. However, the cost argument is more difficult to substantiate, especially in times of low inflation. At times, break even-inflation, that is, the difference between nominal and real interest rates, has been considerably lower than the Riksbank's inflation target of two per cent. This has meant that the expected real cost of nominal bonds, estimated using the assumption that the inflation target will be achieved in the long term, has actually been lower than that of inflation-linked bonds. The reason for this may, of course, be that the investments take into account future low inflation, but it most probably is due instead to the limited liquidity in the inflation-linked bond market and therefore investors require some extra yield for holding inflation-linked bonds.

The Government is of the opinion that the Debt Office should be responsible for the trade-off between minimising the expected costs and the possibility of reducing the risk. The Government concurs with the Debt Office's assessment that the Debt Office

should in future also take market conditions into account when deciding the rate at which inflation-linked bonds are to be issued.

4.3 Nominal Krona Debt

The Government's decision: In addition to inflation-linked krona borrowing and foreign currency borrowing, central government financing needs are to be met by nominal krona loans.

The Debt Office's proposal: Once the guidelines for inflation-linked borrowing and foreign currency borrowing have been stated, then, by definition, the central government's remaining financial needs will be met by nominal krona loans.

Reasons for the Government's decision: That part of the central government borrowing requirement that is not financed by inflation-linked borrowing and borrowing in foreign currency will, by definition, be met by nominal krona loans. The krona market, which traditionally makes up the central government's most important source of financing, functions as a buffer when there are swings in the borrowing requirement. The krona market is also used when there are changes in borrowing in the other two debt instruments. The guideline for the amortisation of the foreign currency debt, limited possibilities of issuing inflation-linked bonds and an increased net borrowing requirement mean that the nominal krona borrowing will also in future be the central government's most important source of financing.

4.4 Maturity

The Government's decision: The average duration of the nominal krona debt and the foreign currency debt is to remain unchanged at 2.7 years. When establishing the benchmarks for nominal loans, the Debt Office may decide on an average dura-

tion for the nominal debt that deviates by no more than ±0.3 years from the benchmark.

The inflation-linked borrowing is to have a long maturity.

The Debt Office's proposal: The benchmark proposed for the average duration of the nominal krona debt and the foreign currency debt is to remain unchanged at 2.7 years. The Debt Office should be allowed to decide on benchmarks that yield an average duration of the nominal debt that deviates from the benchmark by no more than ±0.3 years. Inflation-linked borrowing is to be done in securities with a long maturity.

Reasons for the Government's decision: In the decision on the guidelines for 2000, the Government lowered the benchmark for the duration of the nominal debt from 2.9 to 2.7 years. Since then, the Government has maintained that a duration of 2.7 years provides an appropriate balance between costs and risk. Lowering it further has been considered too risky.

Table 5. Duration of the Nominal and Inflation-Linked Parts of the Central Government Debt at Year End (Years).

	1998	1999	2000	2001	2002	2003
Nominal debt	3.1	2.9	2.9	2.7	2.5	2.7
Inflation-linked debt	11.5	10.7	10.6	9.6	10.8	10.6

Source: Swedish National Debt Office. The figures for 2003 are estimates.

In this year's proposal on the guidelines, the Debt Office has been especially interested in the choice of maturity. For example it shed some light on the way in which the demographic changes in the next few decades ought to affect the management of the central government debt. The Debt Office notes that the most important adjustment needed to meet the future strains is to reduce the size of the central government debt. If uncertainty about the outlook of central government finances were to increase, it might be appropriate to extend the maturity of the debt in order to reduce the level of risk. However, the Government is of the opinion that it is too early to draw any conclusions on the need to adjust central government

debt management. According to the Government's forecasts, the central government debt will increase somewhat in the years ahead, but it is expected to decline as a percentage of GDP.
The Debt Office is also in future to be given the capacity to take strategic positions on the interval around the benchmark for the duration of the nominal debt of ±0.3 years. Such measures should be based on assessments of long-term interest rate developments.

The guideline on the maturity of inflation-linked debt states that inflation-linked bonds are to have a long maturity, which should be interpreted as issues with a maturity of five years or longer. The decision is based on the fact that uncertainty about inflation is greatest in the long term and thus the characteristics of inflation-linked bonds are used to best advantage when maturities are long.

4.5 Maturity Profile

The Government's decision: The maturity profile restriction, which states that borrowing is to have as its objective that no more than 25 per cent of the central government debt falls due in the next twelve months, is being removed.

The Debt Office's proposal: The maturity profile restriction is being removed. A new risk indicator is being introduced – the statistical risk measure Cost-at-Risk. No specific restriction is connected to Cost-at-Risk. Instead Cost-at-Risk is used as an indicator and a follow-up instrument by reporting the change in the Cost-at-Risk retrospectively.

Reasons for the Government's decision: The maturity profile restriction has been included in the Government's guidelines ever since they were introduced in 1999. The restriction has been a complement to the benchmark for the average duration. Its aim was to limit the refinancing risk.

The Debt Office has in recent years evaluated the maturity profile's function as a control instrument and on the whole found that

there are a number of reasons for abolishing the maturity profile restriction:[8]

- The restriction is not needed to guarantee an even distribution of the debt over different maturities. It is rather a natural part of a well-reasoned debt management that tries to limit the refinancing risk.
- Market maintenance and cost minimisation arguments prevent a skewed distribution of the debt as the borrowing costs would probably rise if the borrowing focused only on short maturities.
- When the restriction was established, it was based on the maturity profile that the debt had when the decision was first made. Since then, the duration target has been lowered and 25 per cent is considered to be almost too narrow.

The Government concurs with the Debt Office's assessment and thus has decided to abolish the maturity profile restriction as proposed by the Debt Office.

[8] See, for example, this year's proposed guidelines or the Debt Office's report, *Duration, Maturity and the Risk of Increased Costs for the Central Govern-*

ment Debt, submitted to the Government in connection with last year's proposed guidelines.

5 Evaluation of Central Government Borrowing and Debt Management

The Government's decision: For 2004 the Debt Office is to establish internal guidelines based on the Government's decision on the guidelines. The internal guidelines are to contain the benchmark for each type of nominal debt and will be evaluated from both a quantitative and a qualitative perspective. The quantitative evaluation will refer to absolute costs and will, as much as possible, be compared with the Government's guidelines, with due consideration given to risk.

The evaluation of the Debt Office's strategic decisions, that is, the decisions made by its Board, are to be made in the light of the information available at the time of the decision. The choice of alternatives, for purposes of comparison, is to be made up of portfolios that appear to be reasonable beforehand. Contrafactual estimates should be supplemented with a quantitative evaluation.

The evaluation of the operational management refers to both an assessment of the extent to which the Debt Office has achieved the objectives agreed and measures decided on have been implemented and a quantitative evaluation in relative terms of the operational management of the foreign currency debt and handling of the foreign currency trades.

Background

In accordance with the Riksdag's decision, the Government is to present an evaluation of central government debt management by April 25 every year in a written report to the Riksdag. Under the decision, the evaluation is to take place at various levels. Thus the Government is to evaluate the decisions of the Board of the Debt Office as well as the decisions made at the operational level. In addition an evaluation of the Government's guidelines is to be included in the report to the Riksdag.

The goal of central government debt policy is long term in nature and it is thus natural to do the evaluation using a time perspective in which temporary fluctuations in the results are smoothed out. The Government therefore uses rolling five-year periods in its evaluation of debt management. The evaluation of the decision on the guidelines for 2004 will thus concern the years 2000 to 2004.

Evaluation of Central Government Debt Management in 2004

Evaluation of the Government's Guidelines

The Government's guidelines decision should be directly evaluated against the goal of central government debt management. Short-term estimates of interest and exchange rate developments should not normally be taken into account in the decisions on the guidelines. The report to the Riksdag should refer primarily to the strategic considerations that formed the basis for the decision on the guidelines. The Riksdag is then able to decide whether these considerations are reasonable.

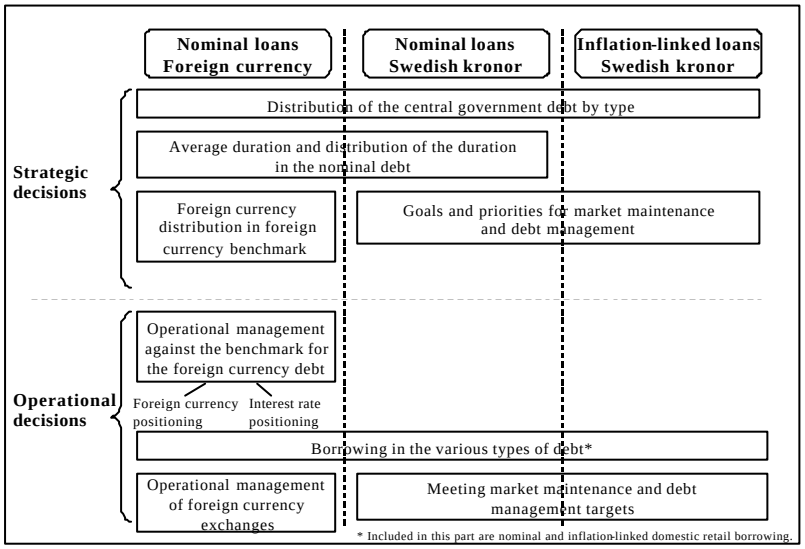
One key factor in the decision on the guidelines should be how much risk the Government is willing to assume. The basic assumption should be that the debt portfolio selected should have a lower cost and/or lower risk than other portfolios. The evaluation of the Government's decision on the guidelines will largely be made in qualitative terms. Quantitative estimates should be developed to the

extent possible to support the analysis and the assessment. Here, for example, the Debt Office's new risk measure, Cost-at-Risk, can provide quantitative indications of the current financial risk level in the central government debt.

Evaluation of the Debt Office

The Debt Office's activities are evaluated on two levels; one is the strategic decisions taken by the Board of the Debt Office and the other is the operational management carried on by the Debt Office. In addition, a separate evaluation is made of borrowing in the private market.

Figure 2. Evaluation of the Debt Office's Strategic and Operational Decisions.



The Debt Office's Strategic Decisions

Within the framework of the goal of central government debt management and the Government's guidelines, the Debt Office establishes intermediate objectives and guidelines for the operational management of the debt. These strategic decisions aim at achieving the goal of debt management and they are to be evaluated with reference to the absolute interest costs. The evaluation of strategic decisions concerns several key decisions on debt management:

– Decisions on the distribution of the debt between various types of debt within the intervals stated by the Government. The Debt Office's flexibility in this respect stems from the interval around the benchmark for the amortisation rate of the foreign currency debt and the mandate to increase the percentage of inflation-linked borrowing.

– Decisions on the benchmark portfolios for the nominal krona debt and the foreign currency debt. These include the decisions on the average duration of the benchmark portfolios, the decisions on the duration of each individual portfolio and decisions on the currency composition of the benchmark for the foreign currency debt.

– Decisions on goals for debt management and market maintenance. These decisions mainly concern the choice of goals and priorities and the likelihood that these goals and priorities can be expected to lead to the desired effects.

The evaluation of strategic decisions should as far as possible be made by contrafactual comparisons between clearly differentiated and stylised debt portfolios with reference to expected costs and risk. The costs refer to absolute costs in terms of average running-yield-to-maturity. One alternative may be a status quo portfolio that assumes that the characteristics of the debt are retained unchanged from the outset.

The evaluation of the Debt Office's management of the foreign currency mandate can be made with two simplified calculations in which the amortisations take place at a uniform rate over the year, with one equivalent to the benchmark in the guidelines and the other corresponding to the Debt Office's decisions. Using the actual amortisation profile is not meaningful as it presents an uneven pattern. Decisions on using the foreign currency mandate should be evaluated from a long-term perspective in which the final result –

for example, to reduce the amortisations for a specified period – is known only when the amortisation is carried out. Consequently the assessment of whether it was correct to take such a decision must, to a considerable extent, be based on a review of the reasonableness of the analysis that led to the decision.

The decision on the distribution of the debt between different kinds of debt probably cannot be quantitatively evaluated in a meaningful way with contrafactual estimates in addition to the case in which a change in the proportions of the different types of debt is based on considerations concerning exchange rate developments for the krona. Increasing the ceiling on the inflation-linked debt should be weighed against costs and risk in the other types of debt.

The Debt Office's Operational Management

Evaluating operational management entails an assessment of the extent to which the Debt Office has achieved its agreed objectives and agreed measures have been implemented. It also involves a quantitative evaluation in relative terms of the operational management of the foreign currency debt and the conduct of foreign currency exchanges.

The management of the foreign currency debt will be evaluated by comparing the actual costs of the foreign currency debt in market maintenance terms with the benchmark's hypothetical costs. The results indicate the extent to which deviations from the benchmark portfolio have led to higher or lower costs in relative terms.

The operational management of the foreign currency exchanges is to be guided by having the Board of the Debt Office establish a relatively even distribution of the exchanges over time that is neutral as to costs. In addition the Board is to establish the deviation intervals allowed in the operational management. Within these bounds, the Debt Office can then vary what exchanges it makes when it seems especially disadvantageous. Possible deviations can then be evaluated ex post by calculating differences in costs between the trajectory for the foreign currency exchanges that are neutral in outcome and the actual trajectory.

The nominal and inflation-linked krona debt is to be evaluated primarily in qualitative terms and refers to the debt and market maintenance that the Debt Office conducts with the aim of incurring the lowest possible absolute interest costs (average running-yield-to-maturity). The evaluation will thus be primarily qualitative and on an ex ante basis. Moreover the realised difference in cost should be reported for inflation-linked borrowing. This means that a cost comparison between borrowing in inflation-linked bonds and borrowing in nominal government bonds for the latest five-year period should be reported.

6 Appendix: Foreign Currency Exchanges – a Follow-Up Report

The Government's assessment: The Government concurs with the Debt Office's assessment that the management of foreign currency exchanges has functioned well and that the requirements established by the Government for predictability and transparency have been fulfilled.

Background

Owing to a change in the ordinance (1996:311) with the instruction for the Debt Office, the Debt Office has been permitted to exchange kronor and foreign currencies with their choice of counterparties since July 1, 2002. The Debt Office has chosen to use this opportunity and no longer has the Riksbank conduct its foreign currency exchanges. The Government, in its letter of instruction for 2003, requested the Debt Office to report its experiences managing its own foreign currency exchanges and for this reason, the Debt Office has submitted a follow-up report on foreign currency exchanges as part of this year's guidelines.

The Operational Management

The Debt Office's management of foreign currency exchanges is to be predictable and transparent. The Debt Office is to establish guidelines for the operational management of the foreign currency trades and make them public.

In accordance with the Government's guidelines, the foreign currency exchanges are, in principle, evenly distributed over the year and market players are informed in advance of the approximate scale of the net transactions. In this way, the requirements for predictability and transparency are met. The scale of the exchanges is primarily determined by payments in foreign currency made when old loans fall due, new loans are raised and interest is paid on outstanding loans. Because payments are made at various contractual dates, the Debt Office buys foreign currency with deferred settlement (forward) in order to even out net exchanges over time.

The exchanges are carried out according to a trajectory established by the Board of the Debt Office. The trajectory is defined as the projected net exchange volume for the remainder of the year divided by the number of remaining months. The exchanges may deviate from the trajectory by no more than SEK ±500 million in any one month. The interval is necessary both to avoid unnecessarily high transaction costs and to allow for the impact of exchange rate fluctuations on the value of the net exchanges in kronor. As long as the exchanges remain within the interval, the Debt Office has not taken any active position and the result is, by definition, zero.

The Debt Office can take active positions by deferring or advancing exchanges. The Debt Office, knowing that such a short-term tactical position yields few opportunities for gain, has thus far chosen not to use this possibility.

Effects of the Changeover

There are several advantages in having the Debt Office conduct the exchanges. First, changes in the decision on amortisation have an immediate impact on the scale of currency exchanges. This means that there is a clearer connection between the amortisation decision, foreign currency exchanges and the total cost to the central government. Second, the new ordinance means that the bound-

ary drawn between the Riksbank's monetary policy and the Debt Office's central government debt policy is clearer.

The possible efficiency gains that might arise by having the Debt Office conduct the exchanges are difficult to quantify. However, estimates indicate that exchange transactions carried out thus far have, on average, taken place at more favourable rates than otherwise would have been the case.

The Government, like the Debt Office, has come to the conclusion that the management of the foreign currency exchanges has functioned well and the requirements for predictability and transparency have been fulfilled.

7 Technical appendix: The Main Concepts Defined

The Foreign Currency Mandate

The Government regulates the management of the foreign currency debt by establishing a mandate in terms of a benchmark for repayment (amortisation) of the foreign currency debt.

In the guidelines for 2003, the Government decided to change the definition of the foreign currency mandate to include all transactions that have an impact on the central government's currency exposure, instead of as previously the Riksbank's foreign exchange reserves. The foreign currency mandate thus includes direct foreign currency borrowing and borrowing with debt swaps as well as maturing loans, including realised exchange rate gains and losses. The exchange rate exposure is affected at the time of the transaction. This means that forward foreign exchange transactions also affect the pace of amortisation.

Debt Swaps (Kronor/Foreign Currency Swaps)

For reasons of cost, the Debt Office has chosen to raise loans in Swedish kronor and by debt swaps (kronor/foreign currency swaps), convert the loans to debt in foreign currencies. This practice has in most cases proved to be cheaper than direct borrowing in foreign currencies.

This form of foreign currency borrowing can be said to consist of three steps. In the first step, borrowing in kronor in the form of ordinary bond issues takes place; that is, the Debt Office acquires debt in kronor on which the Debt Office pays a long-term govern-

ment bond rate. In the next step, the Debt Office makes an interest rate swap, which means that the Debt Office receives payments linked to a long-term interest rate on the swap and in return pays a variable interest rate on the swap. Because the long-term interest rate on the swap is generally higher than the interest rate on government bonds, the Debt Office makes a saving. This difference is called the swap spread.

The third step involves a kronor/foreign currency swap. Through kronor/foreign currency swaps, the Debt Office gets an asset in kronor equal in size to the debt in kronor that resulted from the government bond and a debt in foreign currency. The debt in kronor has thus been converted to a debt in foreign currency.

Duration

Duration is used to measure the length of the debt. The debt's average remaining time to maturity is estimated by multiplying the maturity of each cash flow (coupons and redemptions) by the size of the cash flow estimated at its present value. Because the present values of future cash flows depend on the interest rate level, the duration depends on the interest rate level.

The Debt Office's duration target is expressed as Macauley duration, which means using the bond's yield-to-maturity to calculate the present value of the future cash flows. Macauley duration is generally expressed in years.