RIKSGÄLDEN
SWEDISH NATIONAL DEBT OFFICE

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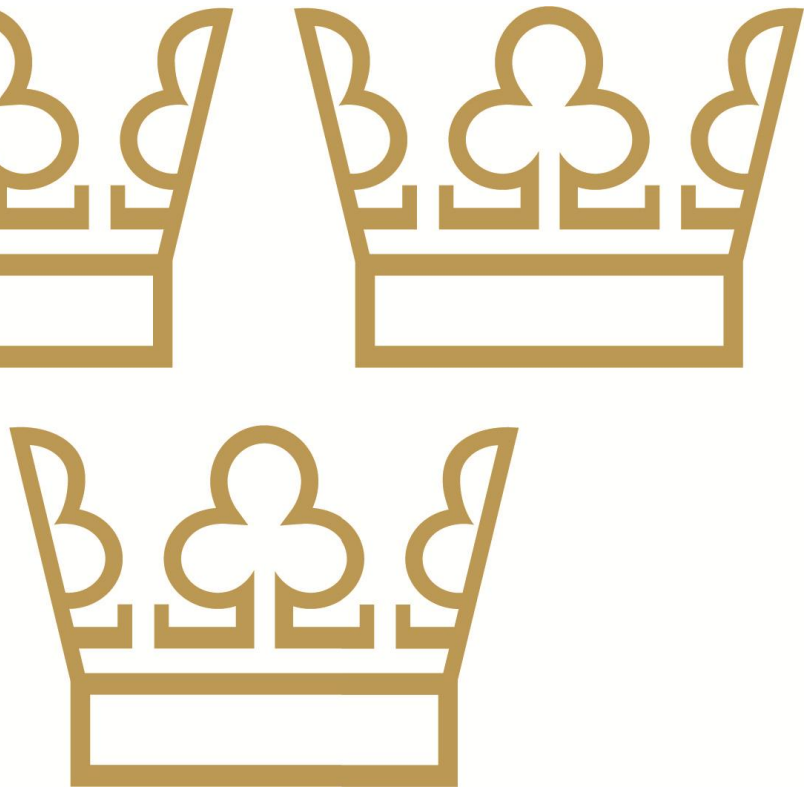
Central Government Debt Management

Proposed guidelines 2012-2014



Summary

In this memorandum, the Swedish National Debt Office presents its proposed guidelines for 2012–2014. The proposals are preliminary for 2013 and 2014. The goal is for central government debt to be managed in such a way as to minimise the costs while taking into account risks. Furthermore, the management shall take place within the framework of the requirements set by monetary policy.

In 2010, the government commissioned the Debt Office to examine and report on three areas. The first part entailed examining how the mandate for position-taking should be designed. The second part consisted of analysing how the debt shares and maturities should be managed in a situation with considerably higher or lower central government debt. The third part related to work to improve the comparison between borrowing in the retail market and in the government securities market.

The mandate for position-taking was discussed last year. This year, we are making an initial report on the scenario analysis for shares and maturities. We are also presenting an analysis of how retail market borrowing is evaluated.

Analysing the strategy for central government debt management in different scenarios for the size of the debt is an extensive task. As a first step, we present tentative conclusions mainly based on qualitative analys. We will continue working on quantitative analysis of maturities and shares and will present a final report next year.

The scenario analysis has therefore not resulted in any concrete proposals for changes in this year's guidelines. The work on the report on the retail market has led to a proposed change as there are reasons to clarify the goal for retail market borrowing.

Experiences of the crisis show that investors in general no longer regard government bonds as a risk-free asset. For some countries, the refunding risk has been evident in the recent period. It is very difficult to envisage a scenario where Sweden would face refunding problems. To minimise the refunding risk in the long term as well, it is important however, to safeguard the infrastructure, the investor base and liquidity in our loan markets.

The analysis of a lower debt has given rise to a broader discussion of the consequences of such a development and the measures that this could justify. We conclude that there may be reasons for having a minimum funding in the nominal bond market. The Debt Office should therefore be instructed to borrow more than required to fund the budget balance and other current payments when there is a risk of falling below the minimum level.

Additional funding would imply a cash surplus. We judge that it should be possible to invest the surplus at low risk and still generate sufficient yield to cover the cost of the loan. The possibility of retaining a particular annual loan volume would therefore be a cheap insurance against the risk of deterioration in the market. The asset portfolio can moreover serve as a buffer and provide some protection in the short term in any future financial crisis.

We propose that the *maturity of the nominal krona debt* for maturities of up to twelve years be between 2.7 and 3.2 years. Tight control of the central government debt could become inefficient and expensive. A target range would better serve its purpose than an exact figure.

When the borrowing requirement decreases, it may be difficult to control the debt in terms of shares and maturities. As borrowing is limited in relation to the debt stock, issues have little effect on the composition of the debt. Furthermore, we need to prioritise funding in the best way to maintain a functioning market. Unexpected discrepancies from the forecast borrowing requirement also have a greater impact on the total average maturity.

The middle of the interval corresponds to a somewhat shorter maturity than the current benchmark. The maturity of the debt will be automatically shortened if the issue volume is small in relation to the size of the outstanding stock, even if we mainly issue long bonds. A shorter maturity can also be justified from the point of view of costs and risks when the government debt decreases.

For *maturities of over 12 years*, we propose to retain the ceiling for the outstanding volume at SEK 65 billion.

We propose that the *maturity of the inflation-linked krona debt* be between 7 and 10 years. Based on forecasts for the development of the borrowing requirement, and on the planned funding in inflation-linked bonds, we expect to be able to maintain the maturity of the inflation-linked debt within the proposed interval in the coming years.

We propose that the *maturity of the foreign currency debt* be kept unchanged at 0.125 years. *No changes are proposed in the debt shares.* Accordingly, in the long term the inflation-linked debt shall be 25 per cent of the debt and the foreign currency debt 15 per cent.

Proposed guidelines 2012–2014

Here we show our proposed guidelines for central government debt management during 2012–2014. The proposed guidelines are preliminary for 2013 and 2014. In the cases where we propose changes in the guidelines, the current wording is given in the left column and the proposed new wording in the right column. With a view to create an overview of the decisions controlling central government debt management, the relevant parts of the Budget Act (2011:203) and the Ordinance (2007:1447) containing instructions for the National Debt Office have been included.

The goals of central government debt management

1. The central government debt shall be managed in such a way as to minimise the long-term costs while taking into account risks. Furthermore, management shall take place within the frameworks of the requirements set by monetary policy. Budget Act (2011:203).

The task of the Debt Office and the purpose of borrowing

2. According to the Budget Act (2011:203), the task of the Debt Office is to issue and manage loans to the central government. Ordinance (2007:1447) containing instructions for the Debt Office.
3. According to the Budget Act (2011:203), the Debt Office may issue loans for the central government to:
    1. fund current deficits in the central government budget and other expenditure pursuant to decisions made by the Riksdag,
    2. provide such credits and perform such guarantees as decided by the Riksdag,
    3. amortise, redeem and buy back central government loans,
    4. in consultation with the Riksbank, satisfy the requirement for central government loans with different maturities, and
    5. satisfy the requirements of the Riksbank for foreign currency reserves.

The guideline process

4. The Debt Office shall submit proposed guidelines for central government debt management at the latest by 1 October each year. Ordinance (2007:1447) containing instructions for the National Debt Office.
5. The Government shall allow the Riksbank to comment on the Debt Office's proposed guidelines. Budget Act (2011:203).
6. The Government shall make a decision on guidelines for the central government debt management at the latest by 15 November each year. Budget Act (2011:203).
7. The Debt Office shall submit documentation to the Government for evaluation of the central government debt management at the latest by 22 February each year. Ordinance (2007:1447) containing instructions for the National Debt Office.
8. Every other year, the Government shall evaluate the central government debt management. The evaluation shall be submitted to the Riksdag by 25 April. The Budget Act (2011:203).
9. The Debt Office shall establish principles for implementation of the guidelines for central government debt management established by the Government. Ordinance (2007:1447) containing instructions for the National Debt Office.
10. The Debt Office is to establish internal guidelines based on the Government's guidelines. The decisions are to concern deviation intervals for the maturity benchmarks decided by the Government for each type of debt, the distribution of the risk mandate, the distribution of foreign currency in the foreign currency benchmark and principles for market and debt maintenance.

The composition of central government debt – debt shares

11. The share of *inflation-linked krona debt* should be 25 per cent of central government debt in the long term.
12. The share of *foreign currency debt* should be 15 per cent of central government debt.

The control interval around the benchmark should be ±2 percentage points.

If the foreign currency share is outside the control interval, the share of foreign currency debt should be restored to the benchmark or within the interval if the deviation is due to currency movements.

13. The Debt Office shall set the benchmark for the distribution of the foreign currency debt among different currencies.
14. In addition to inflation-linked krona debt, the central government debt shall consist of *nominal krona debt*.

The maturity of the central government debt

Current wording	Proposed wording
15. The maturity of the nominal krona debt for maturities of up to twelve years shall be 3.1 years	15. The maturity of the nominal krona debt for maturities of up to twelve years shall be between 2.7 and 3.2 years.

16. The ceiling for the outstanding volume for maturities exceeding twelve years shall be SEK 65 billion.

17. The maturity of the inflation-linked krona debt shall be between 8 and 10 years at the end of 2011. The maturities at the end of 2012 and 2013 shall preliminary be between 9 and 11 years.	17. The maturities of the inflation-linked krona debt shall be between 7 and 10 years.

18. The maturity of the foreign currency debt shall be 0.125 years.
19. The Debt Office shall decide on a deviation interval for the maturities.

Costs and risk

20. The balance between expected cost and risk shall mainly be made through the choice of the composition of maturity of the central government debt.
21. The overarching *cost measure* shall be the running yield.
22. The overarching *risk measure* shall be the running yield risk.
23. The *shares* of the types of central government debt shall be calculated with a measure that takes into account all cash flows in the central government debt, i.e. also future coupon payments and future compensation for inflation.
24. The *maturity* shall be measured by an average interest rate refixing period where all cash flows including expected inflation compensation are included. Cash flows shall not be discounted.
25. Positions shall not be included in the calculation of debt shares and maturities.
26. When taking positions, market values shall be used as a measure of costs and risks in the management.

Market and debt maintenance

27. Through market and debt maintenance, the Debt Office shall contribute to the good performance of the government securities market with a view to achieving the long-term goal of keeping costs to a minimum while taking into account risk.
28. The Debt Office shall decide on the principles for market and debt maintenance.

Position-taking

29. The Debt Office may take positions in *foreign currency* and the *exchange rate of the krona*.

    Positions in foreign currency may only be taken with derivative instruments.

    Positions may not be taken in the Swedish fixed income market.

    Position-taking refers to transactions which aim at reducing costs, but which are not justified by underlying loan or investment needs.

    Positions may be strategic (long term) or operational (current).

30. Positions in foreign currency are limited to SEK 450 million, measured as daily Value-at-Risk at 95 per cent probability.

    The Debt Office shall decide on the maximum extent of the scope used in operational management.

31. *Strategic positions in the exchange rate of the krona* are limited to at most SEK 50 billion and shall be built up and wound up gradually, as well as being announced in advance.

32. Operational positions in kronor in connection with exchanges between kronor and other currencies may be taken to a limited extent. The Debt Office shall state the maximum permitted extent.

Borrowing in the retail market

Current wording	Proposed wording
33. The Debt Office shall contribute to reducing the costs of central government debt by retail market borrowing.	33. By retail market borrowing, the Debt Office shall contribute to reducing the costs of central government debt in relation to equivalent borrowing in the institutional market.

Loans to meet the need for central government loans

34. The possibility of issuing loans to meet the need of central government loans may only be used if required due to threats to the functioning of the financial market.

    The Debt Office may have outstanding loans to a maximum nominal value of SEK 200 billion for this purpose.

35. Placements of funds raised through loans to meet the need of central government loans should be guided by the principles stated in the Government Support to Credit Institutions Act (2008:814).

Management of funds, etc.

36. The agency shall deposit its funds, to the extent that they are not needed for disbursements, in an account at the Riksbank, a bank or a credit market company, or in government securities or other instruments of debt with a low credit risk. Deposits may be made abroad and in foreign currency. Ordinance (2007:1447) containing instructions for the Debt Office.

37. The Debt Office shall cover the deficits that occur in the Government central account. Ordinance (2007:1447) containing Instructions for the Debt Office.

38. Management of exchanges between Swedish and foreign currency (currency exchanges) shall be characterised by predictability and clarity. Ordinance (2007:1447) containing instructions for the Debt Office.

Consultation and collaboration

39. The Debt Office should consult the Riksbank on matters concerning the components of borrowing that may be assumed to be of great importance for monetary policy. Ordinance (2007:1447) containing Instructions for the Debt Office.

40. The Debt Office should collaborate with the National Institute of Economic Research (NIER) and the National Financial Management Authority on the agency's forecasts of the central government borrowing requirement. Ordinance (2007:1447) containing Instructions for the Debt Office.

41. The Debt Office should obtain the points of view of the Riksbank on how the funds borrowed to meet the need for central government loans are to be placed in accordance with the Act (1998:1387) on Central Government Borrowing and Debt Management.

Evaluation

42. Evaluation of central government debt management shall be made in qualitative terms in the light of the knowledge available at the time of the decision. Where possible, the evaluation shall also contain quantitative measures.

43. Evaluation of the operational management should, inter alia, cover borrowing and management of the different types of debt, market and debt maintenance measures as well as management of currency exchanges.

44. The realised cost difference between inflation-linked and nominal borrowing should be reported for inflation-linked borrowing.

45. The cost saving compared with alternative borrowing should be reported for borrowing in the retail market.

46. Strategic and operational positions within the given risk mandate should countinoulsy be evaluated in terms of market value.

Prerequisites

The size of the central government debt and the future borrowing requirement affect the central government debt management. The debt management is also designed to take into account the functioning of the markets. In this section, we provide an account of our view of the development of the loan market and central government debt in the next few years. This is followed by a discussion of the market prerequisites and how these affect central government debt management.

1 The development of central government debt until 2015

As a basis for the analysis of borrowing strategies in coming chapters, we discuss here the central government debt in a historical perspective, uncertainty about the future development of central government debt and finally current forecasts of the borrowing requirement and the central government debt by official agencies.

1.1 The concept net borrowing requirement

Changes in the central government debt can, somewhat simplified, be equated with the net central government borrowing requirement. The net borrowing requirement is identical to the central government budget balance although with reverse signs. If there is a budget surplus, the Debt Office will amortise the central government debt (negative net borrowing requirement) and if there is a deficit, the central government debt will increase as the Debt Office will borrow to fund the deficit (positive net borrowing requirement).

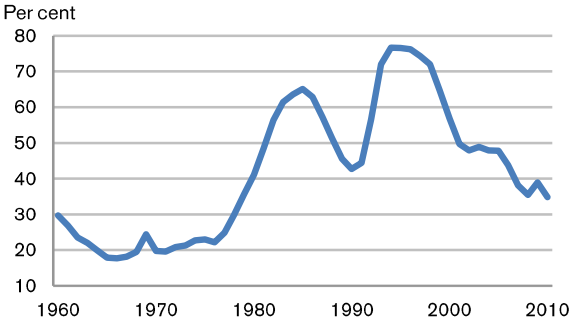
Besides the net borrowing requirement, the central government debt is also affected by debt-related dispositions, which are changes in the central government debt that are not corresponded to by any change in the net borrowing requirement. This may, for example, be revaluation of the foreign currency debt to current exchange rates and revaluation of inflation-linked bonds in Swedish kronor, the value of which is linked to the consumer price index (CPI).

1.2 Downward trend for central government debt since the crisis in the 1990s

In a historical perspective, the net borrowing requirement has varied sharply from year to year. In general, the net borrowing requirement decreases in upturns and increases in downturns. When the economy is growing over trend, incomes often rise quickly while expenditure develops weakly or even decreases. The converse applies in downturns when income grows slowly or decreases while expenditure increases. The fact that income and expenditure are out of step strengthens the fluctuations in the net borrowing requirement.

Looking back all the way to the 1950s, central government debt expressed in proportion to GDP has increased sharply during two periods. From 1976 to 1985, central government debt rose from 22 per cent to 65 per cent as a proportion of GDP. After some years of falling central government debt, it rose again from 43 per cent in 1990 to 77 per cent of GDP in 1995. After 1996, central government debt as a share of GDP has gradually decreased to around 35 per cent in 2010.

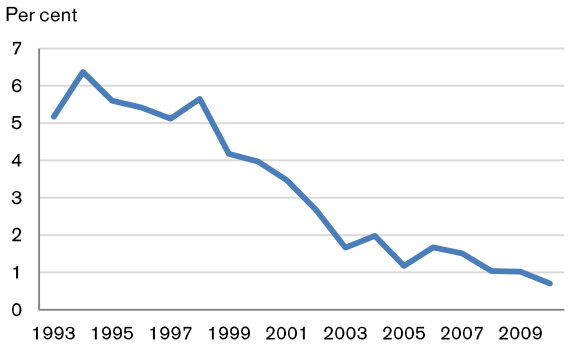
Figure 1 CENTRAL GOVERNMENT DEBT IN RELATION TO GDP 1960–2010



Source: The Swedish National Debt Office

After the crisis in the early 1990s, it was decided to strengthen the fiscal policy framework in Sweden. Among other things, an expenditure ceiling was introduced in the central government budget as well as a surplus target for the entire public sector. The expenditure ceiling has not been exceeded in any year and the surplus target has also been complied with on the basis of the indicators used by the Government to evaluate the surplus target. The fiscal policy framework has undoubtedly functioned well and contributed to stronger and more stable central government finances. The high level of confidence in Swedish central government finances also contributes to keeping down the cost of central government borrowing.

Figure 2 INTEREST PAYMENTS ON CENTRAL GOVERNMENT DEBT AS A SHARE OF GDP, 1993-2010



Source: The Swedish National Debt Office

The introduction of the inflation target for the Riksbank and a floating exchange rate have had positive effects for the Swedish economy as a whole, which has indirectly had a stabilising effect on central government finances as well. As the credibility of the inflation target has increased, this has contributed to considerably lower market rates. The fiscal policy framework and the reformed monetary policy has thus contributed to interest payments on central government debt decreasing over time, see Figure 2 above.

1.3 Uncertainty factors and risks in future development

There are a number of uncertainty factors that make assessment of the development of public finances difficult in the coming years. Some of these factors are described below.

Economic growth

A major uncertainty factor for central government finances in both the medium- and long-term is the global macroeconomic development. This is because Sweden is a small open economy with a large export sector in relation to GDP. Growth in the Swedish economy affects important tax bases such as consumption and wages. Expenditure is also cyclically dependent although it has become less sensitive as the regulatory framework for various benefit systems has been made stricter. Furthermore, the state budget is designed in such a way that expenditure normally grows more slowly than income in the absence of new political decisions. This is because many appropriations are linked to the development of prices rather than incomes, or are expressed in nominal amounts. In the short term, there is a lag before growth in other countries has an impact on Swedish public finances, although there is a considerable effect within a horizon of a few years.

Demography

A gradually aging population entails financial strains, in particular for the public sector as a whole. The increased costs mainly affect municipalities and county councils as well as the old age pension scheme. Some of the costs will also probably be borne by the state. In our assessment, there will be no marked effect until 2015.

Fiscal policy

Rules for the tax system and expenditure may be changed. This leads to uncertainty, in particular in the medium term, as it takes time to implement new proposals. In the long term, the uncertainty is probably less, as an economic policy that leads to large surpluses or deficits creates political pressure to balance the budget.

Behavioural changes

Changed rules in tax and transfer systems affect the behaviour of households and firms. In certain cases, the reform is explicitly intended to change behaviour. In other cases, a change in behaviour may be an unintentional consequence of a change in rules. At times, behavioural changes take place directly, in other cases, the process may take several years. Nonetheless it is very difficult in advance to calculate and predict how behavioural changes will affect public finances and these therefore entail considerable uncertainty in assessments of future development.

Major unanticipated events

Major more or less unanticipated events tend to affect and strengthen changes in the net borrowing requirement both in upturns and downturns. In recent years, among other things, sales of state-owned assets and lending to the Riksbank to strengthen the currency reserve have taken place. Both these types of transactions affect the net borrowing requirement and central government debt. However, this does not affect central government financial net lending as the state's total assets are unchanged. In one case, the state exchange shares for cash and in the other case, the state has a receivable of exactly the same amount as the loan.

Other effects that have been much discussed are possible falls in asset prices which can lead to real effects on the economy and effects on the financial system. This has affected many other countries around Sweden in recent times, but has to date had a limited effect on the Swedish economy.

Reduced risks with the fiscal policy framework

The fiscal policy framework, as has already been discussed above, has led to more stable central government finances and thus a reduced risk compared with the situation twenty years ago.

Interest payments are an item in the state budget which cannot be markedly affected by political decisions other than indirectly. Interest payments on the central government debt have, due to a lower central government debt and lower market rates, which can partly been explained by there being a credible inflation target, led to these payments no longer being a heavy burden on the budget. The

central government debt per se thus entails lower risk compared with the situation 20 years ago.

1.4 The Debt Office and other official forecasters

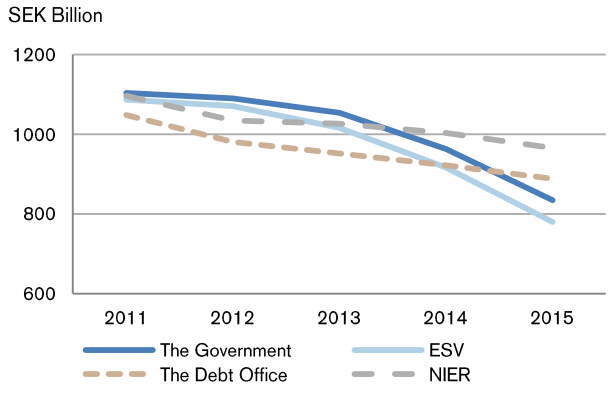
There are four official agencies that forecast public finances. These are the Government, the National Financial Management Authority (ESV), the National Institute of Economic Research (NIER) and the Debt Office. These forecasts and the methods used to obtain them differ to some extent as well as the definition of what the agencies measure.

The Debt Office only forecasts the central government borrowing requirement and the central government financial net lending. Other agencies forecast the whole public sector. The NIER and the Debt Office make assessments of future fiscal policy changes that affect the net borrowing requirement and government financial lending. All of them except ESV make assessments of sale of state assets where decisions have not yet been made. The Government and ESV base their calculations on income and expenditure in the state budget. The Debt Office has a cash-flow based model based on agencies' actual payments. NIER uses the national accounts and calculates central government financial net lending which is then converted into a budget balance. The Debt Office has the shortest forecast horizon and the Government and ESV the longest, see the table 1 below.

1.5 The development of central government debt up to 2015

This section shows calculations for the development of unconsolidated central government debt according to the assessments of the Government, ESV, NIER and the Debt Office different agencies for the years 2011-2015. The assessments are uncertain, especially considering the financial turbulence in recent times. The financial turbulence in recent years makes difficult assessments of the development of central government debt in coming years.

Figure 3 UNCONSOLIDATED CENTRAL GOVERNMENT DEBT AT YEAR-END



As shown in the previous section, the Debt Office does not have any forecasts of the net borrowing requirement as far ahead as 2015. We have therefore estimated the net borrowing requirement on the basis of a rough assessment of compliance with the surplus target for the public sector in the coming years. We use a similar method for the NIER, due to the fact that it does not forecast the net borrowing requirement for the whole period.[1].

The forecast for the Debt Office is the most recently published forecast in the report on central government borrowing for the years 2011 and 2012. For 2013 to 2015, we have constructed a simplified technical assessment where we assume that the Government complies with the surplus target for the public sector. We thus estimate that general government net lending will amount to 1 per cent per year during the period 2013-2015. On the basis of the total general government net lending, we estimate that central government financial lending and the net borrowing requirement as a residual. We have assumed in the calculation that net lending in the local government municipal sector will be weakly negative and net lending in the pension system weakly positive. This should not be regarded as a new sharp forecast from the Debt Office.

The Government's forecast has been obtained from the Budget Bill for 2012 and ESV's forecast in its most recent report from September 2011.

The most recent report of the NIER from August 2011 contains forecasts of the net borrowing requirement for 2011 to 2012. For the years 2013–2015, we have estimated the net borrowing requirement on the basis of their medium-term forecast of central government financial net lending.

The estimates show a range for the central government debt at the end of 2015 of between just under SEK 800 billion and just under SEK 1,000 billion. A common assumption for the Government, NIER and ESV is that they all anticipate a weak economic development in 2012 above all due to the financial unrest in the world. However, the effects of the unrest are considered to be temporary and the economic recovery picks up speed again in 2013. If the debt crises deepens and becomes more serious the risk is apparent that the central government finances will deteriorate and that the net borrowing requirement will increase compared to the current forecasts.

[1] *The National Institute of Economic Research publishes, however, a forecast of government financial net lending up to 2015 inclusive. We have recalculated this forecast as a net borrowing requirement for the periods in question.*

Table 1 FORECASTS OF PUBLIC FINANCES

	Regeringen	**KI**	**ESV**	**Riksgälden**
Scope	whole public sector	whole public sector	whole public sector	only central government
Own macro assessment	yes	yes	yes	yes
Takes into account new fiscal policy	no	yes	no	yes
Sales	Yes	yes	no	yes
Basic data	income/ expenditure	net lending	income/expenditure	cash flows
Forecast horizon	4-5 years	1.5-2.5 years [1]	4-5 years	1.25-2.25 years

[1] *Plus medium-term*

2 Market conditions

2.1 Deterioration in liquidity in the government bond market

Experiences from the ongoing crisis show that investors in general no longer consider government bonds to be a risk-free asset. For some countries, the refunding risk, that is the risk of not being able to issue new loans, when necessary, has been evident in the recent period.

Sweden has, however, not had any problems at all in borrowing. It is rather the case that Swedish government securities have obtained the status of an especially safe investment which attracts international investors who wish reduce their risks. This reflects the strength of Sweden's central government finances and the fact that it has its own currency.

It is very difficult to see a scenario where the Swedish state would be affected by refunding problems. To minimise the refunding risk in the longer term as well, it is important, however, to safeguard the infrastructure, the investor base and the liquidity of our loan markets.

As we have reduced borrowing, liquidity in the government bond market has gradually deteriorated. This need not be a problem in the short term and as long as the borrowing requirement is small. A high level of demand in relation to supply enables us to borrow on attractive terms. If, however, the borrowing requirement were to increase in the future, there is a risk that it would be more difficult and expensive to borrow as a result of the poorer functioning of the government bond market.

To reduce this risk, we intend to continue to prioritise funding in government bonds. We can also offer exchanges to increase the outstanding volume in the underlying loans in the forward market. If central government debt continues to decrease, we consider, however, that these measures will not be sufficient to maintain liquidity in the market for government bonds. We therefore see reasons to allow for some borrowing in government bonds in addition to what is required to fund current central government payments and maturing loans.

Until recently, most forecasts indicated that central government debt would decline at a rapid pace. There was therefore concern that problems of insufficient liquidity in the government bond market would further deteriorate. Recently, several forecasters have adjusted growth prospects downwards and the level of central government debt is no longer expected to fall as quickly. The problem is thus less acute although the argument for investigating the issue of a minimum bond borrowing remains. We will return to this in the section *Readiness and refunding risks* on page 23.

2.2 Low interest rates

In Sweden as well as globally interest rates have fallen to extremely low levels in a historical perspective. This can raise the question of how the guidelines are affected by the interest rate situation. We would therefore like to clarify that we do not base our long-term funding strategy on a view of the level of interest rates. However, we can take such considerations in the active management of foreign currency.

Funding strategy is not governed by the interest rate development

Transparency and predictability are key words in our funding policy and ensure long-term low borrowing costs. Our funding strategy is therefore not based on subjective assessments of whether interest rates will rise or fall. This would create great uncertainty in borrowing and could lead to investors withdrawing from our loans or demanding a high premium to be willing to invest.

Even if we did want to adjust borrowing in accordance with a particular view on interest rate developments, this would in practice be difficult to achieve other than as a marginal change of the debt's composition within the regular borrowing. This applies not least at present when the issue volume is very limited in relation to the outstanding debt stock.

In the light of this, we do not take the interest rate development into consideration when looking at the strategy for the regular central government debt management. Considerations of this kind are made separately in the active management. If we consider that we can save costs by protecting ourselves against rising or falling interest rates, we can take an interest rate position to create the desired exposure. It should be noted here that interest rate positions in active management are only taken in derivatives and in foreign currency.

Besides avoiding creating uncertainty about borrowing, this has the advantage that the result of the position will be measurable. The operation will thus be more transparent and we can more easily evaluate that type of subjective assessments.

On a few occasions, we have taken the interest level into consideration in borrowing. During the financial crisis in 2009, we introduced the 30-year loan 1053. We then borrowed SEK 38 billion through a syndicate. The introduction of loan 1053 made it possible to make use of demand for long bonds in a situation where we expected a large and rapidly growing borrowing requirement. As we borrowed a very large volume in the issue, we were uncommonly exposed to the interest rate level at the time of issue. However, the lock-in risk was considered to be small given that the interest rate level was considerably lower than a historical average.

No positions in the Swedish fixed income market

The Debt Office has too dominant a position to be able to take positions in the Swedish fixed income market. To achieve a position, which is other than symbolic, based on a market view, the size would be far too great to be able to be implemented in the Swedish market.

In the first place, we risk driving prices in an unfavourable way for us. Positioning for rising or falling interest rates in our largest loan market would create uncertainty among investors and we could be accused of a kind of market manipulation. This could also lead to deterioration in our loan terms in the longer term.

Secondly, we have to build up and close positions over a long period as large transactions are involved. If we wanted to close a position, it is therefore very uncertain when and at what price this could take place.

For the above reasons, it is not appropriate for the Debt Office to take active positions on interest rate development in Sweden which is not either allowed by current guidelines.

2.3 The shape of the yield curve

A basic assumption in the choice of strategy for management of the central government debt is that the yield curve has a positive slope over time, that is to say that short-term interest rates are on average lower than long-term interest rates. The correlation between maturity and the interest rate level is intuitive as investors require a premium to lock in a placement over a longer period. Historically too, there are few exceptions. Only for a few short periods has the Swedish interest rate curve been inverted.

There is, of course, no guarantee that the yield curve will have a positive slope in the future. Conditions can change, for example, due to new regulations. Given the information that we have today, we do not see any reason to change our assumption that the curve will on average have a positive slope. A short interest rate refixing period is, however, expected over time to produce a lower cost than a long interest-rate refixing period.

Reasons for the proposed changes

In this section, we discuss the interest rate refixing period in the central government debt and give reasons for our proposal to change the maturity steering of the nominal debt. We are also proposing a more long-term interval for the maturity of the inflation-linked debt. Thereafter, we addressretail market borrowing and propose that the goal for retail market borrowing be clarified.

1 The maturity of the central government debt

1.1 The maturity of the inflation-linked krona debt

We propose that the maturity of the inflation-linked krona debt should be between 7 and 10 years.

In the guidelines for 2011, a target interval for the maturity of the inflation-linked debt was introduced for the first time. We pointed out in last year's proposed guidelines the difficulty of controlling the maturity towards an exact figure with a decimal. With our previous control, we were in principle obliged to change the guidelines to be able to issue a new inflation-linked loan.

The aim now has been to find a more long-term interval where we do not need to make annual adjustments. The proposed interval is therefore somewhat wider than that applicable in our current guidelines. Based on forecasts for the development of the borrowing requirement and on planned borrowing in inflation-linked bonds, we expect to be able to keep the maturity of the inflation-linked debt within the interval 7 to 10 years in the coming years. We have then created scope to issue new bonds and to be able to carry out exchanges between inflation-linked loans with a view to improving liquidity in the market.

It cannot be excluded that we may need to review the interval later on if we make a major revision of our loan plans. Too broad an interval on the other hand loses the function of being a tool for control. We consider than an interval of between 7 and 10 years provides sufficient operational flexibility at the same time as we none the less receive a reasonable delimitation of the maturity.

1.2 The maturity of the nominal krona debt

We propose that the target interval for the interest rate refixing period of the nominal krona debt be 2.7 to 3.2 years for maturities of up to 12 years.

Control towards a maturity interval

When the borrowing requirement decreases, it may be more difficult to control the debt in terms of shares and maturities. As the loan volumes are small in relation to the outstanding debt stock, the issues will have a small effect on the composition of the debt. Furthermore, we need to take greater consideration to demand and prioritise borrowing so as to maintain a functioning market in the best way.

It may also me more difficult to parry unexpected deviations from the forecast borrowing requirement. When central government debt decrease, variations in the central government cash balance will have an increasing impact on the maturity of the total krona debt. If the outcome of the borrowing requirement differs from our forecast over a period, this will mean that we will need to handle larger deficits or surpluses than we had anticipated in the liquidity management. This means in turn that the interest rate refixing period will be shorter or longer than we had forecast.

When the borrowing requirement has decreased, the prospects for borrowing in the nominal krona market will increasingly resemble the situation we have in the market for inflation-linked bonds. Too tight control of central government debt risks becoming inefficient and expensive. We consider that maturity control within a target interval would be appropriate for the nominal krona debt.

A sensitivity analysis shows that it is the size of the debt – not its composition or maturity – which is crucial for how large the risk will be in absolute figures. The relationship between cost and risk is affected by the choice of maturity although when it comes to the risk in the central government debt the choice of maturity is overshadowed by the size of the debt. There are therefore reasons to tone down the importance of working with an exact maturity benchmark. This supports our conclusion that control towards a target interval is more appropriate for its purpose. For an in-depth analysis of the choice of maturity depending on the size of the debt, see the section *Shares and maturities* on page 13 and onwards.

The purpose of the maturity interval is to create prerequisites for loan planning that better serves its purpose. The benchmark is the average interest rate refixing period we aim at when planning the borrowing. An interval provides greater opportunity to adapt the borrowing if conditions in the swap market change or if the borrowing requirement deviates from our forecast. The interval thus does not aim

to deal with the fluctuations that arise due to seasonal variations in central government payments. As the variations are considerable, the interest rate refixing period would periodically deviate from the target even with an interval. We wish to emphasise that we do not intend to adjust the maturity based on an assessment of the interest rate level to position ourselves for higher or lower market rates. This type of adjustments is always made outside of the regular central government debt management and in foreign currency. The arguments for an interval are thus purely operational and we would normally endeavour to achieve maturity in the middle of the interval.

The question has been raised of whether an interval creates greater uncertainty and makes borrowing less predictable. Our assessment is that an interval rather contributes to decreasing uncertainty. We could, for example, avoid drastic revisions of the planned swap volume to restore the interest rate refixing period to an exact decimal value if the borrowing requirement proved to deviate from the forecast.

Shorter maturity

The maturity of the central government debt is shortened automatically when the borrowing requirement is small in relation to the size of the debt. The outstanding debt stock will become gradually shorter and if the loan volume is small, issues will have a small effect on the aggregate maturity of the debt, even if we issue long bonds.

A shorter interest rate refixing period is also reasonable from a cost and risk perspective. A smaller debt will (ceteris paribus) allow scope for a shortening of the interest rate refixing period with the benefit that the expected costs can be reduced. When the debt decreases, this can be done without increasing the risk in absolute figures. In the section *The effect of the debt sizes on shares and the interest rate refixing period* on page 17, there is a more detailed description of the correlation between the size of the debt and interest rate refixing period.

The middle of the proposed target interval therefore corresponds to a slightly shorter interest rate refixing period than the current benchmark of 3.1 years. It is worth noting that the interest rate refixing period is not the same thing as the maturity in the sense of the average time before the loan matures. Due to access to interest rate swaps, we can shorten the interest rate refixing period and thus decrease the expected interest costs without increasing the refunding risk.

2 Retail market borrowing

We propose that the guidelines for retail market borrowing be clarified as follows:

The Debt Office shall through retail market borrowing contribute to reducing the costs of the central government debt *in relation to equivalent borrowing in the institutional market*.

In 2010, the Government commissioned the Debt Office to do further work on improvement of the comparison between borrowing in the retail market and the government security market. The result of this work is presented in *Retail market borrowing – goal and evaluation* in the next chapter. One of our conclusions is that there are reasons to clarify the goal according to the above proposal.

The background is the recommendation of the Government's special investigator Jörgen Appelgren that the goal for retail market borrowing be made more exact. We considered then that it was sufficient to clarify the explanatory text and the Government retained the wording of the guidelines in accordance with our proposal.

Since then, the wording of the guideline decisions has been changed and no longer includes an explanation for the choice of goal formulation. We are therefore proposing a clarification of the goal.

Analyses and reports

Here we present as requested by the Government what maturities and shares should be like if the debt becomes considerably greater or smaller. The conclusions are preliminary and are mainly based on a qualitative analysis. The analysis will be complemented with quantitative calculations in the course of next year. Linked to the scenario analysis, we also discuss the consequences of reduced debt and the need for measures to safeguard good loan preparedness in the future. Finally, we present the investigation assignment which concerns the comparison between retail market borrowing and the government securities market.

1 The commission

In April 2010, the Government commissioned the Debt Office to:

- investigate how the mandate for position taking should be designed;
- on the basis of considerably higher or lower central government debt, analyse how large the shares of the different types of debt should be and to analyse how the maturities should be dealt with in these cases;
- continue work on improvements to the comparison between retail market borrowing and the government securities market.

The mandate for position taking was dealt with in last year's proposed guidelines. In this section, we present an initial report on the scenario analysis under the second point. We intend in connection with next year's proposed guidelines to present a final report. Finally, we present an analysis of how retail market borrowing was evaluated.

The conclusions of the analysis of a lower central government debt – which bearing in mind the surplus target appears in practice to be the most relevant case – occasions an expansion of the report to a broader discussion of the consequences of such a development and the measures that it may justify. The analysis shows that there may be reasons to have some minimum borrowing in the nominal bond market. Consideration should therefore be given to instructing the Debt Office, when there is a risk of falling below the minimum level, to borrow more than what is required to fund the budget balance and other current payments. We also take up briefly management of the consequent cash surplus.

This task requires support in the form of a Riksdag decision. Consequently, these questions are separate from the current guideline decision. However, we consider that it is important that the question is raised and analysed carefully before the problems that may arise if the gross central government debt is too small appear.

2 Shares and maturities

2.1 Introduction

The task of analysing the strategy for central government debt management in different scenarios for the size of the debt is extensive. In this year's proposed guidelines, we mainly present a qualitative analysis. We have based ourselves on the theoretical portfolio outcomes that serve as the basis for our current maturities and shares. Given these, we have looked at how any practical limitations affect the possibility of achieving maturities and shares in different scenarios for the size of central government debt. Not least, we have taken into consideration the importance of good preparation for borrowing larger amounts in future crises.

Next year, we will undertake further work on quantitative analyses of maturities and shares and report the result of this working the proposed guidelines for 2013. This year, we are accordingly not presenting any complete or sharp proposals for changes in the guidelines. The analysis mainly points to tentative conclusions as a basis for further investigation and a dialogue with, among others, market participants.

We start by clarifying the difference between exposure in the debt (which the guidelines refer to) and the underlying borrowing in different instruments. With this background, we give a brief description of why the current guidelines for the composition of the debt and maturities appear as they do.

We subsequently discuss certain principal and practical aspects of the correlation between the size of the debt and its construction. The next step is to discuss the prerequisites and consequences of reducing or increasing the debt in the different types of debt. Finally, we deal with the issues of how shares and maturities should be set in situations where the debt is markedly larger or smaller.

2.2 Borrowing and exposure in the central government debt

The control of debt in the guidelines refers to exposure in the debt taking into consideration that we use derivatives to adjust shares and maturities. Before we embark on the

analysis of shares and maturities, it is therefore important to clarify the difference between exposure and borrowing in the central government debt.

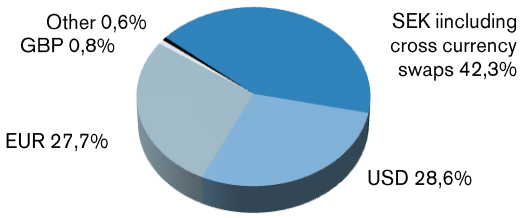
Funding, i.e. the actual borrowing with government securities and other instruments, is controlled by our policy of endeavouring to achieve an even maturity profile, low refunding risk and to deal efficiently with liquidity management. Around 80 per cent of the debt consists of bonds where the most common maturity at the time of issue is ten years. Borrowing must take into consideration the maturities and instruments that our borrowers actually demand. The exposure can subsequently be dealt with in our derivative portfolio in such a way that the costs and risks to be borne by the taxpayer in the final analysis are in line with the goals of debt management. Our handling of the underlying debt instruments, maturity profiles and refunding risks is reported in our documentation for evaluation which the Government and Riksdag will subsequently decide on.

Apart from the maturity and share of the inflation-linked debt, we have great possibility of adjusting the exposure in the debt through derivatives. We can, for example, use interest swaps to shorten the interest rate refixing period of the krona debt and we can increase the share of foreign currency debt by interest rate swaps between different currencies.

The foreign currency share and foreign currency borrowing

The share of foreign currency debt is a clear example that there is a big difference between exposure and borrowing in the central government debt. Today, over half of the foreign currency debt consists of loans raised in foreign currency. The rest consists of exposure through foreign currency swaps where the underlying funding has taken place in kronor.

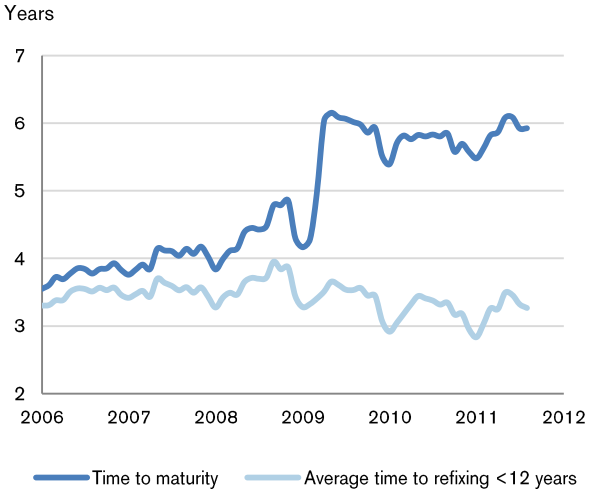
Figure 4 FUNDING OF FOREIGN CURRENCY DEBT, 31 JULY



The interest rate refixing period and time to maturity

The interest rate refixing period is calculated including the effect of derivatives. The guidelines are aimed on the interest rate refixing period of the debt that is the average time until the interest rates on the loans are renegotiated. For ordinary coupon loans, this corresponds to the time until payment of the interest coupon and loan amount as we then have to raise new loans. However, given that we take interest rate swaps into consideration, where the rate is normally renegotiated every third month, the interest rate refixing period of the debt is considerably shorter than the period of time until maturity. Bonds with maturities exceeding 12 years are also excluded from the benchmark for the maturity of the nominal krona debt. This also contributes to there being a great difference between the maturity as defined in the guidelines and the actual time to maturity of the nominal krona debt.

Figure 5 REMAINING MATURITY AND BENCHMARK (INTEREST RATE REFIXING PERIOD FOR MATURITIES < 12 YEARS) IN THE NOMINAL KRONA DEBT



This approach is also reflected in how we measure costs and risks. We measure the cost of the central government debt through the average running yield, i.e. the average interest rate at which we have borrowed the outstanding debt. According to current guidelines, the overall risk measure shall be variation in the average running yield. The risk measure thus describes the interest rate refixing risk in the debt. The interest rate refixing period has, however, little to say about the refunding risk in the debt, that is the risk of not being able to replace maturing loans by new loans.

For many countries, this risk has been marked recently although for Sweden, the refunding risk is almost non-existent. Swedish government securities have rather become increasingly attractive, primarily due to strong central government finances and the fact that we have our own currency. We will return to this in the section *Readiness and refunding risks* on page 23.

To avoid conceptual confusion, we refer below to the interest rate refixing period when we mean the exposure regulated in the guidelines while the maturity refers to the remaining time to maturity.

2.3 Reasons for the current shares

In the proposed guidelines for 2005, the Debt Office proposed for the first time what the shares should be for the

different types of debt. After this, the Government set the foreign currency share at 15 per cent, which was achieved in 2008. In the guideline decision for 2007, the inflation-linked share was set at 25 per cent.

The foremost reason for our having several types of debt is that diversification reduces risk. Diversification means that if the central government debt rises rapidly, we can spread borrowing over several markets and in a broader group of investors. This facilitates borrowing so that it can take place at lower cost. Diversification also means that we will be less affected in the event of the borrowing cost being temporarily high in particular instruments. By spreading borrowing to inflation-linked and currency debt, we become less dependent on variations in the domestic nominal interest rates.

In the following section, it is important to note that the analysis is mainly made in terms of exposure in different types of debt rather than in the instruments we actually borrow in. In other words, we take into account our possibilities of adjusting the exposure with the aid of derivatives.

The share of foreign currency debt

The overall conclusion of the quantitative analyses made at the beginning of the 2000s, in particular for the proposed guidelines for 2001, was that the greatest decrease in risk was achieved by a foreign currency share in the interval 10 – 20 per cent. This outcome together with qualitative assessments led to the foreign currency share being set at 15 per cent.

Foreign currency borrowing can also be justified by it being a flexible instrument in the sense that the state can borrow large amounts in a short time as we can then turn directly to the global capital market. Sweden's experiences from the early 1990s illustrate this. The additional foreign currency borrowing during 2009 on behalf of the Riksbank was also facilitated by the Debt Office having established routines for direct borrowing in foreign currency.

Through using foreign currency borrowing when the borrowing requirement is large, the pressure on bond rates in kronor is decreased, which keeps down the overall interest costs for the central government debt. There are, accordingly, besides diversification reasons, potential cost benefits in having a share of central government debt exposed in foreign currency.

The share of inflation-linked debt

The inflation-linked component of central government debt is also justified for reasons of diversification. We do not know how inflation and inflation expectations will develop in the future and how they will affect inflation-linked and nominal rates. For this reason, there is reason to have both nominal and inflation-linked loans. Inflation-linked borrowing also entails that we have a larger investor base. We reach a larger part of the investors' assets portfolios and the burden on nominal government bonds is less. This is the case, of course, primarily when the debt is large or growing.

Our assessment is that the inflation-linked share of the central government debt must be sufficiently large for there to be acceptable liquidity in the inflation-linked market. Otherwise, demand will be limited and the state will have to pay such a large liquidity premium that diversification will be expensive.

Too large an inflation-linked share risks, however, displacing other borrowing in nominal bonds. It can be said that the liquidity premiums in both markets must be balanced.

An inflation-linked share of 25 per cent has been considered appropriate to achieve the desired diversification effects at the same time as liquidity is sufficiently good in both the nominal and the inflation-linked bond market. This assessment depends, however, on the size of the total debt.

2.4 Reasons for the present interest rate refixing period

It is mainly through the choice of interest rate refixing period that the Government determines the balance between expected cost and risk. Again it should be emphasised that the guidelines refer to the exposure in central government debt and not to the maturities which we actually borrow at when we issue our debt instruments.

The Government decides on the interest rate refixing period for the respective type of debt. This choice is primarily governed by the risk level that is appropriate in the portfolio but has also had to be adapted in accordance with the practical conditions.

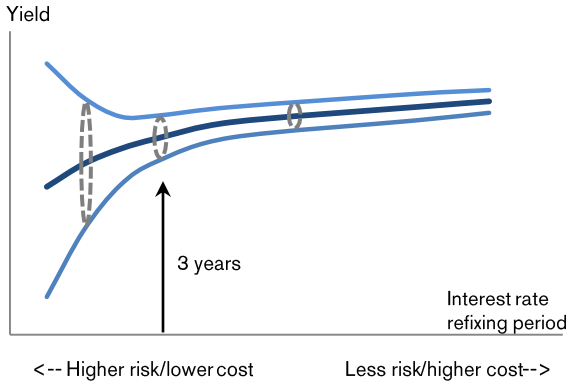
In general, it is the case that a short interest rate refixing period leads to lower expected costs as yield curves over time have a positive slope. A short interest rate refixing period in the debt is on the other hand associated with higher interest rate refixing risk than a long. As the interest rate conditions often change, we can expect greater variation in the interest costs.

The interest rate refixing period in the nominal krona debt

Previous quantitative assessments have shown that an interest rate refixing period of around three years provides a reasonable balance between cost and risk. Up to around three years reduces the risk markedly with the interest rate refixing period. Thereafter the effect of decreased risk abates. Extending the interest rate refixing period further from three years has a limited effect on risk but increases the expected cost as longer interest rates are usually somewhat higher. This is illustrated schematically in the figure below which is based on previous simulation outcomes. The middle curve corresponds to the expected

interest rate as a function of the interest rate refixing period. The top and bottom interest rate curves represent the highest and lowest interest rates respectively that one may be expected to pay (with a certain probability). The difference between these two provides a picture of the interest rate refixing risk for a given interest rate refixing period.

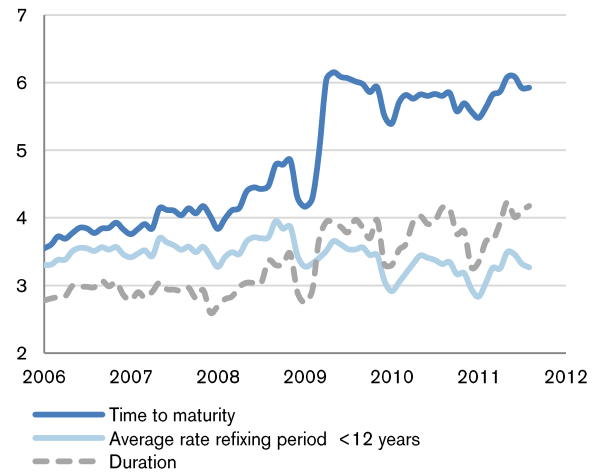
Figure 6 COST, RISK AND INTERST RATE REFIXING PERIOD



For the nominal krona debt, an instrument with a maturity of up to 12 years shall have an interest rate refixing period of 3.1 years. In practice, this means that a 30-year loan issued in 2009 is not covered by the maturity benchmark. The reason for this is that including such a long loan in the calculation of the average would give an exaggerated picture of how much the interest renegotiation risk in the debt is affected by a small loan in relation to the rest of the debt.

The benchmark is also based on the restrictions set by practical market conditions. Government bonds are the instrument that has a sufficiently large investor base to be able to bear a government debt of our size with a limited refunding risk. The possibility of shortening the interest rate refixing period of the bond stock then depends on the size and depth of the swap market. In practice, there have not been any market conditions for obtaining much shorter interest rate refixing period than three years.

Figure 7 MATURITIES IN THE NOMINAL KRONA DEBT



The figure shows the average remaining time to maturity and the interest rate refixing period of the nominal debt (excluding the 30-year bond). Furthermore, the duration is stated (the most common maturity measure in the market which, inter alia, depends on the market rate).

The interest rate refixing period in the inflation-linked debt

The choice of the benchmark for the inflation-linked debt is highly limited as we cannot control the interest rate refixing period in an effective way. The issue volume is small in relation to the outstanding stock and borrowing accordingly has a small impact on the composition of the total inflation-linked debt. We are not either able to control the interest rate refixing period with the aid of derivatives. Control is also made difficult through the debt consisting of few outstanding loans. Limited depth and liquidity in the inflation-linked bond market leads us to take great consideration to the state of demand in different maturities when we plan borrowing.

On the other hand, there are arguments for the choice of interest rate refixing period being of less importance for the inflation-linked debt than for the nominal krona debt. The risk and cost situation is not identical as pricing of the individual inflation-linked bonds is affected by demand to a considerably greater extent and liquidity in a particular maturity segment. The link between maturity and the interest rate level is thus weaker.

It is currently the case that the interest rate refixing period shall be controlled towards an interval of 8–10 years for the inflation-linked debt. The goal has been set to give us scope to issue inflation-linked bonds over the whole yield curve. In practice, this means that we issue in maturities of between 2 and 30 years. Borrowing is planned in such a way that we in the course of time obtain a good spread over different maturities in accordance with investor demand that creates the prerequisites for the best possible good liquidity.

The interest rate refixing period of the foreign currency debt

The interest rate refixing period of the foreign currency debt shall be controlled towards 0.125 years, which corresponds to renegotiating the interest rate of the whole foreign currency debt every third month.

We have chosen to swap all foreign currency borrowing to variable interest rate in order to reduce the expected cost. In foreign currency, we have access to the very deep global derivative market which makes it possible to shorten the interest rate refixing period to a considerably greater extent than what is possible in the krona debt. This possibility does not exist at all in the inflation-linked debt, which the interest rate refixing period in the foreign currency debt can be said to partially compensate for.

Another important aspect is that the foreign currency debt accounts for a relatively small part of the debt and the risk is accordingly limited even given the very short interest rate refixing period. The foreign currency debt is also distributed over a number of currencies and is thus not affected to the same extent as the nominal krona debt by interest rates in single market.

2.5 The effect of the debt sizes on shares and the interest rate refixing period

The links between the size of the debt and its composition and the interest rate refixing period are complex. The size of the debt should affect how large risks the state considers that it has scope to take. This means that the balance between expected cost and risk may appear different with a large or small debt. Choices can also be limited by the practical conditions for borrowing in the different types of debt. At the same time, for reasons of cost, we should not borrow an unlimited amount in a particular sub-market. We do not either want to borrow so small an amount that liquidity suffers with the effect that a particular market ceases functioning. This means that in the first place a smaller debt makes demands for practical balances and choices of approach.

Shares

If we disregard for a moment the practical limitations, it can be said that current shares are independent of the size of the debt in a strictly theoretical perspective. Given that we know the shares that produce an optimal extent of diversification, they are always optimal, regardless of the size of the debt.

However, the smaller the debt is, the less will be the need to spread risk. If interest costs are a marginal part of central government expenditure (and income), it does not matter if a one-sidedly funded debt happens to be unexpectedly expensive in a particular period.

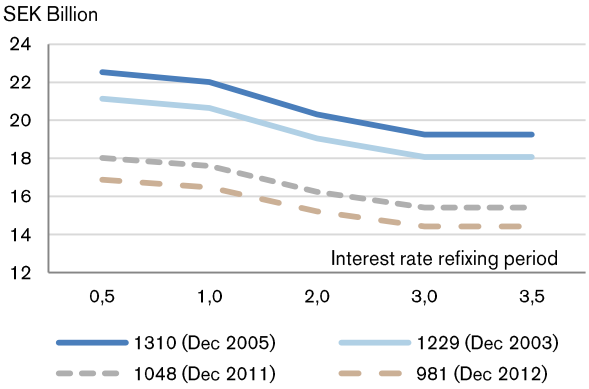
The interest rate refixing period

For the interest rate refixing period, it is generally the case that greater debt can be a reason for reducing the risk level by extending the interest rate refixing period. Correspondingly, a smaller debt will create scope for increased risk-taking with the benefit that the expected costs can be reduced.

However, it is worth noting that it is the size of the debt – not its composition – that is crucial for how large the risk will be in absolute figures. To illustrate this circumstance, we have made a simple sensitivity analysis based on earlier simulation results.

The figure below shows the issue rate risk (running yield at risk) as a function of the interest rate refixing period at different levels of central government debt. With the relatively low level of central government debt we now have, the risk expressed in kronor would be considerably lower than in previous years, even if we shortened the interest rate refixing period markedly.

Figure 8 RUNNING YIELD AT RISK CONVERTED INTO SEK



This conclusion is strengthened if we take into account that the total interest payments in the main scenario are considerably lower today due to the smaller debt (and low interest rates). A rise in interest rates from the current level of two percentage points (corresponding to a doubling of the ten-year rate and more than a doubling of shorter rates) would, for example, affect interest payments during 2012 by around SEK 10 billion. Even in a stressed scenario, interest costs are thus low compared with previous years.

Even if the relationship between cost and risk is affected by the guideline decisions (and then in the first place by the choice of interest rate refixing period) there are consequently reasons to tone down the importance of these mechanisms. As regards the importance of the risk of the central government debt, this is overshadowed by the size of the debt.

Practical limitations

It would neither serve its purpose nor be practically possible to maintain a constant level of risk in absolute figures by adjusting the interest rate refixing period sharply if the debt increases or decreases. Our assessment is that the interest rate refixing period should be extended slightly if the debt increases and vice versa but that such adjustments must be based on what is appropriate in operational activity.

The proportions can be kept unchanged in theory although the question is whether borrowing in a scenario with a considerably larger or smaller debt has consequences that mean that we cannot achieve the benchmarks. To assess the effect of such practical limitations, we discuss below what borrowing would be like depending on the size of the debt.

2.6 The characteristics and limitations of types of debt

How we choose to allocate borrowing at a certain level of the central government debt and the borrowing requirement depends on the characteristics and limitations of the different types of debt. We report below on how we regard the opportunity to borrow in different types of debt depending on the size of the debt.

Here, unlike the previous section, the analysis is focused on the instruments we actually borrow in rather than the exposure we can achieve through derivatives. The aim is to investigate whether regular borrowing in any scenario constitutes an impediment for achieving increased exposure.

Government bonds

The market for nominal government bonds is both deep and liquid which means that we can borrow on good terms. Thanks to a broad basis of investors both in Sweden and abroad, there is a potential to increase borrowing considerably compared with today's levels. It is difficult to quantify an assessment of this kind, but if the borrowing requirement were to increase, we estimate that we would be able to borrow substantial amounts. This would probably mean a higher interest rate and take some time but the market exists.

The reason that nominal government bonds are the linchpin of all central government debt management is because insurance companies, pension funds and the foreign exchange reserves of central banks are invested in these particular instruments. As the major lenders, as regards interest-bearing securities, are primarily interested in purchasing bonds, these are also the instruments with the greatest loan potential.

There is an evident risk that if the outstanding stock significantly decreases, liquidity will deteriorate, which in turn risks reducing the investor base, increasing the liquidity premiums and leading to significantly higher costs if there were to be a larger borrowing requirement in the future. We will come back to these aspects.

Nominal government bonds are our largest and most important loan instrument and can therefore be regarded as a reference in the comparison between the different instruments discussed below.

T-bills

When the borrowing requirement has decreased, we have reduced the outstanding stock of T-bills to a very low level. We now have a stock of just under SEK 100 billion compared with in the range of SEK 250 billion some years ago. This has contributed to a deterioration in the depth and liquidity of the market. Expressed somewhat sharply, it can be said that there is no liquidity whatsoever in the secondary market.

The participants in the monetary market have to a great extent replaced T-bills by other instruments. The structural demand has declined. Pricing and exposure to the expected development of short-term interest rates and monetary policy decisions is now handled in derivative markets such as FRA and RIBA contracts. T-bills have become more or less purely cash management instruments which as a rule are held to maturity. An important reason for keeping T-bills is the very low credit risk in Swedish government securities.

If the central government debt were to be considerably greater, we can increase borrowing in T-bills. As the prerequisites have changed and investors to a great extent have found substitutes for T-bills, it is not certain that we can reckon on quickly reaching large outstanding volumes without having a considerable impact on interest rates. A lost T-bill market means that we no longer have access to an instrument which can rapidly make a large contribution to funding.

If the debt and the borrowing requirement were to decrease, there would be less need to roll over T-bills as part of the long-term borrowing. Already today, we have reduced T-bill borrowing to a minimum. We consider that it would not be meaningful to maintain a T-bill stock which is less than the present.

In a scenario with a considerably smaller debt, there are reasons to consider terminating our current obligation to continuously maintain a certain outstanding stock of T-bills through regular auctions. Instead, it would be a matter of using T-bills sporadically or using so-called liquidity bills to a greater extent (T-bills with customised maturities of up to a couple of months maturity) as well as commercial paper (mainly dollar loans subject to English law).

This would undoubtedly lead to strains in liquidity management. Before a decision on a possible closure of the present T-bill market, the risks for liquidity management must be thoroughly penetrated. A closure of the T-bill market would also mean that our dependency on the dollar and to some extent the euro market as a source of quick and extensive borrowing would increase.

With a substantially smaller central government debt, it would be conceivable to close the T-bill market. In this case, this can take place without an extension of the interest rate refixing period. Bills are not of crucial importance for the interest rate refixing period. Thanks to interest rate swaps, we can obtain funding with long bonds and still shorten the interest rate refixing period to reduce the expected cost in this way. Compared with borrowing in swapped government bonds, T-bill borrowing is in principle cost-neutral. The cheapest alternative has varied over time but the differences have been small.

How we allocate borrowing between government bonds and T-bills is controlled in the first place by demand and

the depth of the respective market, including the market for interest rate swaps. In otherwise similar circumstances, we also take into account that the refunding risk is greater for borrowing in T-bills than for borrowing in government bonds.

Retail market

In the retail market, where borrowing is mainly part of the nominal borrowing in kronor, we borrow more cheaply than in the institutional market, but we have little possibility of controlling the extent of borrowing. Instead, it is the customers' wish to invest funds in the Debt Office's forms of saving that governs this. As we cannot plan retail market borrowing in the same way as other borrowing, we have until further notice chosen to disregard this in the analysis of shares and maturities. We have assumed that the share of the retail market is unchanged and not affected by the size of the debt.

However, we can note that in a scenario with a large government debt, borrowing in the retail market relieves the burden on government bonds and T-bills.

If the situation is converse, it may instead be the case that retail market borrowing displaces institutional borrowing which is more important to safeguard liquidity and readiness to borrow if the borrowing requirement were to increase. There would then be a risk of the cost of central government debt increasing in a scenario of this kind due to a deterioration in liquidity and a smaller investor base and consequently poorer loan terms in other types of debt.

Inflation-linked bonds

Inflation-linked borrowing can relieve the market for government bonds and T-bills if the T-bill stock is large. Another benefit of inflation-linked bonds, if the debt is large, is that inflation-linked debt contributes to reducing the risk in the portfolio. The risk is reduced both due to the diversification effect and to the possibility of borrowing in long maturities in the inflation-linked market.

The market for inflation-linked bonds does not at all, however, have the same capacity to grow as the government bond market. The real and potential group of investors is considerably smaller, which limits flexibility, in particular in the short term but also in the long term. In comparison with government bonds, the investor base is mainly domestic. Having said this, it is, of course, naturally still possible to significantly increase the outstanding stock of inflation-linked bonds for a longer period.

The annual borrowing in inflation-linked bonds is at present so small that there is no scope to reduce it more without long-term damage to the market. If central government debt was considerably less, we can arrive at a point where we should consider winding up the inflation-linked debt. However, this is a big step and it would probably make for a long run-up if it later proved that we again needed to start up this market.

The outstanding stock of inflation-linked bonds can, of course, decrease from current levels, although with a gradually increasing deterioration in liquidity and pricing as a consequence. It would probably not be cost effective to buy back loans with a view to reducing the share but that inflation-linked debt would in the event of winding up this type of borrowing be reduced as loans matured.

There are probably not any strong reasons of cost for maintaining the inflation-linked market in a situation with a small central government debt. To date, we have, however, borrowed more cheaply in inflation-linked bonds than in corresponding maturities in nominal government bonds. However, it is not probable that inflation-linked borrowing will produce the corresponding relative saving in the future. Compared with the situation when the inflation-linked bonds were first introduced, the inflation target is now well established. The protection against the risk of inflation is therefore not valued as highly any more. Investors instead want to receive compensation for poorer liquidity and depth than in the nominal bond market.

It need on the other hand not mean that costs will be higher. The argument for retained inflation-linked borrowing will rather receive greater weight in diversification and a broader investor base, i.e. reducing the burden on the nominal bond borrowing. These reasons are of little relevance, however, if the central government debt becomes permanently smaller.

Foreign currency borrowing

Foreign currency bonds are the loan instrument where we are able to borrow the largest amounts, in particular in the short term but also probably in the long term. Here we have potential access to the whole world's investors and the Swedish state is a small player in a gigantic market. If there was a need to sharply increase borrowing in a short time, we would therefore probably be able to cover a large part of the borrowing requirement through foreign currency bonds.

The extent to which this would mean increased foreign currency exposure depends on the circumstances otherwise. In principle, foreign currency risks can be handled by derivatives, although it is not given that the markets will function well in an acute crisis situation. In this case, it may be expensive. If it proves that the increase in debt is long term, there are reasons to reduce the foreign currency debt by successively increasing nominal bond borrowing.

When the debt decreases or is small, we reduce foreign currency bond borrowing and prioritise borrowing in kronor. This corresponds to our current situation. According to our present plans, we will only issue a foreign currency

loan to refund loans raised to reinforce the Riksbank's foreign currency reserve.

It is a complex task to correctly estimate the cost of foreign currency borrowing compared with borrowing in kronor, not least because it is difficult to assess what pricing would be like in the domestic market, if we had borrowed considerably more in kronor. When the debt is very large and growing, foreign currency borrowing is probably an important part of borrowing as the krona market is more limited. In this situation, the relative cost is therefore of less importance.

In a scenario with considerably less debt, it is more relevant to compare costs. Up until the Lehman crisis, we only borrowed in foreign currency if it was considered to be cheaper than swapping krona borrowing for foreign currency. During the crisis, we raised loans with foreign currency bonds to cover a rapidly rising borrowing requirement and to be on the safe side: in the event of the funding requirement becoming very difficult. Even if it was somewhat more expensive to borrow in government bonds, there are reasons to assume that the aggregate costs were lower than they would have been had we increased bond borrowing to the corresponding extent.

As the debt is small or shrinking, it will be necessary, as in the current situation, to prioritise government bond borrowing. As we maintain the foreign currency bond market by on-lending to the Riksbank's foreign currency reserve, no problem arises either in maintaining the investor base in this market.

If and when on-lending to the Riksbank ceases, there will, however, be reasons to retain this market contact on the margin. One or a couple of loans every year in the dollar market can be justified to retain important investor relations in the event of there being needed in a future crisis situation. Adjustments in relation to government bonds must, however, of course, be made in particular years as government bonds are ultimately our core borrowing.

It was assumed in the quantitative analyses used as support for the current shares of the different types of debt that the long-term cost for borrowing in the inflation-linked market and the foreign currency market were the same as for the krona market. We will examine expected costs more closely in the quantitative analyses that we will carry out next year.

Summary

On this basis of this review of the characteristics of types of debt and the prerequisites to increase or decrease borrowing, we can present our deliberations in the following section for a considerably larger or smaller central government debt. As should have emerged, we consider that a sharp decrease in central government debt entails the most difficult balances to be struck.

This does not mean that a situation with rapidly rising debt is without challenges. However, they are of a different kind. They would in all likelihood, as during the Swedish crisis in the 1990s, more concern the practicalities of selling the volume of government securities needed and less about strategic choices.

If we anticipate a less dramatic course of events with a slightly larger debt, the challenge is less dramatic. The situation is well-known given that we relatively recently had a considerably larger debt, both in absolute and relative terms.

A markedly smaller debt is something completely different. It is 20 years since the central government debt was less than SEK 1,000 billion and if we envisage a debt of under SEK 600 billion, we would have to go back to the time before the shift to a market-based borrowing in the mid-1980s. These experiences are of little value for the current discussion.

What further complicates the picture is that how the state chooses to act when the debt is small can affect the prerequisites for handling a situation when it suddenly increases.

These circumstances mean that the emphasis in the following discussion is placed on the case with maturities with a considerably larger debt

2.7 Shares and maturities with considerably greater debt

Probable decrease in the share of inflation-linked debt

If central government debt were to be considerably larger, at least if the debt grows quickly, it will be difficult to cope with the present shares. The inflation-linked market is dominated by a small number of mainly Swedish participants and their willingness to increase their holdings is probably limited. At present, we are not able to adjust the share of the inflation-linked debt via derivatives. However, it is difficult to quantify the level of central government debt at which it would be appropriate to reduce the inflation-linked share.

The share of the foreign currency debt might need to increase

The government bond market may also constitute a restriction. This is above all the case if the debt grows quickly. However, borrowing in government bonds basically concerns the rate required by lenders to hold a particular stock. Experiences from other countries indicate that the limiting factor is when payment capacity is called into question and the rate becomes so high that the debt level is not considered to be sustainable.

Foreign currency bond borrowing can relieve the krona market by the investor base in euro and dollar being con-

siderably larger. This is above all the case when the debt is growing quickly.

We can use swaps or currency forward contracts to reduce exposure in foreign currency. During 2009, we raised large foreign currency loans without hedging the exchange rate risk. We took this increased foreign currency exposure as a position with a view to earning money when the krona strengthened, although none the less our foreign currency exposure was considerably higher than 15 per cent for a period.

With a swiftly growing central government debt, situations may arise where it seems expensive or risky to continue to limit foreign currency exposure at 15 per cent. Whether the share needs to be raised or not thus depends on the background to the increase in debt and on prevailing market conditions, costs and risks.

Longer interest rate refixing period

As the Debt Office is a large player in the Swedish fixed income market, we try to allocate the volume of swaps evenly over time in order not to affect market pricing. Despite this, there is a limit for the magnitude of the volumes that we can make per year.

At most, the volume of interest rate swaps has been in the range of SEK 50 billion annually. We consider that volumes in this range are what we can maximally carry out in the course of a year; there is also a risk that the market for longer swaps may be thinner in the future.

If the central government debt is large, it is therefore not certain that we can achieve the desired interest rate refixing period with the aid of interest swaps. The question then is which interest rate refixing period is desirable.

We will analyse this further but it is hardly possible to quantitatively determine an optimal interest rate refixing period for a given level of central government debt.

The sensitivity analyses that we have performed, as reported on earlier, show, for example, that large changes are required in the interest rate refixing period to compensate in terms of risk for variations in the size of the debt. Large variations in the interest rate refixing period of this kind depending on the development of central government debt and the borrowing requirement would be both expensive and practically difficult to carry out.

Earlier simulations indicate that an interest rate refixing period in the nominal debt of around three years strikes a good balance between cost and risk. Our preliminary conclusion is therefore that it is reasonable to start from the basis of just over three years, although the benchmark should be set taking into account that the volume of interest rate swaps should be reasonable in relation to the size of the market and taking into account the refunding risk in the central government debt.

2.8 Shares and maturities with a considerably smaller debt

Borrowing in a scenario with considerably less debt

In a scenario with considerably less debt, we are not able to maintain borrowing in all loan instruments that we use today. To safeguard the goal of keeping cost at a minimum in the long term while taking into account risk, we should prioritise the types of debt where we are able to borrow considerably more if the need should arise in the future. Before we terminate borrowing in a type of debt, we should take into account the costs of rebuilding the market if the need arises.

In light of this, borrowing in the government bond market has the highest priority in a scenario with a small debt. It has a great depth if the borrowing requirement increases at the same time as we maintain the infrastructure and thus future loan opportunities should major funding needs arise.

A shrinking central government debt would eventually bring to the fore the issue of fewer instruments and types of debt in central government debt. Firstly, the question must be put whether T-bills can be terminated. However, in this context, we must, inter alia, investigate the ability to cope with liquidity management in a satisfactory way.

Secondly, the inflation-linked bond stock will decrease apace with coming maturities and be replaced by government bonds. This will involve a gradual process rather than an abrupt closure decision. The aim of reducing the inflation-linked share of the debt is to maintain a reasonable liquidity and investor base in government bonds.

The stock of outstanding nominal bonds may probably decrease slightly assuming active exchanges between bond series to maintain liquidity in the most traded maturities. Liquidity remains good although investors already now have concerns about poorer liquidity and increased volatility in the future. We will address this problem again in section 3, *Readiness and refunding risks.*

The discussion on how we make priorities between different types of debt in a scenario with a small debt only has a bearing on the guidelines to the extent that we reduce the share of inflation-linked debt in the guidelines in the distant future. The foreign currency share can be retained with swaps or foreign currency forwards depending on the assessment of costs, risks and the need of diversification.

The share of the foreign currency debt may be unchanged

When the debt decreases, we reduce in the first place foreign currency bond borrowing. We have already

achieved this as we do not issue foreign currency bonds other than within the framework of on-lending.

Even if we do not raise foreign currency loans, we can none the less create the desired exposure through interest rate swaps between different currencies, cross currency swaps, or foreign currency forward contracts. When the borrowing requirement is small, the derivative market does not constitute a limitation. We do not at present have any supporting material here other than which served previously as the basis for the decision on a 15 per cent foreign currency share. If it were none the less reasons for reducing the share of foreign currency debt, this should therefore be more closely analysed from a diversification and cost perspective with additional quantitative supporting material.

The share of inflation-linked debt may decrease in time

When the central government debt becomes smaller, we allow as mentioned above the size of the inflation-linked debt to gradually decrease as loans mature. To reduce the share of inflation-linked debt through buybacks would probably be expensive. We have previously also discussed the possibility of exchanging old loans for new to "pay in advance" accrued inflation compensation and in this way reduce the share of inflation-linked debt. A discussion of this kind can, of course, be taken up again but exchanges also risk becoming expensive if these were to take place on a large scale.

This means that if central government debt decreases, the share of inflation-linked debt may at times be above the 25 per cent benchmark. In 2015, inflation-linked bond 3105 for the equivalent of SEK 60 billion matures. Depending on the size of central government debt, the inflation-linked share may then fall so that it will be slightly less than 25 per cent.

If the debt were to increase again in the future, inflation-linked borrowing could in the long term relieve the burden on other loan markets and contribute to reducing risk in the portfolio, in the same way that it did during the period with a large central government debt from the mid-1990s. There is therefore no crucial reason to take a position already today on when and whether inflation-linked debt should be "wound up" or whether the share should be reduced.

Shorter interest rate refixing period

Our overall assessment is that there should be scope for a shorter interest rate refixing period in a scenario with a smaller central government debt. Please note again that the interest rate refixing period refers to the exposure achieved with derivatives. The refunding risk would not increase but rather decrease through increased weight being placed on government bonds.

The market prerequisites to shorten the interest rate refixing period also increase if the central government debt decreases. A reduced borrowing requirement in government bonds entails that a larger share of borrowing can be swapped to shorter interest rate exposure. If the T-bill market were to be wound up, there may, however, momentarily arise a lengthening of the interest rate refixing period.

3 Readiness and refunding risks

Basically, a small debt is a strength and an advantage for a state. It keeps borrowing costs low and makes it possible to meet a crisis by borrowing large amounts, without central government debt becoming too great. At the same time, there are examples showing that a state can rapidly get into difficulties even if central government finances are initially in good shape. Measures are required in many dimensions to be able to tackle the challenges that arise if a country gets into a crisis situation of this kind.

One of many prerequisites for a state to flexibly be able to handle large funding requirements in a crisis situation is that there is an infrastructure for borrowing. The infrastructure consists of many parts: regulatory framework, institutions (debt office), knowledge in the form of human capital and systems, access to markets and purchasers of government securities (investor base), legal prerequisites with for example necessary contracts, dealers, secondary markets and liquidity.

When dealing with the crisis between 2008 and 2009, it was possible for most states with large borrowing requirements to fund support and rescue packages, fiscal policy stimulus and loss of tax revenue. This had not been possible unless there had been well established institutions, markets and investors; there were mechanisms and participants which could be used to cover extensive funding requirements.

If central government debt decreases, it is important for reasons of preparation to ensure that necessary infrastructure is safeguarded. In this section, we develop the discussion of the challenges created by decreasing central government debt and the measures that may be required to safeguard the prerequisites for good future preparedness to deal with situations where we may be obliged to fund large deficits.

3.1 Experiences from the financial crisis

Experiences and lessons of the recent crisis for debt management have been intensively discussed in various contexts. Not least, the subject has been raised at international meetings between debt offices and within the framework of the OECD, IMF consultations on debt management and the EU.

In June 2010, the IMF held a consultation on debt management in Stockholm. Some of the conclusions drawn by the IMF are summarised in what has been called the *Stockholm principles*. These emphasise, inter alia, the importance of flexibility to safeguard liquidity in the second-hand market, transparent and predictable debt management, close and continuous dialogue with investors, good communication with other relevant agencies, and not least: even if cost minimisation is still the medium-term goal, greater weight should be placed on limiting the risks in the debt portfolio given the increased exposure to macroeconomic and financial risks in recent years.

It is still too early to summarise any definite conclusions although it may be worthwhile to state some tentative and preliminary proposals that have crystallised in the discussion and which are relevant for countries like Sweden. At the same time, it should be emphasised that several conclusions are most acute for states with considerably larger indebtedness and credibility problems than Sweden, others concern mainly developing countries.

One important experience is that debt managers need to be more creative and flexible as regards the instrument mix, sales forms and timing to meet rapidly growing funding requirements. Sweden undertook extensive borrowing both in foreign currency and kronor outside the normal programmes. A 30-year loan could be issued by making use of the high level of demand for long maturities. This strategy had components of “pre-funding” meaning that we initially had access to a liquidity buffer. Additional issues in T-bills were made to safeguard financial stability.

It is important to improve the power of resistance to macroeconomic and funding shocks. The debt structure needs to be adapted to extend and smooth the time to maturity structure and reduce funding and liquidity risks. This can take place by extending the maturity of borrowing and by, for example, exchanges. Several countries were obliged to meet a rapidly rising borrowing requirement by large loans in the short maturities. These loans can subsequently be rearranged with longer maturities. Extensive short borrowing means that annual borrowing volumes will be very large. By extending the maturity, exposure to market turbulence is reduced, as the loan volume that has to be rolled over will be less.

A liquidity buffer can constitute a complement in a strategy of this kind. A buffer can be used to bridge temporary market disruptions.

Sweden never needed to make use of the possibility of borrowing large volumes in T-bills but met the growing borrowing requirement by issuing bonds. In practice, the maturity of the central government debt was thus extended. The Swedish debt structure is thus more robust than is the case in many other countries.

An important part of the strategy for reducing the risks in the central government debt is to support liquidity in the secondary market. These measures reduce the risk of failures in the primary market and market disruptions as well as improving price information. Good liquidity is a prerequisite for a broad investor base.

During the crisis the domestic investor base obtained a key role in central government borrowing. A domestic investor base is more stable than a foreign one. One conclusion may therefore be to strengthen the link with this

part of the investor base. This has also come to be an argument for inflation-linked borrowing, as inflation-linked bonds normally have a considerably stronger domestic base than nominal bonds.

Even if the domestic investor base plays a key role, it is, not least for smaller countries, important to be able to borrow internationally if the borrowing requirement grows quickly. In recent years, it has become important for many debt offices to borrow regularly in foreign currency as well and to have closer contacts with investors worldwide. One important motive for this is to be able to maintain a broad contact and investor network if needed.

Finally, it is important for debt management to strengthen communication with investors and other interested parties. This is, on the one hand, about issuers obtaining a better understanding of investor philosophy and other factors that affect their allocation decisions. This makes it possible to better analyse vulnerabilities and reduce the risks of access to markets. Openness and transparency on the part of the issuer is on the other hand important to reduce investors' uncertainty about debt development and funding policy. This concerns not least openness, transparency and availability of important data on debt development, debt structure and borrowing requirements.

3.2 Deterioration in liquidity in the government bond market

Our own experience of the financial crisis as well as the international discussion referred to above has strengthened our view that it is necessary to maintain well-functioning loan markets also during periods when the borrowing requirement is small.

Nominal government bonds are our most important borrowing instrument. Thanks to great market depth and good liquidity, we borrow on very advantageous terms. When the borrowing requirement has gradually decreased, we have prioritised borrowing in government bonds and in the first place reduced other borrowing, in particular in foreign currency. Inflation-linked borrowing has also been kept at a minimum level. Despite this, we are receiving signals that the government bond market functions less well at times.

A number of analysts have recently adjusted future growth prospects downwards although both our own and external forecasts still indicate that central government debt will continue to decrease over time. At the same time, new regulations can lead to increasing demands on banks and insurance companies to hold government securities. This will further increase demand. At the same time, trade in the remaining instruments decreases, as these players often cannot or do not want to trade their holdings. There is therefore concern both among domestic and international investors that liquidity in the bond market will deteriorate further leading to increased volatility and poorer price information.

The liquidity problem does not only depend on our reducing borrowing and on increased domestic demand. Sweden's strong central government finances have attracted new foreign investors to the market for krona bonds. These are investors, for example, central banks, which seldom trade their holdings and therefore do not contribute to activity in the market. Bearing in mind the turbulence that affects other countries' government security markets, this trend will probably continue.

An increasingly large part of the bond stock can thus be held by participants with little propensity to trade or to react to rate movements. This can lead to less liquidity in the market. It may also make interest rate movements larger given that participants who react to price signals, and thus need and provide liquidity, leave the Swedish market.

3.3 Consequences for long-term costs and risk

Sufficient market depth and good liquidity are prerequisites for investors to demand our bonds. This applies in particular to foreign participants. If there were to be a further deterioration in the market, we would thus risk a decrease in the investor base.

A smaller investor base need not be a problem as long as we have a small borrowing requirement. Rates would probably be low given that the market is dominated by participants who must hold government securities for regulatory reasons. At the same time, a development of this kind creates a new kind of risk, namely those that are related to the ability to deal with a potential future crisis situation where we rapidly need to borrow large amounts in a market with too small an investor base to absorb the large offering.

If many investors decide to leave Swedish government bonds because the market has become too small and illiquid, the depth of the market will decrease, i.e. the possibility of rapidly investing large volumes without increasing market rates more than marginally. In this situation, it may take time and entail large costs to rebuild the investor base and a well functioning central government bond market.

There are various institutional inertia factors to take into account. With a small outstanding stock, Swedish government bonds would no longer be included in the global indexes that guide many large investors. They would have been replaced by other assets in the funds' investment guidelines and so on. It would take a long time to reverse this development and during that period we would have to pay considerably higher rates compared to the situation we have today

In markets for other instruments as well, reduced borrowing can lead to higher costs and poorer preparedness. Compared with the government bond market, we consider, however, that the consequences for long-term cost

and risk are less serious. Moreover, it is sufficient with considerably smaller loan volumes in other types of debt to limit this risk.

In our foreign currency bonds, we do not, for example, at all have the same need of good liquidity as in government bonds. The infrastructure is also available regardless of the actions of the Swedish state because the international fixed income market is used by so many participants. A more opportunistic borrowing strategy thus functions here.

One conclusion drawn by many debt offices from the ongoing crisis is that regular issues in these markets are a strength, making marketsavailable in a crisis situation. If a crisis has national causes, the need would probably be more limited, but as a preparation to deal with disturbances with an international dimension, it is clearly a benefit to have recurrent issues in foreign currency. This applies, in particular, to the dollar market. This provides more reliable access to investors if it involves them increasing a holding rather than deciding to start to invest in Swedish government securities. For reasons of preparedness, we should therefore have some presence in the foreign currency market, even if this presence may be relatively limited. As a reference point, one or two benchmark bonds in dollars could serve this purpose. At present, we can satisfy the requirement given that we borrow foreign currency on behalf of the Riksbank.

3.4 The need for a certain minimum of bond funding

Our assessment is thus that the nominal bond market is at risk of being most affected if the central government debt is small or decreases quickly. At the same time, this market is the most important if the state once again needs to borrow large amounts. This presents a challenge. Market maintenance has been an important concept in central government debt management, but in a situation with a lower debt, it has a broader meaning.

We take the measures we can to improve the liquidity of the government bond market. We can, for instance, carry out exchanges between government bonds to increase the volume in the loans that are reference loans in the forward market. With the small loan volumes we have, there is, however, a clear risk that such measures will not suffice. We consider that a certain minimum debt stock is needed to avoid the risk of further deterioration of the market.

As we have already reduced funding in other types of debt to a minimum, we do not see any possibility of replacing other borrowing with government bonds in order to hold up the issue volume. We consider that the T-bill stock cannot be further decreased and we do not issue any foreign currency loans other than for on-lending to the Riksbank. The outstanding stock of inflation-linked bonds can, however, be decreased over time to provide scope for government bonds. However, no larger inflation-linked loan matures before 2015. Buybacks of inflation-linked loans would probably entail large costs. A repurchase programme would have a considerable impact on pricing in the market.

In the light of this, we consider that there are reasons to have some borrowing in government bonds in addition to that required to fund the state's current payments and maturing loans. One way of formulating a commission of this kind is to say that the Debt Office should ensure that the nominal bond stock remains above a set minimum level.

This additional borrowing would provide the state with a cash surplus, which could be invested at low risk and still provide sufficient yield to cover the cost of the loan. The possibility of retaining a certain annual volume would therefore serve as cheap insurance against the risk of deterioration of the market.

A cash surplus invested in liquid assets would moreover provide an additional buffer in an extreme crisis situation where borrowing possibilities are temporarily limited for some reason. We therefore consider that borrowing of this kind can be regarded as a cheap – probably cost -free – insurance against strains on central government finances in the longer term, but also provide short-term help in the event of an acute crisis.

One accounting consequence of this is that the difference between gross debt and net debt would increase. The net debt refers in this context to the net after assets in liquidity management, on-lending to the Riksbank and the excess borrowing discussed here. The net debt, which measures the real strength of central government finances, would continue to decrease due to the surplus in central government regular payments. The gross debt, however, would remain at a higher level, as it is the sum of all outstanding debt instruments and does not take into account assets. We consider that there should not be a problem in explaining these connections for investors and others, in particular as it is possible to show that the difference between gross and net refers to liquid assets. Gross debt would moreover remain at a low level, both in an international and historical perspective.

Asset management in practice

We wish to emphasise that we have great difficulty in seeing any real refunding risks for Sweden in the short term. As shown above, the main purpose of additional lending is to maintain liquidity and the infrastructure in the bond market to ensure good borrowing preparedness in future as well. However, this would also create a cash surplus which contributes to reducing refunding risks in the central government debt. If large funding requirements arise, it would be possible to sell assets to reduce the strains on the loan market. The question then is how the surplus should be managed. It would be going too far at this stage to propose guidelines for management of these assets. The reasoning below should not be regarded as

sharp proposals but is intended to provide some starting points for further investigation.

Where responsibility for management of the assets should be placed is not given and should be further investigated. Our preliminary assessment is that it would be most efficient for borrowing and investment of surpluses to be dealt with by the same agency. Given an arrangement of this kind, it is easier to take market prerequisites into consideration when planning, for example, derivative transactions to deal with interest rate and foreign currency risks. It would also eliminate the need for transfer of information and payments, which would be required if borrowing and investment were to be dealt with in different places.

As mentioned above, the asset portfolio can serve the function of a buffer in a crisis situation. In a situation of this kind, one may need to take a position on selling assets as replacement for borrowing if borrowing proves difficult or very expensive because of the crisis. If several agencies are involved the effect may be longer lead times and it may be difficult to make an overall assessment of the available alternatives.

As we already have established routines to manage a surplus within the framework of liquidity managementwhere we already invest large amounts in assets, we therefore do not see any reasons why management of the surpluses discussed here should be placed outside the Debt Office. What is new is that the surpluses in question here would persist for a longer period of time and could involve large amounts. This justifies an expansion of available investment instruments, in particular investment instruments, especially as regards the maturity.

We consider that it is appropriate to mainly make investments in foreign currency. While krona securities, for example, mortgage bonds would give a secure interest margin, it is not appropriate for reasons of neutrality in competition for the state to become a large investor in the domestic market. Foreign securities, in the first place, government securities, are therefore preferable. As the borrowing is in kronor, the currency risk is eliminated by means of derivative instruments.

With this investment focus, there would be similarities with the Riksbank's currency reserve. The difference in the aim of the borrowing and the use of funds means, however, that there should not be any risk of confusion.

The Debt Office's transactions are moreover neutral in terms of currency – purchase of currency assets is matched in terms of maturities and currency by the corresponding borrowing (foreign currency debt).

To the extent that the Debt Office needs to switch between kronor and foreign currency, these should be handled in accordance with the same procedure as other exchanges. They should in other words be evenly distributed over time. It should therefore be possible to deal with transactions of this kind as flexibly as the Debt Office's other exchanges.

An example

To make more concrete what the proposed procedure would mean in practice, a stylised example is given here.

We issue SEK 2 billion of a ten-year government bond in a situation where the borrowing requirement is so small that issues will otherwise be completely marginal.

The loan is swapped to interest rate exposure in euro with across currency swap with initial and final exchange. We receive interest in kronor in the swap that eliminates the exposure in the bond yield and instead pay a euro interest rate with the same maturity as the asset we intend to invest in. At the same time, we purchase euro for the whole amount within the framework of the swap transaction. Let us say that we then receive EUR 220 million at the current exchange rate. This is a standardised transaction that we regularly use when we obtain currency exposure with derivatives and is wholly equivalent with a regular foreign currency loan.

We use the amount in euro to purchase German government bonds for EUR 220 million with the same maturity as we swapped the krona loan to. Both the debt (our swapped government bonds) and the asset now have the same currency, amounts and interest rate exposure. Neither the debt shares nor maturities (measured as the time to maturity in the central government debt have thus been affected. With given and unchanged guidelines, these will govern our additional borrowing with consequent foreign currency and maturity matching.

When our government bond matures, we must buy euro to pay back the maturing bond–remember that in the example we swapped our government bond to euro. In the swap a currency forward contract was also entered into where we undertook to purchase SEK 2 billion for EUR 220 million, which means that we need EUR 220 million when closing the swap.

We now receive this amount in euro from the German state when the German government bond matures and we therefore do not have to buy euro in the market. For the EUR 220 million we receive, we buy SEK 2 billion in accordance with the swap contract. With these kronor, we can then repay the original bond loan.

This process has thus not led to any foreign currency exposure nor any interest rate risk. What we have done is to purchase an asset in foreign currency with a foreign currency loan (government bond and swap): the exchange rate and the foreign currency market have thus not been affected.

Another question is whether any costs arise in these transactions. The costs depend on our bond yields, the German bond yields and the swap spreads in kronor and euro. Market conditions can, of course, change but with the pricing at the time of writing, we would gain from the transaction.

Market conditions can naturally change but this type of additional borrowing comes into question first when there is a high level of demand for our government bonds. In a situation of this kind, our borrowing costs should be low. In a situation where we need to borrow larger amounts with probably poorer interest terms and possibly even poorer relative interest terms in relation to other issuers, additional borrowing is no longer needed. In a situation of this kind, the cash assets can instead be used as a buffer to avoid large strains and if the short-term borrowing requirement is becoming large.

The assets we purchase should consist of interest-bearing securities with good credit quality. For example, this category consists of securities issued by the French, German, Finnish or Dutch states and certain *supranational* bodies such as the EIB, The World Bank and the NiB ought to be included.

No assets are, of course, completely risk-free although the credit risk in securities issued by the above issuers must be regarded as practically negligible. Market risks as interest rate risk and currency risk can be neutralised with the aid of derivatives. Counterparty risks in derivative transactions are dealt with by our receiving collateral for the derivative contracts.

Counterparty risks in derivative transactions are dealt with by our receiving collateral for the derivative contract

Counterparty transactions are dealt with by our receiving collateral if the derivative instrument's market value increases. It should be possible to conduct this activity without costs and with a marginal risk.

Further investigation

The Debt Office considers that a decision to give us a mandate to borrow more than what is required to cover the state's current expenditure requires further investigation. This applies both to the formal regulation and the practical arrangements, not least management of the cash surplus.

As regards the formal requirement, while a measure entailing lower risk without incurring any costs may possibly be justified by reference to the goal for central government debt management, keeping long-term cost at a minimum while taking into account risk and the Debt Office's market maintenance tasks. However, bearing in mind that this includes borrowing for a purpose that is not listed in the Budget Act's rules for central government debt management, this is neither appropriate nor possible. As in the case of all central government borrowing, there must be a clear mandate from the parliament (the Riksdag).

The mandate could be given by a new point being introduced in the Budget Act's list of purposes for which the Government (The Debt Office) is authorised to borrow. The alternative could be to base it on a budget decision. In this case, it would be covered by the conditions in the Budget Act that a loan may be raised to fund "other expenditure based on the Riksdag's decision".[2] The choice of path in this respect is less important for the possibility of achieving the purpose of the measure.

Further deliberations are required to take a position on the design of the Debt Office's borrowing mandate. The proposal mentioned above is to specify the lowest level of the nominal bond stock, but there may be other alternatives.

The frameworks for dealing with the surpluses probably also require further consideration. These ought in the first place to be alongside the current annual guidelines. It is reasonable to base this on the current principle in the guidelines that assets that are created in central government debt management are offset by netting in calculations of shares and maturities. In this way, for example, the foreign currency share of the central government debt is not affected by foreign currency borrowing on behalf of the Riksbank, as the Debt Office has corresponding claims in foreign currency on the Riksbank. Additional borrowing which is corresponded to by matched investments does not either affect the exposure regulated by the guidelines, neither as regards maturities nor debt shares. Consideration should therefore be given to whether special supplementary guidelines are needed from the Government to guide the Debt Office's management of the additional funds.

The Debt Office is prepared to assist the Government with supporting material for the decisions that need to be made due these proposals. In our assessment, these decisions are not urgent in the sense that the government security market or the infrastructure risk deteriorating quickly during this or the coming year. However, it may be important to retain investors' interest in the Swedish market that the Government indicates that it is aware of the ongoing discussion and is prepared to consider measures to support the market.

3.5 The market for government securities in a broader perspective

The previous discussion applies to the aspects of government debt policy relating to the consequences of the central government debt becoming considerably smaller than we are used to. This is natural bearing in mind that this is where the Debt Office has its primary responsibility and it is in connection with the proposed guidelines for

[2] *See Budget Act (2011:203), Chapter 5, section 1.*

central government debt management that the issue is raised.

However, we wish to draw attention to the fact that a situation where central government debt is considerably lower could create tensions of another kind and in other areas. The primary aim of issuing central government securities is to fund the central government debt, but, on more or less good grounds, government securities have been given – or have come to play – an important role in other respects. This is partly related to the state offering instruments of debt that have no equivalent in the private sector when it comes to creditworthiness and liquidity. For a long time, the state's need to issue government securities has been so large that no conflict has arisen between these roles. However, just as in other areas, it cannot generally be assumed that a means can be used to achieve two goals. By extension, attention should therefore be given in the discussion to the consequences of reduced central government debt for these other roles.

An example of this is the special position given to government securities in bank regulation. Banks are expected to hold liquid assets to enable them to meet unexpected strains in the form of withdrawals or exclusion from regular short-term funding markets. This is based on the prerequisite that government securities are really the most liquid assets (with the exception of direct claims on the central bank). A development leading to a deterioration of the liquidity of the government security market also affects the banks' ability to withstand liquidity disturbances.

The importance of government securities for the financial markets was clearly illustrated during the financial crisis. For a period, directly after Lehman Brothers bankruptcy, government securities were largely the only instrument that could be traded and borrowed against. A consequence of this was a sharp increase in demand for government securities, which the Debt Office met by issuing additional T-bills. Without access to government securities, the banks' liquidity situation would have been even worse.

The nature of these links and how the financial system can be immunised against liquidity disturbances are complex issues. However, it cannot be disregarded that the regulatory framework is based on government securities playing an important role. Meeting the need for liquid assets in the economy is a different goal than funding the central government debt. Given that it has been concluded that this goal can best be reached with the aid of government securities, it is reasonable to assume that this is reflected in the central government policy mission.

This would ultimately mean that the goal for central government debt management needs to be expanded. It cannot any longer only be about funding a particular central government debt at the lowest possible cost. The gross central government debt as such may need to be regarded as a policy instrument.

A similar reasoning may be made on the role of central government securities as the instrument that provides investors with the lowest possible credit risk, the function that means that it has a particular position in the regulation of insurance companies. In other contexts as well, access to investments with a low credit risk may be important.[3]

These aspects should therefore be clarified in the discussion of how central government debt management should be handled in a situation where the state's own funding requirements no longer create a large offering of government securities. We therefore consider that the Government should consider making a broader overview of the role of the government security market in the economy as a whole and in the financial markets in particular.

The Debt Office cannot make an assessment of what an analysis of this kind might also lead to. Although these aspects are not substantially related to the arguments for maintaining borrowing which we have presented above, they seem to point in the same direction.

3.6 The international discussion

Before the financial crisis broke out, several countries were confronted by the challenge of trying to retain a well functioning government security market despite a small borrowing requirement. In the light of reduced government debt, it was discussed how the strategy for borrowing could be designed to safeguard long-term costs and access to future funding.

Denmark, Australia and New Zealand are examples of countries that then chose to borrow in excess of the actual borrowing requirement to keep the government bond market working.

It is difficult to directly transfer the analyses from these countries to Swedish conditions as conditions differ in many respects. However, the basic problems are the same and it is accordingly of interest to study the reasons on which the decision to introduce excess borrowing was based.

Denmark

After several years of large budget surpluses, the Danish central government debt decreased markedly at the end of 2007. The forecasts then indicated a further number of years with surpluses but in the long term the borrowing requirement was expected to rise again for demographic reasons. In the light of this, the consequences were discussed of a temporary stop in borrowing in government securities. Denmark's national bank analysed therefore the cost of rebuilding up a government security market.

[3] *This view is not changed by recent examples that the instruments of debt of certain states do not offer the creditworthiness assumed by the regulatory framework. This rather clarifies a further aspect of the consequences if the state fails to perform its basic task of being a source of security for citizens.*

The costs were assumed partly to consist of administrative costs to, for example, draw up contracts with dealers or build up internal expertise and IT systems. These costs were considered, however, to be small compared with the costs that would arise due to less advantageous borrowing terms. Poorer liquidity and reduced structural demand were expected to lead to markedly higher borrowing costs for a number of years. This assessment was based, inter alia, on previous experiences from the establishment of the government bond programme and Denmark's eurobond programme.

Besides the costs for rebuilding, an analysis was also made of the importance of government securities for the rest of the financial system. Government bonds have a special position as long secure investment objects. The government security curve is also an important reference in pricing other financial instruments.

The National Bank of Denmark also considered that it should be possible to invest the surplus from any additional borrowing so that it covered costs with little financial risk. This conclusion was strengthened by New Zealand continuing to issue government bonds despite there not being any underlying borrowing requirement. The surplus was invested in foreign fixed income securities with a high rating and the foreign currency risk was neutralised by currency swaps.

In the light of the conclusions in the analysis, it was decided to carry out additional borrowing in government bonds with a view to maintaining a liquid market in Denmark.

Australia

Australia had already decided to issue government bonds for the purpose of market maintenance. In 2002, an inquiry was made into the future of the government securities market. The outstanding stock of government bonds had then decreased to very low levels.

The conclusions of the report were, among other things, that a lack of government bonds would lead to higher market rates, in particular because it would be more expensive to deal with interest rate risk without futures on government bonds. The financial market would moreover be very vulnerable in periods of instability. The value of government bonds was emphasised as a long-term investment alternative with a low risk and as a price reference in valuation of other financial products.

The Australian government decided on the basis of this report to continue to issue a sufficiently large volume of government bonds to enable the futures market to function satisfactorily.

In the 2011/2012 budget the Govermnent makes the following conclusion. The crisis affirmed the value in maintaining a CGS market of sufficient size to support the long-term stability of the financial markets and to ensure the Government is well placed, in a practical sense, to respond to sudden events with large fiscal impacts.

4 Retail market borrowing – goal and evaluation

In 2010, the Government gave the Debt Office the special task, in connection with that year's proposed guidelines, of "continuing to work on improvement of the comparison between retail market borrowing and the government security market". This task originated in observations made by the special investigator (Jörgen Appelgren) who examined central government debt management on behalf of the Government. He summarised his assessment of retail market borrowing as follows:[4]

> *The goal for retail market borrowing is couched in rather general terms. One recommendation is to specify the goal more exactly in line with the description in the reasons for the Government's decision on the proposed guidelines for 2008. The Debt Office should ensure that as fair comparisons as possible can be made between borrowing via the government security market and through the retail market.*

In this section, the Debt Office reports the result of the analytical work that we carried out due to this task. We first deal with the formulation of the objective, then with how we can ensure as fair comparisons as possible, i.e. the methods of evaluation.

4.1 The formulation of the objective

The overarching requirement on retail market borrowing is to contribute to reducing the costs of the central government debt. This is self-evident. If it no longer produces lower loan costs, it is impossible to justify borrowing with special instruments targeted for the retail market, as the corresponding funds are available through conventional government securities. Bearing in mind that the goal of central government debt management also includes risk, it would in principle be correct to take this aspect into account. However, in practice the character and size of retail market borrowing imply that risk considerations do not play any real part.

The investigator's observations on the objective did not refer to the approach underpinning the Debt Office's mandate but its formulation. He points out that the Government in the guidelines for 2008 in the reasons for its decision wrote that "the goal should be clarified and instead refer to the greatest possible saving in relation to the corresponding borrowing through government bonds or T-bills" (p. 30). However, this clarification was not included in the box stating the decision. Accordingly, the wording of the goal formulation according to the most recent proposed guidelines is still: "The Debt Office shall contribute through retail market borrowing to reducing the cost of central government debt." This is supplemented by a criterion for evaluation: "The cost saving of retail market borrowing compared with alternative borrowing shall be reported."

The Government's formulation in the proposed guidelines for 2008 was based on a proposal from the Debt Office. We then considered that it was sufficient to change the wording of the motivation text. Evaluation was already guided by the principles described and it was then sufficient to clarify what was included in "reducing the costs of central government debt".

Since then, the guidelines decisions have been given another design and there are no longer any explanations for the actual decisions. Correspondingly, it is not directly clear from the guideline decision what is meant by "alternative borrowing" as the basis for evaluation.

Reasons of clarity can thus argue for changing the formulation of the overarching goal in the way that the investigator suggests. This would lead to the following goal formulation:

The Debt Office shall through retail market borrowing contribute to reducing the costs of central government debt in relation to the comparable borrowing in the institutional market.

4.2 Evaluation methods

It is also clear what principles apply as regards evaluation of retail market borrowing. The interest rate on retail market borrowing shall be compared with the interest rate on corresponding instruments that the Debt Office has issued on the government security market. If we were to replace borrowing in the retail market with government security borrowing, we would do this with the same average maturity to neutralise the effects on overall maturity, which is controlled by a benchmark stated in the guidelines.

The outcome is then calculated as the difference between this interest margin converted into kronor and the additional costs we have to distribute and handle the retail market instrument. It thus involves a kind of alternative cost calculation, where the alternative is costs to borrow the corresponding amounts with the aid of government bonds and T-bills.

To translate these principles into practical calculations, a position must be taken on two main issues. In the first place, it is necessary to define what is meant by "comparable borrowing". Secondly, it must be decided how the costs of distributing retail market instruments are to be measured.

This section describes how these issues are dealt with according to the present outcome model. We comment in the respective section on the questions and possibilities for clarification that we consider exist. As a general com-

[4] *See the Government's statement 2009/10:104, p. 81 (http://www.regeringen.se/content/1/c6/14/43/80/b1674d06.pdf).*

ment, it may be said that it is primarily the cost calculations that are unclear.

It should be noted that the methods for evaluation of outcomes are not regulated by the Government's decisions in the guidelines in any other way than that the Government specifies the goal and the starting point for the evaluation. The responsibility for designing the evaluation model has rested on the Debt Office. We see no reason to change this allocation of responsibility. The reasoning that we report thus does not result in proposals that we consider the Government should take a position on but aims to describe how we intend in future to apply the principles that the Government has previously adopted. Our conclusions are presented therefore as "Assessment by the Debt Office", not as proposals for government decisions.

4.3 Interest income and a comparison with corresponding borrowing

Assessments by the Debt Office: We consider that the present methods for measuring income interest for the retail market instruments are fair. They provide a satisfactory approximation of the cost of comparable borrowing in government securities at the same time as the calculations are reasonably simple to carry out and explain. Accordingly, we do not see any reason to change the evaluation methods in this respect.

For premium lottery bonds, it is straightforward to measure the interest rate interest can be directly taken from a corresponding on a corresponding conventional government security. From the point of view of the Debt Office, a premium lottery bond corresponds to a nominal coupon bond, with coupon interest set to equal the lottery per cent on the loan (with a supplement to take into account that premium lottery prizes are tax-free). The margin is thus set in connection with the premium lottery bond issue by comparing the interest rate set by the Debt Office on the premium lottery bond with the interest we would have had to pay at the same time to issue a nominal bond with the same maturity.

To obtain the income in kronor, this margin is multiplied by the outstanding stock in the respective loan. The table below shows the income calculation on which the outcome for 2010 is based.

The Debt Office considers that these calculations are reasonable and clear. As shown above, there is a hypothetical component in the calculation of the interest rate but this is unavoidable. It would not be reasonable to demand in consideration of the possibility to evaluate evaluation of the premium lottery bond borrowing that the premium loanlottery bonds should be structured so as to exactly reflect an ordinary bond loan, as this would make it more difficult sale of premiumsto sell the lottery bonds.

The fact that premiums lottery bonds are sold during a period of a few weeks none the less means that it would not be possible to make such a comparison even in that case.

Table 1 INCOME CALCULATION ON LOTTERY BONDS

Premium loans	Margin	Outstanding stock	Income
2005:2*	0.61%	3 765 999 000	19 143 828
2006:01:00	0.67%	3 581 719 000	23 997 517
2006:2*	0.60%	4 192 888 000	6 289 332
2007:01:00	0.60%	3 273 762 000	19 642 572
2007:2*	0.60%	5 600 711 000	28 003 555
2008:01:00	0.60%	3 794 075 000	22 764 450
2008:02:00	0.60%	3 547 600 000	21 285 600
2009:01:00	0.39%	3 548 180 000	13 837 902
2009:02:00	0.58%	5 315 420 000	30 829 436
2010:1*	0.51%	4 466 970 000	17 086 160
2010:2*	0.45%	6 535 355 000	4 901 516
			207 781 869

Loans marked with * matured or were issued during 2010 and are therefore included in the calculation only during the part of the year that it was outstanding.

The same basic principle is to *National Debt Savings Accounts with a fixed interest rate,* as for lottery bonds. The difference is that the margin here is set in advance at 0.35 per cent. The interest the customer receives in an investment is thus the current market rate for a bond with the corresponding maturity minus the set margin.

This method for setting interest rates means that it is sufficient when calculating income for National Debt Savings to use the fixed margin as a basis. This is multiplied (monthly) by the average balance in the accounts. These monthly amounts are added to an annual income.

The Debt Office assesses that also in this case the calculations are reasonable and clear. There are again hypothetical components in the calculation of the comparable interest rate, as we do not have any bonds with exactly the maturity that applies for a deposit in national debt savings. This means that it is therefore not possible to establish that the margin to the actual alternative interest rate is exactly 0.35 per cent. As in all contrafactual calculations, however, simplified assumptions and approximations are necessary.

For *National Debt Savings accounts with variable interest* a fixed margin is also applied. The margin is set at 0.25 per cent for the account form Utan tidsgräns (No time limit) and at 0.35 per cent for the account form Månadsspar (Monthly savings). The income calculation is thus made in the same way as for the fixed interest products, i.e. the margin is multiplied by the average balance during the measurement period for accounts with a floating interest rate.

The difference here is that for investments with a floating rate, there is no corresponding bond or T-bill to use as comparison. Instead, the Riksbank's repo rate is used as a reference rate, i.e. the customers receive a yield on their account which is 0.25 and 0.35 percentage points respectively below the current repo rate. The underlying idea is that the Debt Office has a daily cash management and there the loan cost (as well as the yield on a surplus) is normally closely related to the repo rate. National Debt Savings with a floating rate are thus evaluated with the Debt Office's cash management as a comparison object.

This arrangement is based on assumptions that may be considered less self-evident than in the case of the other National Debt Savings accounts. One reason is that the funds are at the disposal of the Debt Office for a much longer time than one day; calculations show that a deposited krona is deposited on average for 2.25 years. On the other hand, control of central government debt management is not based on the maturity (refinancing risk) but on the period of time until the next interest adjustment (interest rate refixing risk). The period of time to the next interest adjustment on floating National Debt Savings corresponds to the time to the next repo rate decision by the Riksbank. Although these decisions usually are made at set time intervals, the interest rate refixing period is considerably shorter than the time the funds are deposited in the account. To this extent, a floating rate is a reasonable approximation of the interest rate refixing period.

An alternative way of taking into account that funds are normally deposited for a longer period is to compare floating rate National Debt Savings with a hypothetical government bond with just over two years to maturity that has a floating rate. As the actual government bonds have a fixed yield, this corresponds to assuming that we issue a government bond with a 2.25 year maturity and then swap the borrowing to variable interest.

Based on historical market data, we have calculated what the cost of this kind of strategy would have been. The result shows that the cost in relation to the repo rate would have varied somewhat but with an average only a few basis points below the repo rate. As the difference is small, the conclusion is that the repo rate is a reasonable reference rate, even taking into account that money normally remains in the account for some time.

To conclude, there is reason to note that the evaluation methods do not make any attempt to take into account whether transfer of retail market borrowing would affect the rates we have to pay in the government securities market. As the Debt Office has pointed out in previous discussions on evaluation, this is a general fact when evaluations are made based on hypothetical borrowing plans. It may be said that the problem has somewhat greater weight in evaluation of retail market borrowing where the requirement for exactness is greater than if it, for example, concerned assessing whether another maturity in the nominal debt would have been more expensive or cheaper. On the other hand, relatively limited amounts are involved that would be funded on other markets.

It is furthermore difficult to estimate the size of this effect. There are good reasons to assume that it would vary over time, and could even go in different directions depending on the state of public finances. It is accordingly reasonable to assume that increased borrowing in government securities increases the loan costs during the period when the borrowing requirement is great and the debt is growing. During such periods, the present evaluations underestimate the saving from retail market borrowing. The converse is likely when the surplus – as at present – is large and the debt is shrinking. Additional borrowing in government securities could then further reduce the loan costs by, for example, improving the liquidity of the secondary market.

This reasoning indicates that there is no simple way of taking into account this type of effect in the ongoing evaluation of retail market borrowing. They should rather be taken into account in qualitative terms in connection with more long-term assessments of the role of retail market instruments in central government debt management.

4.4 The costs of retail market instruments

Assessment by the Debt Office: We consider that the methods for dealing with the direct costs function well. However, the standards for distributing common costs should be reviewed with a view to better capturing the the additional costs arising from our retail market borrowing. The measurement should thus be based on a marginal cost principle. The transition to a new cost measure must be preceded by a more thorough analysis of the common costs and how large a part of these costs can actually be attributed to retail market borrowing. We consider that a new cost measure can be taken into use in the evaluation of the outcome for 2012.

In the current evaluation model, the costs for retail market borrowing are split into three components:

1) *Direct costs* are those costs that can be attributed to the respective product. These include marketing costs and commission costs in connection with lottery bond sales, costs for stock exchange registration and registration at Euroclear (VPC), and IT costs for systems and hardware etc. Capital losses in connection with early redemption (where capital gains are included as a negative cost) are included as a direct cost for National Debt Savings. For lottery bonds, the outcome is affected (positively) by old physical bonds that have never been redeemed and

are cancelled ten years after maturity.

2) *Common costs in the retail market* are those costs that can be attributed to the Retail Market Department but cannot be attributed to a particular product. This includes wage costs for staff at the department, common sales costs such as an external call centre, general marketing, etc. These costs are apportioned in such a way that National Debt Savings bears 65 per cent and lottery bonds 35 per cent. Until 2009, the outstanding volume was used as a distribution key, but the current arrangement better reflects the fact that National Debt Savings is a more work-intensive product, inter alia, through it being administered internally (not through Euroclear) and entails more extensive contacts with customers.

3) *The share of retail market borrowing of common costs for the whole of the Debt Office*. These include costs for premises, support functions (IT, back office etc.), management functions and so one, which are allocated to the retail market in accordance with certain standardised calculations. These calculations attempt to capture how large a part of the common costs that can be attributed to retail market borrowing. These costs are in a second step allocated between products so that National Debt Savings bears 65 per cent and lottery bonds 35 per cent.[5]

On the basis of the requirement that the evaluation should be fair, it is self-evident that the direct costs should be charged to the respective product. It is likewise self-evident that retail market borrowing should bear the costs attributable to the department's activities. It is less self-evident how these should be allocated between lottery bonds and National Debt Savings. A more in-depth analysis would conceivably produce another result, for example, based on how working time is allocated according to the reports in the Debt Office's system for time reporting. Nothing contradicts, however, the reasonability of the allocation 65/35.

More More interesting questions of principle are raised when we consider how large a part of the Debt Office's other costs should be allocated to retail market borrowing. The present measurement is based on the activity bearing a share of other costs which is proportional to how large a part of working hours that other departments use for retail market borrowing. To measure the share, an extensive questionnaire was carried out in 2009, where staff in the support departments were asked to estimate how large a part of their time they used for tasks related to the respective business department. The result did not deviate from an allocation based on the respective business division's share of the number of staff at the business departments. We therefore decided to use the number of employees as a basis for the allocation key. This means that for 2010 25.4 per cent of the common costs were at the retail market department.

The table below shows the complete outcome report for retail market borrowing during 2010. It shows that retail market borrowing's share of the common costs is in the same size range as the direct costs (total of 1) and 2) in the above list).

With the present method to allocate common costs no distinction is made between retail market borrowing and other business areas. The principle that common costs should be allocated to one of the Debt Office's tasks (in practice, the department mainly responsible for the respective tasks) applies for all. No consideration is accordingly given to only retail market borrowing having an explicit quantitative performance target.

One interpretation of the evaluation of retail market borrowing is that if an instrument does not give lower costs than regular borrowing, it should be terminated. The comparison should in this case concern the Debt Office's costs with and without this form of savings. The objection can therefore be raised against using the existing cost measure for evaluation that certain of the common costs are wholly fixed in the sense that they would not be less if retail market borrowing were to be ended. Examples of this are functions which are independent of whether we engage in retail market borrowing, such as the senior management and board, staff services, IT infrastructure, internal service etc.

It also appears inappropriate if, for example, an expansion of the Debt Office's task that leads to certain staff and support functions having to be further expanded should result in a deterioration of the reported outcome for the retail market. It is similarly arbitrary if a marked increase of the number of staff at another business department should lead to an improvement in the outcome. A system with these characteristics does not produce a fair picture of the savings the state can make.

As long as the activity produces a clear surplus, the exactness of the cost measurements plays a minor role. This issue will be of greater weight in another situation where a decision on whether to develop or terminate some part of the activity is being considered. For reasons of principle as well, it is of course essential that we give as fair a picture as possible of our activities.

This reasoning argues in favour of it being appropriate in the evaluation to take into account only the costs that would not exist if we did not have retail market borrowing. Today's evaluation method does not comply with this requirement. It should therefore be reviewed with a view to being able to more clearly distinguish the part of common costs that can be attributed to retail market activities and are to that extent marginal. The transition to a new cost

[5] *Costs attributed to lottery bonds are accrued over the term of the loan, while costs for National Debt Savings are expensed directly.*

measure must be preceded by a more thorough analysis of the common costs and how large a part of these can actually be attributed to retail market borrowing. We consider that a new cost measure can be taken into use in the evaluation of the outcome for 2012.

We note that this conclusion applies to the cost measure for evaluation. Nothing prevents us from in using other standards that allocate all costs to business departments in the Debt Office's formal reporting.

Table 2 OUTCOME FOR RETAIL MARKET BORROWING

Accumulated until the end of December 2010	National Debt Savings	Lottery bonds	Total
Income Marginal (compared with the institutional market)	**69 440 631**	**207 781 869**	**277 222 500**
Direct costs			
Commission expenses	0	-40 097 477	-40 097 477
Payments to VPC, banks etc.	-403 112	-11 436 729	-11 839 841
Marketing	-5 704 339	-28 632 708	-34 337 047
Other costs	-3 892 810	5 434 357	1 541 547
Common costs, retail market	-15 818 837	-8 517 835	-24 336 672
Financial items	-2 766 597	62 779 012	60 012 415
Total direct costs	-28 585 695	-20 471 380	-49 057 076
Indirect (common) costs	-29 278 703	-15 765 455	-45 044 159
Total costs	***-57 864 399***	***-36 236 836***	***-94 101 235***
OUTCOME	**11 576 232**	**171 545 033**	**183 121 266**

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