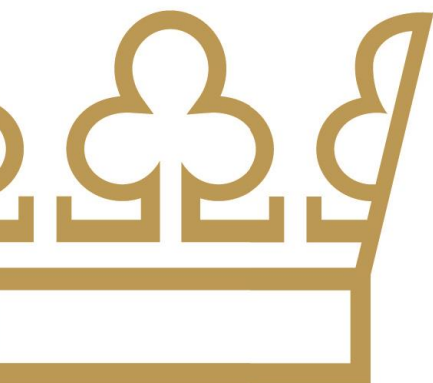
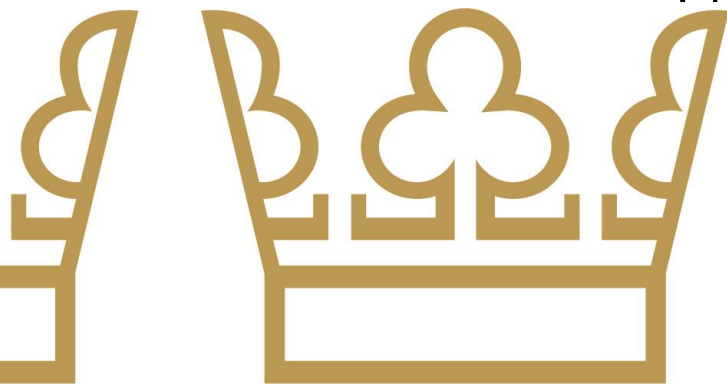


# Central government debt management

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Proposed guidelines 2017–2020



# Central government debt management

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*In this report the Swedish National Debt Office presents proposed guidelines for the management of the central government debt for 2017-2020. For the period from 2018 up to and including 2020 the proposals are preliminary. This report also presents the analysis of borrowing in lottery bonds and position activities that the Government has commissioned the Debt Office to carry out.*

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# Summary

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*The Debt Office proposes extending the maturity of the nominal krona debt. It also proposes continuing to borrow in lottery bonds even though this will be expensive in the short term. Active position-taking should continue and the Debt Office proposes expanding the possibility of taking positions in the krona exchange rate. The size target of the inflation-linked krona debt should continue to be formulated as a share of the total debt. Finally, an editorial amendment is proposed to the guidelines on account of a legislative amendment.*

## **Extended maturity of the debt**

In preparing this year's proposed guidelines the Debt Office has again analysed the importance of the maturity of the government debt. As in last year's proposal, the Debt Office considers that the cost advantage of short-term borrowing has decreased. The Debt Office therefore proposes extending the maturity of the nominal krona debt by 0.3 years by reducing the use of interest rate swaps. This leads to less variation in the cost of the krona debt.

## **Continued borrowing in lottery bonds**

As a result of the low level of interest rates, the lottery bonds cannot currently contribute to reducing the borrowing costs. However, the Debt Office makes the assessment that borrowing in lottery bonds will reduce costs in the long term. The Debt Office should therefore continue to sell lottery bonds even if this does not contribute to cost savings in the short term. For this to be possible, the long term perspective must be made clear in the guidelines.

## **Position-taking contribute to lower costs**

Since started in 1992, the position-taking have contributed a reduction of SEK 1.2 billion per year in the average cost of the central government debt. In the past five-year period, however, the activities has resulted in costs being higher.

The Debt Office has analysed the possibilities that these activities will be able to contribute to lower costs in the future. The conclusion is that possibilities are good as the Debt Office can act in a long-term manner when many other market participants take action for short-term reasons.

The Debt Office has also identified the need to be able to use positions in order to actively reduce risk in the central government debt, for example to handle risks associated with reducing the share of

foreign currency debt. The Debt Office therefore proposes broadening the meaning of the term position and increasing the possibility of taking positions in the krona exchange rate.

## **The composition target for the inflation-linked debt should remain in place.**

The share of inflation-linked krona debt is to be 20 per cent of the central government debt in the long term. In June 2016 the share was 18.4 per cent and according to the Debt Office's forecast it will be slightly under the target level up until the end of 2017.

For several reasons it is hard to steer the share of inflation-linked debt in the short term. The Debt Office has therefore analysed whether there are better ways to steer the size of the inflation-linked debt. The conclusion is that the advantages of the present steering model do, in fact, outweigh the disadvantages. It is therefore proposed that the Debt Office should continue to aim at the long-term target of 20 per cent and report the reasons for any deviations in connection with the annual evaluation of the debt management.

## **Unchanged rules in order to meet the market's need for government securities**

The Debt Office is entitled to raise loans to meet the need for government securities if there is a threat to the functioning of the financial market,

The present guidelines refer to principles set out in the Government Support to Credit Institutions Act (2008:814). That Act was repealed on 1 February 2016 and the principles are now set out in the Preventive Government Support to Credit Institutions Act (2015:1017). The Debt Office therefore proposes that the guidelines should now refer to the new Act.

# Proposed guidelines 2017–2020

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*Here the Debt Office presents proposed guidelines for central government debt management during 2017-2020. For the period from 2018 up to and including 2020 the proposals are for preliminary guidelines. In the cases where changes are proposed to the guidelines, the current wording is given in the left column and the proposed new wording in the right column. In order to provide an overview of the decisions that govern the management of the central government debt the relevant parts of the Budget Act (2011:203) and the Ordinance (2007:1447) containing Instructions for the National Debt Office have also been included.*

## **The objective of the management of central government debt**

1. The central government debt shall be managed in such a way as to minimise the cost of the debt in the long-term while taking risk in its management into account. The management of the debt shall be conducted within the framework of monetary policy requirements. Budget Act (2011:203).

## **The task of the Debt Office and the purpose of borrowing**

2. The task of the Debt Office is to raise and manage loans for central government in accordance with the Budget Act (2011:203). Ordinance (2007:1447) containing Instructions for the National Debt Office.
3. Under the Budget Act (2011:203) the Debt Office may raise loans for central government in order to:
  1. finance current deficits in the central government budget and other expenditure based on decisions of the Riksdag (the Swedish Parliament);
  2. provide credits and perform guarantees decided by the Riksdag;
  3. amortise, redeem and buy back central government loans;
  4. meet the need for central government loans at different maturities in consultation with the Riksbank; and
  5. satisfy the Riksbank's need for foreign currency reserves.

## **The guidelines process**

4. The Debt Office shall submit proposed guidelines for the management of the central government debt to the Government no later than 1 October each year. Ordinance (2007:1447) containing Instructions for the National Debt Office.
5. The Government shall give the Riksbank the opportunity to comment on the Debt Office's proposed guidelines. Budget Act (2011:203).
6. The Government shall adopt guidelines for the Debt Office's management of the central government debt no later than 15 November each year. Budget Act (2011:203).
7. The Debt Office shall submit information for the evaluation of the management of the central government debt to the Government no later than 22 February each year. Ordinance (2007:1447) containing Instructions for the National Debt Office.
8. The Government shall evaluate the management of the central government debt every other year. The evaluation shall be presented to the Riksdag no later than 25 April. Budget Act (2011:203).
9. The Debt Office shall establish principles for the implementation of the guidelines for central government debt management adopted by the Government. Ordinance (2007:1447) containing Instructions for the National Debt Office.
10. The Debt Office shall establish internal guidelines based on the Government's guidelines. The decisions shall concern the use of the position mandate, the foreign currency distribution in the foreign currency debt and principles for market and debt maintenance.

#### **Composition of central government debt – debt shares**

11. The share of inflation-linked krona debt in the central government debt is to be 20 per cent in the long term.  
The shares of the debt types in the central government debt are to be calculated as nominal amounts at the present exchange rate including accrued compensation for inflation.
12. The foreign currency exposure of the central government debt shall decrease. The decrease is to be no more than SEK 30 billion per year.  
The exposure shall be calculated in a way that excludes changes in the krona exchange rate.
13. The Debt Office is to set a benchmark for the distribution of the foreign currency debt among different currencies.
14. In addition to inflation-linked krona debt and foreign currency debt, the central government debt is to be composed of nominal krona debt.

#### **Maturity of the central government debt**

##### **Present wording**

##### **Proposed wording**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"><li>15. The maturity of the nominal krona debt for instruments with maturities of up to twelve years is to be between 2.6 and 3.6 years.</li><li>16. For nominal krona instruments with maturities of more than twelve years, the long-term benchmark for the outstanding volume is to be SEK 70 billion.</li><li>17. The maturity of the inflation-linked krona debt is to be between 6 and 9 years.</li><li>18. The maturity of the foreign currency debt is to be between 0 and 1 year.</li><li>19. The maturity of the types of debt may deviate temporarily from the maturities given in points 15, 17 and 18.</li><li>20. Maturity is to be measured as duration.</li></ol> | <ol style="list-style-type: none"><li>15. The maturity of the nominal krona debt for instruments with maturities of up to twelve years is to be between <i>2.9 and 3.9 years</i>.</li></ol> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
16. For nominal krona instruments with maturities of more than twelve years, the long-term benchmark for the outstanding volume is to be SEK 70 billion.
  17. The maturity of the inflation-linked krona debt is to be between 6 and 9 years.
  18. The maturity of the foreign currency debt is to be between 0 and 1 year.
  19. The maturity of the types of debt may deviate temporarily from the maturities given in points 15, 17 and 18.
  20. Maturity is to be measured as duration.

#### **Cost and risk**

21. The trade-off between expected cost and risk is primarily to be made through the choice of the composition and maturity of the central government debt.
22. The main cost measure is to be the average issue yield.
23. The main risk measure is to be the average issue yield risk.
24. The Debt Office is to take account of refinancing risks in the management of the central government debt.
25. Borrowing shall be conducted in such a way as to ensure a broad investor base and diversification in a range of funding currencies in order to maintain good borrowing preparedness.
26. Positions are not to be included in the calculation of debt shares and maturities.
27. When taking positions, market values are to be used as the measure of the costs and risks in the management of the debt.

#### **Market and debt maintenance**

28. The Debt Office is to contribute, through market and debt maintenance, to the efficient functioning of the government securities market in order to achieve the long-term cost minimisation objective while taking account of risk.
29. The Debt Office is to adopt principles for market and debt maintenance.

### Position-taking

30. The Debt Office may take positions in foreign currency and the krona exchange rate.

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

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

#### Present wording

Positions refer to transactions that are intended to reduce the costs of the central government debt while taking account of risk and that are not motivated by underlying borrowing or investment requirements.

#### Proposed wording

Positions refer to transactions that are intended to reduce the costs of the central government debt while taking account of risk, *or to reduce the risks in the central government debt while taking account of cost*, and that are not motivated by underlying borrowing or investment requirements.

Positions may only be taken in markets that permit the management of market risk through liquid and otherwise well-developed derivatives and that are potentially a borrowing currency in the context of debt management.

31. Positions in foreign currency are limited to SEK 300 million, measured as daily Value-at-Risk at /with a 95 per cent probability.

The Debt Office is to decide how much of this scope may be used at most in its ongoing management.

#### Present wording

32. Positions in the krona exchange rate may not exceed a maximum of SEK 7.5 billion. When the positions are built up or wound down, this is to be done gradually and announced in advance.

#### Proposed wording

32. Positions in the krona exchange rate may not exceed a maximum of *SEK 20 billion*. When the positions are built up or wound down, this is to be done gradually and announced in advance.

The Debt Office is to decide how much of this volume may be used at most in ongoing management in connection with exchanges between the krona and other currencies. This volume shall be of a limited size and the positions do not need to be announced in advance.

### Borrowing in the retail market

#### Present wording

33. The Debt Office is to contribute through retail market borrowing to reducing the costs of the central government debt compared with equivalent borrowing in the institutional market.

#### Proposed wording

33. The Debt Office is to contribute through retail market borrowing to reducing the costs of the central government debt *in the long term* compared with equivalent borrowing in the institutional market.

### Borrowing to meet the need for central government loans

34. The possibility of raising loans to meet the need for central government loans under Chapter 5, Section 1 of the Budget Act (2011:203) may only be used if required on account of threats to the functioning of the financial market.

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

#### Present wording

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

#### Proposed wording

35. Investment of funds raised through loans to meet the need for central government loans should be guided by the principles set out in the *Preventive Government Support to Credit Institutions Act (2015:1017)*.

#### **Management of funds etc.**

36. The Debt Office shall place its funds, to the extent that they are not needed for payments, in an account at the Riksbank, a bank or a credit market company, or in government securities or other debt instruments with a low credit risk. Placements may be made abroad and in foreign currency. Ordinance (2007:1447) containing Instructions for the National Debt Office.
37. The Debt Office shall cover the deficits that occur in the Government central account. Ordinance (2007:1447) containing Instructions for the National Debt Office.
38. The management of exchanges between Swedish and foreign currency (currency exchanges) shall be predictable and transparent. Ordinance (2007:1447) containing Instructions for the National Debt Office.

#### **Consultation and collaboration**

39. The Debt Office is to consult with the Riksbank on matters concerning the parts of its borrowing operations that may be assumed to be of major importance for monetary policy. Ordinance (2007:1447) containing Instructions for the National Debt Office.
40. The Debt Office is to collaborate with the National Institute of Economic Research and the National Financial Management Authority on matters concerning the Debt Office's forecasts of the central government borrowing requirement. Ordinance (2007:1447) containing Instructions for the National Debt Office.
41. The Debt Office should obtain the Riksbank's views on how the funds borrowed to meet the need for central government loans under the Budget Act (2011:203) are to be invested.

#### **Evaluation**

42. Evaluation of the management of the central government debt is to be carried out in qualitative terms in the light of the knowledge available at the time of the decision. Where possible, the evaluation shall also include quantitative measures.  
The evaluation shall cover five-year periods.
43. The evaluation of the operational management shall include borrowing in and the management of the different types of debt, market and debt maintenance measures and management of currency exchanges.
44. The realised cost difference between inflation-linked and nominal borrowing is to be reported for inflation-linked borrowing.
45. The cost saving compared with alternative borrowing is to be reported for retail market borrowing.
46. Positions within a position mandate given are to be recorded continuously in income, and evaluated in terms of market values.

# Reasons for the proposals

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*This section gives the background to and reasons for the proposed guidelines. The Debt Office proposes extending the maturity of the nominal krona debt. No changes are proposed for the other types of debt. In addition, there is a discussion of the possibilities of lottery bonds and active debt management being able to reduce borrowing costs in the future. The size of the inflation-linked krona debt is also discussed. Finally, an editorial amendment is proposed to the guidelines on account of a legislative amendment.*

## 1. Extended maturity of the central government debt

In preparing its proposed guidelines for 2017 the Debt Office has again analysed how the maturity of the debt affects its cost. This analysis confirms the conclusions presented by the Debt Office in the proposed guidelines for 2016.

The Debt Office considers that the cost advantage of short-term borrowing is currently smaller than in the past and proposes extending the maturity of the central government debt in 2017. As in previous years it is proposed that the maturity of the debt is extended by reducing the use of interest rate swaps.

### 1.1. Background

The overall objective of the management of the central government debt is to minimise the cost of the debt in the long term while taking risk into account. The cost of and risk in the debt depend on its composition, and the Debt Office has the task of proposing suitable shares and maturities of the types of debt included in the debt.

For many years the basis for the Debt Office's choice of maturity assumed that there were positive term premiums. Term premiums being positive means that long interest rates are usually higher than short rates, and this has been true historically. So, in the past, it has been cheaper to borrow at short than at long maturities, which is the reason why the Debt Office has used interest rate swaps to reduce the maturity of the debt.

In its proposed guidelines for 2016 the Debt Office showed that the advantage of short-term borrowing had decreased. The Debt Office made the assessment that the trade-off between the cost reduction and the higher risk that short-term borrowing entails should be adjusted and recommended extending the maturity of the debt.

At the same time it was emphasised that the extension must take place in small steps. For 2016 the maturity interval for the nominal krona debt was widened from 2.6–3.1 years to 2.6–3.6 years and the benchmark for the maturity of the foreign currency debt of 0.125 years was replaced with an interval of 0–1 year.

### 1.2. Yield curve and term premiums<sup>1</sup>

The yield curve describes the term structure of interest rates. The shape of the curve varies over time. According to the expectation hypothesis, the curve slopes upwards when market actors expect rising interest rates and vice versa. But the shape of the curve is also affected by investors' and borrowers' maturity preferences.

On the one hand, investors normally demand a higher return to tie up their money for a long time since uncertainty about the future grows the further ahead you look. One historically important uncertainty has been future inflation. On the other hand, certain borrowers are willing to pay a higher interest rate in order to secure their long-term funding. If investors, in general, have more of a short-term preference than borrowers, the yield curve will slope upwards even if market participants believe that rates will fall. In other words, the term premium will be positive.

Interest rates today thus depend both on expectations about future rates and on term premiums. But neither expectations nor premiums are directly observable, so they are hard to measure. The academic literature on term premiums is extensive and the term structure models used to measure premiums are now advanced. Despite this it is difficult to estimate the size of term premiums with precision.

<sup>1</sup> See the Debt Office's proposed guidelines for the management of the central government debt 2016–2019 for a more detailed discussion of the yield curve and term premiums.



The Debt Office uses a term structure model developed at the Federal Reserve Bank of New York.<sup>2</sup> Swap rates with maturities of up to ten years for the period 1995–2016 are used for the estimation of the model parameters. The reason for choosing swap rates is that the Debt Office uses interest rate swaps to adjust the duration of the debt.<sup>3</sup>

**Figure 1 Swedish ten-year swap rate and term premium**



Figure 1 shows the Swedish ten-year swap rate and its associated term premium. In the latter half of the 1990s Swedish interest rates fell on account of lower inflation. As the inflation target gained credibility, uncertainty about future inflation also decreased, and this then contributed to the fall in the term premium.

In recent years the expansionary monetary policy has probably contributed to the fall in term premiums. New regulations may also have played a role. Insurance companies must do more to match their long-term undertakings by investing in assets with long maturities, and this may have reduced term premiums.

Term premiums have probably also been affected by some borrowers changing their behaviour. Twenty years ago floating rate mortgages were unusual while they currently account for more than 75 per cent of new lending. When borrowers demand shorter loans, it is natural for premiums to get lower. However, future requirements concerning the long-term financing of banks may increase the term premium in years to come.

<sup>2</sup> Tobias Adrian, Richard K. Crump and Emanuel Moench, "Pricing the Term Structure with Linear Regressions", *Journal of Financial Economics* 110 (1), October 2013, pp 110-138.

<sup>3</sup> The model parameters have also been estimated using interest rates on government securities with the same qualitative results. However, the time series for interest rates on government securities that the Debt Office has access to are shorter than the corresponding series for swap rates.

### 1.3. Conclusion

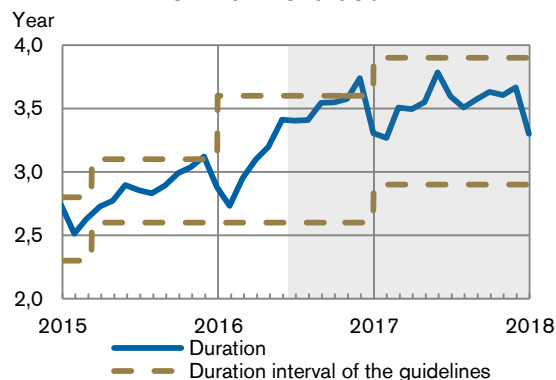
Term premiums have fallen over time and now appear to be close to zero. Even if a rise in term premiums cannot be ruled out in the coming years, the Debt Office makes the assessment that the reasons for short-term borrowing have weakened and that the maturity of the central government debt should be extended.

The Debt Office proposes extending the duration of the nominal krona debt by 0.3 years. Too sharp an extension of duration might disturb the balance between supply and demand in the market in a way that would make long rates rise.

This extension can be put into effect without altering the plans for borrowing as such. Since the Debt Office uses interest rate swaps to shorten the duration, it is natural to extend the duration by reducing the use of such swaps.

If the Debt Office does not enter into any new interest rate swaps at all in 2017, the maturity of the nominal krona debt, measured as duration, will develop as shown in figure 2.<sup>4</sup> The extension of maturity can therefore be put into effect within the framework of the current issue plan.

**Figure 2 Forecast of the duration of the nominal krona debt**



In the case of the inflation-linked krona debt the Debt Office does not propose any changes in the maturity of the debt. Here it is not possible to steer maturity using interest rate swaps either and the maturity of this debt is determined solely by the bonds issued by the Debt Office.

No extension of maturity is proposed for the foreign currency debt either. The Government has

<sup>4</sup> The projection of duration is based on the issue plan presented in "Central government borrowing – forecast and analysis 2016::2".

decided that the currency exposure is to decrease and the Debt Office is currently amortising the foreign currency debt. So it is not appropriate to extend the maturity of the debt in this situation since this would hamper, or even delay, the reduction of the currency exposure of the central government debt.

The following wording is therefore proposed for the guidelines for 2017 (points 15, 17 and 18):

- The maturity of the nominal krona debt for instruments with maturities of up to twelve years is to be between 2.9 and 3.9 years.
- The maturity of the inflation-linked krona debt is to be between 6 and 9 years.
- The maturity of the foreign currency debt is to be between 0 and 1 year.

The future will have to show whether further extensions of the maturity of the debt can be justified in addition to that proposed here.

## 2. The contribution of lottery bonds

The Government has commissioned the Debt Office to analyse whether borrowing in lottery bonds is expected to contribute to the objective of central government debt policy in the future. The results of this analysis have been presented in a special report to the Government.<sup>5</sup>

### 2.1. Background

At present lottery bonds are the only borrowing instrument offered by the Debt Office to investors in the retail market. Lottery bonds are a form of savings with a chance of winning a prize. Instead of all savers receiving interest on their bonds, the yield is placed in a common pool distributed in lottery draws.

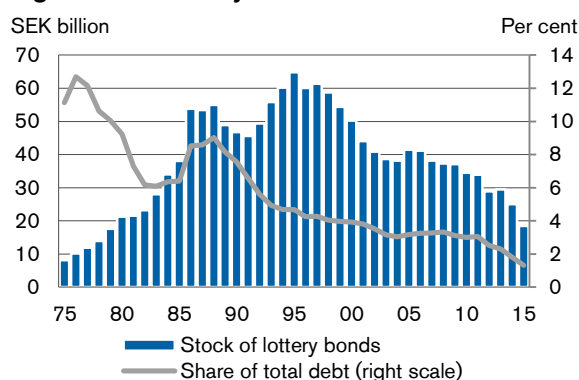
The Debt Office has issued Lottery Bonds since 1918. Lottery bonds were introduced to reach new savers in Sweden after the First World War, when the international loan market was severely restricted. Lottery bonds quickly became popular and today they still help to increase public awareness of and confidence in the Debt Office.

<sup>5</sup> The Debt Office's memorandum "Report of government commission to analyse whether borrowing in lottery bonds is expected to be able to contribute to the objective of central government debt policy in the future. [Avrapportering av regeringsuppdraget att analysera om upplåning i premieobligationer i framtiden bedöms kunna bidra till det statsskuldspolitiska målet].

In some periods borrowing from households has made up a substantial part of the total government debt. In parts of the 1970s and 1980s about 20 per cent of the debt was borrowed in the retail market, about half of this was in lottery bonds. When financial markets have changed, the Debt Office has changed how it borrows money in both the institutional and the private market. As new debt instruments for the institutional market have been developed, the importance of retail market borrowing has decreased.

The outstanding volume of lottery bonds has fallen for a long time (see figure 3). At the end of 2015 it amounted to SEK 18.5 billion, which was then 1.3 per cent of the total central government debt. In June 2016 the corresponding figures were SEK 15.4 billion and 1.1 per cent,

**Figure 3 Lottery bonds 1975–2015**



### 2.2. Result for lottery bonds

Retail market borrowing is to reduce the costs of the government debt compared with equivalent borrowing in the institutional market. This means that the percentage distributed in lotteries must be lower than the interest paid on a government bond with the same maturity. The cost reduction is calculated by multiplying the interest rate margin by the outstanding stock of each loan. Then costs for distributing and handling the instrument are included when calculating the result. The result for an individual loan is then spread over the term of the loan, which means that the aggregate annual result for lottery bonds contains a small part of the result for each outstanding lottery bond.

On account of the low level of interest rates the lottery bonds issued in 2015 and 2016 have generated losses. The percentage of wins in the last three lottery bonds distributed has been 0.1 per cent and their maturity has been about two

years. But the interest rate that the Debt Office has been able to obtain on two-year loans in the institutional market has been negative.

The decision to issue lottery bonds despite the losses was taken so as to safeguard this form of borrowing and to promote sales in the longer term. The assessment made was that it would be very expensive to reintroduce these activities, once closed, and to reach the volumes sought. To keep costs down, and thereby minimise losses, only very limited marketing work has been done in connection with the issues.

As a result of lower volumes and low interest rates, the annual result for lottery bonds has fallen gradually in recent years. Even though the bonds issued in 2015 were issued at a loss, the overall result was still positive in 2015 (see table 1). This is because a number of lottery bonds issued previously at a profit have still to mature.

**Table 1 Lottery bond result, 2011–2015**

SEK million	2011	2012	2013	2014	2015
Revenue	189	176	150	135	84
Costs	58	51	70	64	50
<b>Result</b>	<b>130</b>	<b>126</b>	<b>81</b>	<b>71</b>	<b>33</b>
<b>Average result over 5 years</b>	<b>145</b>	<b>141</b>	<b>136</b>	<b>116</b>	<b>88</b>

The evaluation of the management of the central government debt takes place in a five-year perspective. As the annual result for lottery bonds has decreased, the average result over five years has also fallen and in 2015 it was SEK 88 million. Thus, measured over five years, lottery bonds still contribute to reducing the costs of the central government debt. Hence, the objective of retail market borrowing, as formulated in the government guidelines, has been achieved.

### 2.3. Scenarios for the future result

The ability of lottery bonds to contribute to the objective of central government debt policy in the future is analysed on the basis of five scenarios for the future result for lottery bonds. The development of this result depends primarily on how interest rates develop and the size of the volumes issued. The scenarios are based on three different assumptions about the development of interest rates in the economy: 1) The forecast of the National Institute for Economic Research (NIER) for the development of interests, which

assumes that the repo rate will be 4.00 per cent in 2025;<sup>6</sup> 2) a scenario in which interest rates rise more slowly and the repo rate is 2.25 per cent in 2025; and 3) a scenario in which the repo rate remains negative for the coming five years and then begins to rise slowly.<sup>7</sup> Interest rate forecasts are associated with uncertainties. For example, one central question is how long the present very low level of interest rates will continue. In the long term there is also great uncertainty about the equilibrium level of the repo rate. A lower level of interest rates leads to a lower result for lottery bonds and scenarios 2 and 3 therefore illustrate the risks of a slower rise in interest rates than in the NIER forecast. The interest rate assumptions should not be regarded as forecasts and are only intended to illustrate how sensitive the result for lottery bonds is to variations in interest rates.

In addition to the interest rate assumptions, two assumptions are made about the volumes of the lottery bonds issued: 1) larger volumes than in the last three issues and 2) volumes of the same size as in the last three issues.<sup>8</sup> The assumptions about interest rates and issue volumes result in five scenarios for the future development of the result for lottery bonds.<sup>9</sup>

In all the scenarios lottery bonds make a loss in the next few years. The result for individual loans, the annual result as well as the average result over rolling five-year periods are negative (see figure 4).<sup>10</sup> A higher interest rate and larger issue volumes limit the loss. When interest rates start rising the result quickly becomes positive again. Only in the cases where the repo rate is assumed to be negative for a further five years is the average result over rolling five-year periods negative in 2025.

<sup>6</sup> The forecast was published on 22 June 2016.

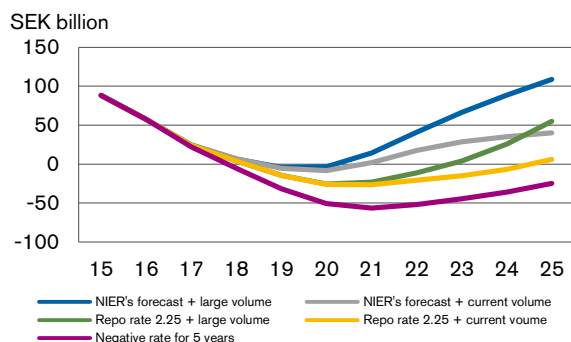
<sup>7</sup> The development of interest rates implied in August 2016 by the pricing in the interest market is between scenarios 2 and 3.

<sup>8</sup> Detailed information about the scenarios is given in the special report to the Government (see footnote 5).

<sup>9</sup> In cases where the repo rate is assumed to continue to be negative for the coming five years it is assumed that issue volumes will be of the same size as the last three issues.

<sup>10</sup> The Government's evaluation of central government borrowing and debt management uses the accumulated result over rolling five-year periods as its evaluation variable. To facilitate comparisons between different time horizons this analysis uses the average result over rolling five-year periods instead.

**Figure 4 Average result over rolling five-year periods**



## 2.4. Discussion

As long as government bond yields are negative or very low, it will not be possible to issue lottery bonds at a lower interest rate than equivalent borrowing in the institutional market. When yields are positive again, lottery bonds will again be profitable. But the path to that destination may be lined with losses. If interest rates rise soon and quickly and it is possible to issue larger lottery bond loans than at present, the losses will be limited, but if the negative interest rates continue for a long time, then the losses may extend for several years into the future.

Even if lottery bonds will, in the long term, contribute to reducing the costs of the central government debt, the Debt Office is facing several challenges. The efficient handling of lottery bonds requires that households are aware of and demand the product. Introducing a new form of savings or winning back lost customers is much more difficult and expensive than retaining existing customers. Refraining from issuing lottery bond as long as interest rates are negative and only resuming issues when interest rates are positive is therefore problematic. As is continuing the strategy of issuing lottery bonds without marketing them actively since this reduces the possibilities of finding new customers. A new form of savings brings costs in the form of new investments in financial infrastructure and staff. In addition, there are costs for building up a strong brand again. But the great challenge in a case in which lottery bonds are to be reintroduced as a form of savings again after having been away from the market for a long period of time is to attract customers and obtain new savings in the product.

Many households are demanding a safe and secure form of savings. Developments in financial markets have been rapid and households can

now choose from a large range of financial products and forms of savings. Today, the deposit guarantee, which was introduced in 1996, protects money deposited in banks, credit market companies and securities companies, but there is also demand for other risk-free forms of savings. How great the demand for lottery bonds can be in the future compared with when Debt Office products made up a large part of the retail market for secure savings is very difficult to say, especially if lottery bonds have been away from the market for a long period of time.

The more borrowing instruments that central government has at its disposal, the simpler it is to handle a greater borrowing requirement. Lottery bonds contribute to diversifying the investor base for the central government debt and can, by doing so, reduce pressure on other types of borrowing. But, at present, the gain from diversification is very limited since lottery bonds account for a small share of the total debt. Moreover, lottery bonds cannot be used in situations where there is a need to borrow large sums quickly. In the retail market customer demand places clear limits on the size of the bond volumes that can be issued, so retail market borrowing is less flexible than equivalent borrowing in the institutional market.

## 2.5. Conclusion

In due time lottery bonds will contribute to the objective of central government debt policy. Ending the issuing of lottery bonds now and introducing them again after a break is expected to be expensive. The Debt Office therefore considers that borrowing in lottery bonds should continue, even though it may result in losses in the next few years. On the other hand, it is hard to say how large the future contribution from lottery bonds may be. The future will have to show whether there will be sufficient demand for lottery bonds to enable these activities to be run efficiently.

However, the government guidelines need to be amended if borrowing in lottery bonds is to continue. With the present wording of the guidelines the Debt Office risks breaching in the short term the requirement that retail market borrowing is to contribute to reducing the costs of the central government debt. The Debt Office therefore proposes amending the guidelines so that there is scope to handle the losses that lottery bonds will generate in the next few years. It is proposed that point 33 of the guidelines be given the following wording: "The Debt Office is

to contribute through retail market borrowing to reducing the costs of the central government debt *in the long term* compared with equivalent borrowing in the institutional market".

The Debt Office's analysis of lottery bonds takes account of expected savings that are much further into the future than the normal five-year perspective used in evaluating the management of the central government debt. The proposed amendment to the guidelines makes this clear.

### 3. Active debt management through position-taking

The Government has also commissioned the Debt Office to analyse whether position activities are expected to contribute in the future to reducing costs and risks for the central government debt as a whole. The commission also includes describing any changes in the internal ongoing activities taken to improve future results. The outcome of this commission has been presented in a special report to the Government.<sup>11</sup>

The Debt Office has identified a greater need to be able to handle risks associated with the reduction to be made in the share of foreign currency debt. The Debt Office therefore proposes increasing the possibility of taking positions in the krona exchange rate and broadening the meaning of the term position.

#### 3.1. Background

The Debt Office has taken positions since 1992. Under the guidelines, the Debt Office may take positions in foreign currency and in the krona exchange rate, but not in Swedish interest rates. Positions are taken in interest rates and currencies that are included or could be included in the central government debt. So the positions are part of the central government debt, but their result is reported separately.

Positions in foreign currency are limited to SEK 300 million, measured as daily Value-at-Risk (VaR) with a 95 per cent probability. Positions in

the krona exchange rate are limited to an exposure corresponding to SEK 7.5 billion.

The position activities have been successful. Since 1992 internal management has generated an accumulated surplus of more than SEK 28 billion. This corresponds to an annual cost saving of SEK 1.2 billion. However, in the past five-year period, 2011–2015, the activities have not been able to reduce the cost of the debt. Table 2 shows that internal management has resulted in an accumulated deficit of SEK 367 million, corresponding to an average loss of SEK 73 million per year. This was offset to some extent by the surplus generated by the external managers.

**Table 2 Result of position-taking, 2011–2015**

SEK million	2011	2012	2013	2014	2015	Total
Internal ongoing management	-163	-176	235	-216	-47	-367
External ongoing management	-1	-24	-35	90	44	74
Board position	250	0	0	0	0	250
<b>Total of positions</b>	<b>86</b>	<b>-200</b>	<b>200</b>	<b>-126</b>	<b>-2</b>	<b>-42</b>

#### 3.2. Conditions for the activities

To justify the Debt Office conducting active debt management by means of position-taking, it must be possible to show that the Debt Office has at least some kind of comparative advantage. As regards analytical resources or knowledge of commercial flows and other transaction flows in the market, the Debt Office does not have any advantages compared with other large managers. Its limited analytical resources are offset to some extent by the fact that the Debt Office has access to other participants' analyses, in part via the external managers.

Another limitation is that position-taking by the Debt Office only covers instruments that can be expected to be included in ordinary debt management. The more narrow the investment universe, the smaller are the possibilities of spreading risks. Here the Debt Office is at a disadvantage compared with other investors who are able to invest in a large number of different instruments in many different markets.

In contrast, one key strength is that the Debt Office can conduct position activities in a longer-term manner than others. In part this longer-term perspective is based on preferences, i.e. the Debt Office wants to conduct its activities in a longer-

<sup>11</sup> The Debt Office's memorandum "Report on government commission to analyse whether position activities can be expected to contribute in the future to reducing costs and risks for the central government debt as a whole" [Avrapportering av regeringsuppdraget att analysera om positionsverksamheten i framtiden kan väntas bidra till sänkta kostnader och risker för statsskulden som helhet].

term manner, but a further reason is that the Debt Office is not subject to regulatory frameworks that may oblige market participants to behave in a short-term way. Many external managers are acting on behalf of clients and risk clients moving their capital should losses be incurred, and this also makes it more difficult to act in a long-term manner. This does not apply to the Debt Office.

A long term perspective also requires perseverance in bearing losses. Based on the Debt Office's historical results, the expectation is that three out of five years lead to profits while two out of five result in losses.

The will and ability of the Debt Office to act in a long-term manner has been particularly clear in connection with decisions by the Board to take large positions. The most recent example was when the Debt Office made the assessment during the financial crisis that the Swedish krona was unreasonably weak. The Board then decided to increase the foreign currency debt by buying SEK 50 billion against the euro through forward transactions. When the most acute phase of the financial crisis had passed the Debt Office was able to wind up these forward deals with a total profit of more than SEK 8 billion.

#### *Clearer meaning of the term position*

According to the guidelines, positions mean transactions intended to reduce the costs of the central government debt while taking account of risk that are not motivated by underlying borrowing or investment requirements.

Historically position activities have been focused on reducing the cost of the central government debt. In recent years, however, positions have also been used to actively reduce cost variation, in other words to reduce the risk. One example of this is the special position decided by the Board in late 2014 in order to hedge a negative interest cost in Swiss francs.

The Debt Office's assessment is that situations may also arise in the future when it will be appropriate to use positions for risk reduction. In the coming year the Debt Office intends to develop its analysis of how to implement and evaluate positions of this type. But the Debt Office already wishes to propose clarifying the guidelines so that in addition to the general wording "taking account of risk" the explicit purpose of

reducing the risk while taking account of cost is also entered in this guideline.

#### *Positive side-effects*

Position activities also affect the rest of debt management. They have, for example, facilitated the recruitment of staff with financial expertise that the Debt Office would otherwise have had difficulty attracting. They also contribute to the Debt Office being regarded as an attractive client and therefore being given good service and good prices, even in transactions that do not relate to position-taking.

The Debt Office having high financial expertise and receiving good service contributes to reducing the costs of the central government debt. But these effects are hard to quantify.

The Debt Office conducts its active management with small resources. In 2015 the variable resource use was estimated at just over two full-year equivalents.

### **3.3. Currency risks**

In the proposed guidelines for 2014 the Debt Office analysed the costs and risks of the foreign currency debt and concluded that the then fixed foreign currency share of 15 per cent of the total debt could no longer be justified. The Debt Office therefore proposed decreasing the foreign currency exposure and replacing the benchmark for the foreign currency share with a ceiling.

The Government refused the wish for a ceiling for the foreign currency share for the time being and commissioned the Swedish Financial Management Authority (ESV) to look at the impacts of such a steering model. The ESV considered that it would be valuable to distinguish the decisions based on strategic considerations from those based on tactical considerations and that a ceiling for the foreign currency share was inappropriate. In the view of the ESV reasons such as transparency, predictability and the risk of confusion with monetary policy were arguments against actively using the foreign currency share to decrease the cost of the government debt.

In its guidelines for 2015 the Government adopted the steering model that now applies to the foreign currency debt. Foreign currency exposure is to decrease by no more than SEK 30 billion per year. The benchmark for the decrease

was set as a ceiling so as to avoid unnecessary and potentially expensive fine-tuning to reach an exact level. However, the explanatory texts clearly state that the reduction was planned at SEK 20 billion per year. The fact that the Debt Office was given some operational flexibility should not be interpreted as a mandate to vary the rate of reduction on the basis of a view about the krona exchange rate. The position mandate in the krona exchange rate of SEK 7.5 billion is available for such tactical considerations.

It is clear that the Government wants to distinguish the mandate to reduce the foreign currency debt from the mandate to take positions in the krona exchange rate. One alternative would have been a steering model that provides greater scope for tactical considerations in the context of the ordinary debt management. However, that model is less transparent and the tactically motivated decisions necessarily made in an activity like debt management would therefore be more difficult to evaluate.

The starting point for the Debt Office is to reduce the currency exposure in the most efficient way possible. This means phasing out the currencies that contribute the highest risk first. But this is providing that the long-term valuation of these currencies is correct. So it can be wise to also consider more tactical considerations, such as taking account of whether the valuation of a currency is manifestly wrong. One example of this could be if the Swedish krona is so under-valued that there are reasons to reduce the rate of amortisation of the central government debt.

When the Debt Office reduced the foreign currency debt in the 2000s, the amortisation rate was adjusted on several occasions on account of the krona exchange rate. For example, amortisation was stopped completely in early 2006. During that period the Debt Office was able to deviate from the amortisation rate decided by the Government by SEK ±15 billion per year. In 2008 when the steering of the size of the foreign currency debt went over to a composition target, the Government decided to give the Debt Office a separate mandate to take positions in the krona exchange rate corresponding to SEK 15 billion. The size of that mandate was reduced to SEK 7.5 billion in the guidelines for 2013 and has been unchanged since then.

Against the background of the Debt Office's previous experience of amortising the foreign currency debt, the present position mandate of SEK 7.5 billion appears to be too limited. If the Debt Office considers that the krona exchange rate justifies a temporary amortisation stop, it is limited to a period of only four and a half months. Thereafter amortisation must be resumed since the full position mandate will then have been used. On the basis of the adopted amortisation rate of SEK 20 billion per year, the Debt Office considers that a position mandate in the krona exchange rate of SEK 20 billion is a better balance between the benefit of amortising the foreign currency debt in an efficient way and the risk that the Government's steering of central government debt management will be inadequate.

The Debt Office proposes limiting positions in the krona exchange rate to the equivalent of SEK 20 billion. This would make it possible for the Debt Office to temporarily stop amortising the foreign currency debt for up to one year, which is in better agreement with the long-term perspective that otherwise characterises position-taking.

### **3.4. Internal ongoing activities**

As previously mentioned internal ongoing management has operated at a loss in the last five-year period. A significant part of these losses was incurred in autumn 2014 when the Debt Office decided to close all positions.

The reason for this closure was that the framework for internal position-taking needed to be clarified and developed. The risk mandate was then reduced and a loss limitation mechanism was introduced that further reduces the mandate if losses are incurred. The way the mechanism works is that the largest possible loss over a rolling twelve-month period is SEK 250 million.

In a narrow sense the loss limitation mechanism has shown that it works; it limits losses. But the mechanism has also created greater problems than were foreseen when it was introduced. First, the expected yield on the activity has been lower. This is bound up with the fact that the mechanism functions as an insurance policy for which an insurance premium is paid.<sup>12</sup> These insurance costs have an adverse effect on the possibilities

<sup>12</sup> This argument is set out in more detail in the special report to the Government (see footnote 11).



of showing a surplus. Second, the loss limitation mechanism has resulted in the Debt Office losing the ability to persevere in bearing losses. In fact, the mechanism forces the Debt Office to realise losses as they arise. This reduces the ability to act in a long-term manner.

In summer 2016 the Debt Office decided to abolish the loss limitation mechanism. To prevent this leading to increased risks it was decided at the same time to reduce the scale of this activity by reducing the risk mandate. With this decision the Debt Office established that in the future internal management would be conducted with much lower risk-taking than in the past. But it will be better able to be run at a profit again.

### 3.5. Conclusion

By making use of its ability to act in a long-term manner when other market participants have difficulty doing so, the Debt Office considers that there are good possibilities for its position-taking to be able to contribute to reducing costs and risks for the central government debt as a whole.

In order to further increase the benefit of active management the Debt Office is considering making more use than before of positions in order to actively reduce the risk in the central government debt. The Debt Office therefore proposes giving point 30, fourth paragraph of the government guidelines the following wording: "Positions refer to transactions that are intended to reduce the costs of the central government debt while taking account of risk, or to reduce the risks in the central government debt while taking account of cost, and that are not motivated by underlying borrowing or investment requirements."

The Debt Office is amortising the foreign currency debt at the equivalent of SEK 20 billion per year. If the krona is severely undervalued, it ought to be possible to reduce the amortisation rate. The Debt Office considers that the scope for taking positions in the krona exchange rate corresponding to SEK 7.5 billion is insufficient in that case and proposes increasing it to SEK 20 billion.

## 4. The share of inflation-linked debt

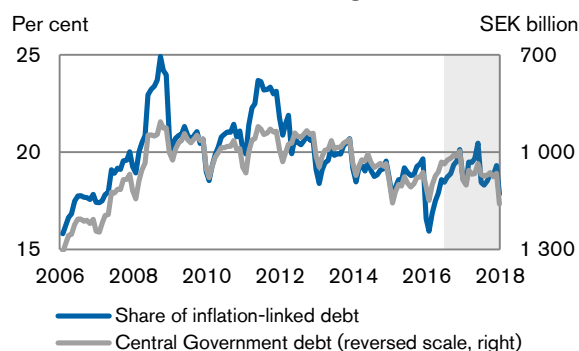
Under the guidelines, the share of inflation-linked krona debt is, in the long term, to be 20 per cent of the total central government debt. This share has been 20 per cent on average in the past ten-

year period but has been under its benchmark since the end of 2013. Before that the share of inflation-linked debt was instead too high in relation to its target level for some years.

In its evaluation of central government borrowing and debt management the Government has made the assessment that the historical deviations from the target value have been reasonable from a cost perspective. However, the Government considers that if the share continues to deviate from the benchmark the Debt Office should clarify the reasons for this.

Figure 5 shows the inflation-linked debt's share of the total central government debt, including the Debt Office's forecast until and including 2017. Within the forecast horizon the share of inflation-linked debt is expected to be slightly under the target level of 20 per cent.

**Figure 5 Share of inflation-linked debt and level of central government debt<sup>13</sup>**



### 4.1. Why is this share so hard to steer?

There are several factors that make it hard to steer the share of inflation-linked debt with precision in the short term.

#### *The market for inflation-linked bonds is limited*

The market for inflation-linked bonds is relatively small. There are fewer investors who make investments in inflation-linked bonds than in nominal bonds and both the depth and liquidity of that market are lower than those of the market for government bonds.

The limitations of the market mean that the Debt Office is unable to make great changes in borrowing in inflation-linked bonds. A sharp

<sup>13</sup> The inflation-linked debt is steered as a share of the net debt, i.e. including assets under management and receivables in the form of on-lending.



increase in the issue volume risks not only driving up inflation-linked bond yields in the short term but also creating uncertainty about the future supply of inflation-linked bonds. This will probably lead to a higher cost even in the longer term.

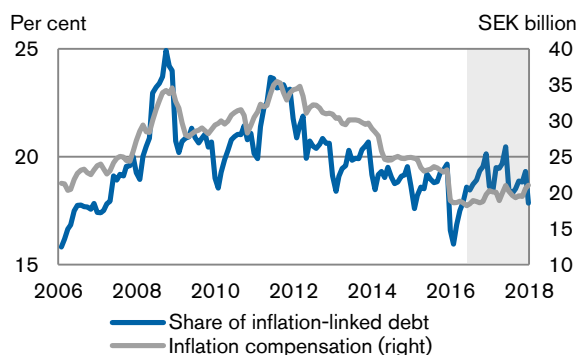
The adaptation of borrowing in inflation-linked bonds to changes in the borrowing requirement is therefore being made in small steps in order to ensure a well-functioning market and, thereby, a low borrowing cost. If the borrowing requirement rises or falls quickly, this is handled in the first place by foreign currency borrowing and in the money market.

Since inflation-linked borrowing cannot be increased or decreased in line with variations in the borrowing requirement, the share of inflation-linked debt depends to a great extent on the development of the total central government debt. Figure 5 shows how the share of inflation-linked debt covaries with the level of the central government debt (reverse scale).

#### *The rate of inflation varies*

The development of inflation is another important factor that, like the borrowing requirement, is outside the control of the Debt Office. Inflation has been low for a long time. Figure 6 shows the share of inflation-linked debt along with accrued compensation for inflation. Compensation for inflation is the part of the inflation-linked debt that comes about because central government has to pay compensation for inflation above the real interest rate.

**Figure 6 Share of inflation-linked debt and accrued inflation compensation**



The accrued compensation for inflation has decreased as the inflation-linked bonds issued when the inflation rate was higher have gradually matured and been replaced by new bonds. If inflation in the past five years had been at its

target level of two per cent, the share of inflation-linked debt in June 2016 would have been 1.7 percentage points higher, all else equal.

#### *It is not possible to use derivatives*

The market for inflation swaps in Swedish kronor is much smaller than the market for interest and currency derivatives. The Debt Office is therefore unable to use derivatives to steer the share of inflation-linked debt in the way that is possible for the currency exposure and duration of the central government debt.

#### **4.2. Alternative steering model**

Against the background of the difficulties set out above the Debt Office has analysed whether it would be better to steer the inflation-linked debt in terms of nominal amounts instead of as a share.

With such a model for steering, the target level of the inflation-linked debt would no longer be affected by variation in the size of the total central government debt. The guidelines for the central government debt would also be more uniform since currency exposure is now steered in terms of absolute sums. On the other hand, there are disadvantages to that principle compared with the present steering of this debt.

#### *Steering risks being less transparent*

Steering of the inflation-linked debt towards a certain level requires relatively large intervals to avoid the Debt Office breaching the guidelines when an inflation-linked bond matures, for instance. Any interval would need to be of the order of SEK  $\pm$  20 billion around the desired target level or about  $\pm$  10 per cent of the stock of inflation-linked bonds.

A broad interval means weaker and less transparent steering. At present it is clear that the Debt Office always aims at a share of 20 per cent in the long term even though the deviation from the target can be large in periods. The reason for the deviations is then reported in the annual evaluation of debt management.

#### *Less flexibility in issue planning*

With a static target level for the size of the inflation-linked debt the Debt Office has less flexibility in planning its borrowing. If, for example, the borrowing requirement decreases sharply, borrowing in inflation-linked bonds may crowd out borrowing in government bonds. This can impair

liquidity in the market for government bonds and ultimately to higher borrowing costs and a greater financing risk.

The composition principle gives the Debt Office flexibility to gradually adapt the issue volume to the borrowing requirement and therefore the possibility of maintaining other borrowing.

#### **4.3. Conclusion**

The benchmark for the share of inflation-linked debt is a long-term target and, on average, the share has been at the target level of 20 per cent in the past ten years. However, there are several factors that make it difficult to steer the share of inflation-linked debt in the short term without the cost being too high. As a result, the share has, at times, been both higher and lower than 20 per cent. According to the Debt Office's forecast, the share will be slightly too small in relation to the benchmark up until the end of 2017.

Despite the difficulties reaching the target level in the short term, the assessment of the Debt Office is that the advantages of the present steering model outweigh those of the alternative of steering the inflation-linked debt towards an absolute level.

The Debt Office will continue to aim at achieving the long-term composition target and report periodical deviations each year in connection with the evaluation of the management of the central government debt.

## **5. Borrowing to meet the need for central government loans**

During the financial crisis the Government decided to give the Debt Office the right to raise loans to meet the need for government securities if required on account of threats to the functioning of the financial market.

Under point 35 of the present guidelines the investment of funds raised through such loans should be guided by principles set out in the Government Support to Credit Institutions Act (2008:814). This means, for instance, that the investments should be made in a way that avoids improper distortion of competition, that as much central government funding as possible should be recovered and that central government is compensated for its risk-taking.

The Government Support to Credit Institutions Act (2008:814) was repealed on 1 February 2016. These principles are now set out in the Preventive Government Support to Credit Institutions Act (2015:1017), so the Debt Office proposes that the guidelines refer to that Act from now on.





Visits: Jakobsbergsgatan 13 • Postal address: SE-103 74 Stockholm, Sweden Tel- +46 8 613 45 00  
Fax: +46 8 21 21 63 • Email: riksgalden@riksgalden.se • Website: www.riksgalden.se