

CENTRAL GOVERNMENT DEBT MANAGEMENT

Proposed guidelines 2019–2022



The Debt Office's assignment

One of the Debt Office's main tasks is to borrow money on behalf of central government and to manage central government debt. The objective is to minimise the long-term cost of the debt while taking account of risk. The debt has to be managed within the framework of monetary policy requirements.

At a general level, debt management is governed by the Budget Act and the Ordinance containing Instructions for the Swedish National Debt Office. These statutes set, for example, out the permitted purposes of central government borrowing and the objective of the management of the debt. In addition, the Government adopts guidelines for this management that govern matters including the composition and maturity of the debt.

The Government adopts new guidelines each year no later than 15 November. This decision is taken after the Debt Office has submitted proposed guidelines on which the Riksbank has been given the opportunity to state an opinion.

The operational role of the Debt Office then includes borrowing the money needed to finance deficits in the central government budget and replace loans that mature, in accordance with the framework set up.

After the end of the year the Debt Office submits a basis for evaluation of its debt management to the Government in February. The Government then presents an evaluation to the Riksdag in April every other year.

The proposed guidelines and the basis for evaluation are published on riksgalden.se.



Contents

Summary	2
Proposed guidelines 2019–2022	3
The objective for the management of central government debt	3
Task of Debt Office and purpose of the borrowing	3
Guidelines process	3
Composition of central government debt – debt shares	4
Maturity of central government debt	4
Cost and risk	4
Market commitment and debt management	5
Position-taking	5
Retail market borrowing	5
Borrowing to meet need for central government loans	6
Management of funds etc.	6
Consultation and collaboration	6
Evaluation	6
Reasons for Debt Office's proposal	7
Common maturity interval for all krona debt	7
Share of inflation-linked debt to be analysed next year	12
Lottery bonds can no longer contribute to lower costs	13
New customers and sustained higher interest rates needed	13
No scope for lottery bonds with small funding requirement	15
Several obstacles to effective handling of lottery bonds	15
Considerable costs of resuming sales	16
Other potential reasons for offering a savings product	16
Cash surplus about to decrease	18
Gradual decrease contributes to minimising cost and risk	18
Debt Office doing what is possible to reduce liquid funds	19
Effects on central government debt – size, cost and risk	20
Limit the possibility of investing capital in tax accounts	21

Summary

The Debt Office proposes one change to the guidelines for the management of central government debt: merging the steering of the maturity of the inflation-linked and nominal krona debt. The Debt Office also presents reports on two commissions from the Government, one on the conditions for issuing lottery bonds and one on how to make the central government cash surplus return to normal historical levels.

- The Debt Office proposes merging the maturity steering of the inflation-linked and nominal krona debt. There are no longer any practical reasons for steering the maturity of these two kinds of debt separately, and using a common measure would give the Government a better overview of the level of risk. The common benchmark proposed is 4–6.5 years.
- As a commission from the Government the Debt Office has considered whether to wind up borrowing in lottery bonds after a pause in issuance since 2016. The Debt Office assesses that lottery bonds are no longer able to contribute to reducing the cost of central government debt. If the Government sees other reasons for offering a savings product, it should be investigated.
- The abnormally large central government cash surplus will decrease gradually as large bond loans mature in the coming years. At the same time the Debt Office is taking the measures judged possible to accelerate the decrease. For instance, loans to the Riksbank are refinanced from liquid funds.
- Bringing liquid funds down to a normal level in the short term would require drastic measures in debt management that are not consistent with long-term cost minimisation. From a socio-economic perspective it would instead be better to limit the possibilities of using tax accounts for capital investments.

Proposed guidelines 2019–2022

Here the Debt Office presents proposed guidelines for central government debt management in 2019–2022. For 2020–2022 the proposals are for preliminary guidelines. In the cases where changes are proposed to the present 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 framework that governs debt management, the relevant parts of the Budget Act and the Ordinance containing Instructions for the Debt Office have also been included.

The objective for 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 debt has to be managed within the framework of monetary policy requirements. *Budget Act (2011:203).*

Task of Debt Office and purpose of the borrowing

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

Guidelines process

4. The Debt Office shall submit proposed guidelines for central government debt management to the Government no later than 1 October each year. *Ordinance containing Instructions for the National Debt Office.*
5. The Government shall request an opinion from the Riksbank on the Debt Office's proposal. *Budget Act.*
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.*
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 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.*

9. The Debt Office shall adopt principles for the implementation of the guidelines for central government debt management established by the Government. *Ordinance containing Instructions for the National Debt Office.*

Present wording

10. The Debt Office shall establish internal guidelines based on the Government's guidelines. These decisions are to concern the use of the position mandate, the foreign currency distribution in the foreign currency debt and principles for its market and debt commitment.

Proposed wording

10. The Debt Office is to establish internal guidelines based on the Government's guidelines. These decisions are to concern the use of the position mandate, *the maturity of the nominal and inflation-linked krona debt*, the foreign currency distribution in the foreign currency debt and principles for its market and debt commitment.

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, central government debt is to be composed of nominal krona debt.

Maturity of central government debt

Present wording

15. The maturity of the nominal krona debt is to be between 4.3 and 5.5 years.
16. The maturity of the inflation-linked krona debt is to be between 6 and 9 years.
17. The maturity of the foreign currency debt is to be between 0 and 1 year.
18. The maturity of the types of debt may deviate temporarily from the maturities stated in points 15, 16 and 17.
19. Maturity is to be measured as duration.

Proposed wording

15. *The maturity of the krona debt is to be between 4 and 6.5 years.*
16. *The Debt Office is to determine maturity intervals for the nominal and inflation-linked krona debt.*
18. The maturity of the types of debt may deviate temporarily from the maturities stated in points 15 and 17.

Cost and risk

20. 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.

21. The main cost measure is to be the average issue yield. The cost is to be calculated using the valuation principle of amortised cost with continuous revaluation of inflation and exchange rate fluctuations.
22. The main risk measure is to be the variation of the average issue yield.
23. The Debt Office shall take account of refinancing risks in the management of the central government debt, including by issuing instruments with more than twelve years to maturity.
24. 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.
25. Positions are not to be included in the calculation of debt shares and maturities.
26. When taking positions, market values are to be used as the measure of the costs and risks in the management of the debt.

Market commitment and debt management

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

Position-taking

29. 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.

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 for 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 derivative instruments and that are potentially a borrowing currency in the context of debt management.

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

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

31. Positions in the krona exchange rate are limited to 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.

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.

Retail market borrowing

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

Borrowing to meet need for central government loans

33. The possibility of raising loans to meet the need for central government loans under Chapter 5, Section 1 of the Budget Act 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.
34. 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.

35. 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. Investments may be made abroad and in foreign currency. *Ordinance containing Instructions for the National Debt Office.*
36. The Debt Office shall cover the deficits that occur in the Government central account. *Ordinance containing Instructions for the National Debt Office.*
37. The management of exchanges between Swedish and foreign currency (currency exchanges) shall be predictable and transparent. *Ordinance containing Instructions for the National Debt Office.*

Consultation and collaboration

38. The Debt Office shall consult with the Riksbank on matters concerning the components of its borrowing operations that may be assumed to be of major importance for monetary policy. *Ordinance containing Instructions for the National Debt Office.*
39. The Debt Office shall 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 containing Instructions for the National Debt Office.*
40. 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 are to be invested.

Evaluation

41. 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.
42. The evaluation of the operational management shall include borrowing in and management of the different types of debt, market and debt commitment measures and management of currency exchanges.
43. The realised cost difference between inflation-linked and nominal borrowing is to be reported for inflation-linked borrowing.
44. The cost saving compared with alternative borrowing is to be reported for retail market borrowing.
45. Positions within a position mandate given are to be recorded continuously in income, and evaluated in terms of market values.

Reasons for Debt Office's proposal

This chapter sets out the analysis underlying the proposal to merge the steering of the inflation-linked and nominal krona debt. The analysis shows that there are no longer any practical reasons for steering the maturity of these two kinds of debt separately. In addition, a common measure provides a better overview of the level of risk.

Common maturity interval for all krona debt

Over the years the Debt Office has reviewed its strategy for borrowing in inflation-linked bonds. Now a qualitative and a quantitative analysis both show that the relationship between maturity and cost is the same for inflation-linked and nominal bonds. This means there is no longer any reason to steer the maturity of the inflation-linked debt separately. The Debt Office therefore proposes a common benchmark for all krona debt of between 4 and 6.5 years.

Conditions for inflation-linked borrowing have changed over time

When inflation-linked bonds were introduced in the 1990s, the Debt Office's strategy was to borrow in longer maturities than using nominal bonds. This strategy was based on the assessment that investors were prepared to pay more to have insurance against inflationary shocks. The value of that insurance was assumed to be greater in the long term. It was judged, at the same time, that any liquidity premiums that the Debt Office would need to pay compared with nominal borrowing would be lower for longer maturities. The assumption then was that long-term investors did not need to sell their holdings as often and therefore had a lower valuation of liquidity.

In an overall assessment, the Debt Office considered that investors were willing to pay more to invest in inflation-linked bonds in the long term than in the short term and that it would therefore be cheaper to borrow in long maturities. In other words, the term premium was assumed to be negative, unlike the premium for nominal bonds.

Over time the conditions for borrowing in inflation-linked bonds have changed and the borrowing strategy has been reviewed. Experience shows that investors mainly demand bonds with shorter maturities, up to ten years. This may be because the credibility of the inflation target has helped to reduce the risk of high and varying inflation in the long term at the same time as it turned out to be difficult for the Riksbank to influence inflation in the short term. In recent years the extremely low level of interest rates has also contributed to the lower demand for long bonds. But the main reason why demand for long inflation-linked bonds has been lower than expected is that the bonds have not been used in the way assumed from the outset. There are few investors who have explicit targets for real returns. Most life insurance company portfolios are also evaluated in nominal terms.

The regulations for the valuation and management of pension commitments are of great importance for the demand for different types of bonds and their maturity. Here the Swedish regulatory framework differs from that in the UK, for example. The UK rules contribute to the creation of a strong structural demand for long inflation-linked bonds since they are used to match pension commitments. In Sweden inflation-linked bonds are used more as instruments for diversification in a

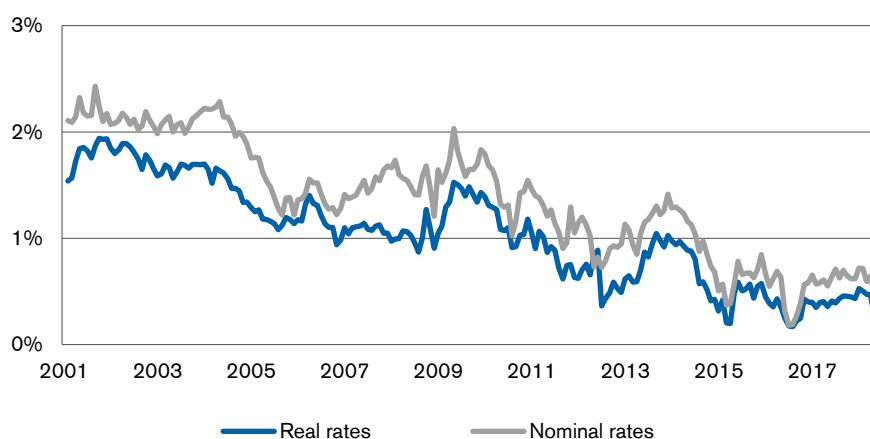
nominal portfolio. This means that liquidity in inflation-linked bonds is given a higher value than originally assumed by the Debt Office. Another indication of this is that inflation-linked and nominal bonds are treated the same way in the regulations for Liquidity Coverage Ratios (LCR).

So the demand profile in terms of maturities has turned out to be the same as for nominal bonds. In fact, market participants actually ask for maturity matching with nominal issues since this facilitates the pricing of inflation-linked bonds. The Debt Office has therefore gradually started issuing in the same maturities as for nominal government bonds. This means that the Debt Office regularly introduces new ten-year inflation-linked bonds and tops up shorter bonds issued earlier.

Picture confirmed by quantitative analysis

The picture of developments given above is confirmed by a quantitative analysis of term premiums for inflation-linked bonds. This analysis has been carried out using the same interest rate model as used by the Debt Office in previous guideline proposals.¹ The model has been estimated using inflation-linked and nominal government bond yields for the period January 2001 until and including June 2018. The result shows that the term premium for inflation-linked bonds follows the same declining trend as for nominal bonds, see figure 1.

Figure 1. Ten-year term premium



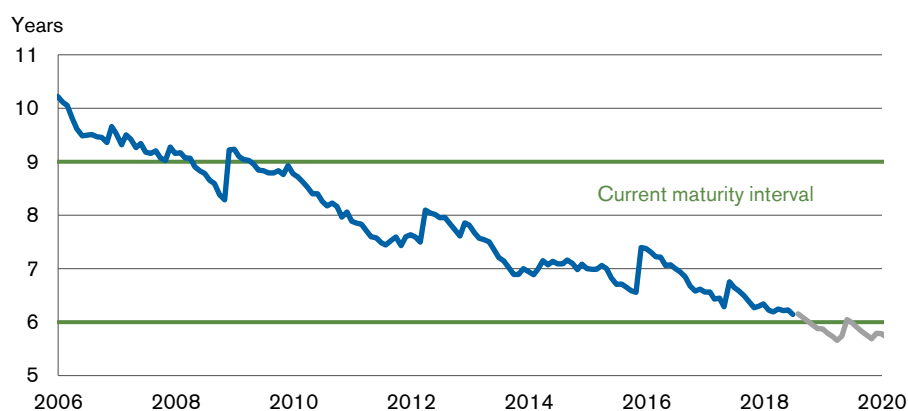
Continued shortening of the maturity of the inflation-linked debt in the coming years

Since borrowing is now focused on shorter maturities than twenty years ago, the maturity of the inflation-linked debt has gradually become shorter, see figure 2. The small borrowing requirement at present makes a further contribution to this shortening. Since new borrowing is small in relation to the outstanding stock, it has a limited effect on the average maturity of the debt even though the Debt Office is mainly borrowing in the ten-year maturity. It should also be noted in this context that the Debt Office is not able to use derivatives to steer the maturity of the inflation-linked debt, which is possible in the nominal krona debt.

¹ 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. The method of making the estimates is described in the proposed guidelines for 2017 and 2018.

With the present borrowing strategy the maturity of the inflation-linked debt will vary around an average of about 4.5 years in the long term. This is based on the Debt Office continuing to concentrate borrowing in the ten-year segment to build up the volume of new bonds and achieve an even maturity profile. The exact maturity, measured as duration, will also depend on the level of interest rates and the rate of inflation. The higher the market interest rate, the shorter the duration and the other way round. A high inflation rate also leads to the duration being shorter and the other way round. This is because bonds with a short outstanding maturity were usually issued long ago, so they have had time to accumulate a great deal of inflation compensation. Short bonds therefore make up a larger share of the inflation-linked debt when the inflation rate is high, all else equal.

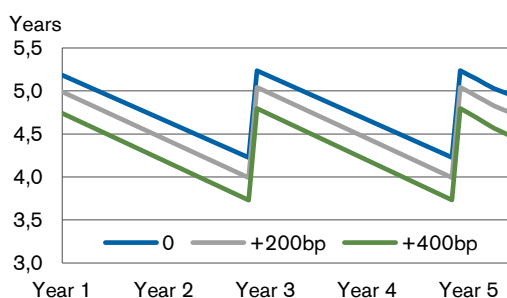
Figure 2. Maturity of the inflation-linked debt



The grey curve shows the Debt Office's forecast.

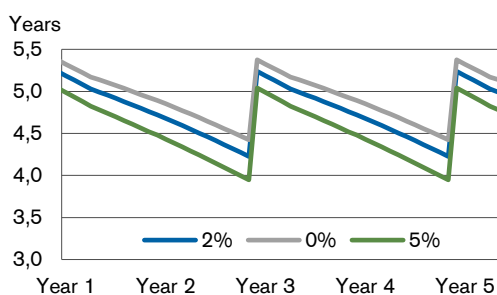
Figure 3 illustrates how the duration of the inflation-linked debt is affected by various interest rate and inflation rate assumptions.

Figure 3a. Duration at different interest rate levels



Steady state duration depending on the level of interest rates in relation to the present level given an inflation rate of 2 per cent.

Figure 3b. Duration with different inflation rates



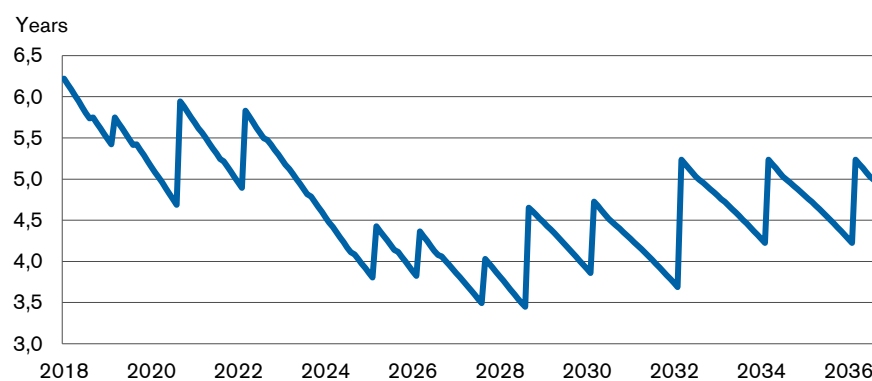
Steady state duration depending on inflation rate given present level of interest rates.

Before maturity reaches the long term level, it is expected to be shorter for a transitional period. This is because there are currently individual bond issues that have a particularly great impact. These

bonds were issued many years ago and have high market value because they have a high coupon and have accumulated a great deal of inflation compensation. Before these loans mature they decrease the average maturity. The length of the longest duration will actually depend on the size of borrowing in inflation-linked bonds. If the borrowing requirement increases, the Debt Office is able to issue more new ten-year bonds, which counters the shortening of the debt that is already outstanding and the other way round. Duration is also affected at the margin by primary dealers switching bonds as part of the Debt Office's facility for inflation-linked bonds.²

Figure 4 shows the expected development of the maturity of the inflation-linked debt over time assuming that the issue volume of inflation-linked bonds remains at the present low level of around SEK 10 billion per year.

Figure 4. Forecast of duration of inflation-linked debt given present borrowing rate



Development of duration with present borrowing volumes and level of interest rates and an inflation rate of 2 per cent. Switches in the standing repo facility for inflation-linked bonds are assumed not to have a net effect.

Common maturity steering gives a better overview

Since the strategy for the choice of maturity is now the same for inflation-linked and nominal bonds, there are no longer any strong reasons to steer the maturity of the inflation-linked debt separately. A common benchmark would instead provide a better overview of the level of risk in the krona debt. This would also mean greater flexibility. It would, for example, be easier to handle the period when the maturity of the inflation-linked debt will be particularly short on account of individual issues, as these issues will have less impact on the krona debt as a whole.

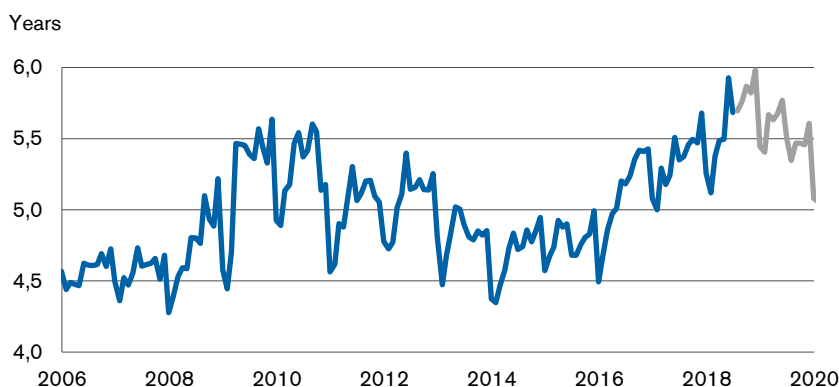
A common steering interval can therefore be narrower than the present interval for the maturity of the inflation-linked debt, which is three years. The Debt Office makes the assessment that an interval of 2.5 years provides sufficient flexibility to, for example, handle seasonal variations and maturing loans.

² To support liquidity in the market for inflation-linked bonds the Debt Office offers its primary dealers the possibility of making switches between inflation-linked bonds on demand. The switches are limited to SEK 500 million per primary dealer and week.

It is hard to see any disadvantages in having a common steering interval. It might possibly be seen as giving the Debt Office more freedom to choose the maturity of each type of debt. However, there are no such degrees of freedom in practice since the strategy must support the target of long-term cost minimisation. This results in requirements to take account of the demand situation and liquidity in the bond market in the same way as today. To maintain transparency in the management of the debt it is also proposed that the Debt Office adopt separate internal guidelines for the inflation-linked and nominal krona debt.

The Debt Office's conclusion is that the advantages of a single steering interval for the whole of the krona debt outweigh any disadvantages. Figure 5 shows the duration of the total krona debt, including the Debt Office's forecast until and including 2019.

Figure 5. Duration of total krona debt



Maturity of the nominal krona debt left unchanged

The maturity of the nominal krona debt has gradually been extended in recent years. The background to this is the Debt Office's assessment that the cost advantages of borrowing at short maturities have decreased. Since 2016 the maturity benchmark has been extended by just less than one year. This extension has mainly been achieved by reducing the use of interest rate swaps.

New estimates of the term premiums in the nominal krona debt suggest that the relationship between the cost of short and long borrowing is the same as in the preceding year. Taking account of the extension of maturity already implemented, the Debt Office considers that there are no reasons to extend its duration further. The proposal made is therefore that the maturity of the nominal krona debt be left unchanged.

New interval for the maturity of the total krona debt

On the basis of the analysis presented above, the Debt Office makes the assessment that the maturity of the total krona debt should be 4–6.5 years. This interval provides a margin to deal with a return of market interest rates to more normal levels. When interest rates rise, duration gets shorter, all else equal. The interval also allows a somewhat longer duration in the short term if interest rates continue to decline or if the inflow of money into tax accounts is bigger than expected. A greater inflow into the central government liquidity management means that the share of short-term borrowing decreases, making the total average maturity in the nominal krona debt longer.

The proposed interval also provides scope for the effects on maturity that follow from a small borrowing requirement. The Debt Office expects the borrowing requirement to remain limited as a consequence of the central government surplus target. This will make it difficult to borrow enough at long maturities to compensate for the fact that bond 1053, originally a 30-year bond, is getting ever shorter. When the borrowing requirement is small, the Debt Office's assessment is that the best strategy for maintaining good borrowing preparedness is to give priority to borrowing in maturities up to ten years, where there is most demand. The alternative of spreading borrowing across more maturities risks harming liquidity in the market and thereby increasing the long-term cost.

Share of inflation-linked debt to be analysed next year

The Swedish National Financial Management Authority (ESV) noted in its examination of the management of the central government debt that the limited borrowing requirement makes it more important to give priority to borrowing in nominal government bonds in order to safeguard that market. In that light, the share of inflation-linked debt may need to be reduced in the longer term unless there are strong cost or risk arguments for retaining it at its present level.

The Debt Office shares the ESV's appraisal and is going to make a closer analysis of the question of this share in its proposed guidelines for 2020. It is worth noting that the borrowing rate in inflation-linked bonds has already been drawn down to something of a minimum. So it makes no difference in practice if the Debt Office waits until next year to present the result of that analysis.

Lottery bonds can no longer contribute to lower costs

As a commission from the Government the Debt Office has considered whether to wind up borrowing in lottery bonds after a pause in issuance since 2016. The Debt Office's assessment is that lottery bonds are no longer able to contribute to reducing the cost of central government debt. If the Government sees other reasons for offering a state savings product, it should be investigated.

For the past hundred years, lottery bonds have been one of the debt instruments used by the Debt Office in the management of central government debt. According to the Government's guidelines, the present objective of issuing lottery bonds is to reduce the debt cost. This presupposes that central government can borrow more cheaply from private individuals than from institutional investors. Since that has not been the case given the extremely low interest rates in recent years, the Debt Office decided in 2016 to stop this borrowing for the time being.

The result for a lottery bond loan is defined as the cost saving from issuing the lottery bond compared with issuing a corresponding government bond in the institutional market. The revenue depends both on the difference in interest rates between the bonds³, and the volume sold. The costs of marketing, administration, etc. are then deducted from the revenue.

Considerable costs would be associated with beginning to issue lottery bonds again. In addition, the start-up period would be long since this requires new procurements and the development of system support. A long-term effort is therefore required to achieve a positive result and thus justify new lottery bonds. A long-term investment in turn requires:

- a new customer base and sustained higher interest rates to provide sufficient revenue
- an increased borrowing requirement for central government
- effective handling and management of the lottery bonds.

The Debt Office describes these requirements below and sets out the costs.

New customers and sustained higher interest rates needed

The annual result for lottery bonds deteriorated gradually between 2005 and 2015 on account of lower interest rates and decreases in the volume of sales. The lottery bonds issued in 2015 and spring 2016 resulted in losses. For the result to be positive again both higher government bond yields and a new customer base are required.

³ Revenue is calculated as the difference between the prize share for the lottery bond (the aggregate value of the prize plan and any guaranteed prize) and the interest on the government bond multiplied by its maturity. Moreover, revenue varies with issue volume, the higher the volume, the greater the revenue.

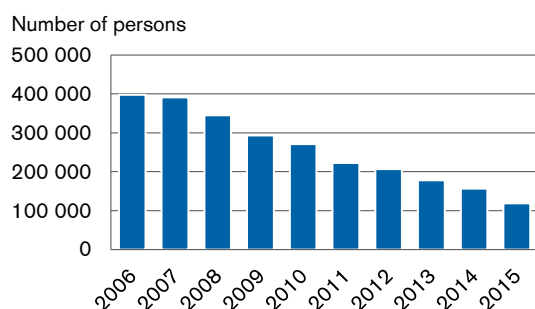
Difficult to attract the customer base needed to reach sufficient volumes

If the revenue from a lottery bond loan is to cover its costs, a sufficiently large volume of sales is required. In the period 2007–2011, when lottery bonds showed good profitability, two new bonds were sold each year with an average volume of SEK 8.7 billion per year. Between 2012 and 2016 the average volume was SEK 3.1 billion per year.

Strong demand is required to build up volume. Historically a large part of the demand has come from customers with old lottery bonds that mature buying the new bonds issued. These customers are mainly older people: the average age of buyers rose from just over 60 to almost 70 between 2006 and 2016. The rising average age suggests that few younger customers have been recruited in the past ten years.

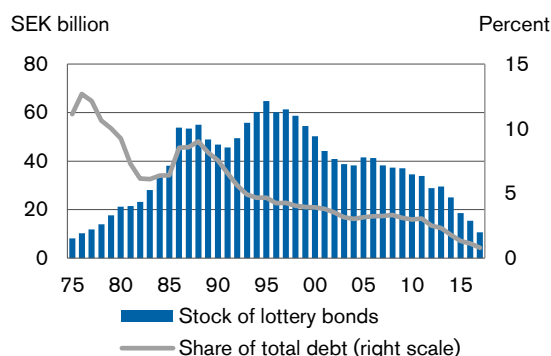
In all, the number of lottery bond customers fell by nearly three-quarters between 2006 and 2015, see figure 7. The outstanding volume of lottery bonds has been decreasing for a long time and the same applies to their share of the central government debt, see figure 8.

Figure 7 Number of lottery bond customers



Source: Euroclear

Figure 8 Lottery bonds 1975–2017



Source: Debt Office

The outstanding volume of lottery bonds was largest in the mid-1990s, when it was just over SEK 60 billion. At the end of 2017 the stock was around SEK 10 billion. In the 1970s lottery bonds accounted for 10–12 per cent of the total central government debt. Since then their share has fallen gradually and is now 0.6 per cent.

The decrease in demand for lottery bonds can be viewed in the light of the growth and development of the market for savings products in Sweden. In recent years the outstanding volume has shrunk even more as the low level of interest rates has made lottery bonds even less attractive to buy. The importance of lottery bonds as a borrowing instrument for central government has also decreased over the years. Historically the retail market has been seen to some extent as a channel for strengthening central government borrowing preparedness. Today that function is instead primarily met by the possibility of borrowing large sums in foreign currency in the international capital market.

Building up the customer base and the outstanding volume from their present low levels would, in the Debt Office's assessment, be difficult and expensive since it is no longer possible to roll over previous customers to new lottery bonds. Instead new customers must be won over in a market with

tough competition, which requires major marketing investment and an attractive product. For more information, see the section about costs on page 16.

Great uncertainty about future interest rate levels

As long as government bond yields are negative or very low, it is not possible to issue lottery bonds at an interest rate lower than the yield on government bonds. So one fundamental requirement if lottery bonds are to be profitable is that government bond yields rise and remain at a higher level for a long period of time.

The scenario calculations performed by the Debt Office indicate that a five-year government bond yield of more than 1 per cent is needed for a new lottery bond with the same maturity not to make a loss. Then it is assumed that the bond must include both a guaranteed prize and a highest prize of SEK 1 million to make it attractive enough to buy. To be able to issue lottery bonds with a satisfactory margin the bond yield has to be almost 1.5 per cent. According to the latest forecast by the National Institute of Economic Research (from June 2018) this level will be reached in 2020.

Irrespective of whether government bond yields will be higher for a sustained period, there must, as described above, be a certain volume of sales for lottery bonds to generate a positive result.

No scope for lottery bonds with small funding requirement

An additional condition for achieving a certain volume of sales, over and above new customers, is that there is scope in central government borrowing to issue lottery bonds. This means that central government must have a borrowing requirement that is large enough to justify supplementing prioritised borrowing in government bonds with other debt instruments. Since central government currently has large budget surpluses – and therefore a small borrowing requirement – this is no such scope in the present situation.

In the longer term the structural borrowing requirement is also likely to be limited as long as the surplus target and the debt anchor in the fiscal policy framework are complied with.

When the borrowing requirement is limited, the Debt Office has to focus borrowing on its most important channel – the market for government bonds – so as to minimise the long-term cost and risk. The Debt Office then needs to give priority to the supply of government bonds in order to maintain a liquid market, reducing the scope for other types of debt instruments.

Several obstacles to effective handling of lottery bonds

Even if there was scope to issue lottery bonds and the possibility of achieving profitability, several administrative and technical obstacles also need to be overcome. They include carrying out new procurements and developing system support.

The Debt Office sells some lottery bonds via direct advertising, the internet and telephone. But to achieve sufficiently high volumes dealers must also be engaged. In future sales the Debt Office would be even more dependent on its dealers to reach new customers since several banks have gone over to handling lottery bonds in custody accounts rather than in securities accounts as in the past. The Debt Office cannot sell to custody account customers by itself.

At the same time, the interest of the banks in selling lottery bonds has moderated as demand for the bonds has decreased while the number of competing savings products offered by the banks has

increased. Also, lottery bonds are complicated for the banks to handle since they are designed differently from other securities – with series and serial numbers as well as guarantee series. Taken together, this indicates that it will be more and more difficult to attract new dealers.

The Debt Office also has to engage external assistance for case handling in the form of receiving orders, sending contract notes and collecting and allocating lottery bonds to customers' securities accounts. The current contract for this case handling service expires in 2020. To what extent the banks will be interested in submitting tenders in a new procurement is highly uncertain. Historically few tenders have been received.

Internally the Debt Office needs to rebuild a sales organisation and develop the system support used. This will, to a great extent, require completely new solutions, partly as a result of a policy decision to no longer use the programming language on which some of the applications are based.

Considerable costs of resuming sales

Major costs are associated with resuming the issuance of lottery bonds. They are mainly to do with marketing and commissions for dealers.

Spending on marketing measures is essential to attract new customers.

As mentioned above, the future demand for lottery bonds will mainly need to come from new customers who have to be attracted. This is judged to require major marketing measures, which are assumed to cost around SEK 30 million per year initially. This is the highest level noted for marketing costs in the 2000s. As a comparison, just under SEK 2 million was spent on marketing the lottery bond issued in 2016.

Continued need of dealers requires higher commissions

Commissions to dealers have averaged just over SEK 20 million per year in the past ten years. They have varied between years depending on the payment model, the volume and the share sold by dealers. It is hard to estimate future commissions since they depend on several factors, but the Debt Office's assessment is that they will need to rise if the banks are to remain willing to be dealers.

These commissions also include the cost of the case handling service bought by the Debt Office in connection with the issues, as described above.

Costs of administration and management

Lottery bonds also involve running costs that include payments to Euroclear and Nasdaq OMX for handling outstanding bonds. Historically these costs have totalled around SEK 15–20 million per year.

Internally both time and money would be required to rebuild a sales organisation, including contracting a call centre, and developing the system support needed. This internal work also includes back office, communication and IT services.

The Debt Office's overall assessment is that it is not possible to issue lottery bonds at a profit – and thereby contribute to lower costs for central government debt – either now or in the longer term.

Other potential reasons for offering a savings product

Since the Riksgäldsspar savings accounts have already been wound up, a closure of lottery bonds would entail the end of central government borrowing in the retail market. This means that private

individuals would no longer be able to save with the Debt Office. One question that has been raised is whether there are any other reasons for offering a government savings product apart from contributing to lower costs for central government debt.

One such reason could be to offer private individuals the possibility to make deposits in government accounts in a crisis. When confidence in the banks sagged in the financial crisis in 2008–2009, more private individuals and companies wanted to deposit money in an account with the Debt Office. A total of SEK 16 SEK billion was paid into Riksgäldsspar in the second half of 2008. On the other hand, a big money outflow from banks in such a situation could contribute to instability in the financial system. This is one of the reasons why the state deposit insurance scheme was extended after the financial crisis, strengthening the protection for savings in bank accounts. This also means that the need to move money from the banks to the Debt Office in a crisis has most likely decreased.

If some new form of retail market borrowing could contribute to lowering the cost or risk of central government debt in the future, the Debt Office would consider such borrowing within the current guidelines. If the Government sees a need to provide a special savings product for some other reason though, this should be investigated.

Cash surplus about to decrease

The Government has commissioned the Debt Office to take measures to, if possible, return the central government cash surplus to a normal historical level. This surplus will decrease gradually when large bond loans mature in the next few years and the decrease is being accelerated by the use of liquid funds to refinance loans to the Riksbank. Bringing liquid funds down to a normal level in the short term would require drastic measures that are not consistent with long-term cost minimisation. From a socio-economic perspective it would be better to limit the possibilities of using tax accounts for capital investments instead.

The Debt Office expects to continue to have large cash surpluses in 2018 and 2019. When central government receives more money than is needed for outgoing payments, the surplus is invested temporarily in the money market until it is used to pay for expenditure or maturing loans. Since these investments, or assets in liquidity management, are not deducted when the central government debt is reported, the debt is higher than it would have been if the money had been used for amortisation.

As an increasing number of bonds mature in 2019 and 2020, the central government debt will be amortised and the liquid assets will gradually decrease. To speed up the rate of decrease, the Debt Office also uses liquid funds to refinance part of its on-lending to the Riksbank.

The cash surplus was built up in 2017 when tax income was much higher than forecast, partly because of investments of capital in tax accounts. Despite a reduced issue volume, the Debt Office had, at the end of the year, borrowed more than was needed to finance expenditure and maturing loans. Increased demand for the Debt Office's standing repo facility also boosted the cash surplus.

Gradual decrease contributes to minimising cost and risk

The issue volumes of all government securities have been reduced to historically low levels. Continuing to cut issuance, instead of letting the cash surplus decrease gradually, would weaken liquidity in the market for government securities in situation that is already strained. This would lead both to higher borrowing costs and to poorer borrowing preparedness in the longer term. The liquid funds would not decrease in the short term either since the lower supply of bonds would probably lead to greater demand for the Debt Office's standing repo facility.

This is the case even if the Debt Office bought back outstanding nominal or inflation-linked bonds. Buy-backs have occurred in the past as an alternative to reducing issues, but buying back bonds today would probably reinforce the trend of the market functioning less well and demand for repos increasing. Experience also shows that buy-backs can be expensive.

Reducing the cash surplus to a normal level in the short term would require drastic measures, such as limiting the repo facility in government bonds. Against the background of the situation in the market, with a shortage of government securities and worsened liquidity, such measures would risk having serious impacts on the functioning of the market. This argues for letting the cash surplus decrease gradually instead.

Debt Office doing what is possible to reduce liquid funds

But the Debt Office is taking the measures judged possible to decrease the cash surplus more quickly. One measure that can potentially have a great effect is to use liquid funds to refinance loans to the Riksbank instead of issuing new foreign currency bonds.

Riksbank loans refinanced with liquid funds can make a great difference

When a loan that has been raised on behalf of the Riksbank matures, the Debt Office usually issues a new foreign currency bond. In May 2018, when a loan of USD 2.25 billion to the Riksbank matured, the Debt Office chose to instead use swaps to transform kronor in its liquid funds into dollars. This enabled the Riksbank to borrow on the same terms as if the Debt Office had borrowed directly in dollar.

Next year the Debt Office also expects to use liquid funds to refinance lending to the Riksbank. The extent to which this will be done depends on factors including market conditions at the points in time when the loans are to be refinanced. However, there is no question of replacing all foreign currency loans with financing from liquid funds. The Debt Office's assessment is that it is important to retain some presence in the international capital market in order to ensure good borrowing preparedness in the future.

In its most recent forecast from June the Debt Office assumes that half of the refinancing requirement in foreign currency for the Riksbank will be replaced with liquid funds in 2019. This would bring the cash surplus down to its normal level at the end of next year. If, instead, the Debt Office only issues foreign currency loans to refinance this lending, it will take until the end of 2020 for the level to come down, see figure 9. As shown in the figure, the rate of decrease depends very much on how refinancing to the Riksbank is handled next year.

Figure 9. Assets in liquidity management

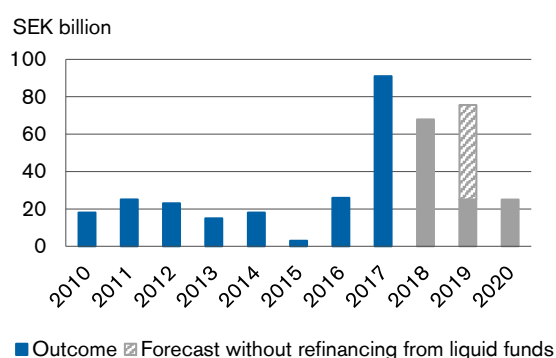
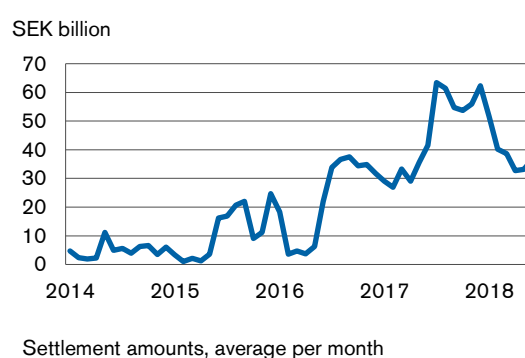


Figure 10. The Debt Office's repos in government securities



Demand for repos another important factor

The volume of the Debt Office's market-supporting repos is also of great importance for the cash surplus. The use of this facility has decreased recently, see figure 10. This is probably because more investors have started to repo out their holdings. That trend may very well continue but previous seasonal patterns suggest that the volumes increase towards the end of the year. In the most

recently published report on central government borrowing the volume of the standing repo facility is estimated at SEK 50 billion at the end of the year, which is slightly lower than in December 2017.

The unlimited repo facility is judged to play a crucial role for the functioning of the government bond market. So limiting this facility to reduce the cash surplus would not be compatible with the objective of long-term cost minimisation taking account of risk.

Buy-backs of foreign currency bonds can contribute at the margin

Another conceivable measure is to buy back foreign currency bonds. In the case of these bonds there is not the same need to safeguard liquidity in the market and there is no repo facility either. The Debt Office has indicated that it is open to buying back foreign currency bonds when there is interest on the part of investors in selling, which is necessary to be able to do so on market terms. As such buy-backs are expected to be small, they could only make a contribution at the margin to reducing the cash surplus.

Effects on central government debt – size, cost and risk

One effect of the increase in liquidity management assets is that the central government debt has decreased more slowly than it would have if the money had been used to amortise the debt instead. If central government has a budget surplus in a particular year and assets in liquidity management are unchanged, the reduction of the central government debt will normally be around the same size as the budget balance.⁴ But if assets in liquidity management increase during the year, the decrease in the debt is less than the budget balance. That was what happened in 2017 when a budget surplus of SEK 62 billion gave a debt reduction of only SEK 19 billion.

When the cash surplus is used for payments and the assets in liquidity management therefore decrease, the reduction in the debt will, on the other hand, be larger than the budget balance. In aggregate over 2018 and 2019, the debt decreases by SEK 201 billion, according to the Debt Office's most recent forecast, while the accumulated budget surplus is SEK 158 billion.

No increase in credit risk or expected additional cost

The cash surplus leads neither to greater credit risks nor to higher expected costs at present. The Debt Office places most of the surplus in Riksbank certificates that do not carry any credit risk. The Debt Office receives the repo rate on these certificates, which is higher than the short interest rate the Debt Office normally borrows at. For example, in the standing repo facility the Debt Office borrows at a rate that is 0.4 percentage points lower than the repo rate. The interest rate on T-bills is also below the repo rate.

The unexpectedly low borrowing requirement in 2017 meant that the Debt Office also issued a greater volume of bonds than later turned out to be needed. This borrowing does not result in any additional cost either even though the bond yields are higher than the repo rate. The reason is that term premiums are close to zero, which means that long borrowing is not systematically more expensive than short borrowing. While the Debt Office pays higher interest rates in the near term,

⁴ The change in the central government debt is also due to upward adjustment of accrued inflation in the inflation-linked debt and revaluation of the foreign currency debt at new exchange rates.

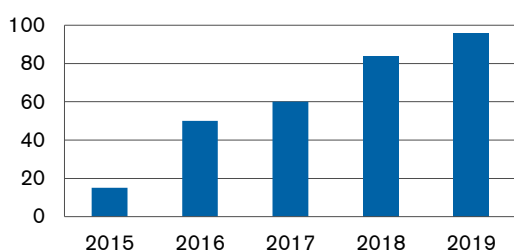
the bond yields reflect an expected rise in the short interest rate in the future. The additional cost in the short term is then offset by a corresponding saving in the long term.

Limit the possibility of investing capital in tax accounts

The cash surplus mainly arose in 2017 when the Debt Office greatly overestimated the borrowing requirement in its forecasts. The most important reason for the forecasting errors was that deposits by companies in their tax accounts were considerably higher than expected. According to the Debt Office's estimate there is currently around SEK 80 billion in tax accounts that consists of pure capital investments by private individuals and companies. This amount corresponds to the downturn in borrowing in T-bills compared with the level before tax accounts began to be used as a form of investment. By the end of next year, the stock of capital investments is expected to have increased further to almost SEK 100 billion, see figure 11.

Figure 11. Investments in tax accounts

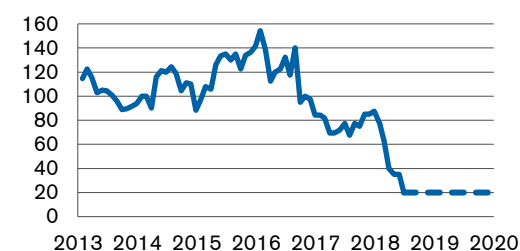
Capital investments, SEK billion



Estimated capital investments at the end of each year.

Figure 12. Stock of T-bills

SEK billion



The broken line shows the Debt Office's forecast.

Capital investments in tax accounts result in additional cost and negative market effects

Capital investments in tax accounts are an expensive form of borrowing for central government. Even though the interest rate on tax accounts was reduced from 0.56 to zero per cent in January 2017, it is still considerably higher than the short-term market interest rate. The Debt Office estimates the additional cost at almost SEK 1.5 billion to date compared with if central government had borrowed in T-bills instead.

In addition to the direct additional cost that arises from the interest rate difference, capital investments in tax accounts result in negative effects for society in the longer term that are more difficult to quantify. First, the reduction in the supply of government securities has contributed to that market functioning less well, which can make it both more expensive and more difficult for central government to borrow large sums in the future. Second, competition in the money market is distorted since the interest rate on tax accounts is not at a market level. This risks leading to the elimination of money market funds, for example.

The Debt Office considers that it is important to limit the possibility of investing capital in tax accounts. An investigation should be conducted of whether it is possible to find a design that removes the incentive to invest large sums without putting tax collection at risk on that account. One possibility may be that a floor interest rate of zero per cent only applies up to a certain monetary limit so as to avoid private individuals and small businesses being affected by negative rates.

The Swedish National Debt Office is the central government financial manager and the national resolution and deposit insurance authority. The Debt Office thus plays an important role in the Swedish economy as well as in the financial market.



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