RIKSGÄLDEN
SWEDISH NATIONAL DEBT OFFICE

2023-09-22

Central government debt management

Proposed guidelines 2024–2027

Reg.no 2023/455

The Debt Office's assignment

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

At the general level, debt management is governed by the Swedish Budget Act and the Ordinance Containing Instructions for the Swedish National Debt Office. These statutes set out, for example, the permitted purposes of central government borrowing and the objective of the debt management. In addition, the Swedish Government adopts guidelines for this management, which 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 deliver an opinion.

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

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 (the Swedish Parliament) in April every two years.

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

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Summary

The Debt Office proposes unchanged guidelines for central government debt management in 2024. The proposal is thereby for the composition of the debt to remain steered towards an inflation-linked debt share of 20 per cent and for the foreign currency exposure to be phased out over time. The term to maturity of the debt measured as duration is proposed to stay within the range of 3.5 and 6 years. As a starting point for further analysing the debt management, the Debt Office is presenting an analysis of the long-term conditions in which the size of the debt is a key factor.

- The Debt Office has not identified a need to change the target values for the composition or maturity of the debt in the guidelines for 2024. The proposal to leave the guidelines unchanged is based on an analysis of the expected cost advantages of inflation-linked borrowing versus nominal borrowing, and on an analysis of term premia. In regard to the currency exposure of the debt, the analysis presented in the previous year's proposed guidelines still stands. The analysis showed that the currency exposure was to phased out because it brings a higher risk without offering any systematic cost advantages over time. There are not any operational reasons to maintain currency exposure either.
- The proposed guidelines entail that the composition of the debt continues to be steered towards an inflation-linked debt share of 20 per cent and that the currency exposure is phased out over time. The maturity of the debt measured as duration is to be in the range of 3.5 to 6 years.
- The analysis of the conditions for central government debt management is based on a number of scenarios for the debt's long-term development, and it shows that a continued decrease in the debt would require adjusting the guidelines to a new situation. With a small debt, it is reasonable to place less emphasis on diversifying between debt instruments and instead focus on maintaining the most important borrowing channels in order to ensure borrowing at low cost in the future.
- The analysis of the long-term conditions has no direct impact on this year's proposed guidelines, but it forms the basis for future analyses of how the debt should be managed.

Proposed guidelines 2024–2027

Below are the Debt Office's proposed guidelines for central government debt management in 2024–2027. For the years 2025–2027, the proposed guidelines are preliminary. Relevant parts of the Budget Act (2011:203) and the Ordinance Containing Instructions for the National Debt Office (2007:1447) are also included to provide an overview of the framework. The Debt Office's proposal contains no changes to the steering of the central government debt. The grounds for the proposal are described in the next chapter.

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 over the long-term while taking the risk associated with its management into account. The management of the debt shall be conducted within the framework of monetary policy requirements (Chapter 5, Section 5 of the Budget Act).

Debt Office's task and purposes 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 (Section 2 of the Ordinance Containing Instructions for the National Debt Office).

3. Upon special authorisation given for one fiscal year at a time, the Government or the Debt Office as decided by the Government may raise loans for the central government in order to:

    - finance current deficits in the central government budget and other expenditure based on decisions of the Riksdag (the Swedish Parliament),
    - provide such credits and perform such guarantees as decided by the Riksdag,
    - amortise, redeem, and purchase central government loans, and
    - meet the need for government securities at different maturities in consultation with the Riksbank

    (Chapter 5, Section 1 of the Budget Act).

    If the Riksbank decides on borrowing in accordance with Section 2 or 3, the Debt Office shall raise loans for the central government for that purpose. The

Debt Office shall take out full compensation for the central government's borrowing costs.

(Chapter 10, Section 4 of the Sveriges Riksbank Act [2022:1568]).

Guidelines process

4. The Debt Office shall submit proposed guidelines for central government debt management to the Government by 1 October each year (Section 26 f of the Ordinance containing Instructions for the National Debt Office).

5. The Government shall give the Riksbank the opportunity to state an opinion on the Debt Office's proposed guidelines (Chapter 5, Section 6 of the Budget Act).

6. The Government shall adopt guidelines for the Debt Office's management of the central government debt by 15 November each year (Chapter 5, Section 6 of the Budget Act).

7. The Debt Office shall submit information for the evaluation of the management of the central government debt to the Government by 22 February each year (Section 26 f of the Ordinance containing Instructions for the National Debt Office).

8. The Government shall evaluate the management of the central government debt every two years. The evaluation shall be presented to the Riksdag by 25 April (Chapter 5, Section 7 of the Budget Act).

9. The Debt Office shall adopt principles for the implementation of the guidelines for central government debt management adopted by the Government (Section 15 of the Ordinance containing Instructions for the National Debt Office).

10. The Debt Office is to adopt internal guidelines based on the Government's guidelines. These decisions are to concern the use of the mandate for position-taking, the term to maturity of individual debt types, the currency distribution of the foreign currency debt, and principles for market support and debt maintenance.

Composition of central government debt – debt shares

11. The share of inflation-linked krona debt is to be 20 per cent of the central government debt over 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 inflation compensation.

12. The foreign currency exposure of the central government debt is to be gradually phased out and attain the target value of zero as of 2027. The foreign currency exposure may, however, vary as a result of the Debt Office making currency exchanges in accordance with point 35.

13. The Debt Office is to set a target value 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 consist of nominal krona debt.

Term to maturity of central government debt

15. The term to maturity of the central government debt is to be between 3.5 and 6 years.

16. The Debt Office is to determine a term-to-maturity interval for the nominal krona debt, the inflation-linked krona debt, and the foreign currency debt.

17. The term to maturity of the central government debt may deviate temporarily from the maturity interval stated in point 15.

18. Term to maturity is to be measured as duration.

Cost and risk

19. The trade-off between expected cost and risk is to be made primarily through the choice of the composition and term to maturity of the central government debt.

20. The main cost measure is to be the average issue yield. The cost is to be calculated using the valuation principle of amortised cost taking accrued inflation and exchange rate changes into account.

21. The main risk measure is to be the variation of the average issue yield.

22. The Debt Office is to take account of refinancing risks in the management of the central government debt, including by issuing instruments with more than twelve years to maturity.

23. Borrowing is to be conducted in a way that ensures a broad investor base and diversification in a range of funding currencies in order to maintain good borrowing preparedness.

24. Positions are not to be included when calculating the debt shares and term to maturity.

25. When taking positions, market values are to be used as the measure of cost and risk in the management of the debt.

Market support and debt maintenance

26. The Debt Office is to contribute, through its market support and debt maintenance, to the effective functioning of the government securities market in order to achieve the objective of long-term cost minimisation while taking account of risk.

27. The Debt Office is to adopt principles for market support and debt maintenance.

Position-taking

28. 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 that are also potentially a borrowing currency in the context of debt management.

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

    The Debt Office shall decide how much of this scope may be used at most in day-to-day debt management.

30. Positions in the krona exchange rate are limited to a maximum of SEK 7.5 billion. When the positions are built up or phased out, 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 its day-to-day debt management in connection with exchanges between the krona and other currencies. This volume is to be of a limited size and the positions do not need to be announced in advance.

Borrowing to meet the need for government loans

31. The possibility of raising loans to meet the need for government loans under Chapter 5, Section 1 of the Budget Act may only be used if necessary in the event of a threat 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.

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

Management of funds etc.

33. The Debt Office shall place its funds, to the extent that they are not needed for outgoing 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 (Section 5 of the Ordinance containing Instructions for the National Debt Office).

34. The Debt Office shall cover the deficits that occur in the government central account (Section 7 of the Ordinance containing Instructions for the National Debt Office).

35. The management of exchanges between Swedish and foreign currency (currency exchanges) is to be predictable and transparent (Section 6 of the Ordinance containing Instructions for the National Debt Office).

Consultation and collaboration

36. The Debt Office shall consult with the Riksbank on matters concerning the components of its borrowing operations that may be assumed to be of significant importance for monetary policy (Section 12 of the Ordinance containing Instructions for the National Debt Office).

37. 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 (Section 11 of the Ordinance containing Instructions for the National Debt Office).

38. The Debt Office should obtain the Riksbank's views on how the funds borrowed to meet the need for central government loans are to be invested.

Evaluation

39. Evaluation of the management of the central government debt is to be carried out in qualitative terms in light of the knowledge available at the time of the decision. Where possible, the evaluation is also to include quantitative measures. The evaluation is to cover five-year periods.

40. The evaluation of the operational management is to include borrowing in and management of the different types of debt, market support and debt maintenance measures, and management of currency exchanges.

41. For inflation-linked borrowing, the realised cost difference between inflation-linked and nominal borrowing is to be reported.

42. Gains and losses are to be recorded continuously for holdings within a position-taking mandate and evaluated in terms of market values.

43. The phasing out of the foreign currency exposure of the central government debt is to be evaluated in relation to a steady pace of reduction over the period

from the beginning of 2023 to the end of 2026. The evaluation is to follow the same principles that apply for positions within the position-taking mandate (point 42). Only transactions that are carried out for the purposes of phasing out the foreign currency exposure of the central government debt are to be included in the evaluation.

Unchanged target values proposed

The Debt Office has not identified any grounds for altering the guidelines for central government debt management at present. The current analysis framework for the composition and maturity of the debt shows that the target values can stay in place for 2024. In advance of forthcoming proposed guidelines, the Debt Office intends to develop the analyses and relate them to the long-term conditions that we project for debt management ahead.

In working with this year's proposed guidelines, the Debt Office has analysed the composition and maturity of the central government debt in order to explore whether the results using the current analysis framework warrant proposing any changes to the guidelines. This involves both analysing expected cost advantages of inflation-linked versus nominal borrowing and analysing term premia. In regard to the foreign currency exposure of the debt, the analysis presented in the previous year's proposed guidelines still stands.

The Committee on Finance expressed in its report (bet. 2021/22:FiU42) a need to further analyse the liquidity situation in the Swedish government securities market. Market liquidity is included in the analysis of the long-term conditions for central government debt management, which is presented in the next chapter. The size of the debt and the way in which the market functions are important initial points for the Debt Office's continued work in furthering its analysis of how the debt should be managed on the basis of the objective of minimising the cost over the long term and taking account of risks.

Share of inflation-linked debt remains same

Inflation-linked government bonds were introduced in 1994 and have since been an important type of borrowing. There were several reasons for the central government to start issuing inflation-linked bonds. First, inflation-linked borrowing was expected to reduce the cost of the debt. Second, inflation-linked bonds were thought to contribute to the debt's diversification in terms of both lower variation in cost and a broader investor base.

The expectation of reduced cost was based on the assessment that investors were prepared to pay extra for insurance against inflationary changes. The fact that the central government would bear the inflation risk of an inflation-linked bond was also considered to lend credibility to the inflation target. Such increased credibility could lower the expected cost of all central government borrowing, even in nominal instruments. This is because the inflation risk premium, which constitutes a part of the nominal yield, decreases when inflation is perceived to be more stable at around the target level.

The conditions for central government borrowing change over time, however, and it is therefore important to regularly review the guidelines in relation to the prevailing circumstances. Part in this is determining whether there is a distinct and persistent cost difference between inflation-linked and nominal borrowing. As part of the work with this year's proposed guidelines, we have therefore updated the analysis made in the 2020–2023 guidelines. The results are described below.

Other aspects for future analysis are diversification effects, crowding out, and the impact on the functioning of the government securities market. This involves analysing the debt's composition in terms of the different debt instruments. Nominal bonds are the Debt Office's most important funding source, and inflation-linked bonds are a complement to nominal bonds. The inflation-linked bond issuance should be large enough to enable liquid trading of these bonds, yet not so large that it crowds out nominal government bonds and worsens liquidity in that market.

A key issue is how much demand there is for inflation-linked bonds in kronor. The market survey that the Debt Office conducted in the spring of 2023 forms a basis for the analysis. The results indicate that demand for inflation-linked bonds is currently low and has been so for many years – but that there is some interest because inflation-linked bonds contribute to diversification and have no comparable substitute. One of the reasons given for the low demand was poor market liquidity. The results of the survey are described in *Central Government Borrowing – Forecast and Analysis 2023:2*. The Debt Office intends to use the results as part of the continued analysis of how the central government debt should be composed.

The Debt Office's continued analysis of the guidelines must take these aspects into consideration, starting with the question of whether 20 per cent of the central government debt should be inflation-linked debt even with the future conditions that we project. The conditions for debt management over time are discussed in the report's final section, "Long-term Conditions".

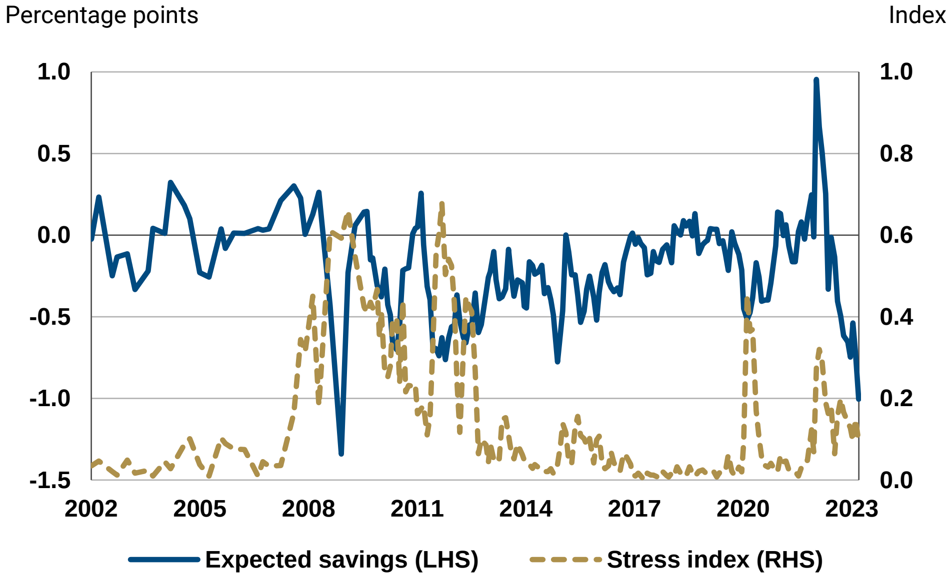
No clear picture in terms of cost advantage

The analysis of whether there is any distinct and persistent cost advantage to inflation-linked versus nominal borrowing is based on a hypothetical comparison scenario. The evaluation is made from an ex ante perspective using a comparison between yields on a nominal government bond and an inflation-linked bond with the same maturity. A detailed description of the analysis can be found in the Debt Office's 2020–2023 proposed guidelines on page 12.

Figure 1 shows the estimated expected savings, which is the difference between five-year break-even inflation (BEI) and the inflation expectations over the same period. BEI is the rate of inflation that yields an equal return on nominal and inflation-linked bonds.

Between 2002 and 2008, the estimated expected savings fluctuated at around zero, meaning that the expected costs for inflation-linked and nominal bonds were basically equivalent. From then on, the expected savings has mostly been on the negative side, which means that nominal bonds ex ante have been slightly more advantageous to issue. There was a declining trend in the expected additional cost of inflation-linked bonds from 2012 until the outbreak of the coronavirus pandemic in 2020. During the spring of 2022, BEI rose much faster than inflation expectations and thereby indicated a significant expected savings with inflation-linked bond borrowing. Since the summer of 2022, the expected savings has become negative and continued to decrease to a very low level historically. This development has mainly been driven by a rapidly declining BEI while inflation expectations have been more stable. The figure also shows that the expected savings has been low when the stress level has been very high, for example in times of financial turbulence such as during the global financial crisis, euro crisis, and coronavirus pandemic.

Figure 1 Expected savings from borrowing in inflation-linked versus nominal bonds



Note: The expected savings is calculated as the difference between five-year break-even inflation (BEI) and the inflation expectations over the same period according to money market participants in Kantar Sifo's surveys. A positive value means that the expected cost is lower for inflation-linked borrowing than for nominal borrowing. Stress index, produced by the Riksbank, is an indicator of financial stress in Sweden. The stress index varies between 0 and 1. A higher value indicates a higher level of stress. Both series in the figure show values at the publication dates of the inflation expectation (quarterly until October 2006 and monthly thereafter). BEI and the stress index are reported as the average of ten trading days prior to the publication dates. The period is between March 2002 and May 2023.

Sources: Refinitiv, Kantar Sifo Prospera, the Riksbank, and the Debt Office's own calculations.

It is worth emphasising that the purpose of this analysis is to measure the difference in ex ante borrowing cost. The measure of expected savings indicates whether a difference in borrowing costs between nominal and inflation-linked bonds can be expected looking ahead. What that cost difference will ultimately be depends on the outcome of inflation. In the yearly report *Central Government Debt*

Management – Basis for Evaluation, the Debt Office regularly reports the estimated cost of the inflation-linked borrowing. According to the most recent report, inflation-linked borrowing has entailed an accumulated savings of approximately SEK 24 billion since 1994. In 2022, the inflation-linked borrowing cost was SEK 20.9 billion more than that of nominal borrowing, as a result of the high inflation.

The figure indicates that there has been a significant expected additional cost for inflation-linked borrowing last year. The objective of the debt management is to minimise the cost over time, and the Debt Office therefore bases its analysis on data over longer periods in which conclusions are not based on the developments for individual years. It is too premature to draw conclusions about whether the expected additional cost at present is purely connected to the current economic situation or whether it is a more permanent change. Furthermore, survey results are not a perfect measure of the market's view of the inflation development.

In summary, the quantitative analysis does not indicate any substantial and persistent difference in cost between inflation-linked and nominal borrowing. The estimated expected cost savings varies over time and does not clearly show any cost advantage to inflation-linked borrowing. On the basis of the analysis conducted this year, there is therefore no reason to propose a change to the current inflation-linked debt share.

Unchanged steering interval for term to maturity

An important factor affecting cost and risk is the maturity of the central government debt. Borrowing in long maturities reduces the risk in respect of cost variation for the central government debt. Historically, the term premia have been positive, which has meant that the Debt Office paid an expected additional cost for borrowing in longer maturities.

Term premia stay at low level

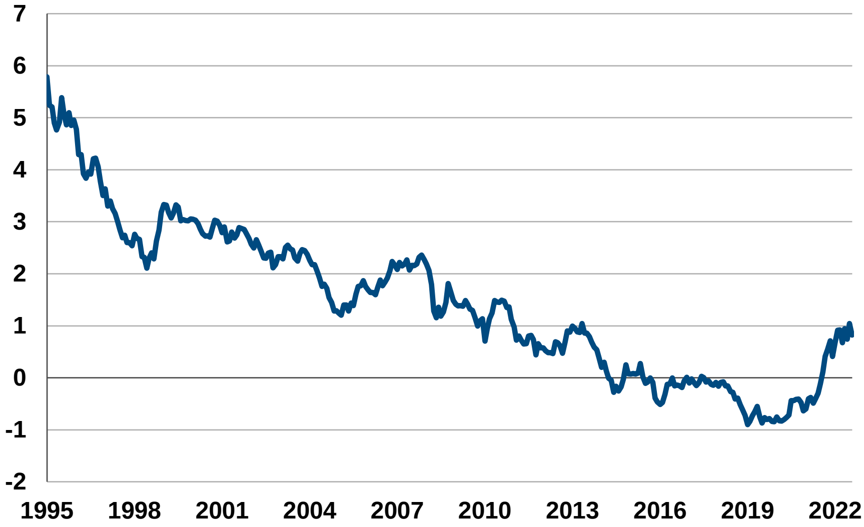
To estimate term premia, the Debt Office uses a yield model developed by the Federal Reserve.[1] The data for the model consists of Swedish swap rates with maturities of between one and ten years during the period of August 1995 to March 2023.

Figure 2 shows the decline in the term premium between 1995 and 2021. In 2015 to 2021, the estimated term premium was below zero, which coincides with the period in which the Riksbank conducted an unconventional monetary policy with extensive securities purchases. The term premium has increased since the beginning of 2022. In the same period, monetary policy has been contractionary in response to the high inflation. Volume of the securities purchases first decreased in 2022, to cease entirely and be replaced by the sale of government bonds in 2023.

[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.

Figure 2 Swedish ten-year term premium

Percentage units



Note: The term premium, presented on a monthly basis, is the premium for Swedish ten-year swap rates. The period extends from August 1995 to March 2023.

Sources: Refinitiv and the Debt Office's own calculations.

The figure shows that the term premium varies over time. The increase in 2022 is large for a single year, but the level is still low historically. Shortening the term to maturity of the central government debt would therefore generate a small cost advantage historically speaking. However, the risk in respect of cost variation would increase. The interest rate refixing risk also increases with shorter maturities. The Debt Office assesses the current trade-off between cost and risk to remain appropriate with regard to the term premium trend.

In summary, the Debt Office proposes no changes to the steering of the term to maturity of the central government debt. The term premium continues to be at a low level historically. It is the Debt Office's assessment that it is too soon to draw any conclusions about how term premia can be expected to develop in the long term on the basis of the recent increase.

Continued phase-out of foreign currency exposure

In 2023, the Debt Office began to phase out the foreign currency exposure of the central government debt following a decision last year. The currency exposure is being phased out on the grounds that it brings a higher risk without offering any cost advantages over time. The analysis of the currency exposure presented in the previous proposed guidelines still stands.

The phase-out means that the Debt Office gradually sells kronor against mainly the euro and the Swiss franc, which are the currencies in which the central government debt has exposure. The amounts per month are small in relation to the market turnover and are not considered to affect the krona rate.

The Swedish krona has become weaker in recent years. The decision to phase out the foreign currency exposure is not based on a perception or forecast of the krona rate. Nevertheless, the trend for the krona rate affects the cost of the phase-out. To reduce the risk of the entire phase-out occurring in a single period when the krona is temporarily weak, we are phasing out the exposure gradually over four years. The continuous development is presented in the report *Central Government Debt Management – Basis for Evaluation*.

In addition to the target value for the currency exposure of the central government debt (guideline point 12), the Government has also given the Debt Office a mandate to take positions in the Swedish krona at a maximum of SEK 7.5 billion (guideline point 30). We currently do not have any such positions in the Swedish krona. The most recent position was discontinued in 2022 at a small gain (the result was presented in *Central Government Debt Management – Basis for Evaluation)*.

Long-term conditions

The main factors expected to affect future conditions for central government debt management are how the size of the debt and the functioning of the government securities market develop. Those conditions are described here using three scenarios for the debt's development. The Debt Office has determined that if the central government debt continues to decline, the guidelines for debt management will need to be adjusted.

The objective of central government debt management is to minimise the cost over the long-term while taking account of the risk. A long-term perspective requires guidelines that are designed to achieve low cost over time for the debt as a whole rather than for individual issues or instruments. An important factor to address is how the debt portfolio should be structured in regard to different debt types and maturities. The possibility of attaining a low borrowing cost over the long term is also influenced by other factors such as a well-functioning government securities market and high confidence in the central government as an issuer.

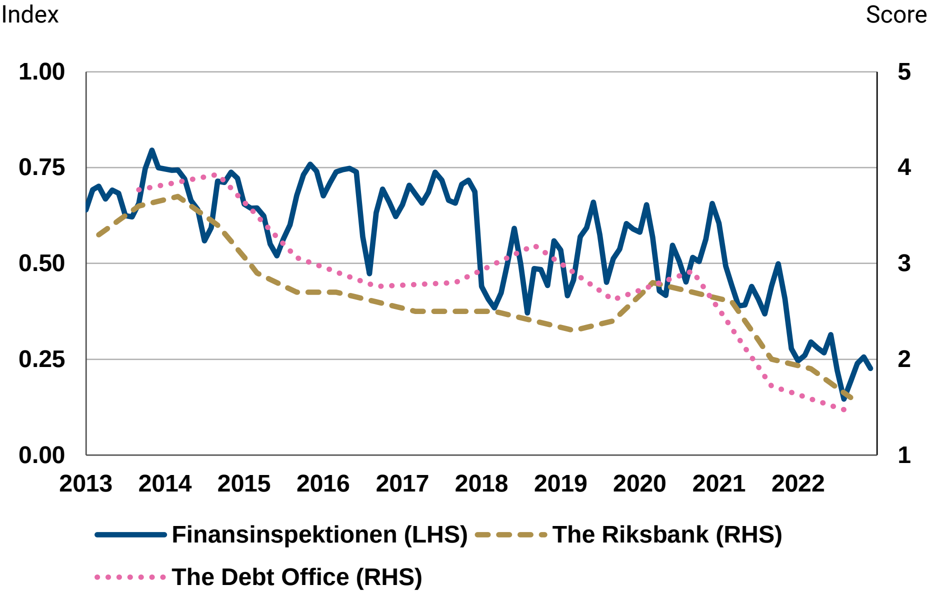
In the guidelines, a balance between cost and risk is determined based on long-term structural factors. This is thus not a matter of adapting the guidelines to short-term interest-rate or currency fluctuations. A fundamental structural factor is the long-term trend for the size of the debt. Another is the trend for various risk premia. One such risk premium – the liquidity premium – is associated with how the government securities market functions. It is mainly these two factors – the debt's size and the way in which the market functions – that are described below. Other factors that also affect decisions about central government debt management are the design of regulations and other aspects affecting investor behaviour.

Small debt and poor liquidity at outset

From the outset, the analysis of the long-term conditions is characterised by two trends: that the central government debt has varied at around a slight declining trend for just over two decades, and that market liquidity for nominal government bonds has for the most part continually deteriorated for about ten years.

Although market liquidity is a difficult concept to define in clear-cut terms, the results of three different measures are in accord. There has been an evident deterioration for a number of years. Finansinspektionen's qualitative measure based on market data and the Riksbank's and Debt Office's qualitative measures based on survey responses all present the same picture. Moreover, the latter can be interpreted in terms of normative ratings, and in the last two years market liquidity has been marginally "unsatisfactory" (score below 3).

Figure 3 Market liquidity for nominal government bonds in last ten years, using three different measures



Note: The Riksbank's qualitative survey is recalculated to an overall quantitative measure, based on a ranking of response options from 1 (worst) to 5 (highest).

Sources: Finansinspektionen, the Riksbank, and the Debt Office.

Fiscal policy framework reduces central government debt

The design of the fiscal policy framework is the most important reason for the declining trend in the central government debt for approximately the last 25 years. The surplus target of currently one-third of GDP is defined on the basis of the net lending of the consolidated (general) public sector, which in addition to the central government comprises the municipal sector and the old-age pension system. The framework contains among other things a debt anchor – which is a target value, i.e. benchmark – of 35 per cent of GDP that applies to the entire public sector's consolidated gross debt.

The central government is the sector that must make adjustments over time so that the surplus target is met within a business cycle, since the old-age pension system can be described as autonomous and a balance requirement is imposed on municipalities and regions. In the 2000–2021 period, central government net lending was on average almost 0.4 per cent of GDP whereas it was approximately 0.1 per cent for the retirement pension system and -0.2 per cent for local (municipal) and regional governments. For the public sector as a whole, this entails an average annual savings of approximately 0.3 per cent of GDP.

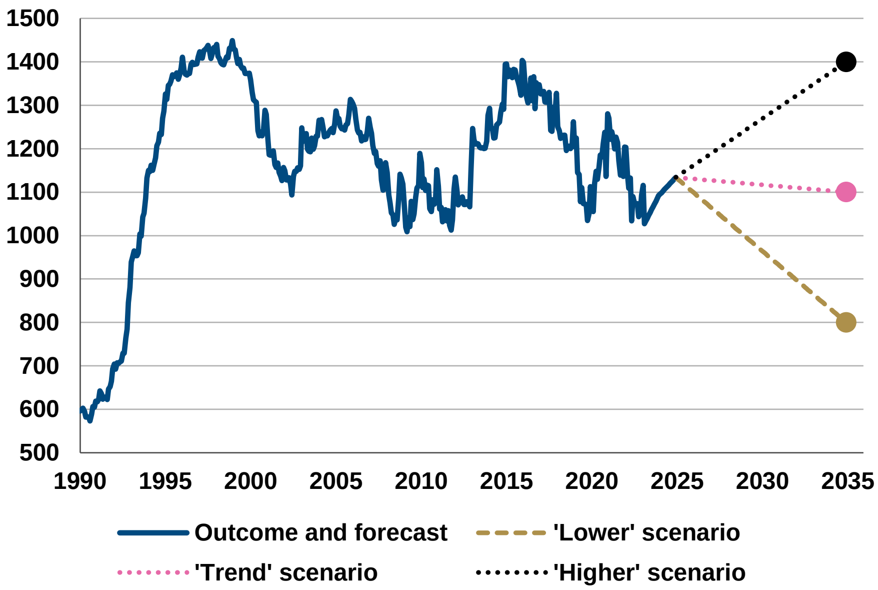
Future debt scenarios

To illustrate potential outcomes for the size of the central government debt, the Debt Office has analysed three different scenarios. As the purpose of the scenarios is to illustrate how they affect the long-term conditions for debt management, a projection of the historical trend is supplemented with a higher and lower scenario. Given the current framework, the point of the scenarios is to reveal possible sample space for the central government debt, based on assumptions from other agencies' long-term scenarios.[2] The scenarios are to be viewed as illustrations and not as a forecast.

For obvious reasons, it is not possible to know how the debt will progress in the long term, but using a projection of the historical trend and potential deviations from that trend makes the scenarios relatively straightforward to interpret and comprehend. The end point of 2034 has been chosen because it is ten years beyond the Debt Office's normal forecast horizon in the report *Central Government Borrowing – Forecast and Analysis*. The forecast from May is used until 2024 and thereafter the scenarios apply.

Figure 4 Outcome of central government debt, forecast until 2024 and three scenarios until 2034

SEK billion



Note: The forecast for 2023 and 2024 is from the Central Government Borrowing 2023:2 report.

Source: The Debt Office.

In the "*Trend*" scenario, the historical development continues. If the trend for 1997–2023 persists, the debt will be SEK 1,100 billion in 2034.[3] In the *"Lower"* scenario,

[2] The actual sample space is naturally larger than what the scenarios cover. Two examples are that the framework may be changed given that for instance a financial crisis could generate a large upswing in the central government debt in the short term.

[3] The exact debt level in 2034 is actually SEK 1,087 billion, but the scenarios are intended to provide a picture of potential developments that can serve as a basis for illustrating the long-term conditions for debt management. Therefore, the three endpoints are approximate and rounded and not intended to correspond exactly to any underlying development or be seen as a forecast.

the debt decreases faster and is approximately SEK 800 billion in 2034. This would, for instance, be in keeping with a situation in which municipalities and regions have a larger deficit than historically, approximately in line with ESV's forecast from December 2022, which would in turn entail a larger surplus for the central government, thereby leading to a decrease in the central government debt. In the *"Higher"*, scenario, the debt instead increases and is approximately SEK 1,400 billion in 2034. Such a development could, for instance, be driven by the old-age pension system gradually generating an increasingly large surplus, approximately in line with the trend in NIER's scenario in *The Swedish Economy* from December 2022. That would in turn entail a deficit for the central government, causing the debt as measured in kronor to increase over time.[4] However, the debt will nevertheless decrease to below 15 per cent of GDP, provided that the economy grows in line with NIER's latest long-term scenarios.

In Figure 4, each scenario for 2025–2034 is illustrated by a thin dotted line with a distinct endpoint in order to emphasise that the illustration is intended to show the situation in just over a decade, not the time up to that point.

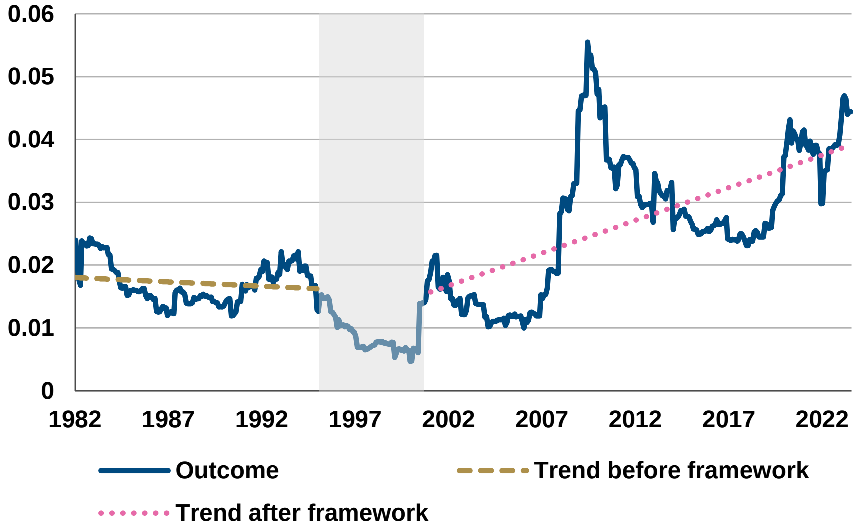
Major fluctuations in budget balance

One effect of the central government debt having grown is that the cyclical fluctuations in the budget balance have been larger, relatively speaking. Variation in the net borrowing requirement (the budget balance with the reverse sign) in recent years has, for example, been three times as large as it was 20 years ago (see Figure 5). This development has led to a need for a larger volume of short-term instruments in the planned borrowing in order to balance fluctuations. How much variation is to be expected could affect the distribution among debt instruments in periods ahead.

[4] The issue of a possible future change to the surplus target, for instance to a balance target, could also be modelled in a similar way. A lower surplus in the public sector leads to a lower central government budget balance, provided that assumptions are unchanged regarding the old-age pension system and municipalities and regions.

Figure 5 Variation in net borrowing requirement as share of central government debt, and trend before and after inception of fiscal policy framework

12-months rolling standard deviation



Note: The shaded period shows the time in which the fiscal policy framework was introduced in stages (1995-2000).

Source: The Debt Office.

Reduced supply of government securities if debt falls further

The scenarios presented above could be dealt with in different ways, but in order to illustrate the conditions for debt management as clearly and simply as possible the line of reasoning below is based on the current guidelines and borrowing policy. That entails that the share of inflation-linked bonds is to be 20 per cent and that nominal bonds are prioritised in the distribution among different debt instruments as shown in Table 1. Because the size of the debt differs by scenario, there are thus varying degrees of the volume of nominal government bonds. The outstanding stock of nominal bonds has on average constituted just over 50 per cent of the central government debt in the last 20 years. This relationship is reflected in each scenario.

Table 1 Potential distribution among instruments in debt scenarios

SEK billion

	2023	2024		2034		
				"Lower"	*"Trend"*	*"Higher"*
Nominal government bonds	535	594	…	451	634	817
Inflation-linked bonds	238	249	…	160	220	280
Green bonds	20	20	…	0	0	0
Foreign currency bonds	21	21	…	24	49	73
T-bills	135	148	…	110	110	110
Liquidity management instruments	123	89	…	55	88	120
Debt	1,071	1,119	…	800	1,100	1,400

Note. Forecast for 2023 and 2024 from the Central Government Borrowing 2023:2 report. Central government debt including on-lending and assets under management. The amount refers to outstanding stock at year-end.

Source: The Debt Office.

The *"Lower"* scenario contains an assumption corresponding to five outstanding loans of SEK 60 billion each, equivalent to an issue of a new ten-year bond every other year.[5] In addition to this stock of SEK 300 billion are current loans with maturities beyond 2034 totalling SEK 70 billion. Adjusted for 2 per cent inflation, this corresponds to SEK 451 billion.[6] In the *"Trend"* scenario, the rate of issuing new bonds increases to every 18 months. This means that the total stock of nominal bonds increases from SEK 451 billion to SEK 643 billion in 2034. In the *"Higher"* scenario, the rate of issuing new bonds increases to every 12 months, corresponding to ten outstanding bonds at SEK 60 billion each, in addition to bonds with longer maturities. In today's monetary value, the outstanding stock of nominal bonds corresponds to SEK 370 billion, SEK 520 billion, and SEK 670 billion in each respective scenario, which adjusted for 2 per cent inflation is SEK 451 billion, SEK 634 billion, and SEK 817 billion (see the top row in the table).

Under the assumption that each outstanding nominal bond with a maturity of up to ten years is SEK 60 billion, the rate of issuance in the three scenarios can correspond to a new loan every 24, 18, and 12 months.

In the same way, loans in foreign currency also vary among the scenarios whereby the outstanding stock in the three scenarios corresponds to SEK 20 billion, SEK 40 billion, and SEK 60 billion respectively in today's monetary value, which when adjusted for two-per cent inflation is SEK 24 billion, SEK 49 billion, and SEK 73 billion, respectively.

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[5] SEK 60 billion in borrowing is close to the last five years' average (66) for bonds with maturities of up to ten years, and it is also in line with what the "Hessius" report in 2014 (*Översyn av statsskuldspolitiken* [*"Review of central government debt policy"*], SOU 2014:8) determined was the level needed to "provide satisfactory liquidity".

[6] The adjustment for inflation can be understood to mean that the relevant size of the loan (see previous footnote) is assumed to grow in pace with the price increases in the economy.

In all three scenarios, the stock of treasury bills is assumed to be the same as the average for the last ten years, adjusted for 2 per cent inflation (SEK 110 billion). Liquidity management is treated as a residual “balancing item”, which results in its size in the *“Lower”* scenario being less than half of the average for the last ten years (approximately SEK 125 billion).

Size of debt affects market liquidity

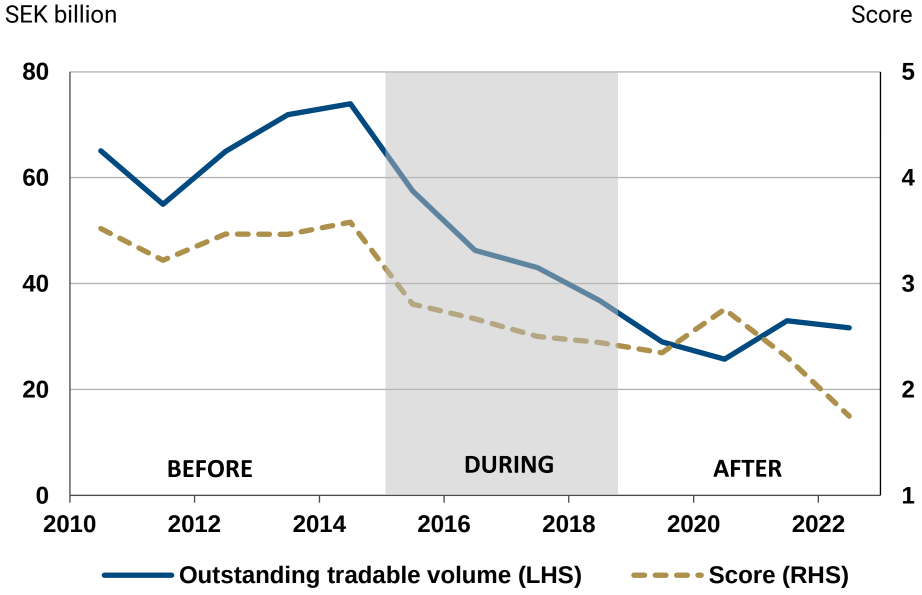
In the *“Lower”* scenario especially, the outstanding volume of nominal bonds is so small that a strongly adverse effect on the functioning of the market can be expected. Even though attempts have been made, for example in the “Hessius” inquiry, it is difficult to establish a lower value for the tradable volume of bonds that is consistent with a liquid market.[7] However, although it is uncertain what this looks like exactly, it is reasonable to presume that there is a connection between the tradable volume and perceived liquidity, something which the trend of the last ten years indicates by a decrease in both tradable volume and market liquidity (see Figure 6).[8]

It is possible that the situation will improve in periods ahead in pace with the Riksbank gradually selling its holdings and with bonds with short maturities reaching maturity. In the same way, other factors can also affect the future functioning of the market. The *“Lower”* scenario is an illustration of how the lower the debt is the harder it is for the Debt Office to issue a large enough volume of securities to maintain good market liquidity.

[7] Hessius etc. (2014), *Översyn av statsskuldspolitiken* (*“Review of central government debt policy”)*, SOU 2014:8.

[8] The illustration should not be interpreted to mean that the trading volume of bonds is the sole, or most important, reason. Market liquidity has also likely been affected by a number of other factors, for example low and falling interest rates as well as changed financial regulations. See the report Financial Stability Council (2023) *Obligationsmarknaderna – en kartläggning* (“*Bond markets – an overview”*) for a review of possible influencing factors.

Figure 6 Average outstanding tradable volume in the five- and ten-year reference bonds and scores for market liquidity from Riksbank's Financial Markets Survey



Note: Before, During, and After refer to the period in which the Riksbank mainly carried out its purchases of government securities. Tradable volume refers to the outstanding volume of nominal government bonds minus the portion of the volume that the Riksbank owns.

Sources: The Riksbank and the Debt Office.

Conditions are important for guideline analysis

The conditions described above form a crucial basis for the work of continuing to analyse the composition of the debt in particular. In a situation in which the central government debt is small, the risk in the form of cost variation per debt unit has less significance than if the debt were to correspond to a large share of GDP, because the effect on the central government budget is smaller. It is then reasonable to place less emphasis on diversifying the debt to reduce this risk and instead focus on maintaining important borrowing channels for securing low-cost future borrowing.

With a smaller debt, it is also not as important to mitigate the refinancing risk by issuing bonds with longer maturities. In that case, it is more relevant to place a higher priority on borrowing preparedness, i.e. the ability to finance temporary or cyclical deficits. Although the central government has a surplus target and decreasing debt over time, there will be periods of deficits that the Debt Office will need to finance in a cost-effective manner. We need both a well-functioning domestic market and the possibility to borrow internationally. This also affects the balance between diversifying and focusing.

In the guidelines, this trade-off is mainly covered by the points on the composition of the debt (11-14) but also the points on refinancing risk (22), borrowing preparedness (23), and market and debt maintenance (26).

Future conditions also affect how the Debt Office plans its borrowing on the basis of the parameters defined by the guidelines. Among other things, this pertains to which debt instruments and maturities we choose to issue. In summary, the conditions have a significant role for the analysis both at the guidelines level and in the borrowing.

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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