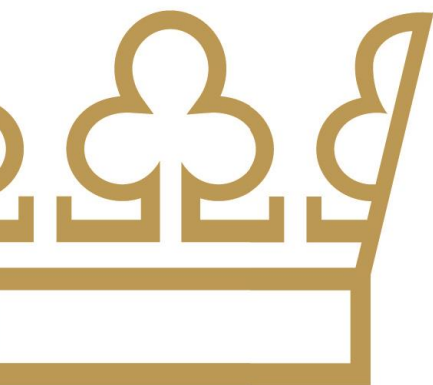
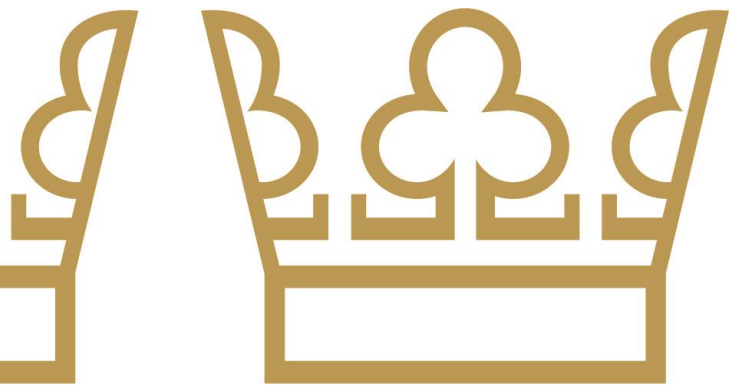


Basis for evaluation

Central government debt management 2016



Basis for evaluation 2016

The year in brief	1
1 Objectives and evaluation	2
1.1 Mandate	2
1.2 Objectives and governance	2
2 Debt management strategies	6
2.1 Liquidity and infrastructure	6
2.2 Transparency, predictability and clear communication	8
2.3 High overall grade	10
3 Cost and risk	11
3.1 Costs	11
3.2 Risks	14
4 Forecasts of the net borrowing requirement	17
5 Summary of borrowing	19
6 Capital market borrowing	20
6.1 Government bonds	20
6.2 Inflation-linked bonds	21
6.3 Foreign currency bonds	23
7 Money market borrowing	25
7.1 T-bills	25
7.2 Commercial paper	26
7.3 Liquidity management	26
8 On-lending of foreign currency	28
9 Derivative instruments	29
9.1 Interest rate swaps	29
9.2 Basis swaps	30
9.3 FX Forwards	30
10 Positions	31
11 Retail market borrowing	33

The year in brief

The Riksbank continued its purchases of government bonds and held about 40 per cent of the outstanding volume at the end of the year. At the same time the Debt Office decreased issue volumes on account of the unexpectedly strong development of government finances. This may have contributed to the deterioration of liquidity in the market for Swedish government securities. The low level of interest rates meant that borrowing in lottery bonds was no longer able to contribute to reducing the cost of the central government debt. The Board of the Debt Office therefore decided not to issue lottery bonds for the time being. The cost of the central government debt fell to historically low levels. The Debt Office assesses that the objectives of the debt management were essentially achieved in 2016.

The cost of the central government debt fell as a result of the general decline in interest rates. During the year the Debt Office sold government bonds at an average yield of 0.28 per cent, a decrease from 0.48 per cent in the preceding year. [See chapters 3 and 6.](#)

The Debt Office sold government securities at a negative yield. For maturities up to seven years central government was paid for borrowing. The government bond maturing in June 2022 was sold at an average yield of –0.16 per cent. The Debt Office was also able to borrow at negative yields through T-bills and commercial paper. [See chapters 6 and 7.](#)

One new lottery bond was sold at a loss since the borrowing interest rate on corresponding government bonds was negative. As a result of the low level of interest rates the Board of the Debt Office decided in December not to issue lottery bonds for the time being. [See chapter 11.](#)

Poorer liquidity in government securities. Market participants consider that liquidity in the markets for government securities deteriorated further during the year. Regulations that affect the possibilities for primary dealers to take on risk and the Riksbank's purchases of government bonds are reasons given. [See chapter 2.](#)

The need for market commitment increased in pace with purchases of government bonds by the Riksbank. The demand for the Debt Office's market-supporting repos of government bonds rose in the second half of 2016. [See chapter 6.](#)

Central government finances showed a surplus. The budget balance was SEK 85 billion compared with SEK –33 billion in the previous year. Strong growth, high capital incomes and excess deposits in tax accounts led to unexpectedly high payments of tax. [See chapters 4 and 5.](#)

The Debt Office reduced currency exposure. As a step in the Government's decision to gradually reduce the foreign currency exposure of the central government debt, the Debt Office bought JPY 102 billion and USD 1.5 billion, corresponding to about SEK 20 billion. [See chapter 3.](#)

1 Objectives and evaluation

The overall objective is to minimise the cost of the central government debt in the long term without the risk becoming too high. The Debt Office has also identified a number of intermediate objectives that are easier to influence and measure. This chapter describes how the management of the central government debt is governed and the possibilities of evaluating the management of the debt.

1.1 Mandate

The Swedish National Debt Office (the Debt Office) borrows money on behalf of central government, chiefly by issuing government bonds in the Swedish and international capital market. These loans finance deficits in the central government budget. When the budget shows a surplus, the Debt Office amortises the central government debt.

In addition to continuously handling surpluses and deficits in the central government budget, the Debt Office raises loans to replace loans that mature. This means that old deficits in the central government budget are refinanced.

So the Swedish and international investors who buy Debt Office bonds are lending money to the Swedish State. These investors may, for example, be insurance companies, banks, investment funds and central banks.

A small part of the central government debt is financed by private individuals, chiefly through lottery bonds.

1.2 Objectives and governance

The overall objective for the management of the central government debt is to minimise the cost of the central government debt in the long term without the risk becoming too high. In practice this means first setting the level of risk that can be accepted in the management of the debt. This is followed by the determination of the cost of the prevailing market prices when each loan is raised.

At a general level the Government governs the management of the debt by adopting *Guidelines for central government debt management* each year. The basis for that decision includes the Debt Office's proposed guidelines. The government guidelines determine, for example, the distribution

of the debt between nominal krona debt, inflation-linked krona debt and foreign currency debt. The government guidelines also regulate the maturity of the different debt types.

These guidelines limit the exposure of the central government debt to different risks. However, the guidelines say nothing about financing as such, i.e. the types of debt and the maturities actually used by the Debt Office in its borrowing. The Debt Office uses derivative instruments so as to be able to borrow in a flexible and effective way while keeping risks within the limits set out in the guidelines.

The government guidelines provide that the Debt Office is to adopt internal guidelines. They are intended to regulate the composition of the foreign currency debt, principles for the market and debt commitment and certain other matters. The Board of the Debt Office adopts these internal guidelines in the document the Debt Office's *Financial and Risk Policy*.

The Debt Office's main contribution to minimising the cost of the central government debt is to work to make the market for Swedish government securities attractive to as many investors as possible. If many investors want to lend money to the Swedish State, the cost of the central government debt will be lower. This also promotes liquidity in the market, which then stimulates demand for government securities. Another aspect is that the financing risk is lower if many lenders are prepared to lend money to the Swedish State.

At the margin, mainly through position taking, the Debt Office can also influence the cost of the central government debt by making use of occasions when the pricing in the market is favourable.



Background to the current guidelines

Shares of different types of debt

The cost and risk of Central government debt depends on how the debt is composed. The Debt Office's task is to minimise the cost with regard to risk by proposing suitable proportions of different debt types. The purpose of borrowing in different types of debt is to be able to attract a broad range of investors and spread risks. Risk diversification is a result of the fact that funding costs for various types of debt do not usually vary in the same way over time

Nominal krona debt

The most important type of debt is nominal government bonds. Here the Debt Office has an important task to promote the functioning of the market, partly by meeting the need for bonds with different maturities.

The Debt Office also issues T-bills in order to borrow at short maturities. Along with short-term borrowing in foreign currencies (see below), the T-bills are mainly used to cope with seasonal variations in the borrowing requirement.

Inflation-linked krona debt

By issuing inflation-linked krona bonds the Debt Office can attract investors who want to avoid the risk of inflation eroding the value of their bonds. The inflation-linked debt should be large enough to enable liquid trading, but not so large that it crowds out borrowing in nominal bonds and worsens liquidity in that market.

Foreign currency debt

In the international capital market the Debt Office is able to borrow large amounts in a short space of time. So there are reasons for borrowing regularly in foreign currency even when the borrowing requirement is small since this maintains the preparedness to borrow large amounts if needed.

The Debt Office has reviewed its handling of the foreign currency debt without being able to demonstrate that currency exposure leads to lower costs in the long term. However, this exposure leads to more variation in costs. The Government has therefore decided to gradually reduce the currency exposure.

Maturity of the central government debt

The maturity of the central government debt affects the interest cost of the debt. Historically, short rates have been lower than long rates, so it has usually been cheaper to borrow in short maturities. On the other hand, borrowing in short maturities means that the interest rate is less predictable since it is often altered. So the cost varies more with short-term borrowing.

The maturity is decided by weighing the benefit of minimising cost against the benefit of having low cost variation. In the past ten years the maturity of the debt has been between three and four years measured as duration.

For some time now the costs of short-term and long-term borrowing appear to have moved close to one another. So the advantage of short-term borrowing has decreased. The Government therefore decided to extend the maturity of the central government debt in its guideline decisions for 2015 and 2016.

Practical aspects

The choice of maturity is also influenced by other aspects. For example, it is in the interest of the Debt Office to ensure that all bond loans, whatever their maturity, are large enough for bond trading to function well.

Well-functioning derivatives markets facilitate the steering of the maturity of the central government debt. In the nominal krona debt the Debt Office is able to allow the maturity to deviate from the maturity of the bonds by using interest rate swaps. However, the Debt Office has made the judgment that it does not want to be too big a participant in the Swedish swap market.

For the inflation-linked krona debt there is, in practice, no possibility of using derivative instruments to steer maturity. Therefore the maturity of the inflation-linked krona debt is steered solely by the maturity of the bonds.

In foreign currencies there are well-functioning markets for interest rate swaps and here the Debt Office is a relatively small participant. The maturity of the foreign currency debt can therefore be steered without influencing the market.

Government guidelines for 2016

According to the government guidelines for 2016 the central government debt is to have the following composition:

- The share of inflation-linked krona debt is to be 20 per cent of the central government debt in the long term.
- The foreign currency exposure of the central government debt is to decrease by no more than SEK 30 billion per year.
- The remaining part is to consist of nominal krona debt.

According to the government guidelines for 2016 the maturity of the various types of debt, measured as duration, is to be:

- Foreign currency debt: 0–1 years
- Inflation-linked krona debt: 6–9 years
- Nominal krona debt:
 - For instruments with a maturity of up to twelve years 2.6–3.6 years
 - For instruments with maturities of more than 12 years, the long-term benchmark for the outstanding volume is to be SEK 70 billion.

Under the government guidelines the Debt Office may take positions in the market to reduce the cost of or risk in the central government debt. Positions in foreign currency may not exceed SEK 300 million, measured as daily Value-at-Risk with a 95 per cent confidence level. Positions in the Swedish krona exchange rate are limited to a maximum of SEK 7.5 billion.

Evaluation and intermediate objectives

Under the guidelines the evaluation of the management of the debt is to be carried out in the light of the knowledge available at the time of the decision. However, evaluating the overall objective of cost minimisation is a complicated matter. The cost depends on the prevailing market interest rates, and the government securities offered by the Debt Office influence these interest rates. To know whether the Debt Office had minimised the loan cost it would, in principle, be necessary to know what costs alternative borrowing strategies would have resulted in.

So it is difficult to set quantitative objectives for central government's borrowing cost. Nor is it obvious that comparisons with other borrowers give good answers. The Debt Office borrows more

cheaply than any other borrower in the Swedish capital market, and compared with many other borrowers it also has low costs for borrowing in foreign currencies (see section 6.3).

As already mentioned the Debt Office works to make the government securities market as attractive as possible to investors. To concretise this work the Debt Office has broken down the overall objective into several intermediate objectives. They support the overall objective but are easier to influence and measure.

The most important intermediate objectives are that

- the market in government securities is liquid and has well-functioning infrastructure
- Swedish government securities attract a broad range of investors
- the Debt Office has transparent and open communication
- the Debt Office is clear and predictable
- the Debt Office has good counterparty and investor contacts
- the Debt Office achieves lower cost or risk in the central government debt by taking derivative positions in foreign currencies.

The Debt Office uses several management strategies to achieve its intermediate objectives. An annual questionnaire survey in which primary dealers and investors are asked to rate the outcome and importance of the Debt Office's strategies and activities is one means used to evaluate how well the Debt Office is fulfilling these objectives.

The Debt Office's management strategies are described in more detail in the next chapter. The results of the latest survey are also reported there.

The result of position taking is reported in chapter 10.

Government commission to investigate whether the evaluation of the overall objective can be facilitated

In autumn 2016 the Debt Office conducted a review of whether the evaluation of the overall objective can be facilitated.¹ The background is a

¹ See the Debt Office's memorandum "Report on the government commission to investigate whether the evaluation of the overall objective can be facilitated (reg. no 2016/1345).

government commission based on results and observations from the Government Communication *Evaluation of central government borrowing and debt management in 2011–2015 (Govt comm. 2015/16:104)*.

In brief the Debt Office proposes a modification of the present cost measure *period cost* so that it is no longer dependent on assumptions about future events and therefore needs to be revised retroactively. In addition, the Debt Office proposes a risk measure consisting of the variation in the new cost measure. The new cost and risk measures are proposed for use for the first time in the evaluation report for 2017.

The Government has also commissioned the Debt Office to investigate whether it may be appropriate to introduce some form of benchmark-based evaluation of borrowing costs. However, the Debt Office makes the assessment that this will not facilitate the evaluation of the management of the central government debt and therefore proposes no change in this respect.

2 Debt management strategies

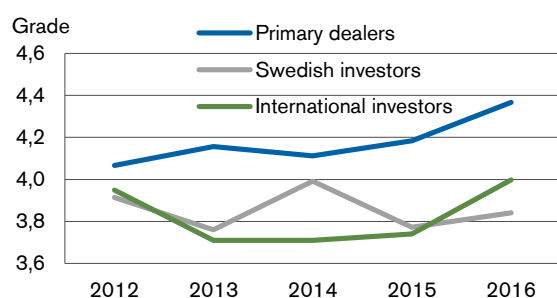
This chapter describes the debt management strategies intended to achieve the Debt Office's intermediate objectives. The chapter also reports what primary dealers and investors think about how the Debt Office is implementing these strategies.

The Debt Office's management strategies can be divided up into two categories. The first consists of the strategies that support liquidity and infrastructure in the government securities market. The second covers those that promote transparency, predictability and clear communication.

Since 2004 TNS Sifo Prospera (called Prospera below) has conducted a questionnaire survey each year among the Debt Office's primary dealers and investors.² The respondents are asked to rank the *importance* of the various strategies (see section 2.3) and to give grades on a five-grade scale as to how well they consider that the Debt Office is *implementing* the strategies.

Prospera also makes an overall assessment in which all the grades are weighted on the basis of the perceived importance of the strategies. Figure 1 shows the development of the overall assessment over time.

Figure 1 Overall assessment



The overall impression of the Debt Office is higher in 2016 than in the previous year. Primary dealers give a high rating for the repo facility for government bonds and switches in inflation-linked bonds, as well as clear information about borrowing requirements and financing. Swedish investors also set a higher grade for their contacts with the Debt Office than in 2015. In recent years these grades have consistently hovered around four. According

to Prospera a grade of more than four should be interpreted as "excellent".

2.1 Liquidity and infrastructure

Usually the demand for government securities is based on their low credit risk and good liquidity. The low credit risk follows from the fact that they are securities issued by central government. In addition, Sweden has strong central government finances, its own currency and its own central bank. Their attractiveness is also due to a great extent to the liquidity that the government securities market can offer. What is meant here is the possibility of selling or buying large volumes of government securities without any appreciable effect on their price.

To attract as broad a range of investors as possible the Debt Office is working actively to promote the liquidity and infrastructure of the government securities market. This is mainly done by:

- maintaining an active market and debt commitment with switches and repo facilities
- concentrating borrowing on a limited number of benchmark loans
- maintaining several effective sales channels, partly with the aid of a system of primary dealers.

Market and debt commitment

To reduce the risk of the Debt Office's primary dealers in government securities not obtaining bonds or T-bills that are particularly sought after, the Debt Office offers repos in government securities. The knowledge of this repo facility makes it easier for primary dealers to quote prices, which then benefits the liquidity of the market.

² The survey was conducted between 21 November and 21 December 2016. Seven primary dealers and 55 investors were polled. The response rate was 89 per cent.



The Riksbank's purchases of government bonds

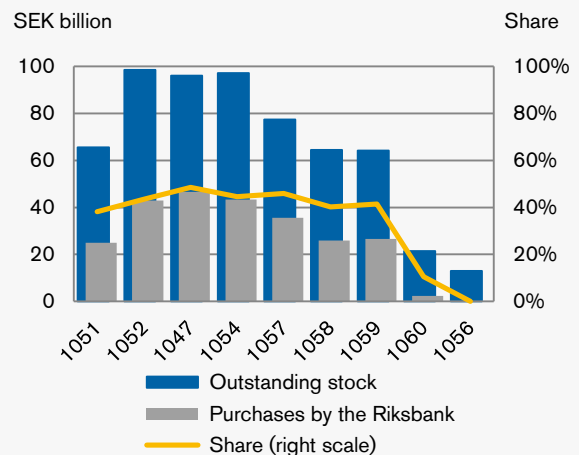
Up until January 2016 the Riksbank had purchased government bonds for SEK 252 billion, of which SEK 237 billion was nominal bonds. These purchases have been concentrated on bonds with maturities of up to 10 years. The Riksbank owed just over 40 per cent of the outstanding stock of these bonds at the end of 2016, see the figure.

The Riksbank has decided to continue to buy SEK 15 billion both of nominal and of inflation-linked government bonds in the first half of 2017. In addition, during 2017 the Riksbank will reinvest funds amounting to about SEK 30 billion from coupon payments and maturing bonds.

The share of the bond stock being traded actively has decreased on account of the Riksbank's purchases. This is one reason why liquidity in the market for government bonds has deteriorated gradually.

One effect of this is that repo volumes have increased, see the fact box below about the Debt Office's repo commitment

Outstanding stock of nominal government bonds and the Riksbank's purchases as on 2016-12-31



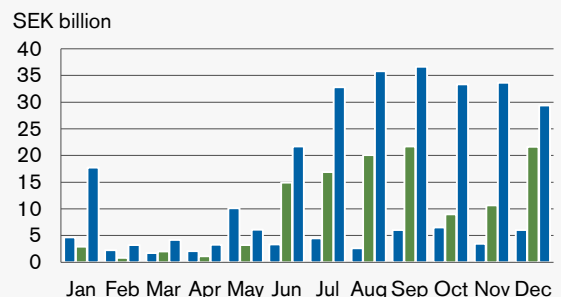
Larger volumes in the standing repo facility for government bonds

Liquidity in the market for government bonds deteriorated gradually in 2016, partly on account of new regulations and the Riksbank's purchases. The Debt Office's assessment is that the market for government bonds is still functioning well but that the situation became slightly more strained in the autumn. One sign of this is that the volume of the Debt Office's repos with primary dealers has increased.

In the first half of 2016 the Debt Office repoed out government bonds for about SEK 30 billion per day. This is more than in previous years, see the figure.

These repos were extra financing over and above the financing that the Debt Office had planned for. The financing from repos in combination with higher than expected tax payments resulted in large surpluses in liquidity management.

Repos in government bonds with the Debt Office



From experience, repos of government securities are viewed as important when primary dealers rank Debt Office activities. It is therefore satisfying that the Debt Office has been given the excellent grade of 4.6 here.

The Debt Office also offers switches of less liquid government securities for more liquid issues. New bonds are normally introduced using switches so that the new loans quickly gain good liquidity. In addition, the Debt Office provides a facility for switches of inflation-linked bonds in order to improve liquidity in the market.

The action taken by the Debt Office in the inflation-linked bond market can be read off in the results of this year's survey. The grade for the facility for switches of inflation-linked bonds was 4.3 for 2016 compared with 4.0 for the preceding year. Section 6.2 discusses work on the market commitment for the inflation-linked bond market in more depth.

Few benchmark loans

Government bonds are the Debt Office's most important instrument and when the borrowing requirement is small, issues of these bonds are given priority ahead of other borrowing. Usually this borrowing is concentrated on a few benchmark loans. This makes the outstanding volume large enough to ensure good liquidity.

The Debt Office endeavours to maintain a relatively even maturity profile in its bond stock. By offering bonds with both short and long maturities the Debt Office is able to attract different types of investors. If the maturity profile is even, the refinancing risk is also smaller since this means that only a small part of the central government debt matures each year.

Further deterioration of liquidity

The Debt Office can only create the conditions for good liquidity in the market, but has small possibilities of influencing liquidity directly.

This year's survey shows that both investors and primary dealers consider that liquidity in the Swedish government bond market has deteriorated slightly, for the second successive year. Reasons given are regulations that affect the possibilities for primary dealers to take on risk and the Riksbank's purchases of government bonds (see the box The Riksbank's purchases of government bonds on page 7).

The liquidity of government bonds is given the grade of 2.9 by primary dealers compared with 3.3

in the preceding year. Grades under 3 are interpreted as fail grades. Swedish and international investors give a pass grade for both liquidity and price transparency.

Liquidity is valued less highly in the market for inflation-linked bonds than in that for nominal krona bonds. Essentially this is because investors do not have the same interest in active trading in inflation-linked bonds. Nor is there any developed trading activity in derivative instruments here. But this year's survey shows that price transparency has improved in the market for inflation-linked bonds.

Liquidity in the market for T-bills is unchanged at an already low level. The outstanding stock of T-bills has been more than halved in five years, and investors are increasingly using other instruments to invest money in the short term.

Effective sales channels

The Debt Office tries to maintain many, effective sales channels. A system of primary dealers is a guarantee for well-functioning infrastructure in the Swedish government bond market. It also contributes to better liquidity and good possibilities of borrowing large volumes in a possible crisis situation.

When the Debt Office sells bonds in foreign currencies, it does so through syndication. This means that the Debt Office engages a group of banks, a syndicate, to execute the sale.

2.2 Transparency, predictability and clear communication

To create an attractive market for government securities, these securities have to be managed with transparency and predictability. This means that all communication with the market should be as open and consistent as possible. If counterparties and investors have a good knowledge of the Debt Office's issue plans and are aware of how the Debt Office responds to external change, this creates stable rules and less uncertainty.

The Debt Office is working to achieve the objectives of transparency, predictability and clarity by:

- maintaining good investor relations
- regularly publishing forecasts of the borrowing requirement for coming years

- handling borrowing in a consistent way with clear principles
- having clear communication both in written documents and in contacts with investors and counterparties
- providing detailed information about borrowing and the central government debt on its website: riksgalden.se.

Investor relations

Ultimately a broad investor base results in lower interest costs. Working for good investor relations is therefore one of the Debt Office's most important management strategies.

Primary dealers have the most active role in sales of government securities. They provide investors with analysis and information about the Debt Office's auctions. However, the Debt Office does not rely solely on the information given via its primary dealers. To establish credibility it is also important that investors can receive, without intermediaries, the information they consider they need. The Debt Office therefore meets Swedish and foreign investors at both personal meetings and large conferences. The Debt Office also holds investor meetings when new borrowing forecasts are presented.

In 2016 visits were made to investors in Europe, the US and Asia. Representatives of the Debt Office participated as speakers at several seminars and conferences both in Sweden and abroad.

In this year's survey the Debt Office got a grade of 3.6 for contacts with Swedish investors, an increase on the preceding year. Investors have, for example, given a slightly higher rating for attentiveness. This may be because the Debt Office has accommodated wishes expressed that it continue to offer two bond loans at most auctions in 2016 (see section 6.1). Primary dealers give the Debt Office's attentiveness a slightly lower rating than in the preceding year.

The share of investors who have direct contacts with the Debt Office has increased slightly. At the same time the share who do not have such contacts, but would like to, has decreased. More than 40 per cent of the Swedish investors polled have direct contacts, compared with 33 per cent in the preceding year. For international investors the figure is just under 30 per cent. Most prefer personal meetings, where the frequency of contacts varies. Out of the Swedish investors almost 60 per cent want to have contact once

every six months or once a year. Among international investors the main preference is for one contact per year. Interest in the Debt Office's large investor meetings has decreased slightly among Swedish investors, but has increased among international investors.

Predictability and clear communication

The report *Central government borrowing – forecast and analysis* is important as a way of enabling the Debt Office to communicate its plans to all market participants at the same time. This report is published three times a year and describes in detail how the Debt Office intends to finance the central government debt in the coming two years.

The issue plan is based on a forecast of the gross central government borrowing requirement (which consists of the net borrowing requirement and refinancing of maturing loans). The Debt Office uses this to adapt borrowing so as to fulfil the conditions in the government guidelines. The issue plan and the forecast of the net borrowing requirement normally remain in place until the next report is published. Good forecasts are necessary in order to be able to act in a predictable way (see chapter 4 for a description of the accuracy of the forecasts).

The report *Sweden's Central Government Debt* is published on a monthly basis and contains detailed information about the composition of the central government debt.

For 2016 the Debt Office was given a grade of 4.2 for communication concerning borrowing requirements and financing and a grade of 4.1 for clear and consistent action. These grades are slightly better than those for 2015.

The website riksgalden.se

The Debt Office's website remains the most important information channel for information about the central government borrowing requirement and financing, auction terms and auction outcomes. All primary dealers use the website. Among Swedish and international investors the corresponding figures are 91 and 77 per cent. Almost all of those who visit the website consider they find the information they are looking for.

2.3 High overall grade

Prospera's summary of this year's results reads as follows: "The rating among primary dealers and international investors can be characterised as very high. Among international investors the rating is lower, but can still be described as close to excellent."

The survey shows that confidence in the Debt Office remains high and that, as before, the Debt office is given a high ranking for its transparency compared with other Debt Offices.

When respondents were asked to rank the importance of the Debt Office's strategies the repo facility came top. Table 1 shows the five most important demands made by market participants.

Table 1 The market's most important requirements

Requirement	Importance
Repo facility for government securities	4.8
Communication about borrowing requirements and financing	4.7
Repo facility for switches of inflation-linked bonds	4.6
Clear and consistent action	4.6
Information about volumes and other conditions concerning government securities	4.4

Table 2 shows how participants rank the Debt Office's implementation. The same factors figure in both of the above tables. A reasonable conclusion from this is that the Debt Office is focusing on the right things.

Table 2 The Debt Office's main strengths

Strengths	Grade
Repo facility for government securities	4.6
Repo facility for switches of inflation-linked bonds	4.3
Communication about borrowing requirements and financing	4.2
Information about volumes and other conditions concerning government securities	4.2
Clear and consistent action	4.1

3 Cost and risk

This chapter gives an account of various measures of cost and risk in the central government debt. It also describes how the composition and maturity of the debt have been steered on the basis of the guidelines that applied in 2016.

The overall objective of the management of the central government debt is to minimise the long-term cost of the debt while taking account of risk.

However, evaluating whether the overall objective has been met is a complicated matter. Since the Debt Office is the dominant state borrower in Swedish kronor, there are no natural comparisons against which to evaluate the loan strategy. Comparisons with hypothetical alternatives are also difficult, partly because the size of the central government debt means that interest rates are affected by the borrowing strategy actually implemented.

The evaluation of the cost of the central government debt therefore has to make use of several measures. The risks in the administration of the debt are described in both quantitative and qualitative terms.

3.1 Costs

The cost of the central government debt can be derived from the cash flows (payments) that the debt generates. In the case of the nominal krona debt, these cash flows are solely due to the interest rate at which the loans were raised.

In the case of the inflation-linked krona debt, these cash flows also depend on inflation, and the flows for the foreign currency debt are affected by exchange rates.

The cost of the central government debt can be described in several different ways. In this report the Debt Office has chosen to report the cost using three different measures:

- Interest payments
- Period cost
- Average issue yield

Interest payments are a cash flow measure showing how much is paid (in coupon interest etc.)

in a single year. The measure is directly linked to cash flows and is based on a nominal valuation principle for the central government debt. This means that when the Debt Office issues an instrument at a premium (in relation to its nominal value) the difference between the actual and the nominal amount is counted as income immediately instead of being spread over the term of the loan. In the same way, the expenditure is charged immediately when an instrument is issued at a discount. Nor are the outcomes of buybacks accrued.

In the measure *period cost*, which is based on the valuation principle of amortised cost, the cost is spread evenly over the term of the instrument.³ For the nominal krona debt the cost is determined by the issue yield. In the case of the inflation-linked and foreign currency debt, whose cash flows are not known in advance, assumptions are made about the future development of inflation and exchange rates.

Average issue yield is a weighted average of the yields at which currently outstanding loans were raised. The weighting is based on the nominal amounts of the loans. This measure does not take account of either inflation compensation or changes in exchange rates and only gives a snapshot of the average borrowing cost.

Interest payments

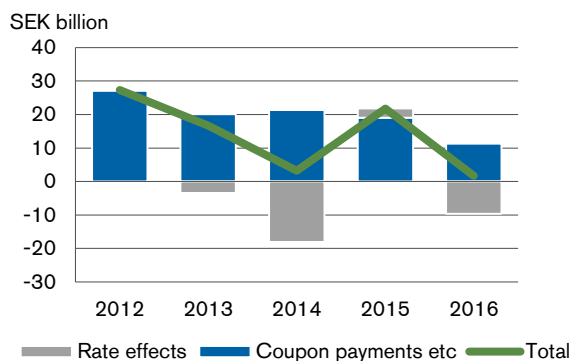
Central government interest payments amounted to SEK 1.5 billion in 2016. This is SEK 20 billion lower than in 2015, the main explanation being that exchange rate effects were more favourable in 2016. Central government interest payments vary a great deal over time, as shown in figure 2.

In 2016 the Debt Office realised foreign currency gains of about SEK 2.5 billion on the foreign currency debt. These gains were chiefly made in EUR; USD and GBP. This can be compared with foreign currency losses of about SEK 10 billion in

³ Cash flows attributable to FX Forwards are not included in the measure.

2015. About half of the loss in 2015 was incurred in CHF and was due to the Swiss central bank's decision to abandon the link to the euro in January 2015.

Figure 2 Interest payments⁴



A further reason for the decrease in interest payments between 2015 and 2016 is that the Debt Office paid accrued inflation compensation of about SEK 5 billion when an inflation-linked bond matured in December 2015. There was no corresponding payment in 2016.

Otherwise the ever lower levels of market interest rates have helped to reduce central government interest payments. This is seen both through the positive cash flows generated by the interest rate swaps entered into by the Debt Office (see chapter 9) and through the decrease in the coupon rate (interest payments) as old loans are gradually replaced by new ones.

Period cost

The period cost is based on the valuation principle of amortised cost and contains all the components that affect the cost of the central government debt: interest, inflation compensation and exchange rate fluctuations. This measure is wholly based on the assumption that unrealised market values are not recognised.

The cost for a particular period is made up of the amortised cost plus the cash flows paid during the period. For the inflation-linked debt, the foreign currency debt and swaps the future cash flows are not known. For it to be possible to also spread these cash flows over the term of the bond, assumptions need to be made about future developments.

⁴ Rate effects include issues sold at a premium and discount, capital gains and losses in connection with switches and buybacks and currency exchange gains and losses realised.

In the calculations set out below the Debt Office has assumed that future inflation will follow what is called break-even inflation, i.e. the inflation that can be derived from the market pricing of inflation-linked bonds in relation to government bonds. Future exchange rates and short-term interest rates are assumed to stay at the same level as at the end of 2016.

Over time these assumptions are replaced by the actual outcomes, which mean that earlier costs are revised. The earlier cost is also affected when the Debt Office buys back government securities since gains or losses are then realised and replace the assumption that all loans are held to maturity.

The cost of every instrument is spread evenly over its term. For a foreign currency loan, for example, this means that day-to-day fluctuations in exchange rates do not affect the cost if they are not realised. It is only the exchange rates that affect the actual cash flows that have an effect on the cost.

Figure 3 Period cost for all types of debt⁵

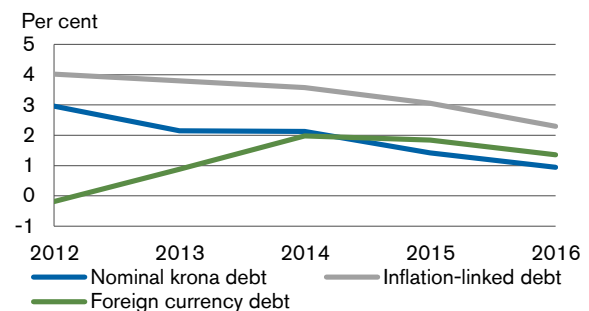


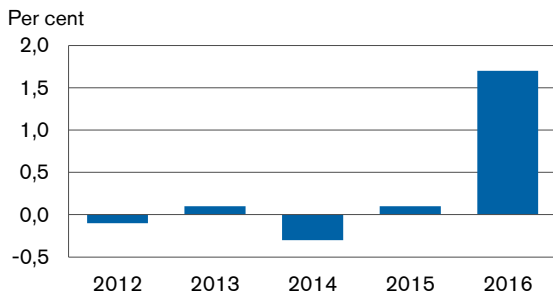
Figure 3 shows the period cost for all types of debt. For the nominal krona debt the cost was 0.9 per cent in 2016. This cost has shown a falling trend for a long period, reflecting the general decline in interest rates.

In 2016 the cost of the inflation-linked debt was 2.3 per cent. The cost of the inflation-linked debt has also shown a falling trend for a long period as real interest rates have fallen. Moreover, inflation has been unusually low, as illustrated in figure 4.

The cost of the inflation-linked krona debt has been higher than the cost of the nominal krona debt for a long time. This is mainly because the maturity of the inflation-linked debt is longer, so the inflation-linked debt stock contains a larger share of loans raised long ago at much higher interest rates.

⁵ Here the calculation of the cost of the foreign currency debt includes foreign currency bonds and the legs of swaps that are denominated in foreign currency.

Figure 4 Inflation rate, annual CPI change



For the foreign currency debt the cost was 1.4 per cent in 2016, which can be compared with 1.8 per cent in 2015.⁶ The decrease between these years is mainly due to the relatively large currency exchange losses realised in 2015.

The krona exchange rate is of great importance for the cost of the foreign currency debt. In 2016 the krona weakened against almost all the currencies included in the foreign currency debt. The exception was sterling, which weakened sharply after the referendum in the UK. However, there was relatively little GBP exposure in 2016, only about 7 per cent. Overall the krona weakened by about 5 per cent in relation to the currencies in the foreign currency debt, see figure 5.

Figure 5 Annual change in the krona exchange rate in relation to the foreign currency debt⁷

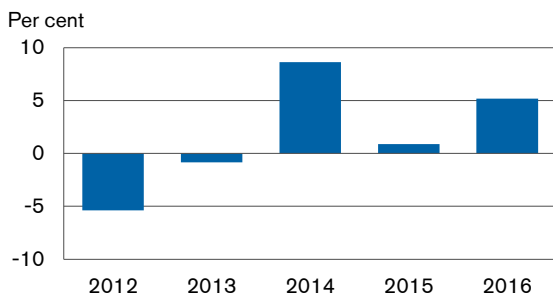
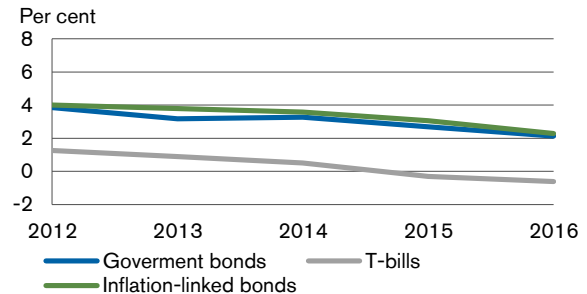


Figure 6 shows the period cost for various government securities. This cost has been lower and slightly more varied for T-bills since their maturity is shorter so that interest changes have a quicker impact. In 2016 the cost was negative, -0.6 per cent. For government bonds the cost was

2.1 per cent, and for inflation-linked bonds it was 2.3 per cent.

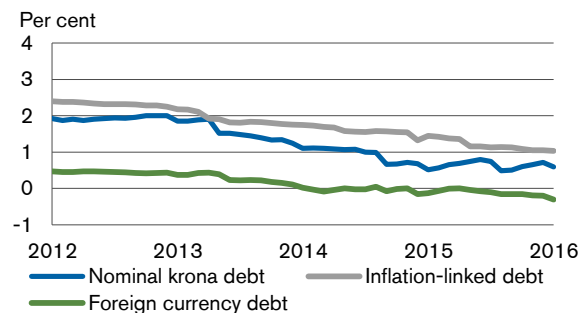
Figure 6 Period cost for various government securities



Average issue yield

For the nominal krona debt the average issue yield swung between 0.5 and 0.8 per cent in 2016. At the end of the year it was 0.6 per cent. This is a low level from a historical perspective and is explained by the depressed level of interest rates.

Figure 7 Average issue yield



The average inflation-linked issue yield remained low in 2016. At the end of 2016 it was 1 per cent, which is 0.4 percentage points lower than a year previously.

The average issue yield for the foreign currency debt adjusts quickly to the fall in market rates since the maturity of the debt is short. At the end of 2016 the issue yield was calculated as -0.3 per cent. This is 0.2 percentage points lower than a year previously.

It should be noted that the issue yields for different types of debt are not fully comparable. In the cases of the inflation-linked and foreign currency debt, the whole cost is not shown since inflation compensation and exchange rate fluctuations are not included in the calculations. In addition, the debt types have different maturities.

⁶ Note that the calculation of the cost of the foreign currency debt is not complete since FX forwards are not included.

⁷ A plus sign means that the krona got weaker and a minus sign that it got stronger.

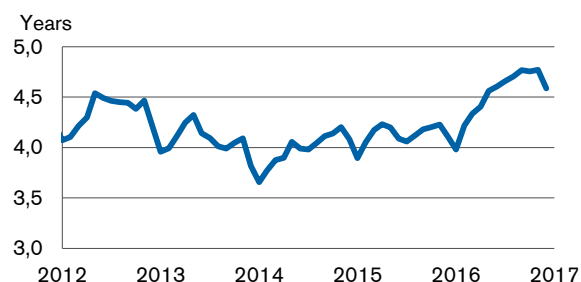
3.2 Risks

Maturity

According to the government guidelines, the duration of the nominal krona debt consisting of instruments with a maturity of up to twelve years was to be between 2.6 and 3.6 years in 2016. The duration of the inflation-linked krona debt was to be between six and nine years, while it was to be between 0 and 1 year for the foreign currency debt. For nominal instruments with a maturity in excess of twelve years the Government decided that the long-term benchmark for the outstanding volume was to stay at SEK 70 billion.

Figure 8 shows the duration of the central government debt as a whole.⁸ The duration increased during 2016. This was partly because the maturity of the debt was increased in the guidelines decision. In addition, unexpectedly large surpluses in central government finances and the fall in market interest rates contributed to the increase in 2016.

Figure 8 Duration of the total central government debt



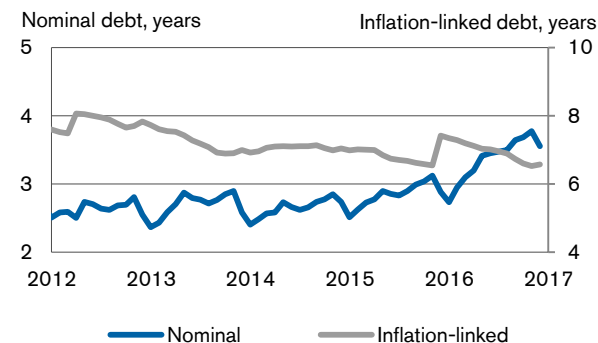
The duration of the nominal krona debt varies because central government payments are uneven over time. On days with large deficits the Debt Office borrows more at short maturities and vice versa. Borrowing is planned so as to hold the average value of duration between 2.6 and 3.6 years during the forecast period. The intention of the interval is not to force the Debt Office to make transactions so as to steer maturity if exogenous events have resulted in the duration being longer or shorter than intended. The Government has therefore decided that temporary deviations from the maturity intervals are permitted.

Figure 9 shows the duration of the nominal and inflation-linked krona debt. In 2016 the average duration of the nominal krona debt was 3.4 years,

while it was 6.9 years for the inflation-linked krona debt. The average duration of the foreign currency debt was only 0.1 years.

The conditions for steering duration are different for the different types of debt. In the international capital market the Debt Office is a small participant, and it is easy to steer the duration of the foreign currency debt using interest rate derivatives. The duration of the nominal krona debt can also be steered to some extent by varying the volume of interest rate swaps. But when it comes to the inflation-linked debt, there is no possibility of using derivatives to adjust duration. The duration of the inflation-linked debt is therefore determined solely by the maturity of the outstanding bonds and changes in market interest rates.

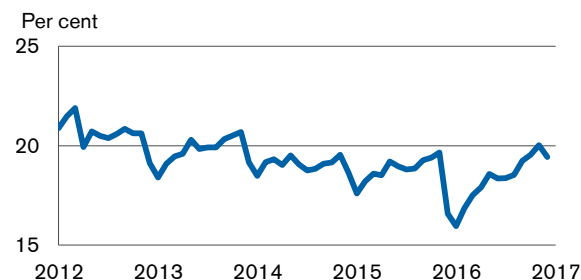
Figure 9 Duration of the nominal krona debt and the inflation-linked debt



Inflation-linked krona debt, SEK

According to the guidelines the inflation-linked krona debt was to be 20 per cent of the central government debt.⁹ On average it was 18.4 per cent in 2016. The benchmark of 20 per cent is a long-term figure and the share is hard to steer in the short term. For example, it falls a great deal when a bond matures.

Figure 10 Inflation-linked share



⁸ Refers to measure D "Central government debt including on-lending and assets in debt management".

⁹ This share is calculated on the basis of the nominal amount of the inflation-linked krona debt including accrued inflation compensation.

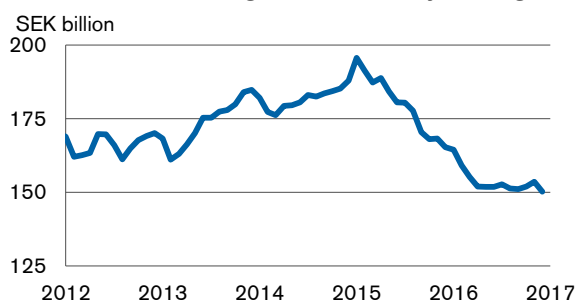
The inflation-linked share increased gradually in 2016 and was 19.4 per cent at the end of the year. The increase is chiefly explained by the decrease in the central government debt.

Foreign currency debt

The foreign currency debt consists of several currencies. In 2016 the Debt Office decreased the foreign currency debt by exchanging JPY 102 billion and USD 1.5 billion, which corresponds to SEK 20 billion when calculated using the method laid down by the Debt Office in its Financial and Risk Policy.¹⁰ The reason why the reduction was made in JPY and USD was that this was judged to be the most effective way of reducing the risk in the foreign currency debt. The exchanges were made at an even pace over the year to avoid making them at a few unfavourable points in time.

The size of the reduction of the total foreign currency debt during the year can be measured in several ways. Measured at current exchange rates it decreased by about SEK 17 billion in 2016, see figure 11. Measured using exchange rates on 30 November 2015, the foreign currency debt decreased by SEK 23 billion, i.e. SEK 3 billion more than the JPY and USD reduction. This difference is explained by the fact that currency exposure also decreased slightly in EUR as part of the currency exchanges that the Debt Office performs continuously on behalf of central government.

Figure 11 Foreign currency debt at current exchange rate, monthly average



Refinancing risk

The refinancing risk means the risk that loans reaching maturity can only be replaced with new loans at very high costs or, in the extreme case, cannot be refinanced at all. The refinancing risk is generally held to be higher the larger the loans that are maturing in the immediate future. To some extent this is a simplification since a bond that is maturing seldom needs to be financed right away

¹⁰ According to this method the decrease in exposure is calculated using the exchange rates on 30 November 2015.

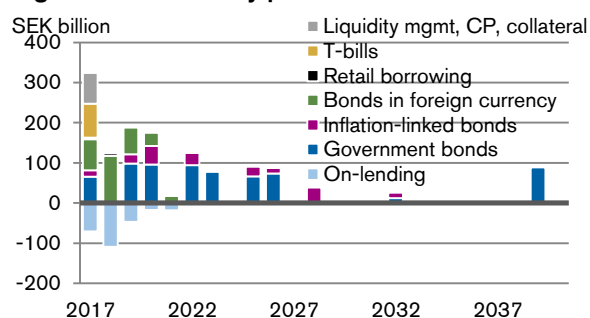
by issuing another bond. With long-term issue planning and small issue volumes at regular auctions refinancing is spread over a long period of time and old bonds are often replaced before maturing.

Bond maturities work just like other central government payments. The net amount of daily central government payments (the net borrowing requirement) varies and may be between SEK 50 and 100 billion on certain days. The refinancing risk is therefore only part of what is usually called liquidity risk (or financing risk), which is to do with the possibility of managing payments more generally.

Nevertheless the refinancing risk should be controlled. The ways in which the Debt Office tries to limit it is by working to maintain an even maturity profile for government and inflation-linked bonds and by contributing to the establishment of a well-functioning market in government securities.

Figure 12 shows the maturity profile of the central government debt, i.e. the size of the sums in the outstanding debt that mature in every single year. The figure also shows claims that mature in the form of on-lending to the Riksbank. These claims approximately match the bonds in foreign currency.

Figure 12 Maturity profile in December 2016



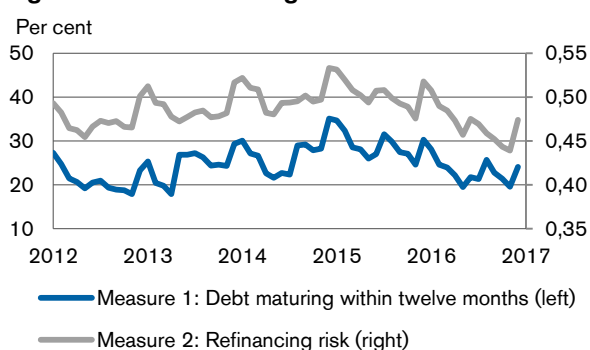
Normally a large part of the debt matures in the coming year. This is because of the comprehensive liquidity management and the handling of seasonal fluctuations in the net borrowing requirement. At the end of the year the short-term maturities are at their largest level since a large part of central government payments take place in the month of December. These payments are financed initially by money market borrowing and are then gradually replaced by borrowing at longer maturities. Chapter 7 gives a more detailed description of money market borrowing.

Otherwise the maturity profile is relatively even up until ten years, and this influences future refinancing risks as time passes. An uneven maturity profile

could give rise to greater risks in the future when large maturities must be refinanced. However, what is most important for risk at a given point in time is what is maturing in the near future.

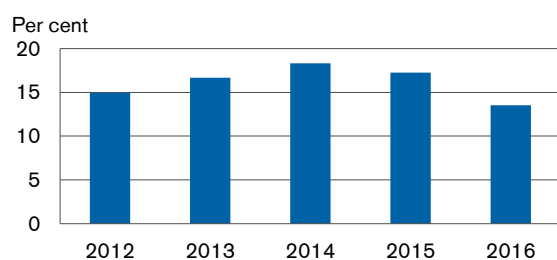
Figure 13 shows two measures of refinancing risk. The first shows what share of the debt will mature within twelve months. The second is defined by giving a loan maturing immediately the value of one while a loan that never matures is given the value of zero. All loans are then weighted together and this results in a figure between zero and one for the total central government debt.

Figure 13 Refinancing risk



The measures show the same pattern even though the second measure does not have the sharp break at 12 months. The figure also shows a seasonal variation on account of the extensive money market borrowing around the turn of each year.

Figure 14 Share of debt financed in the money market



The refinancing risk decreased during the financial crisis in 2008-2009. This is because the Debt Office was able to reduce the share of short-term financing when the borrowing requirement increased. Since then the refinancing risk has gone up again on account of an increase in short-term borrowing. The share of the central government debt financed in the money market is illustrated in figure 14. In 2016 this share was 14 per cent on average compared with about 17 per cent in the previous year. The decrease in short-term financing

in 2016 is largely due to central government showing a surplus for the first time since 2011.

Counterparty risk

Counterparty risk is the risk that the counterparty in a transaction will not fulfil its obligations. Counterparty risks arise both when placing surpluses in liquidity management and when the Debt Office enters into derivative transactions without central counterparty clearing. The risks in investments and derivative transactions are handled differently, but in both cases the Debt Office sets minimum requirements concerning the credit rating of its counterparty.

Through liquidity management the Debt Office borrows or places funds on a daily basis so as to guarantee that central government can make its payments at as low a cost as possible. To handle the counterparty risk for these placements there are limits based on the counterparty's credit rating that restricts the maximum exposure and maturity.

Derivative transactions are used to steer the maturity of the central government debt and to take positions in day-to-day position taking. Transactions can either be closed bilaterally or through central counterparty clearing.

To enable the Debt Office to handle derivative instruments that are not cleared centrally, the Debt Office and its counterparty draw up an ISDA agreement with a downgrade clause and a Credit Support Annex (CSA). The CSA agreement contains thresholds that govern the maximum permitted exposure to the counterparty. If the value of the exposure exceeds these thresholds, the counterparty must provide the Debt Office with collateral. This collateral provides protection in the event that the counterparty is unable to meet its commitments. The size of the threshold depends on the counterparty's credit rating. The Debt Office's ISDA/CSAs are bilateral in the sense that the Debt Office not only accepts but also provides collateral if the counterparty has a positive exposure in relation to the Debt Office. Regulations of this type are defined and updated in the context of the Debt Office's Financial and Risk Policy.

During the year small changes were made to the credit ratings of the Debt Office's counterparties. A few counterparties had their ratings reduced and a few had them increased. Since the Debt Office's counterparty limits are based on ratings, these changes led to adjusted counterparty limits in most cases.

4 Forecasts of the net borrowing requirement

This chapter evaluates the Debt Office's forecasts of the net borrowing requirement on an annual, monthly and daily basis. A comparison is also made with forecasts of the annual borrowing requirement made by other government agencies.

The central government net borrowing requirement is the single most important factor for the development of the central government debt. The Debt Office therefore makes detailed forecasts of the net borrowing requirement, in both the short and the long term. The purpose of these forecasts is to create conditions for stable issue plans and effective liquidity management. In somewhat simplified terms, it can be said that the annual forecasts steer long-term bond borrowing and the monthly forecasts steer short-term borrowing in commercial paper and T-bills, while the daily forecasts affect day-to-day liquidity management.

Annual forecasts for 2016

The first forecasts of the net borrowing requirement in 2016 were much higher than the final outcome. This was partly because the forecasts published in 2014 and 2015 were based on a slightly weaker macroeconomic outlook. This chiefly affected taxes on consumption, which were much higher than estimated in the first forecasts. At the same time there was an underestimate of households' capital gains in 2015, for which tax is largely paid in the succeeding year. Larger than expected one-off payments of corporate tax also helped to reduce the net borrowing requirement.

However, the main explanation of the low net borrowing requirement is that companies, in particular, but also private individuals made excess deposits in their tax accounts. The favourable interest rate on tax accounts, compared with similar forms of investments, meant both that payments of tax were brought forward and that tax accounts were used for pure capital investments. This also meant that it was difficult to interpret the statistics from the Swedish Tax Agency since it was not possible to identify which deposits related to tax and which related to investments.

The forecasts published by the Debt Office in 2016 therefore made upward revisions of tax income as the distribution of excess deposits in tax accounts

and actual payments of tax became clearer. In addition, tax forecasts were increased slightly on account of estimates of a stronger economic development.

Table 3 Annual forecasts for 2016

SEK billion	2015:3	2016:1	2016:2	2016:3	Outcome
Primary borrowing requirement	32	-3	-46	-81	-87
of which on-lending	13	15	12	13	14
of which sales income	0	0	0	0	0
Interest on the central government debt	1	0	5	2	2
Net borrowing requirement	33	-3	-41	-80	-85
Net borrowing requirement excl. on-lending and sales income	20	-17	-54	-93	-100

Comparison with forecasts by other government agencies

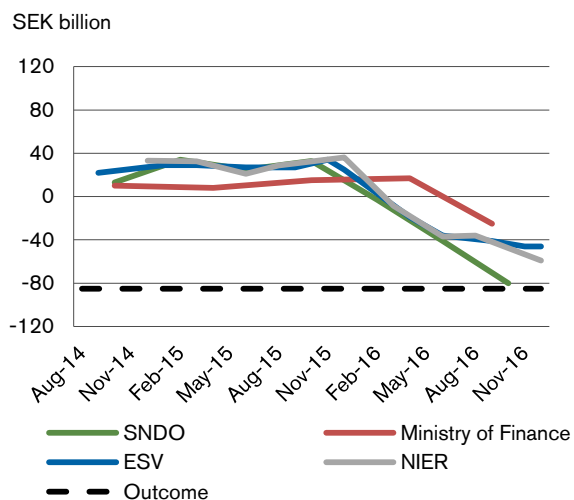
In addition to the Debt Office, the National Institute of Economic Research (NIER), the National Financial Management Authority (ESV) and the Ministry of Finance also make forecasts of the central government net borrowing requirement.

These agencies and the Ministry of Finance have different principles for dealing with sales income in forecasting contexts. To simplify comparisons this income has been excluded from figure 15, see below.

All forecasters had similar forecasts and overestimated the net borrowing up until the middle of 2016. After that the Debt Office's forecasts were much closer to the outcome than those of the other forecasters. In its final forecast in October 2016 the Debt Office made a sharp upward revision of tax income, on account of the increased use of tax accounts as a form of investment. This analysis

turned out to be correct. The other agencies made gross underestimates of tax income and therefore of the net borrowing requirement.

Figure 15 Different analysts' forecasts of the net borrowing requirement



Monthly forecasts

At present the Debt Office is the only government agency to publish monthly forecasts of the net borrowing requirement. This means that comparisons cannot be made with other forecasters. The Debt Office follows up the precision of its monthly forecasts using the measure of Root Mean Square Error, RMSE.¹¹

Figure 16 shows the development of RMSE since 2012. It shows that RMSE increased at the beginning of 2016 and then fell back again. The temporary increase is primarily due to large one-time payments of tax made by Swedish subsidiaries of an international group in January 2016.

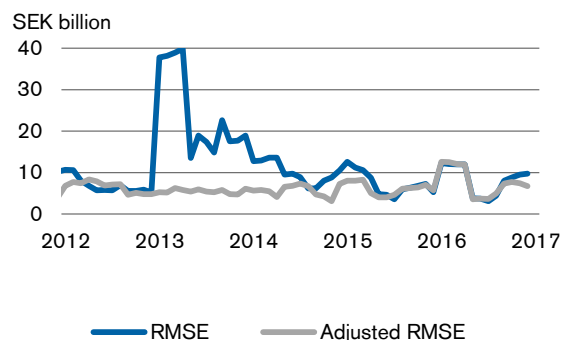
Periodically the net borrowing requirement has been affected strongly by the Debt Office's on-lending and income from sales of state-owned enterprises. For this reason an adjusted RMSE excluding these items is also presented. Expressed in terms of this measure, the precision of forecasts has been relatively even during the period.

¹¹ RMSE is defined as

$$\sqrt{(e_1^2 + e_2^2 + e_3^2 + e_4^2)/4}$$

where e_t is the forecasting error (outcome of the net borrowing requirement as a proportion of the last published forecast) for month t . The Debt Office updates its forecast every four months, so the RMSE is based on the forecasting errors in the past four months.

Figure 16 Deviations in monthly forecasts according to RMSE 2012–2016

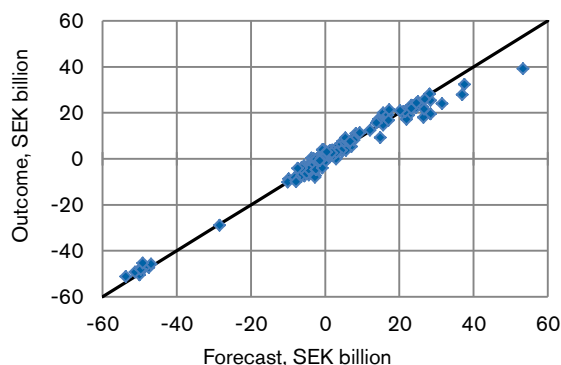


Daily forecasts

The Debt Office also makes daily forecasts for the coming six months so as to plan its liquidity management. Unlike the annual and monthly forecasts, the daily forecasts are updated continually as new information becomes available.

The average deviation per day was SEK 288 million in 2016. Figure 17 shows daily outcomes and forecasts for central government's net primary borrowing requirement when the Debt Office's net lending to other agencies has been excluded. The distance to the 45 degree line is the deviation in the forecast for each day. If the forecasts did not have any information value, the points in the figure would be distributed randomly.

Figure 17 Forecasts and outcomes on a daily basis



The largest deviations at the daily level concerned tax income. The trend of changes in the payment pattern for tax income, which began in 2015, continued and was reinforced in 2016. This means that a larger share of taxes was paid in early in the month and a considerably smaller share than before was paid on the due date. This shift is probably largely due to the favourable interest rate set for tax accounts.

5 Summary of borrowing

This chapter gives a summary overview of the Debt Office's borrowing requirement and borrowing in 2016. Compared with 2015 gross borrowing decreased by SEK 177 billion. This was due both to a lower net borrowing requirement and to decreased redemptions in the capital market.

The deficit of SEK 33 billion in central government finances in 2015 turned into a surplus of SEK 85 billion in 2016. In addition, the volume of maturing loans that needed to be refinanced was lower in 2016 than in the previous year.

Against this background, gross borrowing decreased by SEK 177 billion and reached SEK 302 billion. Borrowing in the money market decreased by SEK 140 billion. Capital market borrowing decreased by SEK 37 billion. At year-end the central government debt was SEK 1 347 billion.

Table 4 Gross borrowing requirement

SEK billion	2015	2016
Net borrowing requirement	33	-85
Business day adjustment etc. ¹	0	-7
Retail borrowing & collateral, net ²	31	6
Redemptions, money market³	256	284
T-bills	88	141
Commercial paper	124	87
Liquidity management instruments	44	56
Redemptions, switches and buybacks, capital market	160	104
Government bonds	75	53
Inflation-linked bonds	31	1
Foreign currency bonds	54	49
Gross borrowing requirement⁴	479	302

¹ Adjustment for difference in the reporting of borrowing and net borrowing requirement. The differences refer to settlement date and trade date and calculation of interest payments for money market instruments.

² Net change in retail market borrowing and collateral.

³ Initial stock maturing within 12 months.

⁴ Refers to borrowing requirement in the institutional market.

Interest rates fell to very low levels in 2016. Ten-year government bonds were issued at an average yield of 0.28 per cent, compared with 0.48 per cent in 2015.

The Debt Office continued to give priority to borrowing in government bonds, which is the most important borrowing instrument in the long term. A total of SEK 81 billion was issued compared with SEK 86 billion in 2015, see table 5.

Borrowing in inflation-linked bonds decreased to SEK 16 billion in 2016 compared with SEK 17 billion in the previous year.

Table 5 Total gross borrowing

SEK billion	2015	2016
Money market, borrowing	284	144
T-bills	141	84
Commercial paper	87	12
On behalf of central government	78	0
On-lending to the Riksbank	9	12
Liquidity management instruments	56	48
Capital market, borrowing	194	157
Government bonds	86	81
Inflation-linked government bonds	17	16
Foreign currency bonds	91	61
On behalf of central government	38	0
On-lending to the Riksbank	53	61
Total gross borrowing	479	302

During the year the Debt Office issued bonds in foreign currencies corresponding to SEK 61 billion. This can be compared with SEK 91 billion in the previous year. The reason for the decrease between these years is that the Debt Office's bond borrowing in foreign currencies in 2016 only related to the refinancing of loans to the Riksbank. A further SEK 12 billion of the Riksbank's maturing loans was refinanced with commercial paper.

The outstanding stock of T-bills amounted to SEK 84 billion at the end of 2016. That is SEK 57 billion less than one year before. The reason for the decrease in the T-bill stock is that the Debt Office reduced issue volumes during the year on account of the lower net borrowing requirement.

6 Capital market borrowing

Most of the central government debt is financed by issuing government bonds, inflation-linked bonds and foreign currency bonds. This chapter describes the Debt Office's policy for borrowing using each of these instruments and to what extent the instruments were used in 2016.

6.1 Government bonds

Government bonds are the Debt Office's largest and most important funding source. Government bonds are therefore given higher priority than other instruments in borrowing. The volume issued is of great importance for the liquidity and pricing of these bonds in the secondary market.

The Debt Office offers regular issues according to a pre-determined issue plan. Selling small volumes on many occasions reduces the risk of needing to borrow large volumes in unfavourable market situations. At the same time investors are offered continuous access to the primary market. The size of the issues is chiefly influenced by the net borrowing requirement in the long term.

Policy

- The Debt Office gives priority to borrowing in government bonds so as to maintain a liquid bond market.
- Fluctuations in the borrowing requirement are primarily handled using money market instruments.
- The Debt Office seeks to maintain an even maturity profile up to ten years. New ten-year government bonds are introduced at intervals of 12–18 months. When the borrowing requirement is small, the Debt Office can choose to have a longer interval between these issues in order to ensure a sufficient volume of and good liquidity in the bonds.
- The Debt Office primarily issues in ten-year and five-year maturities.
- Issues in two-year maturities are made to support liquidity in the forward market or to spread borrowing when the borrowing requirement is large. Issues may also be made of loans with maturities between two, five and ten years to support liquidity in situations of shortages.
- When the market situation permits, the Debt Office may issue bonds with a maturity longer than 12 years.

Deliberations during the year

Lower issue volume

At the start of the year the Debt Office expected to borrow SEK 88 billion in government bonds. The issue volume was then SEK 4 billion per auction. As a result of the lower net borrowing requirement the auction volume was reduced later in the year, first to SEK 3.5 billion and then to SEK 3 billion. The total borrowing reached SEK 81 billion.

Table 6 Planned borrowing in government bonds

<i>SEK billion</i>	2016	2017	2018
2015:3	88	88	
2016:1	88	88	
2016:2	83	77	
2016:3	81	66	66
Outcome	81		

No new ten-year government bond in 2016

The introduction of a new ten-year government bond was moved from the end of 2016 to the beginning of 2017. The reason was that the Debt Office needed more time to build up a sufficient volume of the existing ten-year bond once its issue volumes had been reduced.

Increased issue volume in long bonds

According to the government guidelines the long-term benchmark for the stock of government bonds with maturities of more than twelve years is to be SEK 70 billion. The outstanding stock of long bonds increased during the year from SEK 55 billion to SEK 58 billion.

The Debt Office regularly examines market interest in long bonds. During the year a total of SEK 3 billion was issued. On average the cover ratio was 3.27.

Result of borrowing activities

The Debt Office held 22 auctions of government bonds in 2016. At 18 of these the auction volume was split between two bonds in order to meet demand in different segments.

The Debt Office's policy is to chiefly issue ten- and five-year bonds. The emphasis is on the ten-year maturity segment in order to quickly build up the volume of new bonds. During the year SEK 35 billion was issued in the bond with a maturity of ten years, see table 7. This is slightly more than in 2015.

Table 7 Volume issued and average yield

Bond ¹	Volume issued	Average yield, per cent
SGB 1052 4.25% 12 Mar 19	8 000	-0.65
SGB 1047 5% 1 Dec 20	8 500	-0.12
SGB 1054 3.5% 1 Jun 22	7 500	-0.16
SGB 1057 1.5% 13 Nov 23	5 500	0.22
SGB 1058 2.5% 12 May 25	13 000	0.34
SGB 1059 1.0% 12 Nov 26	35 000	0.60
SGB 1056 2.25% 1 Jun 32	1 500	1.12
SGB 1053 3.5% 30 Mar 39	1 500	1.24
Total	80 500	0.28

¹The reference loans in the electronic interbank market were SGB 1052 (2 years); SGB 1047 and SGB 1054 (5 years); and SGB 1059 (10 years).

Market conditions

The demand for bonds was very good during the year. On average, the auctions were oversubscribed more than three times, see table 8. This meant that the cover ratios were higher than in 2015 and higher than the average for the past five years.

Many investors see the auctions as good opportunities to buy large sums at current market interest rates. One illustration of this is that on as many as six occasions during the year one participant took the whole volume of an issue.

The average yield at the auctions fell from 0.48 to 0.28 per cent.

Table 8 Cover ratio and average yield

Per cent	2012	2013	2014	2015	2016
Cover ratio ¹	2.12	2.38	3.08	2.52	3.06
Average yield ²	1.57	1.87	1.35	0.48	0.28

¹ Bid volume received as a proportion of issue volume offered.

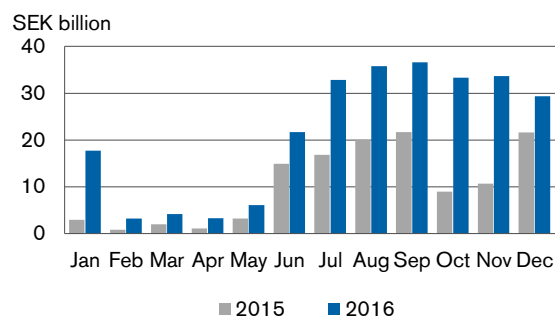
² Outright auctions only, i.e. switch auctions and syndication not included.

Market commitment

Figure 18 shows that the volumes in the standing repo facility for government bonds were much larger in 2016 than in 2015. Liquidity in the market for government bonds has deteriorated gradually, partly on account of new regulations and the

Riksbank's purchases. The Debt Office's assessment is that the market for government bonds is functioning well but that the situation has become more strained.

Figure 18 Standing repo facility, monthly average



6.2 Inflation-linked bonds

Inflation-linked government bonds are a complement to nominal government bonds. By issuing inflation-linked bonds the Debt Office can attract investors who want to avoid the risk of inflation eroding the value of their bonds.

Policy

- The Debt Office seeks to maintain an even maturity profile for its inflation-linked debt.
- The long-term ambition is to spread the inflation-linked debt across more maturities with a smaller outstanding volume of each bond.
- New inflation-linked bonds are matched with government bonds in terms of maturities as far as possible.
- Auctions are held regularly with small volumes to reduce the risk of borrowing large volumes in unfavourable market situations.

Deliberations during the year

Objective of increasing the inflation-linked share

According to the government guidelines inflation-linked debt is to make up 20 per cent of the total central government debt. This share is a long-term benchmark and the Debt Office does not take any immediate action to reach this target. However, the inflation-linked share has been below the benchmark for several years, see figure 10 in chapter 3.

The inflation-linked share mainly depends on the development of the net borrowing requirement and the central government debt. Large increases or decreases in the net borrowing requirement cannot be addressed by large changes in the stock of inflation-linked bonds. Nor is the Debt Office able to use derivatives to adapt the share of inflation-linked debt in the same way as it does with the foreign currency debt.

Until and including October 2016 the Debt Office was able to maintain an annual issue rate of SEK 18 billion in inflation-linked bonds, with SEK 1 billion per auction, despite the lower borrowing requirement. Borrowing in government bonds and T-bills decreased earlier in the year. This contributed to the increase in the share of inflation-linked debt. But on account of the lower borrowing requirement borrowing was reduced to SEK 0.75 billion per auction as of November. Table 10 shows that the volume issued was SEK 16.4 billion. The share of inflation-linked debt at the end of the year was 19.4 per cent.

Table 9 Change in inflation-linked debt in 2016, SEK billion

Outstanding stock at the end of 2015	183.3
Auctions	16.4
Net outcome of auction switches	1.6
Redemptions	0.0
Net of market supporting switches	-2.9
National Debt Savings, inflation-linked	-0.1
Inflation adjustment	1.6
Outstanding stock at the end of 2016	199.9

The stock increased by just less than SEK 17 billion in 2016 because the issue volume in the auctions was relatively large while no inflation-linked bond matured.

Result of borrowing activities

Sales of inflation-linked bonds take place in several forms. The Debt Office conducts both auctions and market maintaining exchanges.

Auctions were held on 18 occasions during the year. At all but one auction the action volume was divided between two different bonds. This enabled the Debt Office to draw on the interest in bonds with different maturities. The Debt Office issued six different inflation-linked bonds with maturities of between 4 and 17 years. The issue volumes are presented in table 10.

Table 10 Volume issued and average yield

<i>Inflation-linked bond</i>	Volume issued SEK billion	Average yield, per cent
SGB IL 3110 (2019)	4.0	-1.72
SGB IL 3102 (2020)	1.7	-1.48
SGB IL 3108 (2022)	1.0	-1.60
SGB IL 3109 (2025)	3.9	-1.30
SGB IL 3112 (2026)	3.5	-1.01
SGB IL 3111 (2032)	2.2	-0.46
Total	16.4	-1.26

In addition, the Debt Office held switch auctions during three periods. In February switches were carried out in connection with the introduction of the ten-year bond SGB IL 3112. In April the Debt Office switched SGB IL 3104 for other inflation-linked bonds. In May the Debt Office offered switches of SGB IL 3107, which matures on 1 June 2017. The Debt Office has a policy of letting about SEK 20 billion of an inflation-linked bond go to maturity. During the final year of the bond there are no issues or switches of the bond.

Market conditions

In 2016, as in the preceding year, the market conditions for sales of inflation-linked bonds were sometimes difficult and unpredictable. Ever lower market interest rates in combination with the varying inflation expectations resulted in strong variations in demand. The cover ratio in the auctions fell from an average of 3.41 in 2015 to 2.10 in 2016, see table 11. Even though the bid volume received was much lower than in the previous year (it decreased from SEK 61 billion to 36 billion) only 4 of 35 auctions were undersubscribed.

Table 11 Cover ratio and average yield

	2012	2013	2014	2015	2016
Cover ratio ¹	5.83	3.88	2.98	3.41	2.10
Average yield, per cent ²	-0.01	0.23	0.03	-0.78	-1.26

¹ Bid volume received as a proportion of issue volume offered.

² Outright auctions only, i.e. exchange auctions not included.

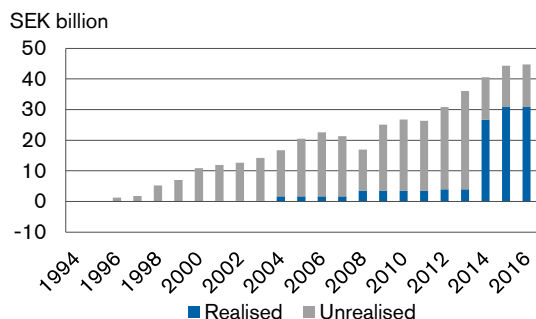
Cost evaluation of inflation-linked borrowing

Since inflation-linked bonds were introduced in 1994, inflation has been lower than the average break-even inflation in the issues. The cost of the inflation-linked debt has therefore been less than for a hypothetical nominal debt with the same maturity.

Figure 19 shows that the calculated result since 1994 has accumulated to SEK 45 billion, of which SEK 31 billion has been realised. A large part comes from the initial years when the inflation-linked stock was built up. At that time break-even

inflation was much higher than it has been recently. The result for 2016 was SEK 0.5 billion.

Figure 19 Result of inflation-linked borrowing



The inflation adjustment in 2016 was 1.2 per cent measured as CPI growth.¹²

Market commitment

The Debt Office offers primary dealers the possibility of continuous switches of inflation-linked bonds for other such bonds in order to improve liquidity in the market.

When an inflation-linked bond has one year left to maturity the switch offer ends. Instead a limited buyback facility is offered. The objective is for no bond to be larger than SEK 20 billion when it matures, since large maturities can result in strains on the market.

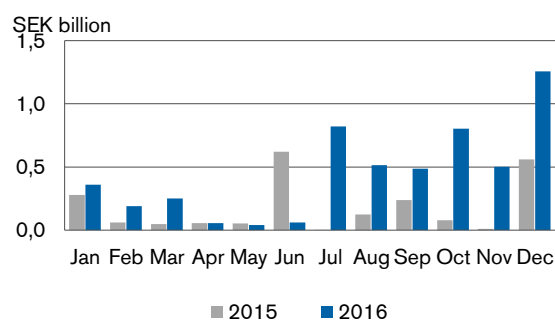
For several reasons the Debt Office has the ambition of spreading the inflation-linked debt over more issues with a smaller volume of each individual bond. If there are many, relatively small issues, this reduces the need for switches and buybacks of bonds with short maturities. The idea is that a bond should not be so large that it cannot mature without causing problems. Another aspect that points to more and smaller issues is that this makes it easier for primary dealers to handle interest rate risks when they quote prices for inflation-linked bonds.

In addition, investors usually have restrictions on how much they can invest in an individual bond, and this can inhibit the demand for large loans. For this reason the Debt Office seeks to ensure that no single bond is to exceed 30 per cent of the inflation-linked bond index.

In the spring the Debt Office carried out switches of SGB IL 3104 for other inflation-linked bonds since it had a weighting of more than 30 per cent in the inflation-linked bond index. This created problems for investors who track the index but are unable to allocate more than 30 per cent to a single issue under investment rules in place. Market participants showed great interest in taking part. The bond's share of the index decreased substantially and was 27 per cent at the end of the year.

The standing repo facility for inflation-linked bonds has had considerably lower volumes than for government bonds. But there was also an increase here compared with the previous year. In 2016 the average repo volume was about SEK 440 million compared with about SEK 180 million in 2015, see figure 20.

Figure 20 Standing repo facility, monthly average



6.3 Foreign currency bonds

Issuing foreign currency bonds spreads the financing of the central government debt across more markets and broadens the investor base. In contrast to the auctioning of government bonds, the Debt Office uses syndication to sell public bonds in foreign currencies (see the fact box on the next page).

In the international capital market the Debt Office is able to borrow large sums in a short space of time. So there are reasons for borrowing regularly in foreign currency even when the borrowing requirement is small since this maintains the preparedness to borrow large amounts if needed. For the same reason the issuance of public bonds has priority ahead of private placements when foreign currency borrowing is small.

¹² Inflation-linked bonds are indexed to the CPI with a lag of three months. This figure therefore refers to inflation in the period October 2015 to October 2016.

Policy

- Bonds in foreign currencies are a complement to bonds in Swedish kronor. The volume issued in foreign currencies depends primarily on the size of the net borrowing requirement.
- The Debt Office issues small volumes in foreign currencies even when the net borrowing requirement is small so as to maintain its market presence.
- The Debt Office also finances on-lending to the Riksbank by issuing bonds and commercial paper in foreign currencies.

The timing and terms of an issue determine whether the issue is successful. This means that both the Debt Office and investors have to be satisfied. For the Debt Office, the point is to borrow the volume planned at as low a cost as possible. But for investors to be satisfied, there must still be demand for the bond after the issue. Well-considered loan terms create a demand that is so large that most, but not all, investors receive an allocation in the issue. This plays its part in, at least, preventing the value of the bonds from falling in the secondary market. Satisfied investors are more likely to participate in the next issue than dissatisfied investors.

Result of borrowing activities

In 2016 the Debt Office only borrowed for on-lending to the Riksbank. The total borrowing was SEK 61 billion. Three loans totalling USD 7 billion were issued on behalf of the Riksbank. The maturities of the loans were three and five years respectively, according to the wishes of the Riksbank.

Market conditions

The Debt Office was able to raise new loans on favourable terms also in 2016, and this was due both to the continued low level of interest rates and to the interest shown by investors in government securities with high credit ratings. The international supply of bonds with the highest credit rating was limited in 2016. Only Germany and the US could borrow at lower interest rates than Sweden.

Political uncertainty increased in the second half of the year on account of the results of the referendum in the UK and the US election. Markets were volatile periodically and this contributed to investors holding back or demanding higher risk premiums. As a result, the Debt Office and equivalent borrowers had to pay interest rates that



Public bonds and private placements in foreign currencies

The Debt Office sells foreign currency bonds through what is called syndication. This means that the Debt Office engages a group of banks, a syndicate, to execute the sale. The bonds are marketed publicly and investors are offered the opportunity to subscribe to buy bonds. Such a bond is called a 'public bond' since it is sold openly to many investors.

A 'private placement' in foreign currency is also a bond but it is not marketed publicly and is sold direct to one investor or a few investors instead. In these cases it is normal to only engage one bank to sell the bond.

Both public bonds and private placements are sold with documentation under English law and are termed eurobonds. A eurobond can be issued in any currency.

were above the US swap curve.¹³ Despite the at times unsettled market the Debt Office's issues were oversubscribed. This led to an increase in the value of the bonds in the secondary market after the date of the issue.

On average, the USD bonds were issued at 20 basis points above three-month USD Libor. Euribor and USD Libor are standardised bank interest rates used for comparisons.

Table 12 Relative funding cost of foreign currency bonds

Basis points	2012	2013	2014	2015	2016
USD Libor ¹	-15	-5	-7	-7	20
Euribor ²	-51	-11	-15	-24	

¹ Three-month bank interest rate.

² Six-month bank interest rate.

The Debt Office's investor base is broad in terms of both categories and geography. Banks are the largest single category of investors. Historically central banks have been large buyers. The bulk of the investors were European.

¹³ The practice for pricing in the bond market is to use the swap curve (swap interest rates for different maturities) in each currency as the reference. The price is expressed as a spread between the bond and the swap rate for the corresponding maturity.

7 Money market borrowing

This chapter presents the Debt Office's borrowing in T-bills and commercial paper as well as loans and placements in the Debt Office's liquidity management.

In the money market the Debt Office borrows at short maturities, mainly by issuing T-bills and commercial paper. These instruments are used both in regular borrowing and in liquidity management. For example, T-bills are included in the Debt Office's issue plan, but bills can also be used to respond to temporary fluctuations in the borrowing requirement. In other words, there is no sharp dividing line between regular borrowing and liquidity management.

7.1 T-bills

Using T-bills the Debt Office can borrow at short maturities in the Swedish krona market. T-bills are issued regularly via auctions. To some extent borrowing in T-bills is adapted to seasonal variations in the borrowing requirement. The central government borrowing requirement is generally largest in December.

Policy

- The Debt Office issues T-bills with maturities of up to six months.
- Every third month the Debt Office issues a new six-month bill. In the other months a new three-month bill is introduced.
- The two T-bills with the shortest maturity are issued on tap when required, as are liquidity T-bills (T-bills with customised maturities).

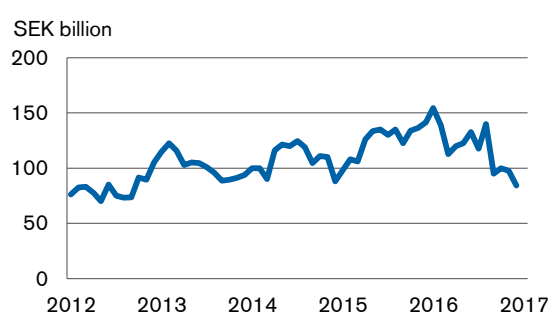
Deliberations during the year

At the start of 2016 the planned average auction volume was SEK 17.5 billion. However, T-bill borrowing decreased during the year. First the auction volume was reduced to SEK 15 billion. Then it was reduced to SEK 10 billion in the last forecast for the year. The reason was the lower borrowing requirement.

During the year the outstanding stock of T-bills decreased from SEK 141 billion at the start of the year to SEK 84 billion at the end of the year, see figure 21. This sharp decrease is explained both by the reduction in regular borrowing in T-bills and by

the fact that, at the end of the year, the Debt Office was not issuing as much as usual as part of liquidity management.

Figure 21 Outstanding stock of T-bills



Result of borrowing activities

The average yield in the auctions was lower than in the preceding year, and this is a consequence of the low repo rate. The cover ratio was at the same level as last year, see table 13.

Table 13 Cover ratio and average yield

Per cent	2012	2013	2014	2015	2016
Cover ratio ¹	2.15	2.14	2.21	2.15	2.12
Average yield ²	1.14	0.90	0.41	-0.34	-0.69

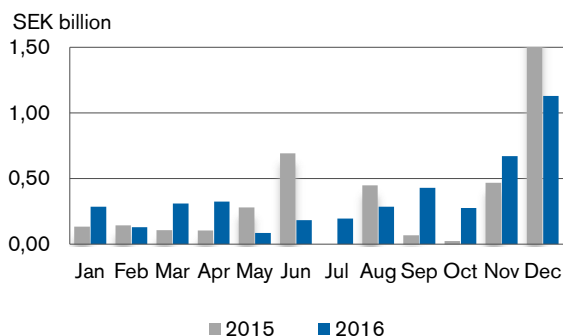
¹ Bid volume received as a proportion of issue volume offered.

² Outright auctions only, i.e. switch auctions not included.

Market commitment

Figure 22 shows that the volumes of market-maintaining repos were at about the same level in 2016 as in the preceding year.

Figure 22 Standing repo facility, monthly average



7.2 Commercial paper

The Debt Office also borrows by issuing commercial paper in foreign currencies, i.e. securities with short maturities. These loans are always hedged and can be viewed as a complement to T-bill borrowing

The advantage of commercial paper is that the Debt Office is able to exploit the international demand for short instruments in for, example, USD and EUR. In the international money market the Debt Office is able to borrow large amounts in a short space of time, which is valuable in responding to large variations in the central government cash flow.

In recent years commercial paper has become an increasingly important instrument for the Debt Office. One reason for this is that the T-bill market has not been deep enough to enable the Debt Office to increase the stock of T-bills rapidly if the borrowing requirement increases at short notice.

Market conditions

The market for commercial paper functioned well during the year. In 2016 the Debt Office issued commercial paper in USD for the equivalent of SEK 48 billion, of which SEK 36 billion was on its own behalf. This is much less than in the preceding year, which is due to the lower borrowing requirement. At the end of the year the outstanding stock was SEK 12 billion. The whole of this sum was for on-lending to the Riksbank.

7.3 Liquidity management

In liquidity management the Debt Office borrows or places money so that central government can discharge its payment commitments every day. In

addition to T-bills and commercial paper the Debt Office also uses bank loans and bank deposits, liquidity bills (T-bills with customised maturities), Riksbank Certificates, repos and three-party repos (repos with a basket of collateral administered by a third party). The Debt Office mainly conducts transactions in SEK, but also conducts transactions in foreign currency.

Policy

- The Debt Office will handle central government's day-to-day borrowing and placement requirement in a safe and cost-effective way in both Swedish kronor and foreign currency.
- Incoming and outgoing central government cash flows will be matched as much as possible.
- Currency exchanges between Swedish kronor and other currencies are spread evenly over the year.

Market conditions

The market was characterised by low and to some degree falling short-term interest rates. During the year the Riksbank reduced the repo rate by 0.15 percentage points to -0.50 per cent. The Riksbank also continued to purchase government bonds.

The Riksbank's purchases of government bonds meant that the bank system's liquidity surplus in relation to the Riksbank increased from SEK 221 billion at the start of the year to SEK 365 billion at the end of the year. Much of this surplus in the payment system was placed each week in Riksbank Certificates at the repo rate. The remainder was placed each day via the Riksbank's fine-tuning transactions at the repo rate minus 10 basis points. On average the volume of these transactions was about SEK 100 billion in 2016.

One effect of the Riksbank's purchases of government bonds has been that the quantity of bonds available for repo transactions has decreased since the Riksbank is not active in the repo market. This may have contributed to the strong increase in the use of the Debt Office's repo facility in the second half of 2016 (see figure 18 and the box "Larger volumes in the standing repo facility for in government bonds" on page 7).

These repos are extra financing in liquidity management that the Debt Office does not normally plan for. In the second half of 2016 this extra inflow was about SEK 25 billion per day. It is not certain whether these volumes will continue, but to avoid

investment risks the Debt Office has assumed in its final forecast for the year that repos will remain at between SEK 20 and 30 billion for the time being.

The large liquidity surplus in the payments system has made it easier for the Debt Office to borrow money in the short term than to place money in the deposit market. Previously the Debt Office could both borrow and place money overnight at the repo rate but during the year the interest rate on investments has often been 10 basis points under the repo rate. To avoid overnight placements the Debt Office therefore tries to plan its liquidity so that a borrowing requirement arises at the end of the day.

This planning presupposes good forecasts of the central government net borrowing requirement on a daily basis. Even though the Debt Office's daily forecasts generally have high precision (see figure 17 in chapter 4), there are sometimes payments that are hard to foresee.

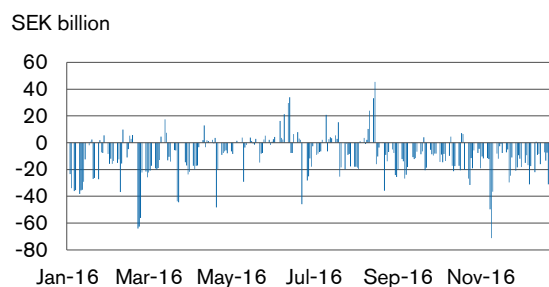
In 2016 the net borrowing requirement was substantially lower than in the Debt Office's original forecasts. This was chiefly because companies, but also private individuals, made excess deposits in their tax accounts. The favourable interest rate on tax accounts, compared with similar forms of investments, meant both that payments of tax were brought forward and that tax accounts were used for pure capital investments.

In all, the increased volumes in the standing repo facility and excess deposits in tax accounts meant that the Debt Office needed to handle substantial surpluses in liquidity management during parts of the year.

Result of borrowing activities

As part of its liquidity management the Debt Office lends and invests money at different maturities. Figure 23 shows the Debt Office's transactions in the part of the deposit market with the shortest maturity, the 'overnight market'. There the Debt Office does the bulk of its borrowing at the repo rate, which was -0.50 per cent for most of the year. Here it can be clearly seen that the Debt Office usually borrows money overnight.

Figure 23 Volumes in the overnight market



By having good forward planning the Debt Office can borrow and place on better terms. For example, the Debt Office borrowed in USD via commercial paper in the first quarter of 2016. In total, it issued commercial paper for the equivalent of SEK 36 billion on its own behalf during the year. This is much less than in the preceding year, which is bound up with the lower borrowing requirement.

In the second half of 2016 liquidity management was characterised by periods of large surpluses. The Debt Office placed these surpluses in the Riksbank's weekly certificates at the repo rate. The Riksbank Certificates were judged to be the best investment alternative in terms of yield and risk. The Debt Office has used repos in covered bonds and three-party repos to place the surpluses.

Flows in foreign currencies and currency exchanges

New and maturing loans, interest payments, EU payments and collateral transfers (CSA flows) are examples of what generates flows in foreign currencies. The Debt Office makes forecasts of foreign currency flows and usually exchanges the net of all flows at an even rate over the forecast period. Since the gross flows are not evenly distributed over time, FX forwards are used to move the flows over time. In the day-to-day management of currency conversions, occasions with good liquidity are used to reduce costs.

8 On-lending of foreign currency

This chapter describes the Debt Office's on-lending of foreign currency to the Riksbank and to other states.

On-lending to the Riksbank is financed by the Debt Office raising foreign currency loans that are earmarked for the Riksbank. This borrowing is concentrated in large benchmark loans in the capital market with maturities of up to five years.

At the end of the year this on-lending amounted to EUR 5.5 billion and USD 22.5 billion. Measured using the exchange rates on 31 December 2016, this corresponds to around SEK 257 billion.

In 2016 the Debt Office refinanced loans on behalf of the Riksbank with a value corresponding to SEK 61 billion: three loans totalling USD 7 billion. In addition, the Debt Office raised the equivalent of SEK 12 billion in commercial paper on behalf of the Riksbank, also to replace maturing loans.

The Riksbank reimburses the Debt Office for the interest expense and administrative costs the Debt Office has for raising the loans.

On instructions from the Government, the Debt Office has also provided credit facilities for Ireland as decided by the Riksdag. The Debt Office does not earmark borrowing for on-lending to other states. Instead, the payments made in connection with this borrowing are handled in the same way as other payments in central government. Lending to Ireland amounted to EUR 600 billion on 31 December 2016.

9 Derivative instruments

The Debt Office uses interest rate swaps, basis swaps and FX forwards to achieve the desired interest rate and currency exposure in the central government debt.

By using derivative instruments the Debt Office is able to borrow in a flexible and effective way while keeping risks within the limits set out in the government guidelines.

9.1 Interest rate swaps

Interest rate swaps are used to shorten the duration of the debt, and this has been justified by it being cheaper to borrow in shorter than in longer maturities. This has enabled the Debt Office to steer exposure in a cost-effective way without any impact on refinancing risk.

Policy

- The maturity of the swaps is adapted to the maturity of the government bonds issued during the year.
- The swap transactions are spread evenly over the year.

Deliberations during the year

In 2016 the Debt Office swapped SEK 10 billion of bond borrowing to short interest rate exposure in Swedish kronor. The volume was greater than originally planned. The reason was the unexpectedly large increase in duration during the year in the light of the lower borrowing requirement.

Result of activities

Figure 24 shows the calculated result since swaps were introduced in 2003. This result is calculated as the difference between the floating interest paid by the Debt Office and the fixed interest received by the Debt Office so far in the swaps.

Since the start the use of swaps has decreased the costs of the central government debt by SEK 32 billion. This saving is mainly because interest rates have been falling for a long time. In periods of rising interest rates the result is significantly lower and may even be negative.



Interest rate swaps

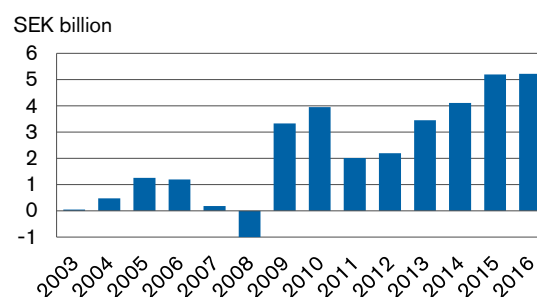
An interest rate swap is an agreement to swap a fixed interest rate for a floating interest rate with a counterparty. The Debt Office uses interest rate swaps to shorten the duration of the debt. This is done in the following way:

1. The Debt Office issues a government bond with, for example, a ten-year maturity and a fixed interest rate.
2. The Debt Office enters into an interest rate swap and receives fixed interest in return for paying three month interest (3M Stibor) for ten years.

The net effect is that the Debt Office pays floating interest for 10 years instead of paying fixed interest on the bond.

The fixed interest in the swap is normally higher than the fixed interest in the government bond. The Debt Office therefore pays 3M Stibor with a deduction corresponding to the difference between the swap and bond interest.

Figure 24 Net cash flow in interest rate swaps



The calculated result for 2016 was SEK 5.2 billion.

9.2 Basis swaps

With the aid of basis swaps the Debt Office can transform Swedish krona loans into foreign currency exposure (see the box below).

The Government has decided that the foreign currency exposure in the central government debt is to decrease. As part of its work to reduce foreign currency exposure the Debt Office closed a number of basis swaps in JPY during the year.

9.3 FX Forwards

FX forwards are used to achieve the desired exposure in the foreign currency debt.

Policy

- FX forwards are used to adjust and maintain exposure in individual currencies.
- FX forwards with a maturity of 3 months are used to maintain the maturity of the foreign currency debt within the interval 0–1 years and are replaced with new FX forwards when they mature.

By using derivative instruments the Debt Office can issue bonds in one currency, but create foreign currency exposure in another. Figure 25 shows how the foreign currency debt is financed while figure 26 shows its exposure to different currencies.

The figures show that there is a great difference between financing and exposure. Almost 60 per cent of the foreign currency debt is financed in Swedish kronor that is then transformed into

exposure in foreign currencies using basis swaps and FX forwards.

Figure 25 Financing of the foreign currency debt excluding on-lending

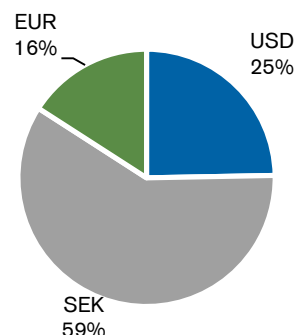
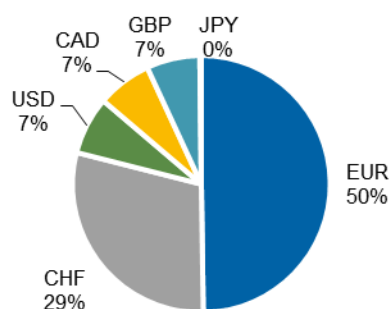


Figure 26 Currency exposure in the foreign currency debt excluding on-lending



Market conditions

The market for FX Forwards functioned well during the year. In the markets where the Debt Office operates, large volumes can be handled without affecting the price.



Swaps between Swedish kronor and foreign currency

The Debt Office can borrow in foreign currency in two ways:

1. by issuing foreign currency bonds or
2. by issuing government bonds and swapping the Swedish kronor borrowed into foreign currency.

Borrowing combined with swaps takes place in the following stages:

1. The Debt Office issues a government bond denominated in Swedish kronor
2. The fixed interest payment on the bond is swapped to a floating rate via an interest rate swap.
3. The floating rate in kronor is swapped to a floating rate in foreign currency through a basis swap. As part of the swap, the Swedish kronor borrowed are exchanged into foreign currency in a spot transaction (initial exchange), at the same time as the Debt Office undertakes to exchange the foreign currency back into kronor at a predetermined exchange rate when the swap matures (final exchange).

In effect the Debt Office has then borrowed in foreign currency with interest payments in foreign currency.

10 Positions

This chapter describes the conditions for and the result of the Debt Office's position-taking in foreign currency in 2016. It also reports the outcome of the special position initiated at the end of 2014 to lock in a negative interest rate on the Debt Office's debt in Swiss francs.

The Debt Office can take positions in foreign currencies to reduce the cost of the central government debt. These activities are conducted both internally and with the assistance of external fund managers. Positions are taken in derivative instruments in liquid markets.

The result for 2016 was SEK 26 million after management fees, see table 14. The bulk of the result for the year is attributable to external position taking. On average, the use of risk in continuous position taking was four per cent of the Value-at-Risk mandate assigned by the Government to the Debt Office.

Table 14 Result of position taking¹⁴

SEK million	2012	2013	2014	2015	2016	Tot.	Avg.
Internal position taking	-176	235	-216	-47	-1	-205	-41
External position taking	-24	-35	90	44	43	119	24
Management fees	-15	-12	-44	-25	-16	-111	-22
Total	-215	188	-170	-27	26	-197	-39

Continuous management

Internal position-taking

At the beginning of 2016 a few remaining positions entered into at the end of 2015 matured with a loss of SEK 1 million. In the remainder of the year no internal position-taking was conducted.

In 2016 the Government commissioned the Debt Office to analyse whether position activities could be expected to contribute to reducing costs and risks for the central government debt as a whole.¹⁵ The conclusion of the analysis was that the Debt Office is better able than many other market participants to act in a long-term and sustainable

¹⁴ The result is measured as change in the market value of the portfolios (including accrued interest) plus realised flows.

¹⁵ See the Government Communication "Evaluation of central government borrowing and debt management in 2011–2015 (Govt. comm. 2015/16:104) and the Debt Office's memorandum "Report on government commission to analyse whether position activities can be expected to contribute to reduced costs and risks for the central government debt as a whole" (reg. no 2016/1049).

manner. This meant that there were good possibilities that its position activities would also be able to contribute to reducing costs of the central government debt in the future

Against this background the stop-loss rule introduced in 2015 was removed and the framework for position taking was amended. In January 2017 the Debt Office resumed internal position taking.

External position taking

At present the Debt Office engages five external managers in its continuous position taking. The group of external managers achieved a result for the year of 2016 of SEK 43 million before management fees, which is higher than the five-year average of SEK 24 million. Foreign currency positions contributed a positive result of SEK 66 million while the result for interest positions was negative and amounted to SEK -24 million. After deduction of management fees the result for 2016 amounted to SEK 27 million. The diversification in the group continues to be good. Three of the five managers contributed to an aggregate positive result for the group as a whole.

External position taking was chiefly affected by two major political events during the year: the referendum on membership of the EU in the UK and the US presidential election.

The referendum in the UK caused great uncertainty in financial markets. The event led to a fall in British long interest rates in particular and to the weakening of the GBP. At the same time the JPY gained strength. This development contributed to large currency gains for external position taking.

In the last two months of the year interest rates rose in the US especially in the wake of the US Presidential election. The development of interest rates went against the managers' expectations of smaller spreads between US and European interest rates. The result for the year in interest position taking was therefore negative.

Evaluation of the activities in the long term

The result of the Debt Office's position-taking varies from year to year and is therefore evaluated in five-year periods.

The average annual result for position taking was SEK –39 million in the period 2012-2016. Internal position taking resulted, on average, in a deficit of SEK 41 million while external position taking gave an average annual surplus of SEK 2 million adjusted for management fees.

Most of the difference in results between internal and external management arose in autumn 2014 when the internal management was not in operation and, to some extent, in autumn 2015, when the scope for positions was limited by the stop-loss rule.

Special position

At the end of 2014 the Debt Office initiated a special position that locked in a negative interest rate of –0.16 per cent for the CHF debt. At most the size of this position was CHF 4.5 billion, corresponding to about SEK 40 billion. The purpose of this structure was to decrease cost variation and ensure a negative financing cost. The bulk of this position has now matured. At the end of 2016 the amount remaining was CHF 1.2 billion, corresponding to about SEK 11 billion.

Since this position was entered into CHF interest rates have fallen and become even more negative. Most of the change occurred in January 2015 when the Swiss central bank decided to abandon the link to the euro. In hindsight it would have been better, up to now, in cost terms not to lock in the interest rate at –0.16 per cent. But the purpose was not to reduce costs but to reduce risk by locking in a negative interest rate and this purpose was achieved.

The result for 2016 was SEK 13 million. The accumulated result for the position was SEK –435 million at the end of 2016, of which SEK –351 million has been realised.

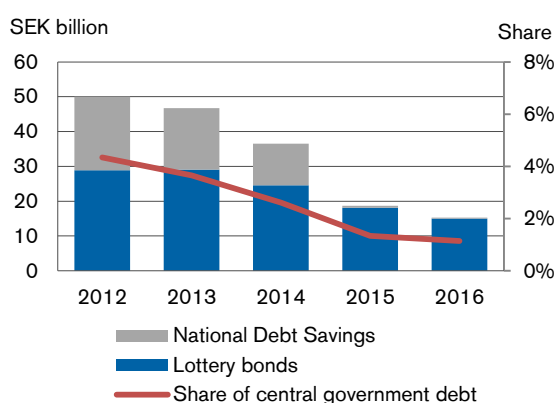
11 Retail market borrowing

The result of borrowing in the retail market is presented here. The objective is to borrow at a lower cost than in the institutional market. Because interest rates in the institutional market have been negative, retail market borrowing was not able to make any contribution to reducing the costs of the central government debt in 2016.

Negative result from the retail market

The Debt Office borrows not only in the institutional market but also from private individuals and other small investors who place money in lottery bonds and National Debt Savings. At the end of 2016 the retail market financed 1.1 per cent of the central government debt, which is a decrease of 0.2 percentage points, see figure 27.

Figure 27 Retail market share of central government debt



The Government has given the Debt Office the task of borrowing in the retail market so as to borrow at a lower cost than for corresponding borrowing in the capital market. Up until 2014 borrowing in the retail market resulted in a saving for central government, but since 2015 this form of borrowing has been more expensive, see table 15.

Table 15 Saving from retail market borrowing

SEK million	2012	2013	2014	2015	2016	Tot.	Avg.
Lottery bonds	126	81	71	33	-23	287	57
National Debt Savings	4	17	0	-40	-10	-29	-6
Total	129	97	71	-7	-33	258	52

Private market borrowing increased the cost for central government by SEK 33 million in 2016. The main reason for the outcomes in 2015–2016 is that retail borrowing took place at positive interest rates while the corresponding interest rates in the capital market were negative. For the five-year period 2012–2016 the aggregate cost saving (result) was SEK 258 million, corresponding to an average of SEK 52 million per year.

A lottery bond despite negative interest rate

In 2016 the result for lottery bonds decreased by SEK 57 million to SEK -23 million. This was the first time that the annual result for lottery bonds was negative. The reason for the deterioration was that several of the outstanding bonds had been issued at a loss.

The Debt Office issued a lottery bond in the spring as planned despite an expected loss. The judgment made was that cancelling an issue would reduce the customer stock, which could result in less interest in this form of savings in the future. The maturity was set at two years and the sales volume was SEK 1.4 billion. The issue generated a loss of about SEK 28 million. The Debt Office decided not to issue a bond in the autumn since no old bond matured then.

Suspension of issuance of lottery bonds

During the year the Debt Office reported on a government commission reviewing the conditions for borrowing in lottery bonds. The Debt Offices conclusion was that this lending had the possibility of being profitable in the longer term and that it should continue even if that would result in losses in the next few years.¹⁶

In its guidelines decision for 2017 the Government made a different assessment and called on the Debt Office to not issue lottery bonds as long as they were unprofitable. As a result of the low level

¹⁶ See the Debt Office's memorandum "Report on government commission to analyse whether borrowing in lottery bonds is expected to be able to contribute to the objective of central government debt policy in the future" (reg. no 2106/1049).

of interest rates and the Government's guidelines decision the Board of the Debt Office decided on 13 December not to issue lottery bonds for the time being. Issuance will be resumed when again judged to be profitable.

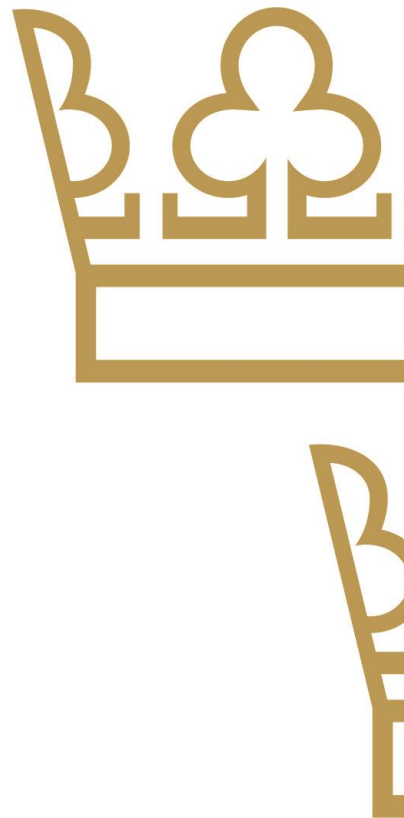
Continued winding down of National Debt Savings accounts

The bulk of the stock of National Debt Savings at floating interest rates was wound down in November 2015. At the beginning of 2016 only about SEK 120 million remained. It was possible to repay the balance on most of the remaining accounts in 2016 and the amount remaining at the end of December was just more than SEK 11 million. The result for National Debt Savings therefore improved by SEK 30.2 million to SEK -9.8 million.

Fixed-interest accounts were closed for new account holders in 2012. Existing accounts continue to run to their due dates. The last accounts mature in December 2020. The amount remaining at the end of year was almost SEK 280 million.

Shrinking share of the interest savings market

At the end of the year lottery bonds and National Debt Savings accounted for 0.8 per cent of the interest savings market in Sweden (bank deposits, fixed income funds and private bonds). This is a decrease of 0.3 percentage points during the year and is due to greatly reduced volumes in a growing market.



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