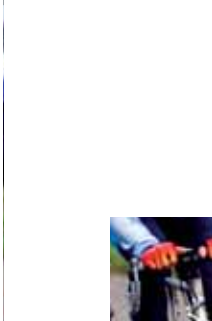
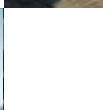
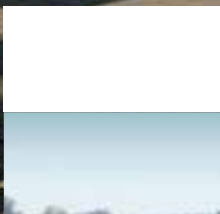


Outlook 2007



Outlook 2007

'Reforms to strengthen the dynamics of an economy also necessitate giving up existing privileges. In the short term, it may appear as if promoting reforms to step up dynamics raises uncertainty.

However, modern economies are like bicycles: constant progress makes sure that the wheels keep turning. As long as they turn fast enough, the bicycle remains stable. With a lack of dynamics, economic growth comes to a halt. Stagnation means decline.'

Source: Budget Memorandum 2007



Preface

It is a challenging time for the DSTA. Following the upswing in the Dutch economy, the budget of the central government shows a remarkable improvement. This is of course good news: the economy flourishes, with record high optimism among consumers and businesses. Moreover, the solid budgetary position substantiates the excellent ratings of our bonds.

For both 2006 and 2007, surpluses are expected. With budget surpluses, debt declines not just relative to GDP, but in absolute terms. Declining debt levels impose a challenge. A solid funding policy needs to handle smoothly the implications of debt reduction, while at the same time safeguarding benchmarks, liquidity size and yield curve coverage. In this Outlook, we briefly explore the possible future implications of declining debt levels for sovereign debt management.

In the meanwhile, the smaller funding need in 2007 already requires tough choices by the DSTA. It necessitates us to cancel auction dates for DSLs, putting the label 'reserve' on several dates. In 2007, we will launch only 1 new benchmark bond. The DDA will be used to issue a new 10-year benchmark loan. We will reopen the on-the-run 3-year and 30-year bond. Both benchmarks will reach an outstanding volume of at least 10 billion euros in 2007. The lower financing requirement leaves no room for a new 3-year bond in 2007.

The budgetary improvements also have an impact on our money market operations. There is a clear need for more flexibility. Therefore, in 2007, the DSTA starts with the issuance of Commercial Paper with maturities below 3 months. We aim to issue in euros and – if beneficial from a cost perspective – in foreign currencies. With Commercial Paper, we hope to better absorb the fluctuations in the cash balance.

The year 2007 is the last year in which the present risk management framework operates. A comprehensive reassessment of this strategy is under way. In this Outlook, we present a number of observations and first conclusions. After completion of the reassessment in early 2007, we will report our final results.

Erik Wilders



Agent of the Dutch State Treasury Agency

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Economic prospects, money and capital markets



The global economy remains strong. Government budgets are set to improve. In 2007, the Dutch economy is expected to maintain momentum with a growth rate of around 3%. On almost every parameter, the Dutch economy outperforms the euro area. Structural reforms and budgetary consolidation helped to achieve budget surpluses for 2006 and 2007. The Netherlands is relatively well placed to cope with the challenges of ageing.

1.1 Global and European Economic Outlook¹

In 2006, the world economy grew by a robust 5%. In the latest World Economic Outlook, the IMF projects global growth to remain around that level in 2007. As in recent years, emerging Asia will outperform other regions by a wide margin this and next year, with inflation remaining low (figures 1.1 and 1.2).

The share in global output of countries like China and India has increased sharply the last few decades. In terms of purchasing power parities, China now accounts for 15.4% of global GDP, second in size after the US (20.1%) and already larger than the euro area (14.5%)². Measured in current dollars, China is now the fourth economy with a share of 5.3% in global output, before the UK, France and Italy³.

In the light of historically high nominal oil prices, the continued economic expansion is remarkable. Notwithstanding the dent they caused in real incomes, most countries appear less vulnerable for energy price shocks than was first expected. Although moderated substantially from record highs reached during the summer, high and volatile oil prices remain a threat to the global economy, especially in combination with lingering supply side uncertainties. Next to oil, the still increasing global current account imbalances, latent protectionist pressures and slowing housing markets in a number of countries are negative risk factors. A cushion is provided by long term interest rates, which have declined since the summer in both the United States and Europe. Inflation has clearly increased on a global scale. Although the inflationary effects of more expensive energy remain limited so far, it cannot be excluded that more is in the pipeline, especially if oil prices – as is widely expected – remain high in the near future and taking into account the risk of second round effects. In an environment of closing output gaps, strengthening labour markets and (in particular for the US) slowing productivity growth, inflation risks are on the upside.

The United States

Albeit at a slower pace, the US economy continued its healthy performance in 2006. For 2007, the IMF expects a slowdown in both growth and inflation to 2.9%. The housing market has long been considered the most important downward risk for the economy. Slowing or outright declining house prices would have a negative impact on the construction sector and residential investment, as illustrated by the unexpected sharp decline of residential construction in the second quarter. A housing market correction would also be the most likely factor to depress consumption and – with its share of 70% in total demand – the broader economy. However, spill-over effects to the broader economy seem limited so far. The budgetary improvement in the United States has been surprisingly strong. The general government deficit dropped to 1.9% of GDP in fiscal year 2006 (up to September 30), mainly the result of revenue windfalls. Most analysts agree that based on current spending and taxing plans, further improvement is likely to be limited. As with many countries, the long term outlook for the US budgetary situation is dire⁴. In order to make long-term debt sustainable, there is broad agreement among analysts that measures to reduce spending (on entitlement programs) and increases in tax rates are inevitable.

1 The cut-off date for the data in this chapter is 13 November 2006, unless otherwise specified.

2 IMF (2006), World Economic Outlook.

3 Calculations based on the WEO Database, available at www.imf.org.

4 See CBO (2005), The Long-Term Budget Outlook.

Figure 1.1 Annual GDP growth, 1998-2007 (%)

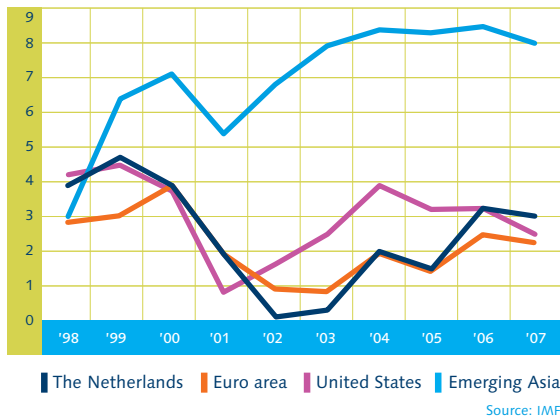
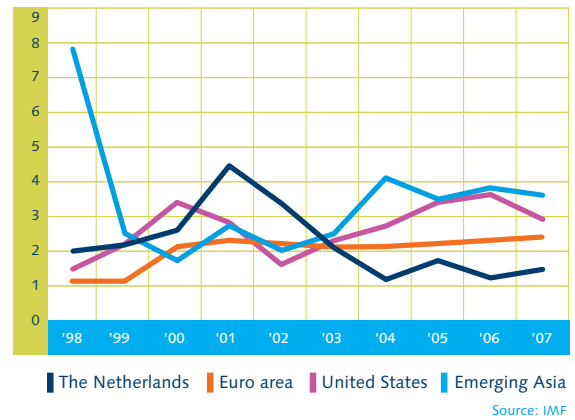


Figure 1.2 Annual inflation rates, 1998-2007 (%)



The Euro area

The euro area continued its recovery in 2006, with contributors broadening from export to domestic demand components. After an expected GDP growth of around 2.6% this year, economic performance will be around potential (estimated at around 2%) in 2007. A steady increase in business and consumer confidence to relatively high levels and a continued decline of unemployment (to 7.7% in 2007) support the euro area's economic recovery. A key risk for the euro area lies with a renewed appreciation of the euro exchange rate – related to a possible disorderly correction of global current account imbalances – and reduced world trade. More generally, the US slowdown could negatively affect the euro area's growth performance. Nevertheless, due to continued structural reforms and the shift towards domestic demand, the euro area seems now more resilient to external shocks than in the past. With the big three countries all planning to bring and maintain their government deficits well below the 3% GDP target, fiscal policy will exert a small negative influence on total domestic demand in 2007. Accordingly, after years in which consolidation progressed slowly, the budgetary situation in most countries in the euro area is set to improve. After an expected 2.0% in 2006, the European Commission projects net government borrowing in 2007 of 1.5% GDP. In cyclically adjusted terms, net borrowing in 2007 will amount to 1.2%, down from 1.7% in 2006. Since the cyclically adjusted deficit reached a high of 2.8% in 2002, a substantial improvement has been achieved. However, differences between countries remain large (see next section).

1.2 The Outlook for the Dutch Economy

The economic situation in the Netherlands has improved beyond expectation. From an average growth rate of 1.3% over the 2003-2005 period, growth is set to accelerate to 3¼% in 2006 and 3% in 2007 according to the Netherlands Bureau for Economic Policy Analysis (CPB). The European Commission projects growth rates of 3.0% and 2.9% respectively. While the main driving force behind growth has been the export sector, private consumption and investment are strengthening. Factors stimulating the corporate sector to step up its investment expenditures by almost 5% next year are a healthy profitability and a significantly strengthened competitive position (in two years time the Netherlands jumped 6 places in the Global Competitiveness Index of the World Economic Forum, to the 9th place). Also the business climate was improved by reducing the corporate tax rate by 9.5 percentage points in 3 years and the cutting of red tape. Triggered by a record high number of optimistic consumers and a significant drop in unemployment, consumption expenditures are expected to show the largest gain since 2000. The excellent growth perspectives are accompanied by a continuously favourable inflation outlook. With the output gap only now becoming positive, consumer prices are set to increase by 1.5% in 2007, marginally

more than this year. This puts the Netherlands among the lowest inflation countries in the euro area.

Based on what has already been achieved, the IMF claims in its latest Article IV report on the Dutch economy that ‘there is reason for optimism’. Indeed, after years of moderate growth, the Netherlands is now in the group of countries that by a large margin outperforms the euro area as a whole. Table 1.1 illustrates this for a number of key variables, based on the Autumn Forecasts of the European Commission, published early November.

Table 1.1 The Netherlands compared to the Euro area

	2006		2007	
	The Netherlands	Euro area	The Netherlands	Euro area
GDP growth	3.0	2.6	2.9	2.1
Inflation	1.6	2.2	1.8	2.1
Productivity growth	1.3	1.2	1.5	0.9
Employment growth	1.6	1.4	1.4	1.2
Unemployment (% labour force)	3.9	8.0	3.0	7.7
EMU balance (% GDP)	0.0	-2.0	0.1	-1.5
Cyclically adjusted primary balance (% GDP)	2.9	1.2	2.6	1.7
EMU debt (% GDP)	50.5	69.4	47.8	68.0

Source: Economic Forecasts, autumn 2006, 6 November, European Commission

As a result of the stronger economic performance and owing to a firm budgetary policy aimed at consolidation, the Dutch budgetary situation improved substantially. The general government deficit narrowed to 0.3% of GDP in 2005 from 3.1% in 2003. In structural terms, the balance improved by around 3 percent of GDP over this period, reflecting a determined policy effort⁵. Figures 1.3 and 1.4 illustrate that, on the budgetary field, the Netherlands (pointed at with an arrow) outperforms many other euro area countries in the coming year as well. The European Commission expects a balanced budget for 2006 and a 0.1% GDP surplus for 2007. This is broadly in line with projections by the CPB.

In addition to the strong fiscal consolidation achievement, the fiscal policy framework in the Netherlands is top of the bill, according to an IMF study on fiscal transparency⁶.

In a study on fiscal transparency, the IMF concludes that practices in the Netherlands are top of the bill. The Netherlands achieves or exceeds the good practice standards against each of the four general principles of the fiscal transparency code:

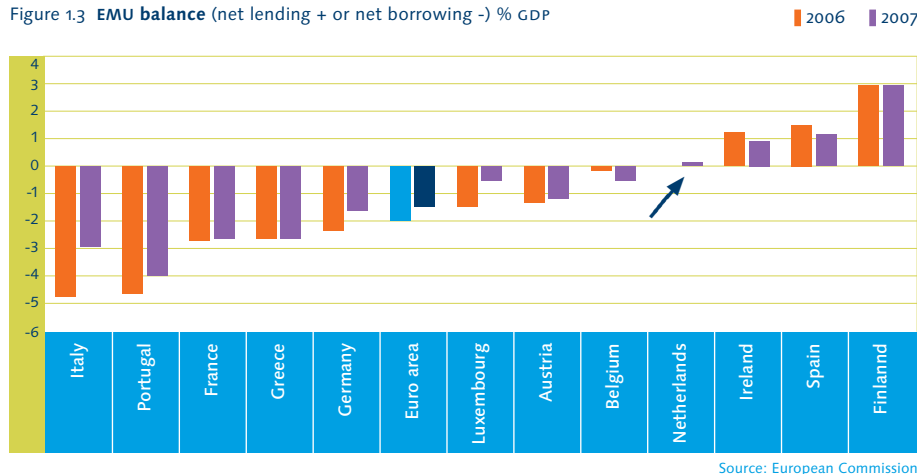
- The roles and responsibilities of and within government are clearly defined and the Netherlands sets best practice standards.
- The Netherlands has a very open and well understood system of fiscal management.
- The budget and accounts documents are of a high standard and provide comprehensive, timely, and reliable information on government activity in an accessible format.
- Fiscal data quality standards are high and the institutional framework for maintaining the integrity of the fiscal management system and data are at, or close to, best-practice level.

The budgetary performance in the recent past continues into the future. While the budget for 2006, presented in September 2005, was based on an EMU-deficit of 1.8%

⁵ See IMF (2006), 2006 Article IV Consultation, IMF Country Report No. 06/283, July 2006.

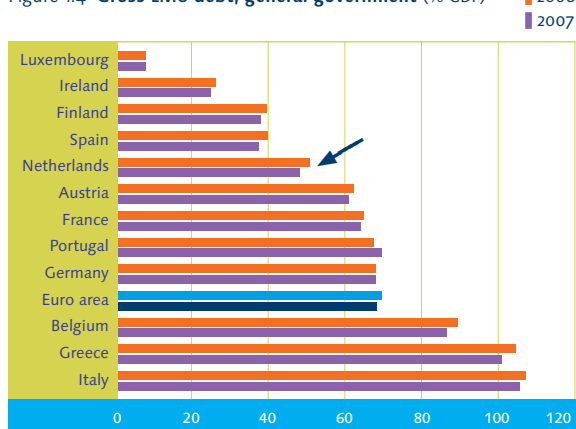
⁶ See IMF (2006), Netherlands: Report on the Observance of Standards and Codes—Fiscal Transparency Module, IMF Country Report No. 06/124, March 2006.

Figure 1.3 EMU balance (net lending + or net borrowing -) % GDP



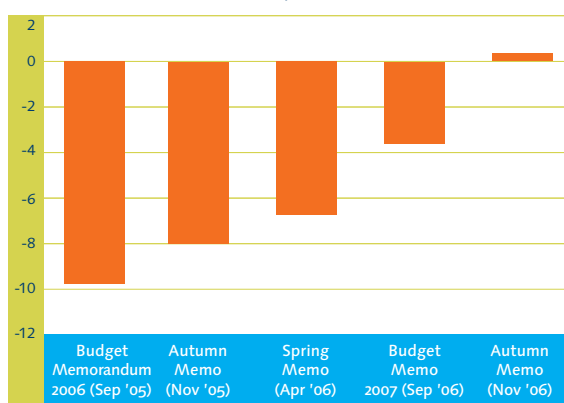
Source: European Commission

Figure 1.4 Gross EMU debt, general government (% GDP)



Source: European Commission

Figure 1.5 The change in outlook for the expected cash balance for 2006, bln euros



GDP, the most recent projections in the Autumn Memorandum (November 2006) report a budgetary surplus (EMU-definition) of 0.4% GDP. Also in cash terms – the relevant concept for a debt manager – a small surplus of less than 0.1% GDP is projected for 2006 (see chapter 2)⁷. Figure 1.5 illustrates how projections for the cash balance have developed. For 2007, the EMU balance (+0.9 bln euros) and cash balance (+1.9 bln euros) will both post a small surplus. On a cyclically adjusted basis, a surplus of around 0.5% GDP is projected for both this and next year according to estimates by the European Commission. The Netherlands therefore complies with the agreement within the EU that countries should strive for government balances that are ‘close to balance or in surplus’.

In spite of the reforms that have already been implemented (see below), demographic ageing exerts significant further pressure on the sustainability of public finances, not just in the Netherlands but in most other developed countries as well. Stimulated by general parliamentary elections held in November, the debate in the Netherlands on how to respond to the challenges posed by ageing has been fierce and fundamental.

The cabinet resigned early in June. Although a new cabinet, based on the old, was started up again, parliamentary elections were announced for November 22nd. On behalf of the crown, political parties are exploring how a new cabinet should be formed, based on the election results.

7 The EMU-balance is defined on a transaction basis; differences with the cash balance are due to financial transactions and cash-transaction differences (such as a delay in tax receipts).

Adjustments to the current fiscal stance and to pension and health care costs are necessary to reach a sustainable path. Recent calculations by the Netherlands Bureau for Economic Policy Analysis (CPB) show that, based on existing policies, a budgetary adjustment of 2 to 2¼% GDP (12.5 bln euros) would be necessary to bring the fiscal outlook on a sustainable trajectory. Although much remains to be done, according to the IMF – with Ireland, the UK and Denmark – the Netherlands belongs to the group of successful reformers that can offer valuable lessons for the rest of the EU⁸. Box 1.1 elaborates on the economic and financial consequences of ageing and the policy measures available to tackle them.

Box 1.1 The challenge of an ageing society

The old-age dependency ratio in the Netherlands will increase from the current level of 23.4% to 43.4% in 2040. Based on current budgetary arrangements, the CPB calculates that government expenditures will grow by 7 percentage points to 55% of GDP in 2040. Although revenues will also increase (by 4%-points), mainly through tax revenues on increasing pension income of households, the gap between expenditures and revenues is projected to increase by more than 3% of GDP between now and 2040. Sustainability gap calculations by the European Commission show similar results⁹.

Standard & Poor's states that the ageing related fiscal deterioration in many countries will be of such magnitudes that it would not be compatible with current long term sovereign credit ratings¹⁰. However, compared to other European countries, the fiscal starting position of the Netherlands is favourable. The Netherlands has already undertaken substantial reforms to the social security system. Reforms in the systems of disability and unemployment benefits lead up to a 2.5 percentage point reduction in government spending in the long term. Measures that stimulate labour participation lead up to an increase in tax revenues in the long term of 1 percentage point. In total, the reforms of past years have increased the sustainability of the Dutch government finances by 3.5 percentage points. The increase in tax revenues from private pension disbursements and the cushion provided by assets held with private pension funds will further reduce the fiscal pressures¹¹.

It is widely acknowledged that more needs to be done. The costs of inaction are high. Sustainability can be fully restored by increasing present government savings. Alternatively, measures to reduce the future cost of ageing or to increase future base for social security by a rise in labour participation will reduce the necessity to increase government savings now. These conclusions by the CPB were also reached by an official Study Group for fiscal policy. Their report 'Ageing and Sustainability' takes the form of an advice to the new cabinet¹². Three types of measures are available to put government finances on a sustainable path: adapting ageing-related institutions (public pensions, health care), increasing labour force participation and stepping up the pay-off of national debt. As they address the essence of the problem, the study group thinks that priority should be given to the first two measures. These would not yet lead to large budgetary savings in the coming cabinet period, but would have a large impact on long-term sustainability.

Ageing also has important consequences for the real economy and for capital markets. A study by the European Commission in 2003 shows that over the period 2000-2050, growth in GDP per capita will fall by about 0.4 percentage points on an annual average basis¹³. In addition, EU potential growth will fall to around 1.25%. If allowed for possibly negative effects of ageing on productivity, potential growth could decline

8 IMF (2006), Reform in Europe: What went right?, in: Finance & Development, September.

9 European Commission (2006), Public Finance in EMU 2006.

10 Standard & Poor's (2006), Global Graying: Aging Societies and Sovereign Ratings, Commentary Report, May 31.

11 See Standard & Poor's (2006), Global Graying Country Report: State of The Netherlands, July 13.

12 Studiegroep Begrotingsruimte, Twaalfde rapport: Vergrijzing en houdbaarheid, 22 juni 2006 (not available in English).

13 European Commission (2003), Economic and financial market consequences of ageing populations, Economic Papers, No. 182.

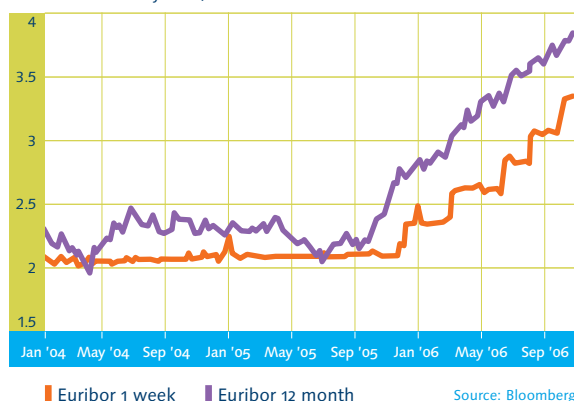
to less than 1% according to the report. Reforms are highly desirable not just from a fiscal but from a welfare point of view as well.

As Goldman Sachs indicated in its 2001 study, global ageing should have a positive effect on the capital markets up to 2010 as the baby boomers focus on saving for retirement¹⁴. According to the life cycle theory, when the effects of ageing become more prominent, household and government savings will decrease while the percentage of dissavers continues to grow. Dissaving puts downward pressure on capital markets, even when (as often is assumed) investment and GDP growth slow. Although the net effect is uncertain and probably small, most studies indicate that dissaving is likely to result in reduced equity returns and higher real interest rates¹⁵. The rise in sovereign long term interest rates may be mitigated by the observation that pensioners tend to be more risk averse and may reallocate their financial portfolios towards less risky assets such as government bonds. Any increase in long-term interest rates may be more pronounced – through higher risk premia – for countries that have achieved less in terms of fiscal adjustment and that have very large 'pay-as-you-go' pension promises and minimally funded pension plans.

1.3 Money and capital markets

The year 2006 was marked by world wide monetary tightening. The US Federal Reserve raised its federal funds rate to 5.25% in August and has not changed it since, indicating that this rate represents a level consistent with the outlook and risks for growth and inflation in the US. At the moment, markets expect that the Fed will stay on hold for the coming year, with a slight bias towards lower rates in the somewhat longer term. The European Central Bank continued the tightening cycle it started in December 2005. In October the refinancing rate was increased to 3.25%. Driven by continuing worries about inflationary pressures, most analysts expect the ECB to tighten monetary policy further ahead. The market has fully discounted a rate hike by 25 basis points in December. Figure 1.6 gives an impression of the European money market.

Figure 1.6 European money market, Euribor 1 week and 12 month
January 2004 - October 2006



In Japan, the Bank of Japan ended its quantitative easing framework in March, with a first and so far single increase in official interest rates of 25 basis points in July, thereby ending its 6 year long zero-interest rate policy. The market expects further, albeit limited, tightening in the year ahead. Taking into account the level of inflation and long term inflation expectations, real short term interest rates remain rather accommodative in the three regions.

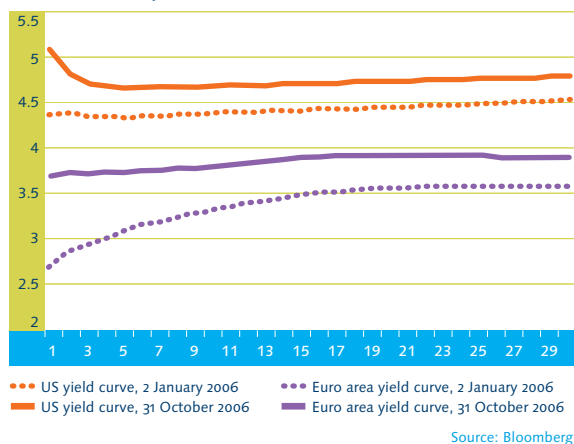
¹⁴ M.M. Culhane (2001), Global Aging – Capital Market Implications, Goldman Sachs.

¹⁵ For an overview see: ECB (2006), 'Demographic changes in the euro area: projections and consequences', in: Monthly Bulletin, October.

Figure 1.7 European capital market, swap rate 2 year and 10 year
January 2004 - October 2006



Figure 1.8 Government yield curve, 1 year - 30 year
January 2006 and October 2006, US and Euro area



Increases in short term rates over the past year or so have led to rising long-term interest rates, albeit to a limited extent. In the US, the 10-year government yield increased from 4.5% in January to 5.2% in June, before retreating to 4.6% mid November. In Germany the 10-year rate increased from 3.4% early 2006 to around 3.7% mid November.

During the year, the yield curve shifted up but remained relatively flat both at the short (2-10-year) and at the long end of the curve (10-30-year). See figure 1.8. In some instances, the curve even became inverse.

Differences in sovereign interest rates within the euro area have remained quite limited. Taking the German Bund as the benchmark bond, Dutch State Loans performed very well in 2006. Also based on prices for credit default swaps, Dutch bonds are among the most creditworthy paper in Europe. Box 1.2 elaborates on differences in swap spreads among AAA-rated sovereigns.

Box 1.2 Swap spreads in the euro area

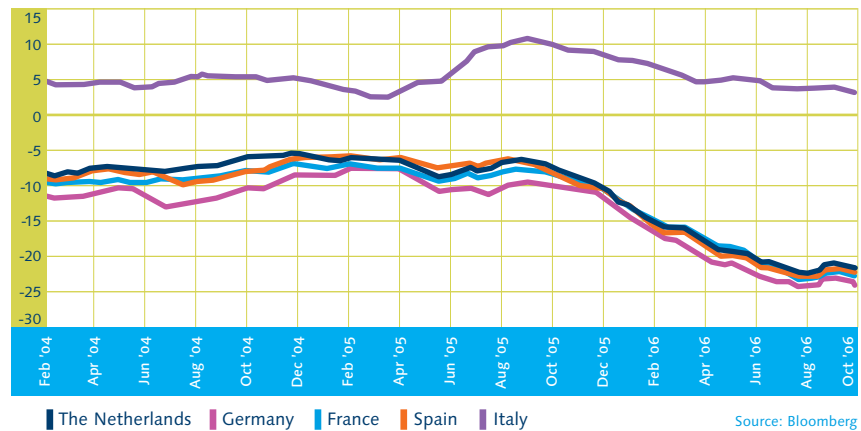
A general approach to evaluating the performance of sovereign bonds is to compare bond yields to the swap curve. A lower (more negative) swap spread¹⁶ implies more favourable borrowing conditions of a country in absolute terms. The present analysis of swap spreads in the euro area focuses on 10-year bonds of the Netherlands, Germany, France and Spain, all AAA rated countries.

As figure A shows, sovereign spreads started to drop in the 4th quarter of 2005, continuing throughout 2006. The swap spread of the 10-year DSL widened from about -7 bp in August 2005 to about -22 bp in October 2006. The widening of these negative spreads occurred along the entire yield curve, with the strongest improvement in the 10-year segment (15 bp), followed by the 30-year segment (10 bp) and the 5-year segment (5bp).

There are several factors contributing to the significant drop in spreads. First, in times of rising interest rates, swap spreads in absolute terms automatically increase. A second reason for the drop in spreads is the upturn of economic growth leading to improved budget balances (see section 2). On one hand, a better budgetary stance translates into a higher creditworthiness of a country; this in turn reduces credit risk premia. On the other hand, as budget balances improve, funding needs are lowered

¹⁶ For purposes of this analysis we used a Z-spread (Zero volatility spread), which reflects a bond yield less the swap rate corrected for coupon differences and the shape of the swap curve.

Figure A Swap spreads in the euro area, basis points



and net issuance of sovereign bonds is reduced. In 2004, the net sovereign issuance in the euro area peaked with a volume of almost 200 bln euros, falling to approximately 100 bln euros in 2005. The net sovereign issuance in the euro area is likely to reach about 85 bln euros in 2007, the lowest volume since the introduction of the euro in 1999. Both effects as a result of the improving budgetary stance depress sovereign yields, causing negative swap spreads to widen (or positive spreads to fall).

The drop in swap spreads was strongest in the AAA rated countries. Whereas the spread of 10-year DSL widened from -7 bp in August 2005 to -22 bp in October 2006, the spread of the AA Italian 10-year benchmark fell from +10 bp to +3bp. This may be explained by the relative undervaluation of AAA rated countries in the past few years, with rates still insufficiently reflecting differences in underlying country fundamentals. The undervaluation was related to the low interest rate environment, which had made investors less risk averse in search for yield and which came at the cost of the valuation of relative quality. With interest rates on the rise, increased demand for AAA rated sovereign bonds partly corrects the undervaluation and results in a widening of spreads.

A third driving force behind the widening of swap spreads is related to the swap curve itself. Around 2002, debt management offices across the euro area set new targets for the trade-off between cost and risk. They chose to lower interest costs by decreasing the duration of their debt portfolios. The resulting increase in demand for receiver swaps contributed to a tightening of sovereign swap spreads between 2002 and 2004 by lowering the swap rates. As duration targets were met, the demand for receiver swaps began to decrease in 2005 and 2006. In addition, the swap curve flattened in the course of 2005 and 2006, reducing the relative benefit of a lower duration.

Taking into consideration the reduction in the net supply of the sovereign bonds in the euro area in 2007, some analysts expect sovereign swap spreads to widen even further. For the German 10-year bond, the swap spread is expected to reach -30 bp. From a historical perspective, such spreads are not without precedent. The swap trade took off in the mid 1990's and the swap market became liquid a few years later. In the late 1990's the German swap spreads ranged around -30 bp and after the LTCM crisis widened to -60 bp as a result of the flight to quality.

Although movements in asset prices may lead future economic developments, asset prices are not always pointing in a clear and uniform direction. Since early July, bond markets have rallied strongly, with the 10-year Treasury yield falling around 60bp. Yet, in the meantime equities have also continued to rise, in some instances to record highs (the Dow Jones Index broke the 12,000 level in October). It is highly doubtful that both asset classes can get the story right. Rising bond prices can be explained by worries about an economic downturn, but that does not explain the upward movement in equities. If there would be a genuine concern about the economic cycle, equities should retreat from recent highs, not moving to more elevated levels. Part of the answer of this small conundrum could be reduced inflation (also related to oil prices retreating) and lower inflation expectations. Combined with the increased likelihood that the first Fed move will be an accommodative one, the macro assumptions implicitly priced into bonds and equities may differ less than initially thought.

Most analysts do not expect much movement in long term rates between now and the end of 2007. The consensus forecasts project 4.0% for November 2007 (10-year German rate). However, differences in opinion remain. Some see long term interest rates declining even further in the near term, due to lower oil prices and economies growing more slowly. Others state that temporary factors holding inflation down – increased competition, outsourcing, cheap imports from emerging markets and the ICT-stimulated decrease in unit labour costs – are now dissipating. With the withdrawal of global excess liquidity, in this scenario long term interest rates will increase down the road. According to some, the end of the ‘great bond bull market’ is near¹⁷.

¹⁷ See for instance, Joachim Fells, ‘Get ready for the end of the great bond bull market’, in Financial Times, 21 September 2006.



Risk management and funding policy

For 2007, the DSTA's borrowing requirement amounts to 41 billion euros. To regain sufficient buffer, around 23 billion euros will be funded on the money market; the call on the capital market is expected to be between 15 and 22 billion euros. Auctions in 2007 will be less frequent than before. A new 10-year benchmark bond will be launched through a Dutch Direct Auction. The on the run 3-year and 30-year bonds will be re-opened up to an outstanding amount of at least 10 billion euros.

Figure 2.1 Change in money market funding due to lower cash balance (billions of euros)

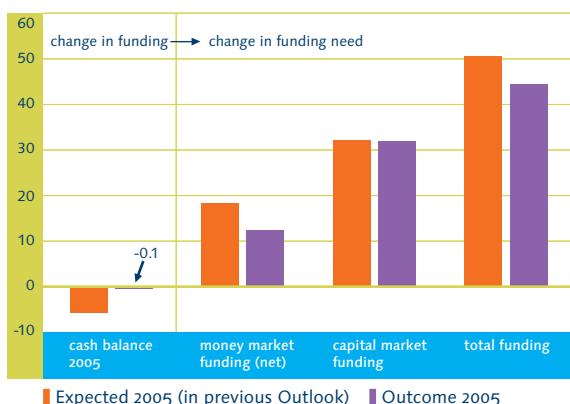
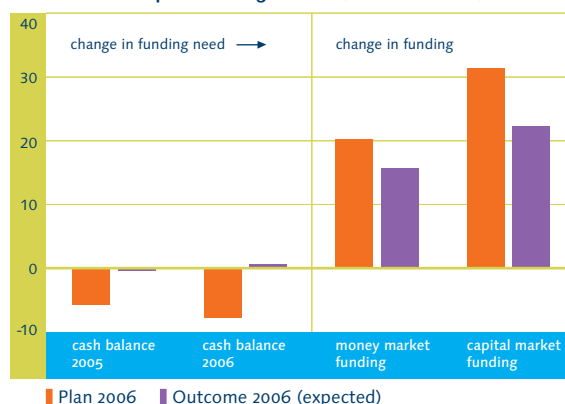


Figure 2.2 Higher cash balances in 2005 and 2006 reduce money and capital funding in 2006 (billions of euros)



2.1 Risk Management and Funding Policy in 2006¹

The last Outlook – published mid December 2005 – was based on a budgetary shortfall of 6 bln euros in 2005, amounting to a total borrowing requirement in 2005 of 50.2 bln euros. As the Dutch economy started to recover, the Dutch government budget improved at an unexpected rapid pace in the final weeks of 2005 (after the Outlook was published). The deficit came out at 0.1 bln euros, while 15 months earlier the Budget Memorandum foresaw a deficit of 12 bln euros.

DTC issuance was already completed at the end of the year, for a volume of 18.1 bln euros. Due to the higher than anticipated cash balance, money had to be lent to the money market for a total of 5.8 bln euros. As a result, the net money market volume at the end of 2005 equalled 12.3 bln euros, substantially below the originally envisaged 18.1 bln euros. This low volume is the consequence of the DSTA's standard policy which entails that unforeseen deviations in the cash balance are absorbed initially by a change in the call on the money market. Figure 2.1 illustrates the above.

A buy back program was executed on 13 December 2005, through a reverse tap auction. Without the buy back program, net lending into the money market at the end of 2005 would have been larger than 5.8 bln euros. By buying back bonds, money and capital market issues can be maintained at a certain level. In a way, the buy back program in December 2005 supported the ex ante funding plan for 2006. An amount of almost 2 bln euros in three different bonds was repurchased. The distribution was well-balanced over the July DSL-series of 2009, 2011 and 2013. As the 2013-bond showed the largest supply, a relatively larger amount was bought back in this specific bond.

The selection of bonds to be bought back was (and is) based on a number of conditions:

- The buy back must contribute to a balanced pattern of redemptions in the upcoming years; this may help to mitigate interest rate risks in certain years. Consequently, bonds redeeming in 2007 en 2008 were not included in the buy back program because in those years redemption is already relatively low.
- Bonds must maintain ample liquidity after the buyback. This means that the outstanding volume should at least be maintained at a minimum of 10 bln euros.
- Only off-the-run bonds are eligible for the buy back operation, bonds issued in 2005 were not included.

¹ The cut-off date for data in this chapter is 17 November 2006, unless otherwise specified.

Carry-over of 2005 into 2006

End of year cash lending to the money market – effectively an excess sale of securities in 2005 – carries forward to 2006. First, as a *fait accompli*, the basis amount-at-risk for 2006 – the main target variable within the Dutch State’s current framework for risk management (see box 2.1) – fell below 9%. With the benefit of hindsight, the trade-off between costs and risk turned out suboptimal.

Box 2.1 Basis amount-at-risk a measure of interest rate exposure

The main control variable within the Dutch State's current framework for risk management is – what we call – the basis amount-at-risk or the amount of interest rate (re)fixing. This is the exposure in a certain year to changes in interest rates. The basis amount-at-risk consists of debt redemptions (on both the capital and money market) plus the swap portfolio for which a new interest rate (the 6-months Euribor) is set within the year. As the budget balance falls outside the span of control of the DSTA, it is not part of the basis amount-at risk. It is important to note that the basis amount-at-risk for year *t* is determined at the end of year *t-1*. The interest-rate (re)fixing is analysed both in absolute terms and relative to GDP. Maintaining a stable amount-at-risk over time, for instance through a smooth redemption profile, ensures that the uncertainty for the budget of a possible change in interest rates is controlled. The objective of the Dutch State is to keep the amount-at-risk constant at 9% of GDP. This 9% is the maximum refunding that is agreeable with the budget risk we deem acceptable. It is also the minimum amount of refunding to be envisaged. Any amount of refunding below the 9% limit would imply longer maturities which, under the assumption of an upward sloping yield curve, would on average be too costly. The interest-rate (re)fixing in terms of GDP links risk to the capacity available to bear this risk. As tax revenues increase with GDP, the absolute interest rate risk can be larger as well, given that there are additional means to absorb a possible interest rate shock. The basis amount-at-risk is the central element scrutinized in the current reassessment of the Dutch risk management framework (as explained in chapter 3.1).

Second, cash lending at the end of 2005 also reduced the funding need in 2006. The initial funding plan for 2006 envisaged an increase in money market funding of 2.2 bln euros from 18.1 bln euros end 2005 to 20.3 bln euros end 2006². Due to a higher than anticipated cash balance in 2005, the actual money market volume at the end of 2005 amounted to 12.3 bln euros. To re-establish sufficient buffer, we decided early in the year to aim at a money market volume at end 2006 of around 18 bln euros (an increase of 5.7 bln euros instead of 2.2 bln euros). Subsequent budgetary windfalls during 2006 have lowered this volume to approximately 15 to 16 bln euros at year end.

The unexpected improvement of the cash balance at the end of 2005 – and the subsequent need to replenish money market funding – has also affected capital market funding in 2006. In 2006, borrowing on the capital market was further reduced by an improving budget. Reflecting higher economic growth and richly flowing gas revenues, the cash balance improved from an initially projected deficit of 8 bln euros to a small surplus of 254 mln euros, according to the most recent official estimate in the Autumn Memorandum. Figure 2.2 illustrates the effects on funding.

Funding in 2006

On the capital market, a new 3-year bond was introduced in January, subsequently reopened in March, April and November. As with every bond, reopenings should lift the total volume to at least 10 bln euros. Mid 2006 we foresaw the possibility that reaching this volume for the new 3-year would no longer be feasible during 2006.

² See Outlook 2006, table page 20.

We decided in September that the schedule of re-openings would be stretched out. With a total amount outstanding of 7.5 bln euros, the 3-year DSL will reach a volume of at least 10 bln euros in early 2007. In 2006 also the 30-year bond (January 2037) introduced in 2005 was reopened once. Besides, an innovative strategy referred to as the 'revival of the 2023' was initiated in 2006. Box 2.2 reflects on this years' experience with the revival of the 2023.

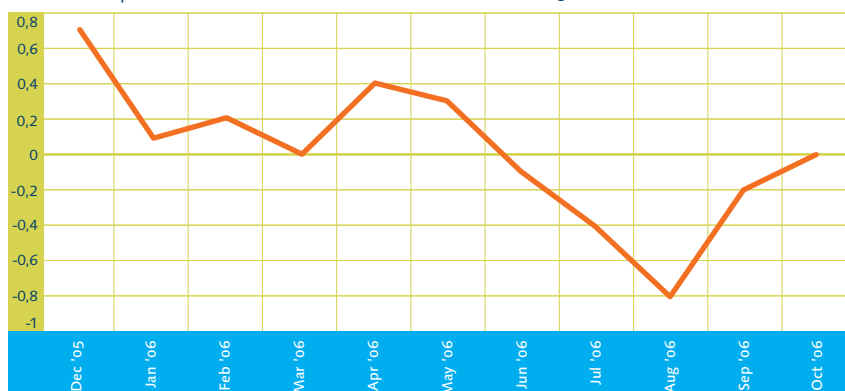
Box 2.2 Revival of the DSL 2023

The year 2006 saw the successful revival of the DSL 2023. By creating a new benchmark point between 15 and 20 years, the revival helped to build a complete and liquid curve.

The revival started with the issuance of 2.3 bln euros in a new DSL 2023. This new bond was created to be identical to the 'old' 7.5% 2023 bond, except for a market corresponding coupon of 3.75%. With this issue, a (de)strip facility was made available. Strips of the two bonds were made fungible in order to allow for arbitrage between the old and the new bond. Investors were offered the opportunity to strip the old 7.5% 2023 and reconstitute two new 3.75% 2023 bonds. To facilitate this process, the DSTA offered additional principal in March and June. The volume of the new 2023 has increased over time through conversion of the old into the new 2023 (e.g. through the additionally issued principals together with (de-)stripping). At the end of October, the outstanding volume of the new 2023 was 6 bln euros.

The results of the revival strategy are satisfying for both the market and the DSTA. A volume of more than 12 bln euros in the 2023 segment matches nicely the liquidity benchmark of at least 10 bln euros. Furthermore, the spread between the DSL 2023 and the French OAT 2021 (the benchmark of the segment) has turned around from +0.7 basis points in December 2005 to -0.8 basis points in August, before moving to zero in October 2006. This has created value for the end investor. Investors are still actively employing the (de)strip facility. It will be considered in due time whether a similar or slightly different revival strategy should at some point be set up for the 2028 bond (the 30-year bond launched in 1998).

Figure **Spread between DSL 2023 and OAT 2021**, from public announcement of the revival in December 2005 to October 2006



As in every year, in 2006, a new benchmark 10-year bond was launched via a Dutch Direct Auction (DDA). Issuance was initially planned for March or April. Taking account of the liquidity pattern throughout the year and in light of the redemption profile in 2006, it was decided to postpone the DDA to July. Three Primary Dealers – ABN Amro, Credit Suisse and Fortis – executed the role of advisor. Demand for this new benchmark bond was healthy, with a book size at the time of closure of approximately 12 bln euros. Total allocation was set at 5.1 bln euros, with 50%

distributed to real money accounts. The spread was fixed at 2 basis points over the German reference Bund. With subsequent re-openings in September and October, the volume of this loan is now slightly over 10 bln euros.

At 23.2 bln euros, the (nominal) call on the capital market in 2006 was well below the range of 28 to 35 bln euros initially indicated in December 2005. Table 2.1 gives an overview of capital market funding in 2006.

Table 2.1 Capital market funding in 2006

	DSL	Nominal amount (bln euros)	Yield
January	2.75% DSL per 15 April 2009	1.935	2.91
February	3.75% DSL per 15 January 2023	2.273	3.71
March	2.75% DSL per 15 April 2009	1.946	3.32
March	Principal 15 January 2023	1.045	3.93
April	2.75% DSL per 15 April 2009	2.005	3.45
May	4.0% DSL per 15 January 2037	1.825	4.29
June	Principal 15 January 2023	0.520	4.19
July	4.0% DSL per 15 July 2016 (DDA)	5.103	4.10
August			
September	4.0% DSL per 15 July 2016	2.187	3.85
October	4.0% DSL per 15 July 2016	2.755	3.79
November	2.75% DSL 2006 per 15 April 2009	1.625	3.69
Total		23.2	

DTC Issuance

The DTC issuance calendar in 2006 followed the usual pattern. By applying a standardised maturity composition of the DTC issuance throughout the year, the DSTA aims to obtain optimal transparency. Each quarter, two new 6-month programmes and one new 12-month programme were introduced and existing programs were re-opened so that DTCs are effectively issued in the 3-, 6- 9- and 12-month segments. DTC auctions took place twice a month on the first and the third Monday. In the year to October, the DSTA raised a total gross amount of 60 bln euros (excluding redemptions).

The outstanding DTC volume shows a seasonal effect. The volume is generally highest during the summer months. To illustrate, in July 2006, the largest-ever auction of DTCs took place when 6.1 bln euros was borrowed in the 31 October 2006 programme. This record volume can be explained by a combination of a record amount of interest payments and redemptions on July 15 (around 18 bln euros) and no neighbouring issue in the capital market. In the second half of September, with 31.8 bln euros a record volume of outstanding DTCs was registered. It is expected that the DTC-volume decreases to around 15 to 16 bln at year-end.

2.2 Issuance in 2007

Parallel to what we explained in the previous section, this years' cash balance affects the overall funding need in 2007 through its impact on the money market volume end-2006. In addition, the cash balance in 2007 – now estimated at a surplus of 1.9 bln euros – feeds directly into the overall funding need in 2007. Since developments in the cash balance are by nature volatile and uncertain, the money market provides an important buffer for changing cash balances. If cash balances improve beyond expectation, both the liquidity of the money market (DTCs) and the 9% target for the basis amount-at-risk may be in jeopardy. This demands that any funding plan needs to be flexible. The funding plan for 2007 has an increased focus on flexibility.

Table 2.2 **Estimated total borrowing requirement and funding**, billions of euros (in cash terms)

	2006	2007
Composition		
Capital market redemptions	25.9	27
Money market at year end (t-1)	12.3	15.6
Cash balance	+0.3	+1.9
Total	37.9	40.7
Funding		
Capital market	22.3	18.0
Money market	15.6	22.7
Total	37.9	40.7

Borrowing requirement

The level of capital market redemption in 2007 is 27 bln euros. The end of 2006 volume of the money market is now expected to be around 15 to 16 bln euros. Combined with a cash surplus in 2007 of 1.9 bln euros, the total borrowing requirement will be around 41 bln euros. Compared to 2006, money market funding will be raised by around 7 bln euros, to an end of year level of approximately 23 bln euros. The rise in the money market volume is relatively large in order to build up a buffer for future changes in the cash balance and to steer the basis amount-at-risk in 2008 towards 9% GDP. After taking account of the money market, the now estimated level of capital market issuance ends up at 18 bln euros (table 2.2). The target range for the call on the capital market in 2007 is 15 to 22 bln euros.

In case of budgetary windfalls later this year or in 2007, initially the money market volume will be lowered. In case of a lower than expected cash balance, capital market funding will be increased.

Issuance of Dutch State Loans in 2007

The 30-, 10- and 3-year loans have been the cornerstones of the Dutch issuance policy. It is the ambition to raise the outstanding volume of each bond to at least 10 bln euros as soon as possible, preferably within the (calendar) year of issue. This last criterion could not be met for the 3-year bond issued in 2006. For 2007, limited capital market funding only allows one full benchmark bond. No new 3-year bond will be launched in 2007.

The largest part of the capital market issuance will be covered by the issue of a new bond with a maturity of 10 years. This bond will reach an outstanding volume of at least 10 bln euros in the course of 2007. This new 10-year benchmark bond will be launched through a Dutch Direct Auction, in June or July. In the first quarter, the Dutch State will for the last time reopen the 3-year April 2009 in order to give this bond benchmark size. The DSTA will also continue issue at the long end of the curve, by re-opening twice the 30-year bond that was issued in 2005. This will take the 2037 bond – which will be an exact 30-year bond in 2007 – to more than 10 bln euros. New principals will be issued for the 2023 DSL introduced in 2006 whenever there is sufficient market demand. Due to the rather small capital market need in 2007, the number of auctions (taps and DDA) is limited to six. In principle, an auction takes place on the second Tuesday in every other month. Four out of six in-between months are labelled as reserve tap dates that may be filled in a situation of a deteriorating budgetary stance or if there is demand for 2023-principals. The issuance calendar can be found at the end of this chapter. More details on issues will be

Table 2.3 **Estimated total borrowing requirement and funding**, billions of euros (in cash terms)

	2006	2007
Capital market redemptions	25.9	27.0
Money market end of previous year	12.3	15.6
Effect of swap portfolio	4.0	7.0
Total basis amount-at-risk	42.2	49.6
GDP (projected)	529	554
Basis amount-at-risk % GDP	8% (realised)	9% (estimated)

announced through publications and press releases, such as the quarterly calendars for DSLs and DTCs.

In 2007, the Dutch State will issue Euro Commercial Paper (ECP) for the first time in its history. We plan to issue both in euros and – if beneficial from a cost perspective – in foreign currencies, possibly in US dollars and/or British pounds. On the money market, ECP will co-exist with DTCs and overnight borrowing (deposits). Chapter 3.3 explains in more detail the considerations behind issuing ECP.

Basis amount-at-risk and swaps

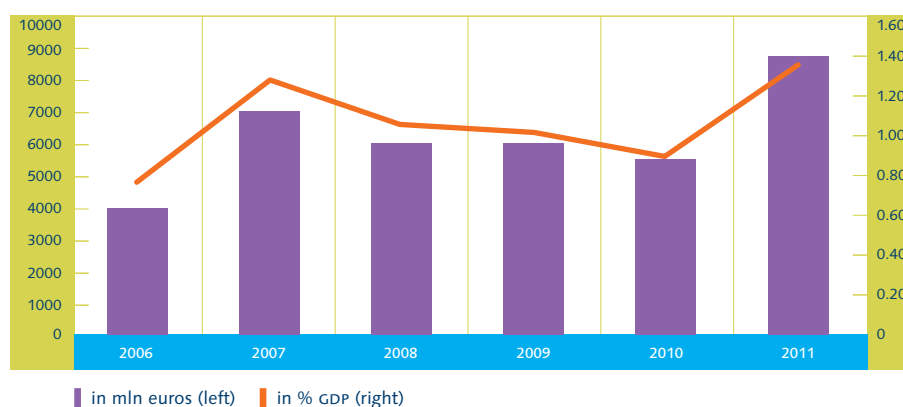
Box 1 explained that the basis amount-at-risk for next year is co-determined by the money market volume at this year end, the capital market redemptions and the interest rate swap portfolio. Table 2.3 illustrates this.

The experience of 2005 learns that whether or not the target rate of 9% GDP is reached, can depend strongly on end-of-year developments in the cash balance. To date, the targeted amount-at-risk of 9% GDP for 2007 would be exactly met. Barring substantial deviations from what is currently projected, the 9% target should remain feasible. Whether the 9% target for 2007 is met, is known only on 31 December 2006.

Interest-rate swaps are used to separate the issuance strategy from the management of interest-rate risk. Therefore, the main focus of the issuance strategy can lie with building up liquid bond series. Interest rate swaps can be used to change a bond's fixed interest rate period or to swap from fixed to floating (and vice versa). By transacting interest-rate swaps from fixed to floating interest rates, the interest-rate risk is increased (and duration is lowered) since a larger proportion of the debt is subject to current fixing of the interest rate.

In time, the Dutch State's swap portfolio has increased substantially. Table 4 in the Annex gives an overview of the redemption profile of swaps. From this overview it can be concluded that mid November, the portfolio of receiver swaps represented a notional principle value of 24.1 bln euros and that payer swaps are adding up to a notional principle value of 17.1 bln euros. The difference between the two is included in the basis amount-at-risk. Figure 2.3 represents the effect on the basis amount-at-risk of the present swap portfolio for 2006 and the next 4 years.

Figure 2.3 Effect of present swap portfolio on the basis amount-at-risk



Issuance of Dutch Treasury Certificates in 2007

Each quarter, two new 6-month programs and one new 12-month program are introduced. DTC auctions take place twice a month on the first and the third Monday. In 2007 auctions start at 11.00 hrs CET (instead of 10.30 hrs CET in 2006) and end at 11.30 hrs CET. The (provisional) calendar for the entire year is published at the end of this chapter.

The DTC calendar for 2007 has a slightly changed format from previous years, all designed to aim at, on average, larger issue sizes:

- Two programs are on offer at every auction; the DSTA decided to abolish the practice of offering three programs at every first auction of the quarter.
- After its initial launch, 12-month programs will in due time be re-opened five instead of six times.
- New 12-months programs will be on offer at the first auction of every quarter; these programs will not be re-opened at the consecutive auction as was common in previous years, but only in the second half of the quarter.

2.3 Auctioning the Dutch Way

Like the majority of sovereigns, the Dutch State uses auctions as a price discovery mechanism in the process of covering its funding need. In 2006, the overall borrowing requirement of 38 billion euros was raised by the means of approximately 34 auctions. 24 of them were scheduled for T-bills (where volumes issued are rolled over several times during the year), while bonds were auctioned 10 times in 2006. The Dutch State aims for issues to be transparent, predictable and market-based in order to create the best basis for successful auctioning. The DSTA uses three different types of auction methods, all offering participants a level playing field.

- The DTCs are auctioned on average every two weeks in a single price auction.³ Within the euro area, this way of auctioning T-bills is unique. Most countries use a multi-price auction for T-bills. Primary Dealers and Single Market Specialists, enter their yield-bids via Bloomberg. Only the DSTA has insight in the book building and decides how much it wishes to allocate at a certain cut-off yield, within a pre-announced target range. Nominal bids at an interest rate below the cut-off yield will be allotted in full. Nominal bids at an interest rate equal to the cut-off yield will be allotted either in full or in part. This type of auction avoids the

³ A survey by Bartolini and Cottarelli (1997), *Designing effective auctions for Treasury securities*, showed that out of 42 countries 40 did not have a single price auction. The U.S. switched to this system in 1998 as advocated by Merton Miller and Noble Prize winner Milton Friedman.

winner's curse⁴. Because the DSTA communicates the allocated amounts directly after the auction, uncertainty about the allocation is extremely limited. This auction is internationally known as a 'Dutch auction', because of the uniform price.⁵

- For large initial issues of new longer dated benchmark bonds, the DSTA uses a technique called DDA. The Dutch Direct Auction was introduced in 2003 to reach the end investor in a direct way. Furthermore it enables the DSTA to issue a liquid amount in a new bond at once. The DDA is a rules based system that carries elements from both a syndicate and a Dutch auction. Having no winner's curse owing to the single price is a Dutch auction aspect. The book building process, the fact that the DSTA prioritizes some accounts above others and the fact that the DSTA has Primary Advisors, are elements from a syndicate. End investors can enter their bids via the 13 Primary Dealers. At the cut-off price, real money investors, such as central banks and pension funds, receive priority over other accounts, such as hedge funds and other trading desks. The new issue is priced over a benchmark bond, such as the German Bund. For pricing purposes, a spread range is indicated prior to the auction. The range can be updated during the auction, whenever this is warranted by changes in demand or market circumstances. Allocation is based solely on the prices offered, whereas at the cut-off price, real money investors receive priority.
- All DSLs are reopened by means of TAP-auctions. TAP-auctions are also used for initial openings of short-dated bonds, for instance for a new 3-year bond. The DSTA enters a price in the MTS-screen. The DSTA can and will adjust the price depending on market conditions. Primary dealers can hit the price if they think it is attractive. A trade is then made instantly. Once the DSTA reaches the desired amount (specified before the auction through a target range) the auction is closed. In contrast to a Dutch Auction, this is a multiple price auction. The benefit of the TAP-method for participants is that they know immediately which amount they have bought, for which price, so that they can hedge the interest rate risk immediately.

To conclude

In general and as was pointed out in several theoretical papers, there is no optimal auction strategy⁶. Statistically, there are no differences between the different auction methods. Still, we feel that one auction method is marginally better than others, taking into account the specifics of the product and market circumstances. Therefore, the DSTA uses three different types of auctions, each of them judged the most suitable for the type and amount of securities it would like to sell. The DSTA is constantly working to improve and smooth its auctioning methods and processes.

4 The winner's curse applies if the highest bidders in an auction end up paying their bid price, which lies above the real value of the asset, and is more than others pay.

5 Historically, a Dutch Auction is described as an auction in which the auctioneer starts with an extremely high price and then cuts the price until it gets hit; which makes it a single price auction. This way of auctioning is commonplace in the famous Dutch flower auctions. Its origins are to be found in the 17th century Tulip auctions. However, the history of auctions traces back even further. Herodotus is said to have written that in Babylonia around 500 B.C. men were bidding for women to become their wives. By the way: this auction was not a Dutch auction, but a British one... See: Maasland and Onderstal (2006), Going, Going, Gone! A swift tour of auction theory and its applications, in: De Economist 154, No 2.

6 See for example: Klemperer (2000), Why every economist should learn some auction theory.

2.4 Developments in primary and secondary markets

The DSTA is committed to maximum transparency in primary transactions. One of its essential responsibilities is to provide reliable information on its strategy and borrowing requirements and to disclose that information in a fair and transparent way. The DSTA firmly believes that transparency and continuity have a favourable impact on borrowing costs.

The DSTA periodically evaluates the performance of Primary Dealers and Single Market Specialists on the primary markets. Performance is primarily based on the volumes of securities purchased at the auctions. The top five most active participants in the DSL and DTC primary markets are ranked below.

Top 5 Primary Dealers for DSLs based on primary issuance, January - 17 November 2006
Fortis
ING
Société Générale
ABN Amro
Credit Suisse

Top 5 Primary Dealers and Single Market Specialists for DTCs based on primary issuance, January - 17 November 2006
ING
ABN Amro
Société Générale
Royal Bank of Scotland
Credit Suisse

The DSTA recognises as well the importance of properly functioning secondary markets, also from an investor perspective. However, in the secondary markets, the State can only be a facilitator. It can, for example, support these markets through the commitment of bringing the outstanding volume of new bonds to at least 10 billion euros and by issuing bonds with appealing maturities. The DSTA also promotes price discovery through the inter-dealer commitments. Primary Dealers have the possibility to use the repo facility to obtain from the DSTA DSLs and DTCs that have not yet reached an outstanding volume of 10 billion euros. Primary Dealers pay a premium of 25 basis points for this ‘lender of last resort’-facility.

Facts on secondary markets

Included in the obligations of the Primary Dealers and Single Market Specialists (see next section) is the monthly provision of information on traded volumes of Dutch securities in the secondary market. In 2006 an EU-harmonized reporting format was introduced, enabling all banks to report to debt managers in the euro area countries in a uniform manner. The aim of this project was to decrease the administrative burden. So far, the new format has proven useful for all parties involved. A number of facts can be observed from these reports.

DSLs

During the first nine months of 2006, the most active participants in the secondary DSL market were funds (including fund managers, pension funds and hedge funds), inter-dealer brokers and banks (see figure 2.4). Contrary to what was previously in place, the new reporting format allows a distinction between two types of bank activities. First, inter-dealer trades (Business to Business); these are ‘non-sales person assisted trades’, either on their own account, with other PDs or with other banks. Second, customer bank activities (Business to Consumer); these are ‘sales person assisted trades’, with either a connected entity or trades with other banks⁷.

⁷ The different client types and subcategories within client types are explained by the European Commission on its website. See http://ec.europa.eu/economy_finance/efc/efc_reports_en.htm.

Figure 2.4 Client type distribution in the secondary market for DSLs, January-September 2006

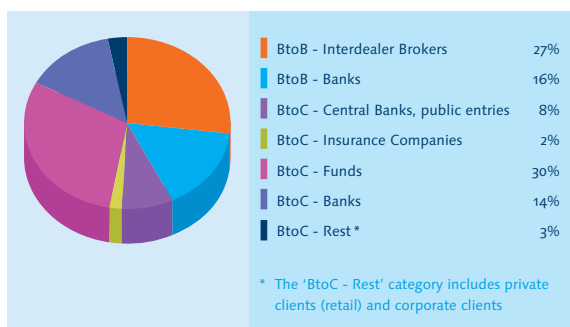


Figure 2.5 Share of secondary DSL trading by client type

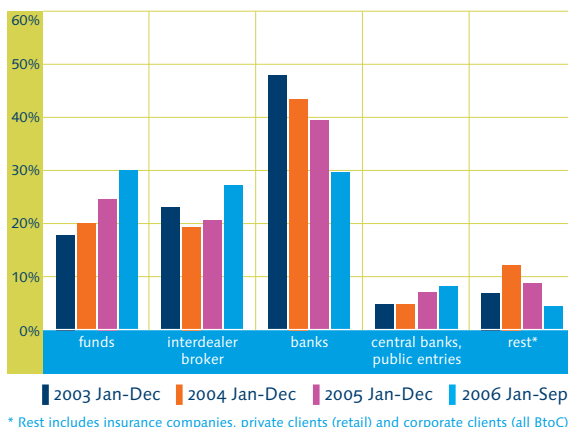


Figure 2.6 Distribution DSLs per client type, overall and with respect to maturity over 15 years

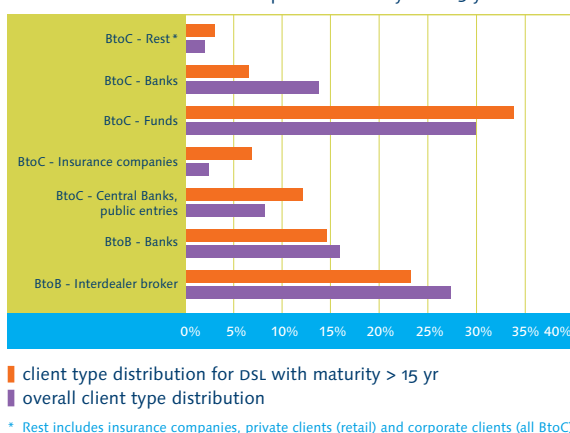
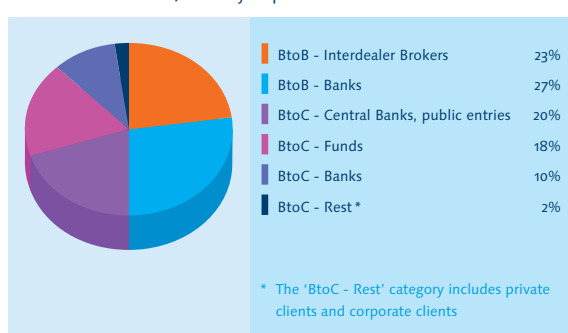


Figure 2.7 Client type distribution in the secondary market for DTCS, January-September 2006



The reports indicate that the banks' total share (BtoB and BtoC) in secondary market trading decreased from 48% in 2003 to 30% currently⁸. The position of funds in the real money category has grown substantially in recent years from just 18% in 2003 to a share of 30% in 2006 (see figure 2.5).

The category 'fund manager' (among which are investment funds) is responsible for four fifths of the 30% share of funds in 2006. The rise in the share of funds may in part be attributed to the rising demand from pension funds for long-term fixed-income securities. Based on the now available data, secondary market trade seems to move gradually towards end investors. This especially applies to longer dated DSLs in which funds and insurance companies are traditionally more interested (see figure 2.6).

DTCS

In the secondary market for DTCS, the trade reports show that the largest volumes during the first nine months of 2006 were traded by banks and inter-dealer brokers, followed closely by central banks (also including other public entities) and funds (see figure 2.7). The share held by funds in the secondary DTCS market is notably smaller than in the secondary DSL market, since pension funds focus mainly on the long end.

⁸ In previous years no distinction could be made between the two different bank type activities.

Here too, however, the funds' share increased significantly from 13% in 2005 to 20% currently. The role of inter-dealer brokers in the secondary market for DTCs increased from a mere 6% in 2003 to 23% in 2006; this category of investors has witnessed by far the largest relative increase in its share.

Geographical segments

Geographically speaking, the distributions in both the secondary DSL market and the secondary DTC market for the first nine months of 2006 show that 40% of the trades take place in the United Kingdom. This can be explained largely by the fact that many banks and inter-dealer brokers trade out of London. Other geographical regions with high trading activity in Dutch securities are the Netherlands (18%) and the euro area in general (48% in total). Relative to previous years, trading in DTCs outside Europe (in e.g. the United States and Asia) has risen from 7% in 2003, to 10% in 2005, and to as much as 15% currently. In general, trading in DTCs is more concentrated outside the euro area than trading in DSLs.

2.5 Primary Dealers and Single Market Specialists in 2007

Since 1999, Primary Dealers promote and distribute DSLs and DTCs and participate in auctions. DSLs are sold to Primary Dealers through tap auctions. In the case of landmark new issues bonds are sold directly to end investors via the Dutch Direct Auction, with Primary Dealers serving as an intermediary (see previous section). DTCs are distributed to both Primary Dealers and Single Market Specialists via regular single-price (Dutch) auctions.

Being a Primary Dealer to the Dutch State entails both rights and obligations. Primary Dealers have the exclusive right to buy DSLs from the DSTA. Furthermore, they can conclude swaps with the State and are entitled to use the repo and strip facilities. For their efforts, Primary Dealers receive compensation, the size of which depends on both the volumes acquired on the primary market and the volumes traded on AMS; the Amsterdam MTS System. This compensation takes the form of a non-competitive bid, i.e. the right to buy additional bonds up to 3 days after the auction, at the weighted average price of the auction. Compensation in the DDA takes the form of fees, the size of which depends on the amount of a DSL a Primary Dealer is able to place with end investors.

In return, Primary Dealers promote the liquidity in the secondary market and quote two-way tradable prices on a designated electronic platform. These prices are available to market participants at reasonable costs. A transparent mid-price for end investors is fixed each day at 11:00 hrs CET. The designated platform is AMS (see below).

The Amsterdam MTS System (AMS) is an electronic platform for interdealer trading in DSLs and DTCs. AMS is a joint venture of MTS SpA (30%), the DSTA (5%) and our 13 Primary Dealers (5% each). Last year, Euronext and Borsa Italiana together acquired a 51% stake in MTS SpA. MTS SpA is in the process of developing plans to acquire the remaining shares of local MTS platforms, such as AMS. This could transform the present complex web of shared-ownership companies into a more simple structure, also from a primary dealer perspective. As the MTS market-maker system for European government bonds is now well-established, the DSTA has indicated its willingness to sell its stake in AMS. Crucial is that any 'designated platform' for Dutch bonds and bills must meet certain minimum requirements that secure a transparent, liquid secondary market for both DSLs and DTCs.

Primary Dealers are selected on the basis of a business plan, which they submit annually. Their selection is valid for the next calendar year. The DSTA is proud to present its list of Primary Dealers for 2007. There is one newcomer in the group: after a successful period as a Single Market Specialist for DTCs, the Royal Bank of Scotland was selected Primary Dealer for the year 2007.

In addition to the present group of 13 Primary Dealers, 7 Single Market Specialists support the DSTA on the promotion and distribution of DTCs and contribute to the process of price discovery. Like Primary Dealers, Single Market Specialists have the right to participate in DTC auctions. They are also obliged to report to the Dutch State, using the harmonized procedure mentioned in the previous section.

Primary Dealers for 2007 in alphabetical order
ABN Amro
Barclays Capital
BNP Paribas
Calyon
Citigroup
Credit Suisse
Deutsche Bank
Dresdner Bank
Fortis Bank
HSBC France
ING
Royal Bank of Scotland
Société Générale

Single Market Specialists for 2007 in alphabetical order
CDC IXIS CIB
Dexia Bank
Goldman Sachs
JP Morgan Chase
KBC Bank
Morgan Stanley
Rabobank

DSL Calendar 2007				
Month of issue	Announcement (Wednesday)	Issue (2nd Tuesday)	Payment (Friday)	DSL
January	3	9	12	30-year 2037
February	No issuance			
March	7	13	16	3-year April 2009
April	4	10	13	Reserve tap
May	2	8	11	
June	DDA 10-year			
July				
August	No issuance			
September	5	11	14	
October	3	9	12	Reserve tap
November	7	13	16	
December	5	11	14	Reserve tap

DTC Calendar 2007					
Date auction	Date settlement	DTC 3-month	DTC 6-month	DTC 9-month	DTC 12-month
02-01-07*	04-01-07	30-03-07			19-12-07
15-01-07	17-01-07	30-04-07		28-09-07	
05-02-07	07-02-07	30-04-07	31-07-07		
19-02-07	21-02-07	31-05-07			19-12-07
05-03-07	07-03-07	31-05-07	31-08-07		
19-03-07	21-03-07	29-06-07	28-09-07		
02-04-07	04-04-07	29-06-07			31-03-08
16-04-07	18-04-07	31-07-07		19-12-07	
08-05-07*	10-05-07	31-07-07	31-10-07		
21-05-07	23-05-07	31-08-07			31-03-08
04-06-07	06-06-07	31-08-07	30-11-07		
18-06-07	20-06-07	28-09-07	19-12-07		
02-07-07	04-07-07	28-09-07			30-06-08
16-07-07	18-07-07	31-10-07		31-03-08	
06-08-07	08-08-07	31-10-07	31-01-08		
20-08-07	22-08-07	30-11-07			30-06-08
03-09-07	05-09-07	30-11-07	29-02-08		
17-09-07	19-09-07	19-12-07	31-03-08		
01-10-07	03-10-07	19-12-07			30-09-08
15-10-07	17-10-07	31-01-08		30-06-08	
05-11-07	07-11-07	31-01-08	30-04-08		
19-11-07	21-11-07	29-02-08			30-09-08
03-12-07	05-12-07	29-02-08	30-05-08		
17-12-07	19-12-07	31-03-08	30-06-08		

New programs are shaded
* Tuesday



Research and new developments



The evaluation of the DSTA's current risk management framework will be finalized in early 2007. So far, the reassessment has focused on the functionality of our current framework. In this chapter we also explore how policies, strategies and instruments required in times of surpluses may differ from those in times of deficits. In 2007, the DSTA starts issuing Commercial Paper. Commercial Paper will add flexibility and will help to reduce credit risk. We will issue Commercial Paper in euros and – if efficient – foreign currencies, all in maturities below 3 months.

3.1 Assessment of the risk management framework

The DSTA is currently evaluating its risk management framework. An evaluation and possible adjustment of the framework takes place roughly every four years. After endorsement of the debt management strategy by the Minister of Finance, the new framework will apply from 2008 onward.

The current risk management framework is strictly concerned with the interest rate costs to the budget and the risk of fluctuations in those costs (see box 2.1 on the basis amount-at-risk). Underlying the framework is the assumption that the yield curve, on average, is upward sloping. By limiting the amount of annual refunding of the existing debt, the resulting exposure (risk) of the budget to changes in the interest rate will be limited as well. We define risk as the maximum cost for the budget that will be incurred – with 95% certainty – should the highest interest rate scenario materialize (see below on yield curve dynamics). In the cost-risk tradeoff, the upper limit for risk always coincides with the lower limit for costs. Refunding less than is acceptable in terms of risk would be too costly.

Strictly speaking, the annual refunding target is merely a disciplinary measure. As such, it says little about the composition of the portfolio. With the use of swaps, the risk target should be straightforward to meet each year. Complications arise when unforeseen changes in the outstanding volume in the money market occur (e.g. from revised budget projections), especially when large changes happen so late in the year that it is practically impossible to fix their effect on the amount-at-risk.

In our work so far, the reassessment has focused mainly on the functionality of the current framework and the treatment of risk management in the (empirical) literature. The DSTA also took a closer look at the recent flattening of the yield curve.

Functionality of the current framework

The most attractive feature of the current framework is that it balances the amount-at-risk with the capacity available in the budget to bear this risk. This can be attributed to the linkage of the amount-at-risk to GDP, combined with the fact that budget revenues and expenditures move with GDP as well. The framework then implies that, as long as the debt-to-GDP ratio is unchanged and consequently the funding strategy is left unchanged, risk relative to the budget is constant. If the debt to GDP ratio falls because the budget improves, the 9% target entails that a larger portion of the debt is refunded. This involves additional risk to the budget, but given the improved budgetary position, there is capacity available to bear this risk.

While safeguarding the budget against excessive risk, the framework leaves ample room to meet other objectives (preconditions) such as a complete curve and liquid benchmark bonds. These in turn have served the efficiency objective of funding the debt. Completeness, continuity and transparency are valued by market participants and, as such, are reflected in the price. The flipside of this ‘loose fit’ is that the framework in itself (particularly when use is also made of swaps) gives little guidance when it comes to establishing the debt portfolio. Choices made in the past on the type of bonds to be issued (mainly 3 and 10 year), in a way completes the framework. This specification ensures that no extreme outcomes are obtained in the combination of cost and risk (very high cost with little risk, or vice versa). In addition, given that a portfolio is in place, it is possible to assess the value added of a new instrument from its relative performance in terms of cost and risk.¹

¹ An analysis of this type was performed when the DSTA investigated the added value for the debt portfolio of index linked bonds. It was found that in terms of their cost-risk tradeoff, the instrument was inferior to the instruments already represented in the portfolio.

There are, of course, also properties that suggest room for improvement. By focusing on the basis amount-at-risk, the intention was to shield the framework from short term volatility in the cash balance. The reasoning behind it was that anything outside the span of control of the DSTA should not be part of its target variable. In practice, the viability of the 9% target is relatively sensitive to fluctuations in the budget balance, although much of this sensitivity can be absorbed by the use of swaps.

Another element worth investigating is the movement over time of the interest cost versus the primary balance. Viewed over time, the current framework clearly puts the emphasis on the capacity to bear risk. This capacity is largest when the budget balance improves. In this situation, the framework will result in larger refinancing relative to the amount of debt. This is equivalent to shorter term and therefore higher risk financing. Shorter term financing will lead to (on average) cheaper funding. Whether or not the migration to the shorter end of the curve will in fact lead to cheaper funding in the short run depends on the impact that the business cycle has on short term rates. It also matters at which interest rate level the maturing debt was funded. It is clear that cheaper funding would work in an anti-cyclical fashion, as reduced (interest rate) expenditures would coincide with a booming economy. But, as reduced expenditures would add to the already improving budget balance, the framework is difficult to match with any form of budget stabilization.

To conclude our preliminary thoughts on the functionality, the 9% target indicates a particular cost-risk preference for a given level of debt and GDP. Keeping with the 9%-target implies that the cost-risk combination will automatically change when the environment changes (a flatter yield curve, declining debt, etc). This would make the 9% target inconsistent over time with respect to a selected preference in terms of cost and risk. However, it displays consistency regarding the 'real' burden of the risk to the budget. It is ultimately a matter of choice where to put the emphasis when it comes to managing the budget risk of debt funding.

Literature and practice

As part of the reassessment, research was done into the treatment of risk management in the literature and risk management strategies applied by our peers. It was found that, in theory, debt management strategies can be divided into three types; I) debt management with a focus on cost minimization subject to an acceptable risk to the budget, II) debt management designed to contribute to budget stabilization², and III) debt management in the context of asset and liability management (ALM). In practice, debt managers focus on the first type, employing targets such as duration and cost-at-risk. The categories of budget stabilization and ALM are often considered too complex and too uncertain to take as a point of departure for debt management. The ALM approach suffers from a lack of well defined assets and liabilities (other than debt) of a government institution. The usefulness of budget stabilization stands or falls with the predictability of movements in the primary balance in reaction to economic shocks and with the innate impossibility to predict the nature and timing of these shocks. This notwithstanding, qualitative arguments from both disciplines are looked into to further refine the DSTA's debt management.

2 In the literature, budget stabilization is mostly referred to as 'tax smoothing'. See for instance, Barro (1999), Notes on Optimal debt management, in: *Journal of Applied Economics*, No.2, pp 281-289

Yield curve dynamics

Finally, the DSTA took a closer look at recent yield curve dynamics (box 3.1). Research into the yield curve will serve to substantiate the interest rate scenario's the DSTA typically analyzes as part of its study of risk management. Many qualitative arguments have been put forward to explain the flattening of the yield curve in recent years. Empirically, it is much less straightforward to explain the apparent change in yield curve dynamics. Our study finds that there may be some argumentation in the less volatile behavior of both inflation and output growth that would challenge the traditional transmission mechanism from short to longer term yields.

Box 3.1 Yield curve dynamics

Relatively stable and low long term interest rates in an environment of monetary tightening resulted in a flattening of the yield curve, referred to as a 'conundrum' by Alan Greenspan. As the assumption of an upward sloping yield curve is one of the cornerstones of the DSTA's risk management framework, we have carried out a literature and empirical study on (changes in) yield curve dynamics.

The academic literature points to several factors that influence the level and slope of the yield curve over time. These factors can be traced back to the components of nominal yields: inflation, inflation expectations, inflation risk premia, real rates, and real rate volatility.

First, with inflation also inflation expectations have decreased over time due to increased credibility of central banks. Credibility has increased as a result of greater independence, a stronger commitment toward price stability and a shift toward more transparency. Reduced inflation and inflation expectations can also be attributed to the process of privatization and deregulation of certain economic sectors (such as telecoms). Also the increase of world trade flows and reduction of trade barriers (globalisation) stimulated international competition, innovation and a more efficient allocation of production processes, resulting in lower cost of production and thus lower prices. As a result, inflation expectations seem better anchored at low levels. There is ample evidence that volatility of inflation rates has decreased, lowering the risk premium demanded by investors. Hence, the inflation risk premium has decreased over time.

Real rates seem to have fallen as well in recent times. A first factor to explain lower real rates is the so-called saving glut. Global savings of emerging markets and oil producing countries have outpaced investment rates. A lot of these 'excess savings' are invested in Western government bonds. In addition, new pension regulations could have led to an increasing demand for long-term fixed income securities, also depressing long term real yields.

Real volatility has decreased in the last decades. Better inventory control, better use of information technology, the increased stake of the services sector in GDP, and improved fiscal policies could all have contributed to decreased uncertainty, lowering the real risk premium in rates.

The above factors suggest that both reduced long term yields and reduced volatility have contributed to a flattening of the yield curve. Empirical tests confirm the presence of a number of structural breaks in yield curve dynamics over the past 34 years centred on major events such as the fall of Bretton Woods, two oil crises and sudden shifts in monetary policy (towards more anti-inflationary policies). More recently, the reunification of Germany and the signing of the Maastricht treaty seem to have changed the relationship between short and long term rates. The most recent evidence of a break lies at the end of 2003, which could have been caused by 'excess' savings, pension regulation and lower risk premia. The major factor underlying this last break is a reduction in long-term rates rather than an increase in short term rates (as was common in the past).

Empirical analysis has confirmed that output and inflation rates contributed to yield curve dynamics and yield spread (i.c. difference between 10-year and 1-month yield) in Europe. Higher than average inflation and output rates result in small and possibly negative yield spreads, whereas lower than average inflation rate and output growth lead to positive yield spreads. Furthermore, the variance of both the inflation and output has decreased remarkably since the second half of the 1990s, which could have contributed to lower risk premia and therefore a smaller spread between long and short term interest rates.

As additional input to this research, the DSTA has asked its primary dealers to provide a view on the yield curve. The challenge will lie in taking a wide enough range to include (with considerable certainty) all future interest rate scenarios, while maintaining a meaningful basis on which to build a risk management strategy.

To conclude

The assessment of the present framework with possible implications for the subsequent risk management strategy will be completed early next year. The proposed strategy will need to be endorsed by the Minister of Finance. Without anticipating final decision making, the DSTA is leaning toward maintaining a framework of cost minimization subject to an acceptable risk to the budget. A cost minimization approach says nothing on whether the 9% target will remain in place, nor does it imply anything on the perceived virtue of the fixation of the amount-at-risk in terms of GDP. The ALM approach is conceptually appealing, particularly in relation to maintaining sustainable public finances in view of ageing. In practice, the Dutch State would run into the same problems as our peers, rendering it largely impossible to satisfactorily employ ALM. The DSTA will attempt to analyze whether there is a possible role for debt financing in attaining desirable budget outcomes (e.g. stabilization).

3.2 The Constant Challenge of Changing Budget Balances and Surpluses

The previous chapter already hinted at the challenge for debt managers of changes in expected cash balances. In addition to unexpected improvements in cash balances, it cannot be excluded that cash surpluses will in the foreseeable future be more likely than deficits. The question on how to cope with surpluses and declining debt levels has gained renewed importance in light of the plausible solutions to deal with ageing populations. This paragraph explores how a debt manager can deal with budget improvements and – in particular – surpluses, rather than deteriorations and deficits. The reason is simple. With shrinking debt to GDP levels, temporary deteriorating government finances can be fairly easily accommodated by debt managers whereas improvements in the budgetary outlook are much harder to cope with, as we will explain later on³.

Dealing with changing budget balances

In a climate of rapidly changing economic circumstances, estimates for the cash balance tend to be volatile. This holds in particular for the Netherlands, considering its relatively high budget sensitivity⁴. Funding policy needs to be as flexible as possible. There are several ways to secure this. In the Dutch debt management framework, it is a well-known principle that an unexpected change (improvement) in

³ According to the OECD thus far, 'there are no clear indications that budget surpluses have reduced significantly the workload of the various debt management units'.

⁴ Calculations by the OECD and the European Commission show that (based on 2005 data) the budget sensitivity in the Netherlands equals 0.55. The budget sensitivity – representing the change in the budget balance/GDP ratio associated with a unit change in the output gap – is the highest among euro area countries. See, European Commission, Public Finances in EMU 2006 (part II, chapter 4.4).

the cash balance will be absorbed first by a lower call on the money market and only secondly by reducing capital market funding. As illustrated before, results in one year carry over to the subsequent year.

The call on the money market provides important funding flexibility (a safety valve). Changes in the cash balance also affect the risk management target. Whenever funding in the money market falls below expected levels, both average maturity and duration of the debt portfolio increase. At the same time, the basis amount-at-risk is reduced, possibly below the target level of 9% of GDP. This would indicate that the desired trade-off between cost and risk is becoming suboptimal. Interest rate swaps can be instrumental in achieving the risk management target. Indeed, interest rate swaps have become more important in achieving the risk management goal entailing a specific combination of cost and risk⁵.

Dealing with budget surpluses

In general, funding policy and the risk management framework take no account of the sign of the cash balance (deficit or surplus). However, policies, strategies and instruments required in an environment of surpluses may differ from those in times of deficits.

Surpluses – especially if they are large and continue for a longer term – could create tensions with the objectives to maintain liquid benchmarks, to cover the entire yield curve, and to engage in regular issuance of benchmark bonds. If debt declines, it may no longer be feasible or efficient to uphold all of these objectives; the degrees of freedom are more limited.

In times of budget surpluses, the room to issue new benchmark bonds is limited; it is possible that issuance in certain maturities needs to be cancelled all together. At the same time, frequency and/or volume of auctions and taps will have to be reduced. The DSTA considers the 10-year bond as the single most important benchmark. Depending on the specific borrowing need in a particular year, it may take longer for a particular bond to reach the benchmark volume of at least 10 billion euros, as we have already seen with the on-the-run 3-year bond. Another option to accommodate a more limited borrowing requirement could be to revive existing bonds that already meet the liquidity requirement (the revival of the 2023 is a specific example here). It could be an option to re-open a bond with a remaining maturity that matches a benchmark maturity, i.e. 25, 20, 15, 10, 5 or 3 years, instead of issuing new benchmarks. Such a strategy may help to revive certain points on the yield curve while further improving liquidity and smoothing the redemption profile. Also buybacks can be instrumental in upholding debt management objectives.

Debt Buyback

In response to a rapidly improving cash balance, the DSTA engaged in a debt buy back program in December 2005 (see chapter 2). Buying back debt before maturity gains even more relevance in times of surpluses. As a debt buyback restructures the existing debt portfolio, it facilitates the issue of new, more liquid debt without increasing the total outstanding debt. The DSTA has executed debt buybacks in a number of ways, five in total.

⁵ In a number of countries, the use of interest rate swaps already got a push from budgetary surpluses and the related reduction of debt in the second half of the 1990's. Swaps allow for a distinction between the objectives of optimal risk management and liquidity-building.

- Reverse auction; on the basis of bids posed by investors the (reverse) issuer determines the (uniform) cut-off-price.
- Reverse tap; same as a reverse auction, but based on prices determined by the issuer (non-uniform price). This was the method followed by the DSTA in December 2005.
- Switch auction; on the basis of bids posed by the investor the issuer determines the (uniform) cut-off-price.
- Debt exchange; offers investors the opportunity to exchange one bond for another in a price-ratio set by the issuer. The 2023 strip/destrip facility launched in 2006 is an example.
- Open window repurchase; gives investors the opportunity to offer debt to the issuer based on market prices. The DSTA offers an open window repurchase facility for a number of illiquid bonds.

New instruments or innovations in existing instruments to keep bonds and bills as attractive as possible are less needed in a situation of surpluses. To secure liquidity of existing benchmark bonds, the room for new instruments is likely to be limited. In this case, choices will need to be made and only when a new, better – for instance more flexible – instrument replaces an existing one, there may be benefits involved.

Lending to financial markets (i.c. acquiring financial assets)

Some countries that have experienced extended periods of surpluses have decided to maintain debt while at the same time acquiring assets. To keep alive an active market for government debt combined with a build-up of financial assets results – possibly – in lower net interest rate costs. Supporting the market for government bonds is often justified based on public good arguments (see box 3.2). This would be the case if prices of other (private) debt instrument are based on those for government debt as the risk-free benchmark or when the existence of government debt promotes the further development of domestic money and capital markets (mainly important for countries with underdeveloped financial markets). Investor demand for ‘risk free’ assets may be another reason to continue borrowing. Furthermore, as there is a fair chance that budget deficits may arise again in the (near) future, it may be too expensive or inconvenient to resurrect the market in due time.

Box 3.2 Two general policy issues concerning the role of government debt in financial markets

There are ongoing debates regarding the benefits and costs of fully paying off national debt. First, given the possibility that deficits might return in the foreseeable future, there could be a case for maintaining the government debt market infrastructure; this would avoid the need to re-build the government bond market infrastructure over the next several decades and could therefore minimise future cost of borrowing. Even if net debt would drop to zero, governments could continue to nurture smaller but liquid debt markets by investing government surpluses in private financial assets (domestic or foreign).

Second, opinions diverge on whether private debt can fulfil all the functions of public debt. Some argue that high quality corporate securities or government-sponsored instruments may not be able to achieve the same status as government debt and can thus not act as a substitute benchmark for this risk-free rate. This may negatively affect the pricing of private assets and negatively affect the development of corporate securities markets. Others think that certain classes of high-grade corporate debt could well serve as a substitute for public debt. Swap curves – albeit not risk-free – could offer benchmarks for pricing purposes.

Source: OECD (2002), *Debt Management and Government Securities Markets in the 21st Century*.

Concluding

The Dutch State has seen both periods of deficits and budget deterioration as well as periods of budget windfalls and surpluses. The forecast for 2007 is a surplus. As such episodes do in fact occur, the DSTA will continue to look into ways to deal with an environment of declining debt. For example, it could be explored how the technique of debt buybacks can be further improved or how reopenings of existing loans may give some flexibility in the issuance strategy.

3.3 New Financial Instrument: Commercial Paper

Funding on the money market currently takes place through the issue of DTCs with (remaining) maturities of 3 to 12 months and deposits (for shorter-term funding needs). These are good instruments for meeting money market funding needs. However, for an optimal regulation of the daily cash balance, the set of instruments is in need of improvement. As the maturity of DTCs is rather long, large short-term fluctuations in the cash balances can not be easily accommodated through DTCs. Unexpected windfalls necessitate large scale lending to the money market (entailing credit risk), while short lived (transient) deficits must be funded through relatively expensive deposits. Our cash management could become more efficient with an instrument for shorter maturities (below 3 months) that is cheaper than deposits. By issuing (Euro) Commercial Paper (CP) a cost advantage can be achieved (compared to deposits), while credit risk can be mitigated by better adapting money market funding to the daily fluctuations in the cash balance. In short: CP provides added value to DTCs in making cash management more flexible, allowing for greater fine tuning.

With this additional money market instrument, the benefits of DTCs – predictability, transparency, and liquidity – can be combined with the most important quality of CP, which is flexibility. It provides flexibility in maturity, as well as in issue moment (no pre-announced schedule), currency and size.

The DSTA will start with the issue of CP in the first half of 2007. ING is advising the DSTA on the details of a CP program. We aim to issue both in euro and in foreign currencies if beneficial from a cost perspective, most likely US dollars and British pound. Issuing in foreign currencies may not only lower costs, we also expect to target new groups of investors. The currency risk for the budget is hedged through currency swaps. Issues will take place in maturities ranging from 1 week to 3 months; deposits remain the most efficient solution for very short financing needs (on average below 1 week). From a cost perspective the market for DTCs remains the DSTA's main instrument on the money market.

How the issue of CP fits money market funding, is illustrated graphically by figures 3.1, 3.2 and 3.3. Note that the sizes of the different instruments are chosen for illustrative purposes only; they do by no means reflect actual sizes we expect or aim at. Figure 3.1 gives the money market funding need (in euros, vertical axis) – that is, after allowing for capital market funding – during a specific period (in days, horizontal). Figures 3.2 and 3.3 give actual money market funding without CP (3.2) and with CP (3.3).

Figure 3.1 Money market funding need (after DSL issuance)



Figure 3.2 Present situation (DTCs and deposits)



The shaded rectangle in figure 3.2 (i.e. the present situation) indicates DTC funding. Lending into the money market is a result of 'excess' DTC funding. Note that the volume of DTC funding is flexible: a higher volume of DTCs would lower deposits, but would increase lending and therefore credit risk (and vice versa).

Figure 3.3 New situation (with CP)

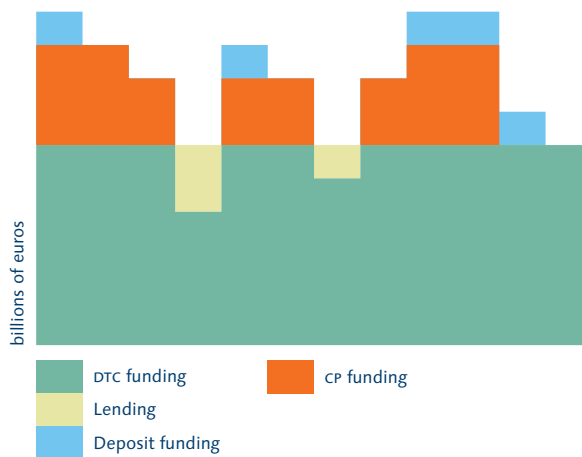


Figure 3.3 displays the new situation in which CP is available. The issue of DTC is more limited than before. With the use of CP, greater fine tuning diminishes the reliance on deposits and reduces the need to lend into money market.

As a result of the issue of CP, the DSTA saves on credit risk. The extent in which costs savings are realised depends not only on the price difference between DTCs and CP on the one hand and between CP and deposits on the other, but also on the volumes at which DTCs and deposits, respectively, are exchanged for CP.

Note that lending and deposits could in theory be reduced to zero by carefully planning the issue of CP and downsizing DTCs. The graphical analysis presumes perfect knowledge. Unexpected changes in the cash balance (and thus in the money market funding need) would necessitate either increased deposits (more CP issue, if possible) or more lending (smaller CP issue, if possible). In other words: the analysis is ex ante, not ex post.

To conclude: with CP, a more accurate choice can be made in the trade-off between costs and risk. While CP is probably more expensive than DTCs due to a liquidity premium, the use of CP reduces the exposure to credit risk as the possibilities for the fine tuning of cash management increase. Limiting exposure to credit risk is particularly relevant in an environment of budgetary windfalls. A tri-party repo is another instrument that can help to mitigate credit risk. An analysis will be done in the second half of 2007 with respect to the added value for the DSTA of adding tri-party repo's with the aim to control credit risk further.

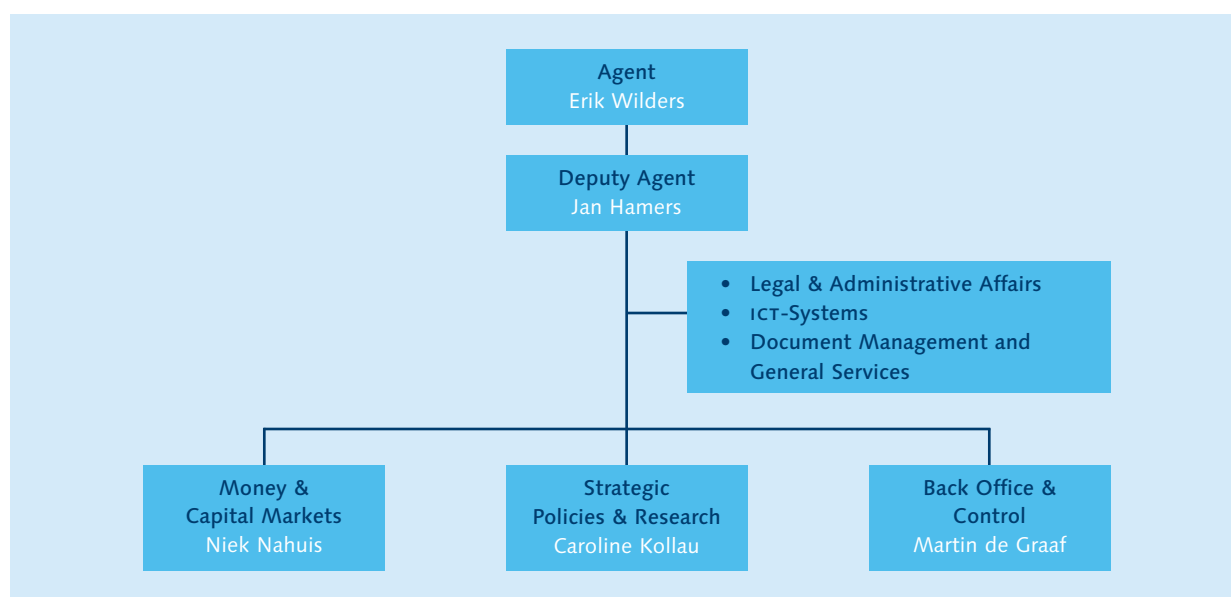
Annex



1 Organisation chart

The Dutch State Treasury Agency is one of the 5 directorates of the Treasury of the Ministry of Finance. The other 4 directorates are: Financial Markets, Foreign Financial Relations, Financing, and Financial and Economic Policy. The Treasury itself is one of the 4 Directorates-General of the

Ministry of Finance. The other 3 Directorates-General are: Budget, Tax & Customs Policy & Legislation, Tax & Customs Administration. The 4 Directorates-General are complemented by the Central Directorates. The Dutch State Treasury Agency is organised according to the chart below:



Dutch State Treasury Agency

Orlyplein 32, Amsterdam
P.O. Box 345, 1000 AH Amsterdam
The Netherlands
T +31 20 581 07 00
F +31 20 581 07 02
E agent@dutchstate.nl
www.dsta.nl

Reuters: DSTAMENU

Bloomberg: DSTA

Bridge: 2981

Ministry of Finance

Prinses Beatrixlaan 512, The Hague
P.O. Box 20201, 2500 EE The Hague
The Netherlands
T +31 70 342 80 00
www.minfin.nl

2 Statutory framework and accountability

The Dutch State Treasury Agency acts on behalf of the Minister of Finance, who is empowered by law to contract loans on behalf of the government. Policy details relating to the amount of debt and the funding thereof are contained each year in the annual Appropriation Bill 1XA. This is the part of the Budget Memorandum that concerns the National Debt. It is put before Parliament on the third Tuesday of September. This Bill in fact expresses the mandate to service the government debt. The Appropriation Bill 1XA and the subsequent amendments during the financial year require parliamentary approval. As a rule, the Bill is passed by Parliament in the month of December preceding the start of the new budgetary year. Parliament is informed regularly on the implementation of the Budget with respect to the National Debt and on any windfalls or additional expenses due to interest rate changes or changes in the borrowing requirement. An update on the implementation during the year is current included in the Budget Memorandum (which is put before Parliament at the same time as the Appropriation Bill 1XA on the third Tuesday of September). The developments regarding implementation during the new budget year are communicated in the Spring Memorandum of that year (June) and the Autumn Memorandum (December). The relevant budget memoranda and bills put before Parliament are open to public scrutiny. Interest payments are budgeted and reported on an accrual basis, in accordance with the European System of Accounts (ESA 1995). In addition, from Budget Memorandum 2002, the Memorandum complies with a new system of budgeting and reporting. With this system, the Dutch government wants to emphasise the relationship between objectives, means and results of government policies. The preparation of the funding policy and its actual implementation are the responsibility of the Dutch State Treasury Agency.

3 Forms of debt

In 2003, physical securities in custody were converted into book entries in the name of the 'Affiliated Institutions of Euroclear Nederland'. This means that the government debt is almost entirely dematerialised.

The Securities Giro Act offers investors the opportunity to ask for termination of their participation in the giro circuit. In continuation of the dematerialisation, the obligation to grant

termination takes the form of a registration by name. As proof of the registration, the investor receives a statement of account. Interest and redemption will automatically be transferred to the investor.

Historical debt

Notwithstanding the fact that the DSTA has not issued classical securities since 1987, a very small proportion of these securities are kept at home by their holders. Private investors holding classical securities of the Dutch State should collect their interest and principal within the contractually agreed period. Failure to do so means that the right lapses. If that happens, investors should apply to the DSTA for ex gratia payment, stating their reasons for exceeding the agreed payment period.

In 2006 a ten-year period ended during which holders of an old type of registered debt, initially issued in 1815, were asked to report to the DSTA for registration. For this particular debt the investors had to claim their matured interest every half year. In almost 2 centuries many holders had forgotten to claim the interest and, as a result thereof, their rights. After registration, the interest will be transferred automatically to the bank account of the holder. A total of 95% was registered. The rest falls to the State.

4 Securities issued

The Dutch State Treasury Agency (DSTA) issues short-term and long-term debt.

- **DTCs**

Dutch Treasury Certificates (DTCs) are issued with maturities of 3, 6, 9 and 12 months. Next to the introduction of new programs, existing programs are regularly reopened. Issuance takes place on the first and third Monday of each month.

- **DSLs**

Dutch State Loans (DSLs) are currently issued with maturities of 3, 10 and 30 years. A 30-year bond was issued in 2005. Previously, 30-year bonds were issued in 1993 and 1998. In 2006 a new bond maturing in 2023 was issued. A strip/destrip facility was created with the aim to convert the existing 2023 bond (the 30-year bond issued in 1993 with a coupon of 7.5%) into the new 2023 bond (coupon 3.75%). The new and old 2023 bond are fungible. In 2007, issues of DSLs take place

on the second Tuesday of every other month. Most issues take place through tap auctions. Once or twice a year bonds are issued via the Dutch Direct Auction (DDA).

- **Commercial Paper**

Starting in 2007, the DSTA will issue Euro Commercial Paper for the first time in its history. It is expected that maturities range from 1 week up until 3 months.

- **Characteristics of Dutch government securities**

Approximately 90% of Dutch state debt consists of DSLs. The remainder is funded in the money market. The table shows that the average remaining term to maturity of the outstanding DSL portfolio has increased in 2006, partly due to the issue of the 2023 bond and the reopening of the 30-year DSL. The DSTA's policy is to fund as short as possible on the condition that the amount of risk to the budget (in terms of interest costs) remains acceptable. The average coupon has also decreased significantly over time. The downward trend in interest rates in recent years is the main reason for the diminished average coupon.

5 Issuance techniques

DSLs and DTCs are issued entirely electronically. This helps to create a more efficient and transparent primary market. Issuing techniques for DSLs and DTCs differ (see chapter 2.3).

- **DSLs**

DSLs are issued either via a tap auction or via a Dutch Direct Auction (DDA).

In a tap auction the bond is opened for subscription at 10:00 hrs CET. The DSTA then announces the price at which it is willing to sell on the AMS electronic trading platform. Depending on the incoming volume of bids at the quoted price, the DSTA may revise the price or close the auction at any time. Primary Dealers can subscribe at the quoted price

for a minimum amount of 25 million euros or higher amounts stepped up at intervals of 5 million euros.

For every bond issued through a tap auction, Primary Dealers have a non-comp facility for a period of three days after closure of the DSL issue (the non-comp does not apply to the DDA). The facility is capped at 15% of the volume issued at the auction. If Primary Dealers use this facility, the final volume outstanding increases by 15% beyond the amount that was placed during the auction. As usual, all bonds are reopened several times in order to raise the total volume to at least 10 billion euros. In the meantime, liquidity is guaranteed through a repo facility available to the Primary Dealers.

The Dutch Direct Auction (DDA) is characterised by a uniform price. With the DDA, the DSTA aims to place the bond directly with end-investors. At the cut-off rate real money accounts have priority over other accounts such as banks and hedge funds. In order to ensure liquidity, the DSTA reserves the right to allocate a certain percentage (35% in 2006) of the issue to other accounts. Subscribers can revise or withdraw their bids at any time up to the close of the auction.

In a DDA, the bond is opened for subscription at 10:00 hrs CET. An initial spread guidance is announced prior to the auction. During the auction day Primary Dealers can subscribe to the issue and the spread guidance can be adjusted until 15:00 hrs CET, at which time the spread guidance becomes final. The auction closes at 17:00 hrs CET at the latest. The DSTA can decide to close the book early if necessary to guarantee adequate allocation, and has exercised this right several times. Primary Dealers can subscribe at any price within the spread guidance for a minimum amount of 1,000 euros.

- **DTCs**

DTCs are sold at uniform-price auctions, using the Bloomberg Auction System (BAS). Primary Dealers and Single

Table Key figures of bonded debt

	1995	2000	2001	2002	2003	2004	2005	2006*
Average remaining maturity	6.9	6.3	6.2	6.1	6.0	5.6	6.1	6.6
Average coupon	7.6	6.1	5.7	5.7	5.2	4.8	4.4	4.2

* up to 31 October 2006

Market Specialists can place bids, yields and quantities in the system up to a pre-announced time. After that time, it is decided what volumes will be placed at those returns. Parties who have placed bids below the cut-off rate are usually granted their bid in full. Bids at the cut-off rate are rewarded in part or in full depending on the remaining amount allotted.

In the interest of a balanced market, the DSTA has the right to restrict the amount allotted to any subscriber to 40% of the total issue. This prevents the amount auctioned from being allotted largely or entirely to a single participant.

Starting in 2007, DTC-auctions will start at 11:00 hrs CET (30 minutes later than previously) and close at 11:30 hrs CET. Each bid must have a volume of at least 10 million euros and it must be in multiples of 10 million. Subscribers can revise or withdraw their bids at any time up to closure of the auction.

6 Facilities

• *Repurchase facility*

The repurchase facility enables affiliated institutions to sell the State positions in bonds that were issued before 1996 where the outstanding amount is less than 2.5 billion euros. The repurchase facility guarantees the marketability and liquidity of such bonds for investors. As of mid-2005 the outstanding volume of these loans had decreased to approximately 10% of the total volume that was issued. In line with the aim of concentrating as much of the debt as possible in 'liquid' bonds, the DSTA has since 1999 merely issued bonds that reach a total volume of at least 10 billion euros after multiple issues.

• *Repo-facility*

The repo-facility improves the liquidity of DSLs and DTCs. The repo-facility allows Primary Dealers to obtain on-the-run DSLs and DTCs at any time from the DSTA provided that the DSLs and DTCs have not yet reached an outstanding volume of 10 billion euros. Primary Dealers pay a premium of 25 basis points for this facility. This facility is exclusively available to Primary Dealers (DSLs and DTCs) and Single Market Specialists (DTCs only). In 2007, a minimum amount of 10 million euros is introduced for repo-transactions.

7 Collateral and withholding tax

• *Collateral in connection with swaps*

Collateral for swaps is required in order to minimise credit risk for the State. The counterparty to the State is obliged to furnish collateral if the interest rate swap has a positive value. Acceptable collateral includes cash in euros, negotiable government securities issued by creditworthy governments in the euro area, the United Kingdom and the United States. The value of all swaps and the collateral that was put up is determined on a weekly basis. Interest is paid on any cash collateral. Settlement of this return takes place on the last working day of the month.

• *Withholding tax*

Many countries levy withholding tax on income from securities held abroad. Because such income is generally also taxed in the country where the security is held, this frequently involves double taxation. To prevent this, the Netherlands has entered into tax treaties with many countries in order to provide a tax exemption on dividends and interest in the country where the security is held. The DSTA is eligible for tax treaties to avoid double taxation. This means that the DSTA is exempt from taxation on transactions involving securities held in a country where withholding tax is levied. In order to qualify for exemption, the DSTA submitted the necessary applications to the countries concerned via the settlement institutes. Exemption was granted.

8 Clearing and settlement

The DSTA is affiliated with Euroclear Nederland, which is the central securities custody institution in the Netherlands. From this institution, securities are delivered to Euroclear (Brussels) and Clearstream (Luxemburg). To conform to international market practices, new issues are settled from our issue-accounts with Euroclear (Brussels) and through the electronic bridge with Clearstream. Primary market trades and the subsequent secondary market trades are settled in an efficient way. The DSTA is also affiliated with SWIFT (Society for Worldwide Interbank Financial Telecommunication). SWIFT is used for confirmation of transactions to counterparties, for settlement communications with both Euroclear and Clearstream and for payments with De Nederlandsche Bank. More than 95% of the SWIFT-messages are sent out automatically by our system.

Statistical information



1 Interest costs of Central Government debt

The cut-off date for data in the Statistical Appendix is 17 November 2006 (unless otherwise specified)

In millions of euros

	2005	2006	2007
Interest paid			
Interest cost on fixed debt	9,013	8,448	8,289
Interest cost on floating debt (DTC and other short-term borrowing)	504	900	1,145
Buyback premium	145	35	0
Total interest cost	9,662	9,383	9,434
Interest received			
Received interest on floating debt (including central bank account)	102	31	36
Net interest received on EURIBOR swaps	88	131	118
Net interest received on EONIA swaps	8	0	0
Buyback discount	7	0	0
Total interest received	205	162	154
Net interest cost	9,457	9,221	9,280
Net interest cost, in % GDP	1.9	1.7	1.7

Interest cost in 2005 is based on realised cost.

The results for 2006 are preliminary and based on the Autumn Memorandum

Interest cost for 2007 is based on the 2007 Budget for National Debt.

2 Changes in long-term debt in 2006

In thousands of euros

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Statistical information

Position as at 31 December 2005		202,340,029
New issues in 2006		
Public bonds	23,219,467	
Private placements	779	
	add	23,220,246
Redemptions in 2006		
Regular redemptions		
Public bonds	25,657,934	
Private placements	66,298	
Early redemptions		
Public bonds	13,466	
Private placements	182,225	
	less	25,919,923
Position as at 17 November 2006		199,640,352

3 Issuance of bonds for the 2005 and 2006 borrowing requirement

In billions of euros

Month of issuance	ISIN-code	Bond issued	Issue	Raised amount	Yield
2005					
January	NL0000102150	2.5% NETH 2005 per 15 January 2008	first issuance	2.6	2.63%
February	NL0000102309	3% NETH 2004 due 15 January 2010	reopening	2.5	2.99%
March	NL0000102150	2.5% NETH 2005 per 15 January 2008	reopening	2.3	2.62%
April	NL0000102309	3% NETH 2004 due 15 January 2010	reopening	1.7	2.94%
	NL0000102234	4% NETH 2005 due 15 January 2037	first issuance	6.0	4.07%
May	NL0000102150	2.5% NETH 2005 per 15 January 2008	reopening	2.2	2.39%
June	NL0000102309	3% NETH 2004 due 15 January 2010	reopening	1.5	2.54%
	NL0000102242	3.25% NETH 2005 due 15 July 2015	first issuance	6.0	3.21%
July	NL0000102150	2.5% NETH 2005 per 15 January 2008	reopening	1.7	2.28%
September	NL0000102242	3.25% NETH 2005 due 15 July 2015	reopening	2.3	3.17%
October	NL0000102150	2.5% NETH 2005 per 15 January 2008	reopening	1.5	2.49%
November	NL0000102242	3.25% NETH 2005 due 15 July 2015	reopening	1.8	3.52%
			Total	32.1	
2006					
January	NL0000101707	2.75% NETH 2006 due 15 April 2009	first issuance	1.9	2.91%
February	NL0000102275	3.75% NETH 2006 due 15 January 2023	first issuance	2.3	3.71%
March	NL0000101707	2.75% NETH 2006 due 15 April 2009	reopening	1.9	3.32%
	NL0000103000	Principal due 15 January 2023	principals	1.0	3.93%
April	NL0000101707	2.75% NETH 2006 due 15 April 2009	reopening	2.0	3.45%
May	NL0000102234	4% NETH 2005 due 15 January 2037	reopening	1.8	4.29%
June	NL0000103000	Principal due 15 January 2023	principals	0.5	4.19%
July	NL0000102283	4% NETH 2006 due 15 July 2016	first issuance	5.1	4.10%
September	NL0000102283	4% NETH 2006 due 15 July 2016	reopening	2.2	3.85%
October	NL0000102283	4% NETH 2006 due 15 July 2016	reopening	2.8	3.79%
November	NL0000101707	2.75% NETH 2006 due 15 April 2009	reopening	1.6	3.69%
			Total	23.2	

4 Concluded interest rate swaps

Position as at 31 December (except 2006), in millions of euros

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Statistical information

Start date	End date	Nominal amount	Fixed interest rate ¹ (%)	Floating interest rate ² (%)	Type ³
2001	2011	3,000	5.2073	2.1980	receive
2002	2012	700	5.2899	2.1690	receive
2003	2013	200	4.2153	2.1970	receive
2004	2008	3,998	3.2444	2.1932	pay
2005	2008	3,980	3.0732	2.5915	receive
	2010	1,480	3.2205	2.5840	pay
	2014	1,050	3.7061	2.1848	pay
	2015	4,000	3.7887	2.1800	pay
	2016	375	3.6933	2.1727	pay
	2035	6,010	4.1567	2.2233	receive
2006 ⁴	2009	1,000	3.1150	2.9450	receive
	2010	2,000	3.8670	3.6295	receive
	2011	6,188	3.6695	3.1275	pay
	2021	3,493	4.0294	3.1525	receive
	2026	1,910	4.1164	3.1525	receive
	2036	1,825	4.5011	3.0514	receive

1 For the fixed interest rate the average interest rate is presented.

2 The floating rate is reset every half year on the basis of the 6-month Euribor interest rate prevailing at that time.

3 Receiver swaps are swap contracts in which the Dutch State receives a long-term fixed interest rate and pays a short-term floating interest rate. Payer swaps are swap contracts in which the Dutch State pays a long-term fixed interest rate and receives a short-term floating interest rate.

4 Up to November 17, 2006 (cut-off date for this outlook).

5 Results of the money market benchmark

In millions of euros

	2002	2003	2004	2005	Accumulated
Results EONIA-benchmark compared to funding before 2002	29.6	17	-2.6	-17.3	26.7
Outperformance of the benchmark	2.7	11.9	8.2	11.7	34.5
Total result	32.3	28.9	5.6	-5.6	61.2

The results from borrowing at the eonia rate (compared with the funding method before 2002) may differ from year to year. On an accumulated basis, the EONIA benchmark realised lower costs than the funding method before 2002.

6 Key figures of individual bonds in 2006

In thousands of euros

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Statistical information

Movements in 2006					
	Total 31-12-2005	Issues	Redemptions	Total 17-11-2006	ISIN-code
A Public Bonds					
6.00 pct DSL 1996 due 15 January 2006	12,329,020	-	12,329,020	0	NL0000102226
8.50 pct DSL 1991 due 1 June 2006	429,914	-	429,914	0	NL0000101954
3.00 pct DSL 2003 due 15 July 2006	12,899,000	-	12,899,000	0	NL0000102697
8.75 pct DSL 1992 due 15 January 2007	173,047	-	200	172,847	NL0000101996
5.75 pct DSL 1997 due 15 February 2007	13,637,194	-	-	13,637,194	NL0000102267
8.25 pct DSL 1992 due 15 February 2007	308,759	-	421	308,338	NL0000102028
3.00 pct DSL 2004 due 15 July 2007	12,216,000	-	-	12,216,000	NL0000102119
8.25 pct DSL 1992 due 15 September 2007	564,339	-	12,478	551,861	NL0000102051
2.50 pct DSL 2005 due 15 January 2008	10,222,000	-	-	10,222,000	NL0000102150
5.25 pct DSL 1998 due 15 July 2008	11,118,031	-	-	11,118,031	NL0000102291
2.75 pct DSL 2003 due 15 January 2009	10,366,430	-	-	10,366,430	NL0000102101
2.75 pct DSL 2006 due 15 April 2009	-	7,511,000	-	7,511,000	NL0000102275
3.75 pct DSL 1999 due 15 July 2009	11,588,000	-	-	11,588,000	NL0000102416
3.00 pct DSL 2004 due 15 January 2010	12,121,486	-	-	12,121,486	NL0000102309
7.50 pct DSL 1995 due 15 April 2010	529,504	-	-	529,504	NL0000102192
5.50 pct DSL 2000 due 15 July 2010	10,227,366	-	-	10,227,366	NL0000102580
5.00 pct DSL 2001 due 15 July 2011	13,145,000	-	-	13,145,000	NL0000102606
5.00 pct DSL 2002 due 15 July 2012	10,487,000	-	-	10,487,000	NL0000102671
4.25 pct DSL 2003 due 15 July 2013	13,218,000	-	-	13,218,000	NL0000102689
3.75 pct DSL 2004 due 15 July 2014	11,709,846	-	-	11,709,846	NL0000102325
3.25 pct DSL 2005 due 15 July 2015	10,083,765	-	-	10,083,765	NL0000102242
4.00 pct DSL 2006 due 15 July 2016	-	10,045,467	-	10,045,467	NL0000102283
7.50 pct DSL 1993 due 15 January 2023	8,241,489	-	-	5,890,200	NL0000102077
3.75 pct DSL 2006 due 15 January 2023	-	2,273,000	-	6,189,289	NL0000102275
Principal due 15 January 2023*	-	1,565,000	-	0	NL0000103000
5.50 pct DSL 1998 due 15 January 2028	8,886,814	-	-	8,886,814	NL0000102317
4.00 pct DSL 2005 due 15 January 2037	6,010,427	1,825,000	-	7,835,427	NL0000102234
2 1/2 pct Grootboek	23,052	-	250	22,802	NL0000006286
3 1/2 pct Grootboek	411	-	-	411	NL0000002707
3 pct Grootboek	9,708	-	117	9,591	NL0000004802

* Principals are used to reconstitute the 2023 bonds and are therefore included in the outstanding amounts of these bonds

Summary

Movements in 2006				
	Total 31-12-2005	Issues	Redemptions	Total 17-11-2006
A Public Bonds				
Total public bonds	200,545,603	23,219,467	25,671,400	198,093,670
B Private placements				
Total private placements	1,794,426	779	248,523	1,546,682
Total	202,340,029	23,220,246	25,919,923	199,640,352

7 Annual interest payments and repayments of principal, 2006-2037

In millions of euros, according to the long-term debt position as at 17-11-2006

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Statistical information

	Interest payments	Redemptions
17-11 to 31-12-2006	30	0
2007	8,554	26,959
2008	7,262	21,372
2009	6,420	29,503
2010	5,491	22,910
2011	4,522	13,306
2012	3,853	10,813
2013	3,303	13,375
2014	2,729	11,748
2015	2,287	10,126
2016	1,956	10,095
2017	1,552	296
2018	1,528	57
2019	1,524	58
2020	1,520	53
2021	1,515	38
2022	1,514	71
2023	1,508	12,086
2024	805	0
2025	805	33
2026	804	0
2027	804	2
2028	804	8,887
2029	315	0
2030	315	0
2031	315	0
2032	315	16
2033	313	0
2034	313	0
2035	313	0
2036	313	0
2037	313	7,835

The cut-off date for data in the Statistical Appendix is 17 November 2006 (unless otherwise specified)

Colophon

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Highlights of DSTA Outlook 2007

- Basis amount-at-risk: **€ 50 bln (9% GDP)**
- Borrowing requirement: **€ 41 bln**
- Expected money market funding: **€ 23 bln**
- Targeted capital market funding: **€ 15-22 bln**
- Instruments: **10-year bond (new) and 3 and 30-year bonds (re-openings)**
- **Dutch Direct Auction for new 10-year in June or July 2007**
- **DSL auctions, at least every second tuesday of every other month**
- **DTC auctions, every first and third monday of the month**
- New: **Commercial Paper, in euros and foreign currencies, for maturities below 3 months**
- **DTCs remain sole money market funding vehicle for maturities of 3-12 months**
- New Primary Dealer: **Royal Bank of Scotland**

Contacts



DSL Calendar 2007				
Month of issue	Announcement (Wednesday)	Issue (2nd Tuesday)	Payment (Friday)	DSL
January	3	9	12	30-year 2037
February	No issuance			
March	7	13	16	3-year April 2009
April	4	10	13	Reserve tap
May	2	8	11	
June	DDA 10-year			
July				
August	No issuance			
September	5	11	14	
October	3	9	12	Reserve tap
November	7	13	16	
December	5	11	14	Reserve tap

DTC Calendar 2007					
Date auction	Date settlement	DTC 3-month	DTC 6-month	DTC 9-month	DTC 12-month
02-01-07*	04-01-07	30-03-07			19-12-07
15-01-07	17-01-07	30-04-07		28-09-07	
05-02-07	07-02-07	30-04-07	31-07-07		
19-02-07	21-02-07	31-05-07			19-12-07
05-03-07	07-03-07	31-05-07	31-08-07		
19-03-07	21-03-07	29-06-07	28-09-07		
02-04-07	04-04-07	29-06-07			31-03-08
16-04-07	18-04-07	31-07-07		19-12-07	
08-05-07*	10-05-07	31-07-07	31-10-07		
21-05-07	23-05-07	31-08-07			31-03-08
04-06-07	06-06-07	31-08-07	30-11-07		
18-06-07	20-06-07	28-09-07	19-12-07		
02-07-07	04-07-07	28-09-07			30-06-08
16-07-07	18-07-07	31-10-07		31-03-08	
06-08-07	08-08-07	31-10-07	31-01-08		
20-08-07	22-08-07	30-11-07			30-06-08
03-09-07	05-09-07	30-11-07	29-02-08		
17-09-07	19-09-07	19-12-07	31-03-08		
01-10-07	03-10-07	19-12-07			30-09-08
15-10-07	17-10-07	31-01-08		30-06-08	
05-11-07	07-11-07	31-01-08	30-04-08		
19-11-07	21-11-07	29-02-08			30-09-08
03-12-07	05-12-07	29-02-08	30-05-08		
17-12-07	19-12-07	31-03-08	30-06-08		

New programs are shaded
* Tuesday



Dutch State Treasury Agency
Ministry of Finance
P.O. Box 345
1000 AH Amsterdam
The Netherlands
Website: www.dsta.nl

