

The development of government interest expenditure in Germany

Since the mid-1970s, Germany's government debt ratio has been rising virtually non-stop. Not only the deficits but also the establishment of "bad banks" and a raft of euro-area stabilisation measures have recently been important factors. That notwithstanding, the ratio of interest expenditure to gross domestic product has fallen distinctly because the average interest rate on outstanding government debt has dropped sharply. The last few years also saw substantial unplanned relief, which was – besides the higher-than-projected tax revenue – also a very important reason for the unexpectedly strong reduction in the deficit.

The fall in average interest rates reflects a sharp global drop in the interest rate level. In addition, since the intensification of the euro-area debt crisis the demand for particularly safe investments, which include German government debt instruments owing to Germany's high credit rating, has increased. On the whole, however, most euro-area countries are benefiting from the very favourable interest rate environment, and the average interest rate on many countries' debt is similar to or even lower than that on German debt. Whereas the interest-growth differential has been relatively favourable for Germany recently, it has been considerably more advantageous overall for most euro-area countries since the launch of monetary union.

It would not be wise for budget planners to trust in a lasting continuation of the extremely favourable financing terms that currently still prevail. A cyclical improvement in the euro area's economy and an easing in the general level of uncertainty in particular can be expected to send yields on German government bonds higher. Fiscal prudence therefore appears advisable. Until sufficient safety margins to the (future) borrowing limits have been achieved, the ball particularly remains in the court of those units of central, state and local government in Germany which remain highly indebted, and any interest underpayments need to be used to improve budget balances.

Definition of government interest expenditure

Borrowing imposes burdens on future budgets through debt servicing

In the past, the German government has regularly funded a marked share of its expenditure by borrowing. In contrast to final receipts (eg taxes, social security contributions, fees), this imposes a burden on future budgets through interest expenditure and redemption payments. Since the government was running budget deficits most of the time and maturing government borrowing was rolled over, debt levels continued to grow nearly non-stop, and the ratio of debt to gross domestic product (GDP) has also increased almost continuously.

General government debt

Government debt particularly in the core budgets of central, state and local governments, ...

In Germany, government debt and the resultant interest burden are affecting, in particular, the core budgets of central, state and local governments. These three levels of government had run up a combined total of €1,738 billion in debt by the end of 2012.¹ The social security schemes are generally prohibited from running up debt; interest expenditure here is thus limited.

... but also in special budgets

The past few decades also saw the creation of off-budget entities in which exceptional burdens were funded by, in some cases, extensive borrowing. Sizeable special funds were created in connection with German reunification, for instance. In 1995 the cumulative debt was merged into the Redemption Fund for Inherited Liabilities (*Erblastentilgungsfonds*); in July 1999 it was then assumed by the central government budget. During the global financial and economic crisis in 2008-09, additional special funds with extensive borrowing authorisations were created. The Investment and Repayment Fund, created in 2009 to stabilise the economy, had run up a debt of €22 billion following the conclusion of its measures at the end of 2012, and the Special Fund for Financial Market Stabilisation (*Sonderfonds zur Finanzmarktstabilisierung*, or SoFFin) was indebted to the tune of

€29½ billion. Moreover, additional non-core budget entities were created at central and state government levels, particularly to stabilise credit institutions.² Including the “bad banks” created by central government for Hypo Real Estate (FMS Wertmanagement), WestLB and SachsenLB, the off-budget entities had a total debt of €330 billion in 2012, which were associated with extensive (risk) assets.

Guarantees given by Germany for assistance loans to euro-area member states (€56 billion) are likewise classified as government debt.³ The interest expenditure incurred from the funding of these loans (as well as the resulting interest receipts) are credited to the government guarantors – in Germany, central government.

Debt increase due to euro-area assistance loans

Interest expenditure

Interest payments on loans are generally agreed in advance and then effected regularly. In the case of securities debt, they are referred to as coupons, which entitle the investor to a certain remuneration. In Germany, government securities which bear a fixed nominal interest rate are predominant. Variable-rate bonds, by contrast, are tied to benchmark interest rates, such as in money markets, with a market-oriented mark-up or mark-down. The inflation-indexed securities issued by central government since 2006 are a special case.⁴ In the case of individ-

Securities debt with fixed annual interest payments predominant

¹ Debt to non-public entities. Data source: Federal Statistical Office, *Schulden der öffentlichen Haushalte 2012*, Fachserie 14, Reihe 5.

² Even such entities that were created as corporations are classified by the Federal Statistical Office, in line with European budget rules, as being part of the government sector.

³ The bilateral loans to Greece issued through the Kreditanstalt für Wiederaufbau (KfW) development bank and the debts of the European Financial Stability Facility (EFSF) assigned to the guarantors are recorded here. Not included here, on the other hand, are the assistance loans of the European Financial Stabilisation Mechanism (EFSM), which are settled via the EU budget, and the debts of the European Stability Mechanism (ESM), which are not assigned to the shareholders.

⁴ The remuneration here is generated by multiplying the coupon by an index value for the increase in the European Harmonised Index of Consumer Prices (HICP) excluding tobacco. The redemption amount is also adjusted for inflation.

ual loan contracts, such as borrower's note loans, the interest rate conditions, by contrast, are usually not published in detail; however, these are mostly designed as fixed interest contracts as well. Across all types of government debt, as at the end of 2012 variable-rate instruments (including inflation-indexed instruments) accounted for something like one-eighth, or around €260 billion, with the lion's share issued by state government.

Premiums and discounts in the case of discrepancies between the market rate and the agreed rate

When debt is issued, the issue price can differ from the repayment amount if the fixed interest rates are different from the market rates at the moment of issuance. If, for instance, the coupons are higher than the market rate, the lender pays a discounted premium to the government when the instrument is issued. In the opposite case, a discount is given. These premiums and discounts are budgeted to the government interest expenditure in the year of issue. For German securities debt, annual interest payments (on the calendar date of maturity) are usually agreed. For non-interest-bearing treasury discount paper with maturities of up to one year (Bubills), by contrast, the spread between the discounted issue price determined by the market and the fixed redemption value is considered as an interest payment.

Derivatives change interest rate flows

For years, the bulk of new borrowing by government has been through issuing securities. Extensive information on residual maturities and on the dates and sizes of each coupon payment is available. However, ancillary agreements can be concluded for securities debt, too, depending on what is allowed by budgetary rules. With derivatives, for instance, fixed coupons can be exchanged for variable coupons, or the interest rate lock-in period can be modified.⁵ Cash flows from derivatives are also recorded under interest expenditure. However, details of interest rate derivatives agreements have not been publicly disclosed to date, which makes it more difficult to assess future interest payments on outstanding debt, for instance, or the impact of changes in interest rates on government finances.

The individual levels of government have different ways of reporting the interest burden in their budgets. In the central government core budget, for instance, interest expenditure can be allocated to each separate type of debt, with the effects of derivatives factored into each type. There is also a collective item for premiums and discounts. In connection with the issuance of inflation-indexed securities, in 2009 central government set up a special fund and a separate budget item. Since 2010, amounts have been transferred from this item to the special fund on an accruals basis to cover interest burdens from price increases in the final payments. Some states have budget items showing how derivatives as a whole affect payments in the period in question. Assessment of interest expenditure developments, though, is made more difficult still by the lack of data on the terms of maturing loans.

Different ways of reporting debt servicing in budgets

Reporting in the financial statistics and the national accounts

There are two different approaches to reporting government budgets and their interest burden in the official statistics. The financial statistics, in which general government interest expenditure amounting to €69 billion was booked in 2012, is closely geared to the reporting period's payment transactions reported in the budgets. Premiums and discounts, for instance, are fully netted against interest expenditure, as is the case for coupons sold.⁶ The derivatives cash flows booked in the budgets are also usually classified as interest expenditure.

Paid interest reported in financial statistics according to budget accounting system

⁵ In many cases, budget law requires foreign currency liabilities to be hedged against potential forex risk using derivatives.

⁶ Accrued interest payable by the lender accrues wherever a part of the time to maturity has already elapsed when the securities are issued, which is compensated for by the next coupon (eg in the case of additional issues of a bond following an interest due date). This can be considered as an additional loan which is repaid when the next coupon matures (in the following fiscal year, in most cases).

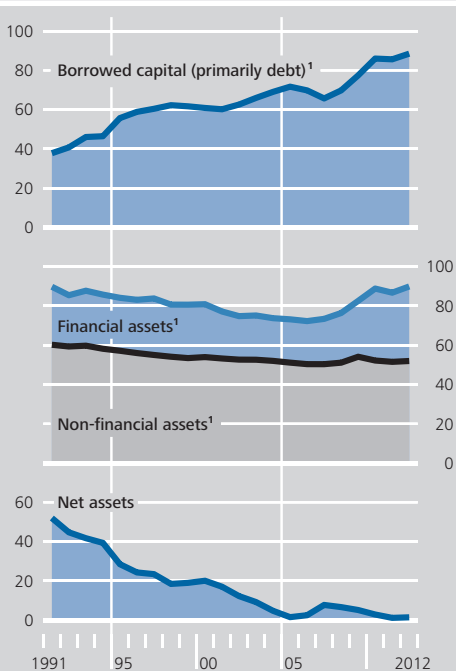
Excursus: Interest and other government property income

Not only is interest on debt paid out of the government budgetary accounts; interest receipts are recorded in these accounts, too. These receipts are generated, for example, from deposits with credit institutions as part of liquidity management or from lending, for instance for development aid. Moreover, in recent years, following the establishment of “bad banks” in the government sector, (risky) assets have become a greater source of interest income – on a par with the associated interest expenditure. Furthermore, for assistance loans to stabilise monetary union, both interest expenditure and interest receipts are booked in the national accounts. Overall, the level of interest income recorded in the national accounts (excluding FISIM amounts, which are assigned to this item) has risen by €5 billion since 2007 to €12 billion in 2012.

A comprehensive analysis of the impact of government assets and liabilities on the budget would have to include other types of property income. Debt is also connected with numerous participating interests in enterprises and non-financial assets, which regularly generate revenue. However, given the backdrop of a sharp increase in debt, the ratio of government net assets to GDP has fallen almost continuously on balance in recent decades. The national accounts figures show that in 2012, in addition to profit distributions totalling €6½ billion (a figure which varies greatly from year to year),¹ rental income of €1 billion was also recorded. Yet even viewed from this broader perspective, receipts still came to only just under one-third of interest costs. Furthermore, parts of fee income, such as net proceeds from the German motorway tolls for heavy goods vehicles (totalling €4 billion) could also be included in the analysis, for instance. This illustrates the difficulties in defining which earnings should be included in a net assessment. As a result, this article generally looks only at the development of gross government interest expenditure. Where necessary, reference is made to special developments on the income side, particularly interest receipts.

German government assets and debt

As a percentage of GDP



Source: Federal Statistical Office and the financial accounts of the Deutsche Bundesbank. ¹ Fair or market value.
 Deutsche Bundesbank

¹ For instance, the Bundesbank’s profit distribution (as defined in the national accounts) amounted to €½ billion in 2012, compared with, for example, almost €6½ billion in 2009.

Interest expenditure defined more narrowly in national accounts and posted as accrued

By contrast, the alternative reporting system – the national accounts (€64 billion in interest expenditure reported for 2012) – looks mainly at the origin and distribution of income and is geared to guidelines which are harmonised throughout Europe. Under this system, interest is recorded not on the date of payment but in terms of the amount of claims accrued over a given reporting period. This means that, for instance, where interest falls due at the beginning of January (which is very often the case for federal bonds), the burdens are largely assigned to the previous year, unlike in the financial statistics.⁷ Where the security is issued at a value different from its par value, the premium or discount is not booked fully in the year of issue but spread over the term of the debt instrument. The national accounts also differ from the financial statistics in the area of liabilities in the form of loans. Here, a notional part of the interest payments as defined in the financial statistics (€½ billion in 2012) is interpreted as the purchase of a financial service, indirectly measured (FISIM)⁸ – and not reported as interest expenditure. Another convention in the national accounts is that derivatives-related payments are generally recorded as financial transactions and not as interest expenditure or receipts.⁹

Determinants of interest expenditure

Debt level as quantity component of interest expenditure

As a quantity component, the debt level is a key determinant of government interest expenditure. The debt level in Germany as defined by the Maastricht treaty has risen continuously in the past few decades, reaching €2,166 billion as at end-2012. The debt-to-GDP ratio, starting from 18% at the beginning of the 1970s, rose steadily without any major break, reaching around 81% at the end of 2012.

Interest rates¹⁰ – the price component – are the other key determinant of interest expenditure. The average interest rate, ie the ratio of interest

expenditure to debt, reflects yields on the respective debt instruments at the time of issue, weighted by the volume of the respective issue. The decline in interest rates observed for two decades has thus only gradually been reflected in average remuneration.

The interest burden fundamentally hinges on the effective nominal interest rate, ie the coupon rate on a government bond adjusted for any premiums or discounts, for instance. The relevant interest rate, which is generally composed of a real interest rate, an inflation component and maturity and risk premiums, is affected by numerous national and international factors. A major role is played by returns on other forms of use (of real and financial assets) and inflation expectations, to name two factors. The central bank steers, in particular, interest rates directly at the short end; expectations regarding future central bank policy are reflected – alongside other components – in the longer-term interest rate level.

The lock-in period is an important factor in the concrete interest rate. The longer the interest rate is locked in, the higher it usually is, as investors seek remuneration for the higher risk of changes in value. Changes in the interest rates of longer-term fixed-rate bonds, for instance, have a stronger impact on the prices of these bonds. For issuers, by contrast, longer maturities provide greater security in terms of finan-

Average interest rate reflects remuneration levels at the time of borrowing

Numerous factors influence interest rate

Lock-in period

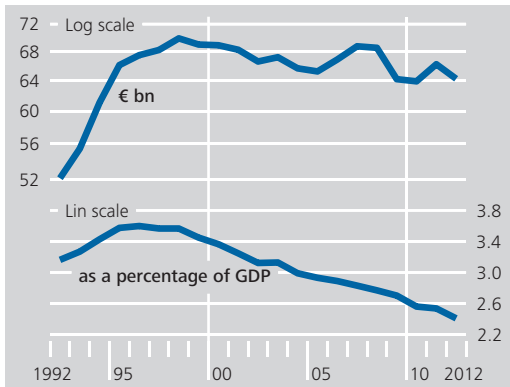
⁷ Coupons sold are booked in the national accounts not as negative expenditure but, according to an economic perspective, as a loan received, which is repaid upon the maturing of the interest payment.

⁸ Since the revision of the national accounts in 2005, this type of output by banks, which is factored into GDP, is deducted from the interest payable on loans. Its size is determined by the difference between interest payable on loans and interest in the interbank market. See W Eichmann, Finanzserviceleistung, indirekte Messung (FISIM), in: Wirtschaft und Statistik, 7/2005, p 710 ff.

⁹ Only when the Maastricht deficit is calculated, which in this sole case is an exception to the regular booking method in the national accounts, are such payments usually classified as interest, meaning that they affect the deficit level.

¹⁰ See also Deutsche Bundesbank, Sovereign yield spreads in the euro area, Monthly Report, June 2011, pp 27-44.

Total German government interest expenditure*



* National accounts definition plus financial intermediation services indirectly measured (FISIM).
 Deutsche Bundesbank

hausted if the political costs of breaching or renegotiating the terms of a bond are seen as being lower than those of other necessary consolidation measures. Government debt instruments can therefore become non-performing at very different debt ratios or funding requirements if the tax increases, retrenchment measures or asset sales which might be needed to service the debts do not obtain the requisite majorities or are simply not implemented by governments. To that extent, the assessment of default risk therefore involves considerable subjective assessments of future political developments.

The development of government interest expenditure in Germany

General government

The national accounts figures¹¹ indicate that interest expenditure by general government in Germany rose very significantly until the mid-1990s on the back of high capital market interest rates and fast-growing debt levels before tapering off from 1999 onwards, with the boom years of 2006 and 2007 being isolated outliers in this downward movement. The relief observed of late is even more pronounced when one considers that the establishment of the government-owned “bad banks” and the euro-area assistance loans caused interest expenditure and receipts to rise on a roughly similar scale.

Government interest expenditure receding overall of late

Setting the development of interest expenditure in relation to nominal GDP (which has risen almost continuously) reveals that the interest expenditure burden had already begun its almost consistently downward path shortly after the mid-1990s (when it peaked at 3.6%),

Interest expenditure ratio waning for some time now

cing costs since there is no interest rate risk over the bond’s maturity.

Liquidity premium

The liquidity of a bond is also of relevance. If a bond can be sold at short notice even in greater quantities, this is advantageous to investors. The smaller the volume of the bond that is regularly traded, and the greater the uncertainty in the capital markets (with a resultant increase in liquidity preference), the higher the price for the restricted availability of the invested funds is likely to be.

Ability and willingness to pay

Default risk is determined by the creditworthiness of the issuer of a bond, and thus of the issuer’s probability of default (PD). The current level and expected future development of debt are indicators which serve to assess a country’s creditworthiness. Information on the (structural) deficit, the short-term funding requirement and any implicit or contingent liabilities are used for this assessment. The state of the financial sector (and thus household indebtedness, too) are also important with regard to implicit or contingent liabilities, as government support measures to maintain financial stability can require a considerable volume of additional financial resources. In addition, the macroeconomic outlook is relevant. On the whole, the ability and the willingness to pay cannot always be cleanly separated. The latter can be ex-

¹¹ Plus the FISIM component. This component, representing the value of services purchased, is added here since the objective is to capture the aggregate regular budgetary burden associated with indebtedness.

reaching 2.4% in 2012, a level last recorded in 1981.

Yet debt ratio sharply higher

Yet at the same time the ratio of general government debt to GDP charted a virtually unbroken upward course with only minor interruptions that were driven primarily by the UMTS auction proceeds in 2000 and the budgetary consolidation efforts that have been underway following the mid-2000s. Starting from 39½% in 1991, the Maastricht debt ratio (EDP debt ratio) climbed to somewhere in the region of 81% in 2012, just shy of the peak of 82½% observed in 2010.

Sharp drop in average interest rate ...

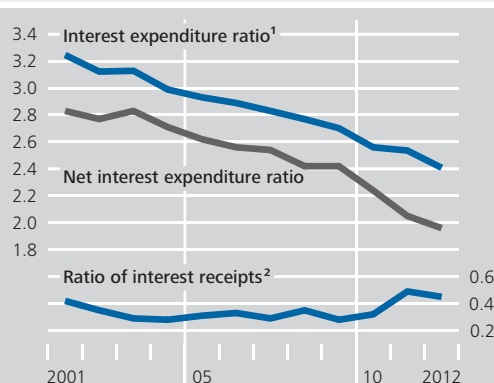
Thus, the key factor driving down the interest expenditure ratio was the sharp drop in the average interest rate,¹² which has fallen almost steadily – with just a single interruption in 2007 – from as much as 8% in the early 1990s to 5% in 2003 and even 3% last year.

... with differences between central, state and local government

Central government accounted for the bulk of interest expenditure (2012: 59½%) followed by state (33½%) and local government (7%), largely reflecting differences in each level's indebtedness. The average interest rate decline took place across the board, but it differed from one level of government to the next. The development was most erratic at local government level, where the temporary marked upturn witnessed in 2006 and 2007 might have owed something to the strong trend growth in the weighting of short-term cash advances. Central government saw the steepest decline overall, but the drop was particularly pronounced after 2008 in comparison with the federal states. In 2012, its average interest rate was 2.8%, compared with 3.3% and 3.4% for state and local government respectively. Similarly, the yield spread between the most recent "federal state jumbos"¹³ and a federal bond with a comparable residual maturity stood at ½ percentage point at the end of August 2013 (see the box on pages 54 to 55).

German government interest expenditure and receipts*

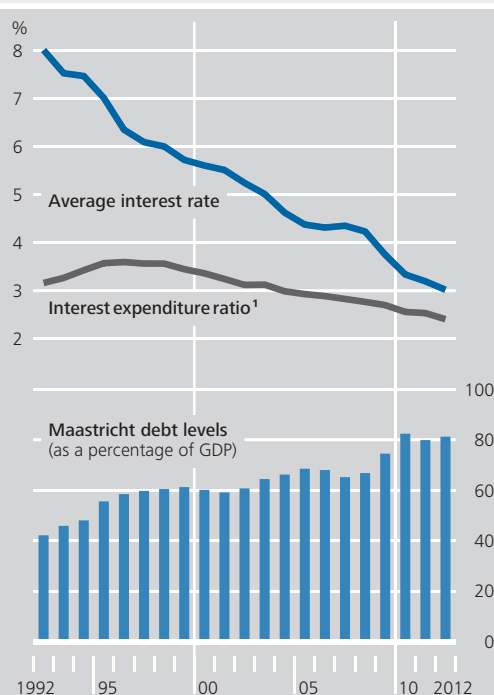
As a percentage of GDP



* National accounts definition. **1** Plus financial intermediation services indirectly measured (FISIM). **2** Excluding FISIM.

Deutsche Bundesbank

Average interest rate and its determinants



* National accounts definition plus financial intermediation services indirectly measured (FISIM).

Deutsche Bundesbank

¹² A simplified method was used here to determine the average interest rate on government debt in that interest expenditure according to the national accounts definition (plus FISIM) is divided by the average annual debt level. A smooth intra-year development results in the simple average of the debt levels at the beginning and at the end of the reporting year being free of distortions.

¹³ Bonds issued jointly by federal states, with each participating state assuming pro rata liability and holding a stake specified in advance.

Joint borrowing by central and state government

The yield spreads of securities issued by Germany's federal states over those placed by its central government are not large, but they are still significant. These spreads are probably chiefly due to central government's large-volume issues being more liquid, as well as to its higher creditworthiness. In the past, the federal states have repeatedly advocated the idea of issuing securities jointly with central government in order to cut their own interest expenses. As the federal states accounted for almost €670 billion of Germany's Maastricht debt in 2012 and German Bunds (central government bonds) have a yield advantage of around ½ percentage point at the long end, such joint debt issuance could reduce the financial burden on the federal states by up to €3 billion – or almost 1% of their total expenditure – provided that central government's funding conditions were applied in full to state government debt. However, it would take many years to reach this total figure via a full "conversion" of the existing debt.

The trade-off for these financial benefits would be a certain loss of autonomy. Funding requirements would probably have to be specified promptly and with binding effect, schedules coordinated with the other government entities and a maturity agreed among the issuers. The federal states could continue to arrange derivative covenants individually, however.

The question of liability would be particularly problematic. A full transfer of central government's funding conditions to the federal states would seem to be conditional on explicit joint and several liability. Although the capital markets appear to operate on the general assumption of joint and several liability within the German federation, the Federal Constitutional Court's ruling regarding the city-state of Berlin in 2006 specifies that this ultimately only takes effect if a member of the federation finds itself in a situation of extreme budgetary hardship and has already exhausted all means at its disposal to address the prob-

lem. This means that investors would be unable to entirely rule out the possibility of a state government bond not being serviced on time. The prospect of wider yield spreads can essentially provide a key incentive for sound budget management despite the obligation to provide mutual assistance within the German federation. Full mutualisation of debt issuance, on the other hand, would prevent this differentiation from the outset.

Until now, an agreement has not been reached on joint and several liability. Bonds underwritten in full by Germany's central government are currently used exclusively to borrow funds for central government's own core budget and its off-budget special funds, which are likewise controlled by the budget legislator. However, as central government is already liable for the debts of the resolution agency set up for Hypo Real Estate (FMSW), it would be consistent to likewise fund this entity using low-cost central government securities in order to keep the ensuing losses – of taxpayer money – to a minimum.

Although no consensus was achieved on jointly guaranteed central/state government combined bonds, in the negotiations over Germany's ratification of the European Fiscal Compact, the federal states secured central government's agreement in principle to issue combined "Germany bonds". The first central/state government combined bond was then issued at the end of June 2013, with a volume of €3 billion, a maturity of seven years and a coupon of 1.5%. Like the existing "federal state jumbos", the "Germany bond" entails *pro rata* liability, with the size of each stake specified in advance. Alongside central government, which took a stake of 13.5% in the issuance, ten federal states¹ participated in this venture.

¹ Berlin, Brandenburg, Bremen, Hamburg, Mecklenburg-West Pomerania, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, Saxony-Anhalt and Schleswig-Holstein.

Given the *pro rata* liability for the issuance, the low central government stake and the relatively small volume issued, the conditions were only somewhat closer to those for German Bunds and did not differ substantially from those for “federal state jumbos”. As the issue yield was ½ percentage point higher than the yield on comparable securities issued by central government alone, central government has no interest, at least financially, in placing this kind of combined bond on a regular basis. The federal states participating in this “Germany bond” likewise derived very little financial benefit relative to their usual bond issuances.

In recent years, talk of central/state government combined bonds has received far less attention than the calls to introduce “euro bonds” with joint and several liability for the euro area. It is important to remember that the institutional framework for Europe’s monetary union differs radically from that of the German federation. There is much

greater fiscal coordination within Germany, notably a general obligation to provide mutual assistance, a far-reaching tax revenue-sharing scheme, constitutional deficit limits and extensive joint decision-making processes in fiscal matters. Yet despite the conditions within the German federation being far more conducive to combined bonds with joint and several liability, there is still no consensus to introduce them, and there are powerful arguments against such an arrangement. At all events, introducing “euro bonds” within the current euro-area framework would not only pose a legal problem but also lead the euro area down an institutional path which, in the absence of huge strides towards closer integration, would risk setting major false incentives for national budget policy.²

² For further comments on the criticism surrounding the introduction of “euro bonds” without major EU treaty change, see Deutsche Bundesbank, Joint liability for sovereign debt and the proposed debt redemption fund, Monthly Report, June 2012, pp 8-10.

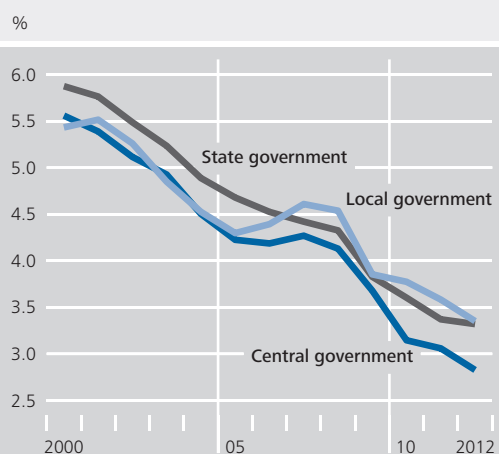
Central government

Trend decline in issue yields has intensified since start of crisis

A particularly detailed set of information is available for central government.¹⁴ These data reveal that, since 2002, both long-dated paper and two-year federal treasury notes (Schätze)

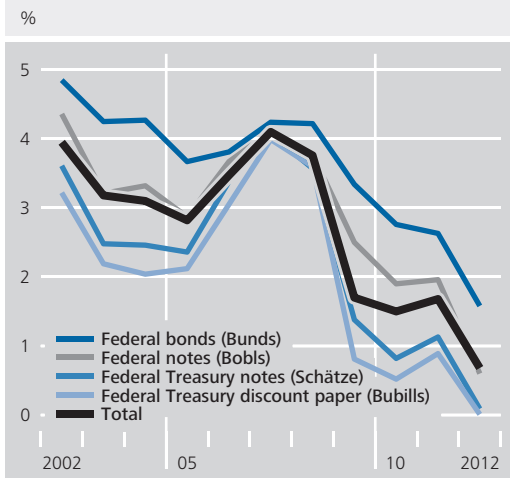
have seen a significant trend decline in issue yields. The downward trend even persisted during the rebound following the economic slump in 2008 and 2009. The year 2012 saw a historic low of 0.7% across all types of debt. Federal treasury discount paper (Bubills) and even two-year federal treasury notes produced *de facto* zero yields on balance, while some issues even had a negative nominal interest rate. The exceptionally favourable financing conditions overall for central government remained intact during the current year, albeit subject to certain restrictions of late.

Average interest rate by level of government



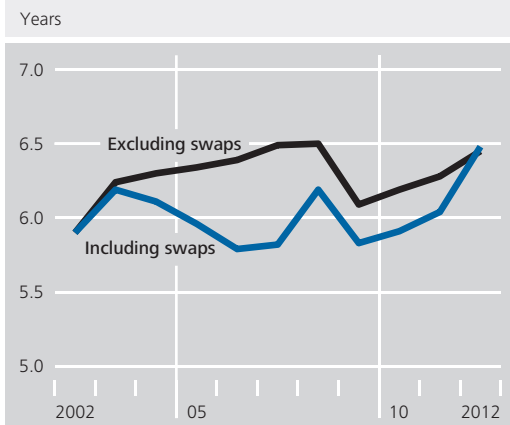
¹⁴ Since 2002, the Federal Ministry of Finance has drawn up annual borrowing reports documenting developments in central government financing conditions (including off-budget special funds). Amongst other things, these reports disclose the average issue yields on new borrowing and the interest rate lock-in periods for total debt, which means that the factors driving average interest rates can be identified more accurately for central government than for other government levels.

Yields on new issues of Federal securities



Source: Federal Ministry of Finance.
 Deutsche Bundesbank

Average interest rate lock-in period on outstanding central government debt*



Source: Federal Ministry of Finance. * Core budget including special funds (excluding bad banks).
 Deutsche Bundesbank

Only moderate change in interest rate lock-in period overall

A glance at the reported average interest rate lock-in periods for outstanding federal securities reveals that the extremely favourable financing conditions are not the result of a shortening of maturities on new debt instruments. The average interest rate lock-in period (excluding swaps) actually increased slightly between 2003 and 2008. Following substantial issues of short-dated paper in 2009, it has risen again notably of late, returning to the 2008 level of 6½ years in 2012. Ancillary swaps to secure more favourable interest rate terms or hedge good conditions steadily shortened the average interest rate lock-in period in the past (by around ¼ year annually from 2008 until

2011). By contrast, swaps even had a slightly positive impact on the interest rate lock-in period last year.

It was thus primarily the sharp improvement in financing conditions across all maturity segments which drove down the average interest rate on government debt recently. This reflects both the adverse macroeconomic setting, not least in the euro area, and the highly expansionary monetary policy stance in general. Added to this, central government appears to be benefiting from the global search for very safe and liquid investments, a development which is being reinforced by Germany's particularly good credit standing. This is especially the case when one views the euro area in light of some parties' significantly revised perception of sovereign debt risk in a number of other euro-area member states. A stronger investor bias towards readily available investments on the back of heightened uncertainty is also likely to have fuelled demand for highly liquid federal bonds. Investment decisions by non-euro-area central banks as part of their foreign reserves management activities are another factor that is likely to have driven down yields.

Why yields are low at present

The substantial improvement in financing conditions has yielded significant interest savings for central government, though the actual amount saved is highly contingent on how the reference line and the period under review are defined. For instance, looking at the year 2012 in isolation and disregarding the bad bank FMS Wertmanagement, interest expenditure relief is roughly €15 billion if the reference line is set at the average interest rate on total debt in 2008.¹⁵ That relief amounts to €10 billion com-

Borrowing at favourable conditions yields considerable interest savings

¹⁵ Using a highly simplified approach for central government and its off-budget special funds (excluding the bad bank FMS Wertmanagement), the figure is derived from the rollover of maturing debt instruments since the end of 2008 and new borrowing since this date. Data relate to the interest expenditure shown in the 2012 budget in respect of debt instruments newly issued since 2009. Further factors providing relief such as premiums posted in the budget on account of receding capital market interest rates are thus excluded from the data, as are any derivative-related effects.

pared with financing at the conditions of the maturing debt instruments. A reference line equal to a refinancing rate of, say, 3% (a rate that is roughly equal to Germany's potential growth rate plus inflation of between 1½% and 2%) reduces the budgetary relief to €5 billion.

Very substantial relief relative to original fiscal planning ...

This should be distinguished from unplanned relief, that is, relief that had not been scheduled into central government's core budget planning in this period. For instance, the summer 2008 medium-term fiscal plan, the first to include the year 2012, projected interest expenditure of €46½ billion for 2012. It should be noted here that, since the crisis was not anticipated back in 2008, the debt level has turned out to be significantly higher overall than originally planned (by around €100 billion). Assuming the capital market conditions in existence at the time of borrowing, the associated additional interest expenditure incurred in 2012 can be projected at around €2 billion. Factoring this figure into the equation, and given that central government, in fact, paid no more than €30½ billion for servicing debt last year, this results in a reduced expenditure of around €18 billion. The relief is also substantial when compared with the €46½ billion which was projected for 2012 in the summer 2009 fiscal plan. Unlike in the preceding year, expectations regarding future deficits here were significantly overstated. Even after deducting the resulting interest expenditure effect from the projected interest burden (a figure of €3 billion), the relief is still a discernible €13 billion. The pattern was no different in subsequent years, with central government likewise under-spending on interest expenditure relative to the figures projected in the fiscal plans, chiefly because interest rates on the whole turned out to be lower than widely anticipated. Generally speaking, it is advisable to base fiscal planning – a key cornerstone of policymaking – on prudent assumptions.

... explains lower budget deficits to a significant degree

All in all, interest expenditure goes a long way towards explaining why central government budget deficits are now much lower than

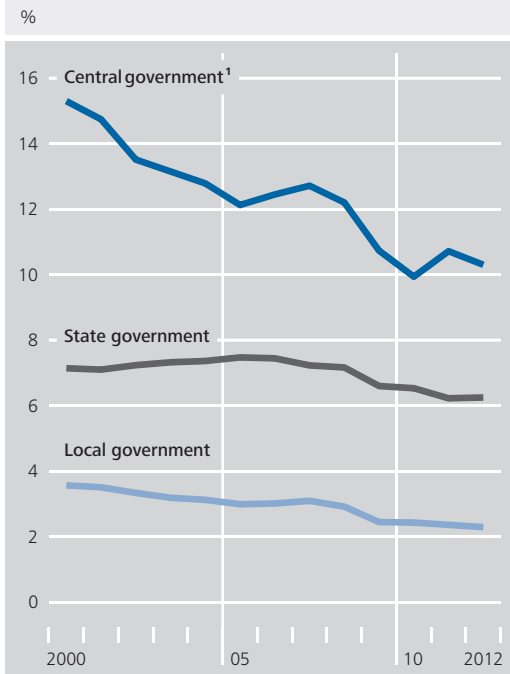
planned back in 2009. As a case in point, the 2009 fiscal plan originally envisaged very high net borrowing of €58½ billion for the 2012 fiscal year. While higher-than-originally-projected tax revenue of €24 billion made the largest individual contribution to the ultimately superior budget outturn, with net new borrowing of €22½ billion, the interest relief (€16 billion) likewise played a significant role.

A lack of visibility on future interest developments means that interest expenditure budget estimates by central government are generally fraught with considerable estimation uncertainty. Alongside capital market developments, a not insignificant contributory factor is the accounting treatment of premiums and discounts on issues of long-dated federal securities. As a case in point, premiums have been a regular occurrence since 2009 while budget preparers – obviously anticipating rising capital market yields – originally projected discounts on issuances during this time. Variations between budget estimates and actual figures peaked at as much as €3 billion. Distributing such premiums and discounts in the budgets evenly until the respective securities reach maturity (as envisaged in the national accounts) would make economic sense.¹⁶ Doing so would smoothen budgetary developments, while the structural deficit calculated for the purpose of the national debt brake would better reflect the underlying budgetary situation. In addition, it would bring national budgetary requirements more consistently into line with the European

Applying accrual accounting method to discounts and premiums reduces estimation errors and better reflects budgetary developments

¹⁶ To this end, they could be treated like financial transactions with at least their impact on structural deficits being evenly distributed over the term of the security in question. In the case of premiums, borrowing would increase accordingly while debt servicing in subsequent years would include the straight-line amortisation of the premium. This part of debt servicing equates to the spread between the yield actually demanded on the market and the (higher) coupon, and it reduces the structural deficit by the amount of the payments that are then classified as repayments (rather than interest expenditure). In the case of discounts, the borrowing to be recognised at issue would be reduced by that amount. In subsequent years, the interest expenditure would be written up correspondingly in order to distribute the effect of the discount on the structural deficit evenly.

Share of interest in total expenditure * by level of government



* National accounts definition; interest expenditure plus financial intermediation services indirectly measured (FISIM). ¹ Total expenditure without deductions relating to UMTS auctions and without capital transfers related to the establishment of FMS Wertmanagement.
 Deutsche Bundesbank

erto, probably because the financial markets ultimately assume the existence of joint liability within the German federation.¹⁸ The long-standing aid for amortisation of excessive debt once provided for the states of Bremen and the Saarland is often cited as evidence underpinning this view.

Interest expenditure as a percentage of total expenditure (core budgets) varies from one federal state to the next,¹⁹ ranging from around 2% in Saxony and Bavaria up to 13% in the Saarland and 14% in Bremen. While the average ratio of 6% across all states has seen a very sharp decline of almost two percentage points since the mid-2000s, it actually climbed distinctly in the Saarland and Bremen (those with the highest figures) during this period, the clear decline in average interest rates notwithstanding. The higher the level of debt, the stronger the likely impact of additional burdens if interest rates start rising again. Against this backdrop, a scenario of increasing interest rates might jeopardise compliance with the agreed objective of balancing their budgets by 2020, particularly so for federal states with high debt ratios.

Heavy interest burden necessitates ambitious fiscal policy in order to comply with debt brake rules

rules, which are generally based on the national accounts definition.

State and local government

Interest expenditure burden far less substantial overall for both state and local government, ...

Interest expenditure plays a much less significant role at state and local government level than it does for central government, not just in absolute terms but relative to budget size as well. While central government last year still had to allocate slightly more than one-tenth of its expenditure to interest payments,¹⁷ the comparable figures were just over 6% for state government and only a little over 2% for local government (including off-budget entities in each case).

... but considerable differences exist between individual units

Yet the aggregated data mask a considerable disparity between individual states and municipalities, which are largely the result of differences in each unit's debt levels. State financing conditions have shown very little variation hith-

Concluding remarks

Although the German debt ratio has increased again sharply in recent years, the significant drop in the average rate of interest payable on government debt has distinctly driven down the interest expenditure burden on public finances. Lower debt servicing has genuinely contributed to easing the pressure on German public finances because the decline came amid what was regarded as largely stable potential

Waning interest expenditure ratio has eased consolidation

¹⁷ After rising again sharply owing to the establishment of FMS Wertmanagement in autumn 2010, which generated high interest expenses and income alike.

¹⁸ Even similar bonds issued by the financially strong state of Bavaria and by states still running distinct deficits exhibit only relatively minor yield differentials.

¹⁹ In the absence of relevant national accounts data, the comparison of individual states is based on the definition used in the government's financial statistics.

The development of government interest expenditure in the European monetary union

In public discussion it is often said that, in the European monetary union (EMU), German public finances in particular are benefiting from favourable financing conditions. Indeed, the present interest rates, notably at the longer end, are relatively advantageous for Germany, and the interest expenditure burden has eased markedly in the past years. However, consideration of developments in the individual euro-area countries since the beginning of EMU reveals a rather more nuanced overall picture of the relative interest burdens. For instance, the interest expenditure ratios (interest expenditure as a percentage of gross domestic product (GDP)) and the average interest rate on government debt in some countries fell more strongly, and are currently at lower levels, than in Germany. The extent to which the interest rate level in itself represents a burden for public finances depends crucially, moreover, on a country's (potential) growth, ie it ultimately hinges on the interest-growth differential, which sets the interest rate on sovereign debt in relation to economic growth. In this context, Germany brought up the rear until 2006, whereas the picture was reversed more recently, at least in comparison with the countries which were hit especially hard by the crisis.

In the following, the development for the founder members of monetary union from 1998 up to 2012 is examined.¹ To illustrate the trends, besides Germany, two groups of countries are formed. One is made up of the countries which were hit especially hard by the crisis and which have received support through the Eurosystem's assistance programmes or government bond purchases under the SMP² (Ireland, Portugal, Spain and Italy). The group of the "other countries" contains the remaining founding euro-area countries (Austria, Belgium, Fin-

land, France, Luxembourg and the Netherlands). The unweighted averages are considered for each of these two groups of countries.³ To an extent, however, the development proved to be very mixed even within the two groups. For this reason, figures for the individual countries are shown at the end of this box.

The figures demonstrate that, until shortly before the financial and economic crisis in 2008-09, the interest expenditure ratios for both groups declined considerably more strongly than in Germany, and even fell below the German level (see upper chart on page 60).⁴ In Italy and Belgium, however, the interest expenditure ratio consistently remained markedly above the German level on account of the high debt ratio. During the crisis, however, the trend was reversed in the countries which were hit especially hard by the crisis. The decline continued in the "other countries". In the first group of countries, the interest expenditure ratio in Italy and Spain was of late still distinctly lower than when they joined EMU, however, whilst in Portugal and Ireland it was markedly higher. With the exception of Belgium, all of the "other countries" posted

¹ To ensure comparability, the countries which joined the euro area after it was created are excluded here (Greece (2001), Slovenia (2007), Malta and Cyprus (2008), Slovakia (2009), Estonia (2011)). However, the relevant statistical information is to be found in the table on p 63.

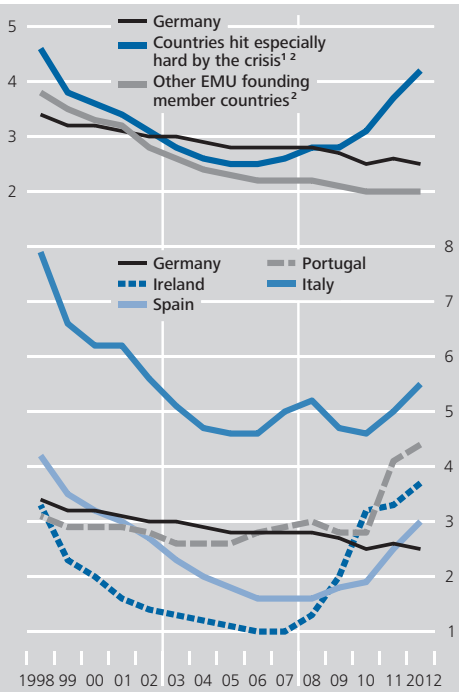
² Securities Markets Programme, programme for the purchase of government bonds on the secondary market.

³ The unweighted average is used to give each country the same weighting, regardless of its size. This approach is used here because the focus of the burden of interest is on the country-specific development and less on the aggregate. In the European budgetary surveillance procedure, too, the development in each individual EMU member country is important rather than that in the aggregate of countries.

⁴ The data source for the charts is the European Commission's AMECO database (as at May 2013).

Government interest expenditure

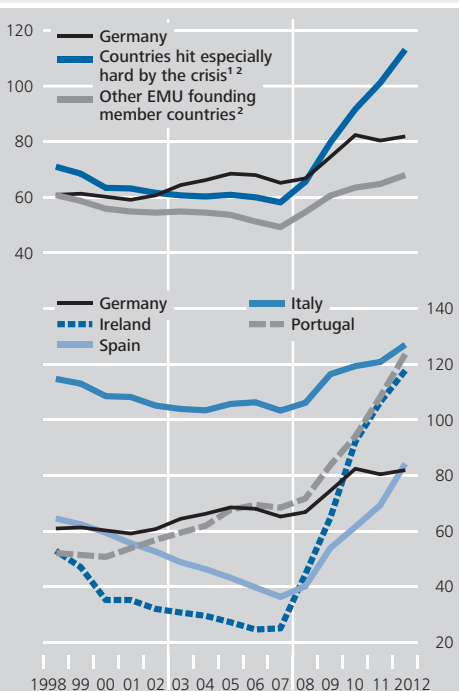
As a percentage of GDP



1 Ireland, Italy, Portugal and Spain. 2 Unweighted average.
 Deutsche Bundesbank

Debt ratios

%



1 Ireland, Italy, Portugal and Spain. 2 Unweighted average.
 Deutsche Bundesbank

ratios which were lower than or roughly equal to that in Germany.

Interest expenditure is determined by the debt levels on the one hand and by the average interest payable on the other. The major driver of the considerable trend reversal in the interest expenditure ratios of the countries hit especially hard by the crisis was the renewed increase of the debt ratios (see chart opposite). Whereas the debt ratios had trended downwards until the financial and economic crisis broke out, they increased sharply from 2008 onwards (the increase was weakest in Italy). By contrast, the debt ratio rose much less sharply from 2008 in the other countries considered here.

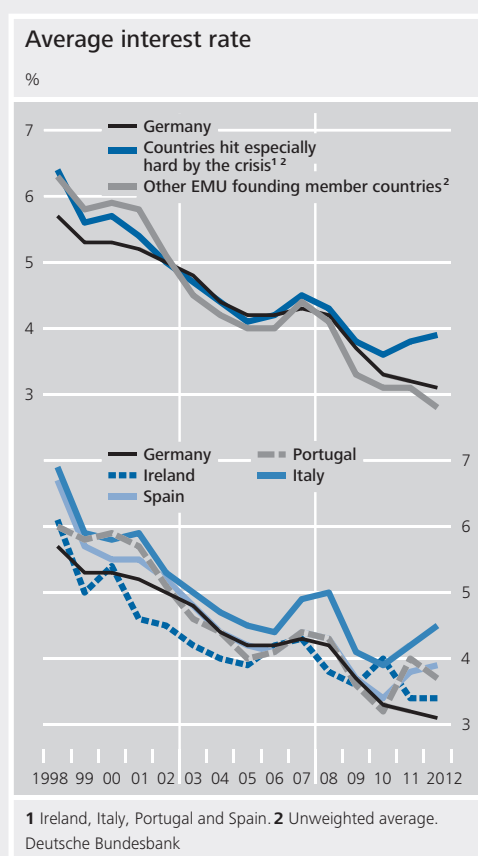
On the whole, a steep trend decline is found in the average interest rate⁵ on government debt, which had a strong dampening effect on interest expenditure in all countries (see chart on page 61). But whereas this development came to a halt in 2010 in the countries which were hit especially hard by the crisis, and the average interest rate again saw a moderate increase in the past two years, the decline in Germany and the "other countries" persisted and overcompensated for the effect of the rising debt ratios. The development from 2009 onwards was probably largely driven by the creditors' revised perception of risk, which went hand-in-hand with a deterioration of the creditworthiness of the countries hit especially hard by the crisis and an intensified search for safe investment opportunities. This, in turn, produced a marked diversification of issue yields. It has to be borne in mind in this context that the average interest rate is a mathematical value and is ultimately based on securities issued and loans taken out (in some cases, far back) in

⁵ Measured as the interest expenditure of one year (excluding FISIM) in relation to the average of the debt levels at the end of the current and the preceding year.

the past. Thus, the average interest rate has a “memory” that takes its bearings from the maturities of the securities or loans and so lags behind the current issue yield.⁶ Thus, even a sharp increase or decrease in current yields has only a limited effect on the average interest rate – as long as it proves not to be persistent.

The average interest rate in the “other countries” of EMU fell more heavily than in Germany, and from 2003 onwards was almost consistently below the German figure. Whereas the average interest rate in Austria and Belgium was higher of late, the figure was lower for France, Luxembourg, the Netherlands and Finland. Given that the interest spreads vis-à-vis Germany were almost negligible up until the crisis, this may reflect factors such as stronger financing at the short end, a larger share of variable-rate loans or another use of derivatives. For example, assuming a normal yield curve, short-term financing is, initially, usually cheaper and a falling interest rate level is more quickly passed through to the average interest rate. The average interest rate for the countries hit especially hard by the crisis was more recently probably also dampened by the European assistance programmes, even though the effect will still have been limited up to 2012, the final year of our observation period.⁷ Just how strong the effect of the assistance programmes can be is illustrated by Greece which, because it did not join EMU until 2001, is not otherwise considered here. The average interest rate on Greek government debt has been pushed down to one of the lowest levels in the entire euro area.⁸

The extent to which the average interest rate on government debt represents a burden for the individual countries also depends on the respective growth trend. The greater the gap between the (in most cases, higher) interest rate on government debt and (nominal) GDP growth, the more ambi-



tious the fiscal policy stance (as measured in terms of the primary balance) must be to prevent the debt ratio from rising. Comparison of the trend growth rates of real GDP as reported by the European Commission shows clearly that the countries that were hit especially hard by the crisis experienced, on average, markedly stronger growth in real terms at the beginning of monetary union than the “other countries”, whose growth rates were, in turn, considerably above those for the German economy (see

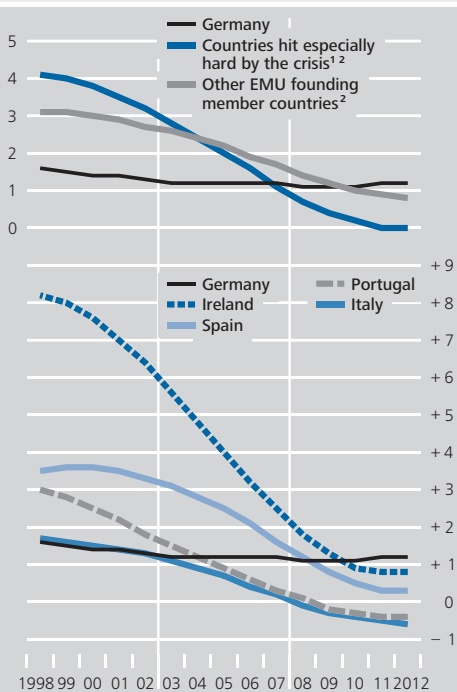
⁶ Thus, the higher average interest rates at the beginning of monetary union, for instance, still reflect the comparatively high interest rate levels of the 1990s, which in some countries were driven by higher inflation expectations at that time and by the relatively high interest rate level following German reunification (which was not only reflected in the German yield level).

⁷ However, any effects caused by the Eurosystem’s crisis measures are almost impossible to quantify.

⁸ The European Commission expects an average interest rate for Greece of 2.5% in 2014, the lowest after Estonia, Luxembourg and Finland (whereas 2.9% is expected for Germany, for example, and 2.6% for France).

Real trend GDP

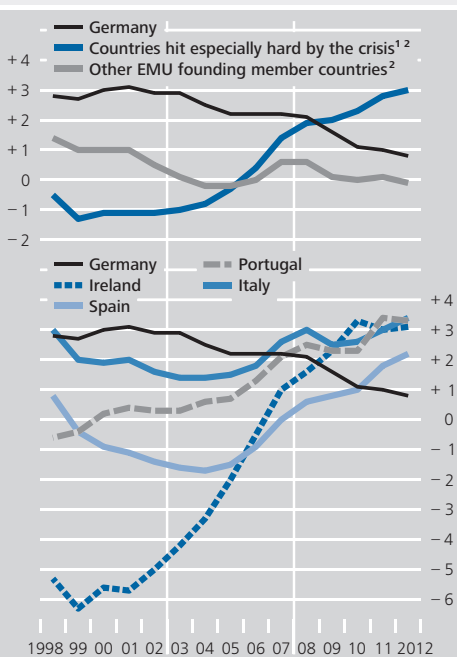
Change against previous period in %



1 Ireland, Italy, Portugal and Spain. 2 Unweighted average.
 Deutsche Bundesbank

Interest-growth differential*

%



* Difference between average interest rate and growth rate of nominal trend GDP. 1 Ireland, Italy, Portugal and Spain. 2 Unweighted average.
 Deutsche Bundesbank

upper chart on this page). These trends changed markedly over time, however. The countries hit especially hard by the crisis are now posting virtually no trend growth, and the "other countries", too, fell (slightly) behind German trend growth of late. On the other hand, the price trend in Germany stayed below the average for both groups of countries, with the result that their nominal growth decelerated to a lesser extent of late than that of Germany.

Examination of the interest-growth differential⁹ shows clearly that the improvement in framework conditions in this respect was relatively continuous both in Germany and in the "other countries" following the advent of monetary union, but proved to be less favourable in Germany up to the current end (see lower chart on this page). By contrast, the framework conditions for the countries hit especially hard by the crisis were initially very good, with even an almost consistently negative differential in the first decade of monetary union. More recently, however, this situation was reversed owing to the pronounced downward trend in growth. Over the last five years, the interest-growth differential, too, was less favourable than in Germany and was roughly at the level posted by Germany in the early years of monetary union.¹⁰ From the beginning of monetary union, Germany and Italy showed the highest interest-growth differentials of just over 2% on average. An average of ½% was calculated for the countries hit especially hard by the crisis, whilst the interest-

⁹ Defined here as the difference between the nominal average interest rate on government debt and the nominal trend growth rate.

¹⁰ However, the average for the countries which were hit especially hard by the crisis obscures the fact that Spain and Ireland experienced considerably higher growth rates than Italy and Portugal in the first 10 years of monetary union. But this was the result of a highly imbalanced development that entailed considerable losses in competitiveness. The crisis marked the beginning of a substantial macroeconomic adjustment. The current debt ratios of the countries hit especially hard by the crisis are markedly higher than in Germany at the beginning of monetary union.

Budget ratios of the euro-area countries

Per cent

Country/groups of countries	Interest expenditure ratios			Debt ratios		
	1999	2007	2012	1999	2007	2012
Belgium	6.8	3.9	3.4	113.6	84.0	99.6
Germany	3.2	2.8	2.5	61.3	65.2	81.9
Estonia	0.3	0.2	0.2	6.5	3.7	10.1
Ireland	2.3	1.0	3.7	47.0	25.0	117.7
Greece	7.4	4.5	5.0	93.5	107.2	156.9
Spain	3.5	1.6	3.0	62.4	36.3	84.2
France	3.0	2.7	2.5	58.9	64.2	90.2
Italy	6.6	5.0	5.5	113.0	103.3	127.0
Cyprus	3.1	3.0	3.2	59.5	58.5	85.8
Luxembourg	0.3	0.2	0.4	6.4	6.7	20.8
Malta	3.6	3.3	3.2	56.6	60.7	72.1
Netherlands	4.3	2.2	1.9	61.1	45.3	71.2
Austria	3.4	2.7	2.6	66.8	60.2	73.4
Portugal	2.9	2.9	4.4	51.4	68.4	123.6
Slovenia	2.3	1.3	2.1	23.6	23.1	54.1
Slovakia	3.4	1.4	1.9	49.8	29.8	52.1
Finland	3.0	1.5	1.0	45.7	35.1	53.0
Unweighted averages						
Countries hit especially hard by the crisis ¹	3.8	2.6	4.2	68.5	58.2	113.1
Other founding member countries ²	3.5	2.2	2.0	58.7	49.3	68.0
Weighted averages						
Countries hit especially hard by the crisis ¹	5.2	3.4	4.5	90.8	72.5	111.0
Other founding member countries ²	3.6	2.6	2.4	64.4	60.4	83.6
Average interest rate			Interest-growth differentials			
	1999	2007	2012	1999	2007	2012
Belgium	6.0	4.6	3.5	2.0	1.1	0.7
Germany	5.3	4.3	3.1	2.8	2.2	0.8
Estonia	4.8	4.4	2.1	8.8	4.4	2.1
Ireland	5.0	4.3	3.4	-5.3	1.0	3.1
Greece	8.2	4.3	2.9	1.6	1.1	4.3
Spain	5.7	4.4	3.9	0.8	0.0	2.2
France	5.1	4.3	2.9	1.8	1.4	0.7
Italy	5.9	4.9	4.5	3.0	2.6	3.4
Cyprus	5.4	5.2	4.0	-2.0	0.3	2.2
Luxembourg	5.1	3.7	2.1	-1.4	-2.4	-2.9
Malta	6.9	5.5	4.5	-0.2	1.1	0.5
Netherlands	7.0	4.8	2.8	1.4	1.7	1.0
Austria	5.2	4.6	3.6	1.8	1.2	0.5
Portugal	5.8	4.4	3.7	-0.6	2.1	3.3
Slovenia	10.5	5.4	4.1	10.1	5.4	4.1
Slovakia	8.2	4.9	3.9	8.0	4.9	3.9
Finland	6.6	4.1	2.1	2.5	0.6	-0.6
Unweighted averages						
Countries hit especially hard by the crisis ¹	5.6	4.5	3.9	-1.3	1.4	3.0
Other founding member countries ²	5.8	4.4	2.8	1.0	0.6	-0.1
Weighted averages						
Countries hit especially hard by the crisis ¹	5.8	4.7	4.2	0.7	1.7	3.0
Other founding member countries ²	5.6	4.4	3.0	1.4	1.3	0.7

Source: European Commission's AMECO database. ¹ Ireland, Spain, Italy and Portugal. ² Belgium, France, Luxembourg, Netherlands, Austria and Finland.

Deutsche Bundesbank

growth differential for the “other countries” amounted to ¼% on average.

On balance, the relevant framework conditions for public finances in the countries hit especially hard by the crisis are currently less favourable than in the remaining euro-area countries. This is due to a higher average interest rate on government debt as well as to lower trend growth rates. However, the conditions there were mostly very favourable in the first 10 years of monetary union. The framework conditions in Germany improved almost constantly from the beginning of monetary union, and are currently relatively favourable. But the same can be said – and largely to an even greater extent – of the remaining euro-area countries that were less affected by the crisis.

Where the countries hit especially hard by the crisis are concerned, it is crucial that they continue on the course of structural

reforms in order to return to a higher structural growth path in future. On the other hand, a short-lived economic recovery that is driven by a more expansionary fiscal policy will not solve the structural problems. Indeed, delaying consolidation could even cause yield spreads to widen again, making the process of restoring sound public finances more difficult. The European assistance measures have the effect of partially shielding the recipient countries from market developments and of easing the interest expenditure burden. An important aspect in this connection, however, is the prospect of a return to more favourable growth conditions and lower market-based risk premiums on interest rates. For this reason, to maintain incentives to continue with structural reforms and consolidation, extensive reform conditionalities as well as substantial interest rate surcharges on the costs of financing the assistance mechanisms would appear to be necessary.

growth and a rather consistent price trend.²⁰ Seen from this angle, the relief offered in terms of interest expenditure will *ceteris paribus* allow the debt ratio to be run down more quickly. The German government currently enjoys particularly advantageous capital market financing conditions relative to other euro-area member states. However, the receding average interest rate on government debt is easing public finances to an even greater degree in a host of countries. In addition, over the past 15 years, average interest-growth differentials in most euro-area member states have been significantly lower than in Germany (see also the box on pages 59 to 64).

Financing conditions for German government debt in recent years have often turned out to be much more favourable than originally projected. Issue yields have already declined significantly, so a further notable decline looks very unlikely indeed. An increase might be a prospect, though, if uncertainty emanating

from the debt crisis subsides and the macro-economic outlook brightens, or if rising global interest rates outside the euro area, for instance, have a knock-on effect on Germany. The outlook for nominal interest rates hinges on whether inflation expectations in the euro area remain firmly anchored. Yields on long-dated federal bonds have been seen to be edging higher since the summer, notably so against the backdrop of developments in the USA. A downturn in financing conditions can make itself felt in a government budget, particularly if debt levels remain high. Nonetheless, central government’s interest expenditure will initially continue to be dampened by the relatively high-yield long-dated legacy debt that needs to be rolled over (see the box on pages 65 to 66). Central government’s latest

Rising interest rates pose risk to public finances, particularly if debt ratio is high

²⁰ The interest-growth differential has therefore declined on average. The wider the differential, the higher the primary balance (fiscal balance excluding interest expenditure) needs to be in order to stabilise a given debt ratio and/or safeguard public finance sustainability.

The impact of a rise in interest rates on public finances

A change in the interest rate level on the capital markets has a major impact on public finances if sovereign debt levels are high. The impact depends on the changes which affect the short, medium and long-term interest rates (the yield curve). It also depends on how the funding is distributed across the maturity buckets and to what extent new loans are taken out and existing loans refinanced.

General government

It is relatively easy to calculate the long-term impact of a one-percentage-point increase in interest rates on the capital markets across all maturities compared to a scenario in which conditions remain unchanged. Assuming a debt level of close to €2,200 billion, after a full transfer, considerable additional spending amounting to €22 billion (currently ¾% of GDP) arises in the long term.¹ However, given imperfect information about the interest rate lock-in periods for loans, the time frame for the general government transfer cannot be estimated accurately even if derivatives effects are excluded.² If the end-2012 debt structure were projected into the future, the additional burdens, including cash advances, would amount to around €10 billion after three years and around €20 billion after ten years.

Central government

According to the 2014 draft budget, in the central government's core budget,³ gross borrowing amounts to a total of €216½ billion.⁴ However, it still includes the refinancing of the short-term securities issued in the same year with maturities of six to 12 months. A total of €53½ billion worth of these securities is scheduled to be issued. Gross new borrowing is therefore likely to amount to €200 billion for the whole year.⁵ According to the documentation, in the following year (in which the fiscal plan does

not provide for any net borrowing), a further €150 billion would be due from borrowing before 2014.⁶ In the three subsequent years up to 2018, in which both bonds and Federal notes issued before the assumed change in the interest rate would require refinancing, the impact of a higher interest rate on the bonds and notes would then be limited to a maturing amount of €100 billion for each year. For the next five years up to 2023, of the older securities, only bonds would need to be redeemed. The relevant annual refinancing volume would then be cut by around half. In the next 20 years, further additional burdens would then arise from the 30-year bonds maturing in various years with an overall outstanding volume of around €165 billion.

On a cash basis, in terms of interest rate expenditure for 2014, an interest rate increase of 1 percentage point (at the beginning of

¹ Not including potential future borrowing (for financing the additional interest costs, for example) or redemptions.

² Excluding cash advances (the terms of which are assumed to be subject to modification at short notice), the Federal Statistical Office's debt statistics at the end of 2012 show debt that is due to mature between 2013 and 2017. Out of the reported gross debt (including bad banks) of €2,000 billion, €429 billion is or was due during the current year and a further €145 billion is subject to a variable rate (ie through automatic modifications to lending conditions at short notice). In the subsequent years up to 2017, the amounts due and not yet transferred will fall gradually to reach roughly €215 billion (in 2014) and around €140 billion in 2017. By the end of 2017, a volume of around €745 billion will still remain untransferred.

³ Using data on residual maturities, a simplified projection can be made for the core budget of the Federal government, whose debt is issued largely in the form of securities.

⁴ Cash advances are not taken into account. As these are associated with similarly high deposits in annualised terms, they are not taken into account in the remainder of the box.

⁵ Two-year Federal Treasury notes (Schätze) in the amount of €55½ billion are due and planned to be refinanced in full. In terms of longer-dated securities, redemptions amount to €85½ billion while issues stand at €107½ billion.

⁶ Including €56½ billion from two-year securities. Maturing bonds and Federal notes would account for a volume of €94 billion.

2014) would only result in burdens arising from newly issued short-dated bonds due to mature during the course of the year, which are likely to amount to less than €200 billion.⁷ At around €2 billion, the additional gross borrowing costs from 2014 would then impact on the 2015 budget. In 2016, the burdens would increase further by just under €1½ billion. The annual increase would subsequently slow to €1 billion by 2019 and then to €½ billion. From 2025 on, further increases would occur only once 30-year securities mature, before a final annual level of additional costs of almost €11 billion would be reached.

The estimate can be calculated more simply using the national accounts methodology, which is based on the accrual principle. Assuming that central government's monthly gross borrowing remains constant throughout the year, according to the accrual principle additional costs of €1 billion would already be incurred in 2014 and would rise by almost €2½ billion in 2015, and then continue to increase in small stages in a similar way to that shown in the analysis of the budget accounts.

However, the simple projection excludes important aspects. For example, should interest rates rise, an attempt could be made to concentrate a larger part of the borrowing at the short end of the yield curve, where the interest rates to be paid are typically lower than those for long-dated securities. It is not possible to quantify the financial effect on the derivatives.

The previous calculations estimated how much additional expenditure for central government would arise from a one-percentage-point increase in the interest rate level compared to a reference scenario that was not further defined. Of course, this does not necessarily mean that central government's interest expenditure would rise overall compared to the previous year as a result. On the one hand, additional burdens or relief caused by net borrowing or redemption in the previous year have to be taken into account. On the other hand, the

size of the interest rate differential between the maturing debt instruments (to be refinanced) plays a role.⁸

In order to estimate the development of overall interest expenditure, a rough projection can first be carried out, based, for example, on the assumption that the interest rate level as at the end of August 2013 will remain unchanged. In this case, refinancing and borrowing from 2013 would result in relief of €2½ billion compared to the current year for the 2014 central government budget (including special funds but excluding the bad bank). Under these assumptions, from 2015 to 2017, further reductions in expenditure of around €1½ billion each year would be achieved before a figure of just under €1 billion is reached in 2018 – when relief will be provided solely by the refinancing of bonds and the redemptions envisaged in the fiscal plan. Factoring in the impact of the assumed interest rate increase of one percentage point at the beginning of 2014, additional interest expenditure in 2015 would total €½ billion in comparison to 2014, which would presumably hardly be affected by the rise in interest rates. In the following year, 2016, there would once more be a slight decrease compared to the previous year owing to refinancing savings for long-dated bonds, which would continue in 2017 and even lead to interest expenditure dropping moderately below its level of 2014.

⁷ The cost effects associated with outstanding derivatives cannot be estimated using the available information and have therefore been factored out. Short-term burdens from discounts could be considerable if, for example, there was an increase in outstanding amounts of existing bonds with lower coupon rates and the interest rate rose by one percentage point. For ten-year bonds, this would lead to price mark-downs of up to 10%, which would admittedly be offset by lower current interest rate expenditure in the following years. If a total volume of around €20 billion was issued, discounts of up to €2 billion – booked as interest rate expenditure at the time of issue – could therefore occur. The discounts on Federal notes (Bobs) and Federal Treasury notes (Schätze) would be significantly smaller due to the shorter maturities.

⁸ The effects of derivatives or modifications to discounts/premiums cannot be estimated and have therefore been excluded.

medium-term fiscal projections for the period until 2017 represent a welcome demonstration of prudent fiscal planning in the sense that they anticipate interest rates edging somewhat higher again and a marked increase in the debt servicing burden.

National budget rules necessitate continuation of consolidation path

The German budget rules specify strict structural deficit ceilings for central and state government alike. In recent years, their deficits have been considerably lower than the figures projected when the debt brake was adopted. Unscheduled high tax revenue combined with lower interest expenditure were decisive fac-

tors here. Yet a host of federal states are still well in excess of the permanent ceilings. As for units which are already in compliance with these ceilings, the majority have failed to build up the safety margin needed to cushion against occasional unforeseen outliers within the framework of the debt rules. This is another reason why fiscal frugality remains the best course of action. It would also mean that any renewed relief offered in terms of interest expenditure should not be used as an excuse to dilute the fiscal policy course, thereby also better preparing government budgets for rising interest rate levels.