Aaa Sovereign Monitor

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Since the last issue of Moody's Aaa Sovereign Monitor, the policy divide between the United States and the other large Aaa-rated sovereigns has widened over the need for fiscal austerity versus the promotion of growth. In particular, the new coalition government in the United Kingdom has introduced a strong program of deficit reduction, while the US has recently rolled out a program of additional stimulus. These two countries have seen the steepest increases in government debt as a result of the financial crisis. Germany and France, the other two large Aaa-rated countries, also recorded significant debt increases, but have introduced measures to reduce their deficits over time – France much less aggressively so than Germany. Despite these differing strategies, Moody's continues to believe that all of these countries still possess debt metrics, including debt affordability, that are compatible with their Aaa ratings.

The contrasting stance between the world's largest economy and the three other largest Aaa economies will provide a test of how fiscal policy should be managed in the wake of a major financial crisis. Of course, it is not a perfect test, given the special status of the US dollar in global financial markets and the particular circumstances that now prevail in the Eurozone. In addition, monetary policy in the US is now more aggressively expansionary than it is in Europe.

For the US, there is a small but increasing likelihood that markets will demand a higher risk premium on government debt, in sharp contrast to the safe-haven status that the US Treasury bond has long enjoyed. The continued high level of deficits and upward debt trajectory could cause borrowing costs to rise more than now expected, making progress in reducing deficits more difficult in the future.

In Europe – apart from uncertainties concerning Eurozone support for peripheral countries and potential costs to core countries – the risk remains that fiscal austerity will keep growth too low, thereby thwarting significant progress on fiscal consolidation and debt reduction. Lately there have been signs, in Germany in particular, that this risk may not be so great, but the game is not yet over. Even if growth returns to moderate rates, fiscal austerity remains a challenge, and possible vulnerabilities in the banking sector still remain.

What to find in this report

This report sheds light on and puts into practice the conceptual framework Moody's uses in analyzing debt metrics in order to identify rating pressures on Aaa-rated governments. The report also contains updated data to illustrate debt trajectories under different scenarios.

Section 1 presents an overview of the challenges facing the four largest Aaa-rated governments.

Section 2 provides an update on the position of the four largest Aaa governments (France, Germany, the United Kingdom and the United States).

Section 3 provides a snapshot of the situation of selected other Aaa governments: this quarter, we focus on Asian Aaa countries (Australia, New Zealand and Singapore).

Section 4 (Special Focus) looks at why debt levels alone may not be the best indicator of Aaa sovereign credit quality.

Appendix I reviews our analytical framework and the stylized scenarios that we use to identify the Aaa-Aa demarcation zone.

Appendix II provides data underlying the debt trajectories under stylized scenarios for the countries covered in this issue of the Aaa Sovereign Monitor.

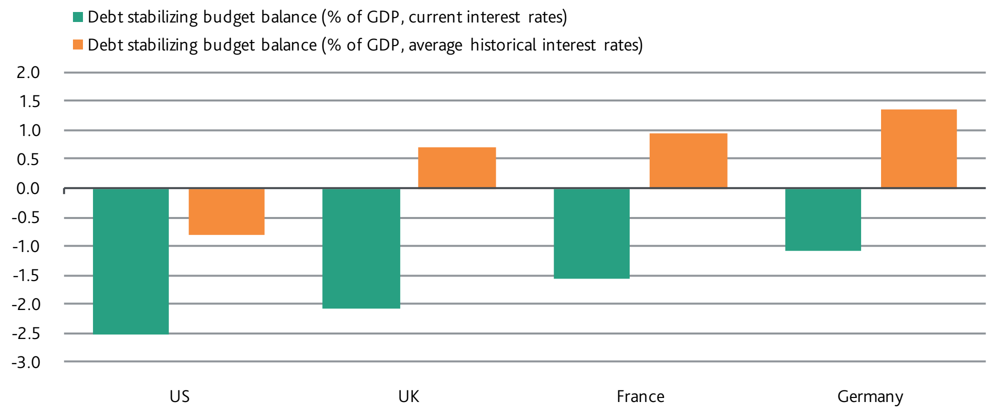
1. Overview

This report considers recent developments in and the near-term outlook for Aaa-rated sovereigns. The principal focus is on the factors that were most affected by the crisis – namely, the sovereigns' fiscal and debt metrics in the aftermath of the global financial crisis. There are, however, numerous other factors that support Moody's sovereign ratings, including the long-term economic strength of the country, institutional factors and susceptibility to event risk. In the case of Aaa-rated sovereigns, these factors largely remain supportive of their ratings.

However, over the longer term, many Aaa countries face significant challenges – the largest being the increased pressure on fiscal balances resulting from ageing populations. Structural factors that affect competitiveness, including demographics and labour market flexibility, will also be important.

As a starting point, how do the fiscal positions of the major countries compare today? The graph below shows the current deficit levels versus the levels needed to stabilize the ratio of government debt to GDP at current levels for the four largest Aaa sovereigns.

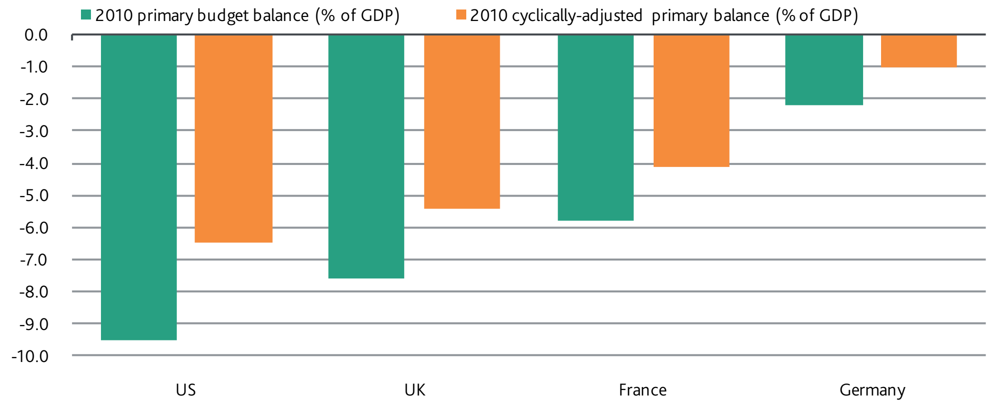
Debt-Stabilizing Primary Budget Balances



Source: Moody's.

Note: Assumptions as follows: consensus long-run nominal growth of 5.0% for the US, 5.1% for the UK, 3.2% for Germany, 3.9% for France; average historical interest rates over 1995-2010 of 4.0% for the US, 6.9% for the UK, 5.0% for Germany and 5.1% for France; 2010 interest rates and 2010 debt ratios as in Appendix II.

Current Primary Budget Balances



Source: IMF.

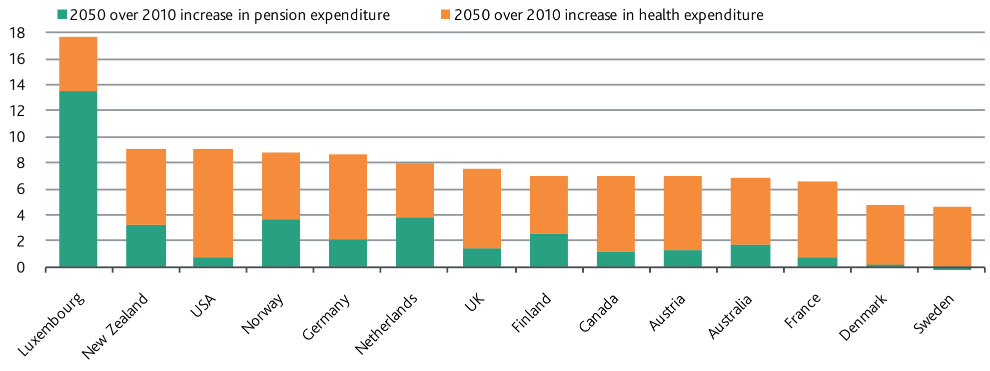
The graph shows that:

- if current interest rates were to prevail into the indefinite future and long-term nominal growth rates were to match the current consensus forecasts, all four countries could stabilize their debt ratios while running modest primary deficits, with the US having the most headroom and Germany the least, due to differences in expected long-term growth and interest rates; or
- if interest rates were to rise to their historical averages during the last 15 years for each country, all the countries, except the US, would need to run modest surpluses to achieve stability in their debt ratios; and
- the magnitude of adjustment required from the current deficit level to the debt stabilizing balance is the greatest for the US and the smallest for Germany. In fact, German debt metrics are on a stable path assuming the budget deficit does not deteriorate.

However, going forward, Aaa sovereigns will face increased pressure from health care and national pension plans. According to an IMF study published in 2010, the four largest Aaa-rated sovereigns face the most significant challenges in the realm of healthcare compared with other countries in this category. The graph below shows that, over the coming 40 years, public healthcare costs in these four countries will rise to reach the highest level as a proportion of GDP. (It should be noted that the costs associated with long-term healthcare of the elderly are highly uncertain both because the generosity of government programs may change over time but also because the rate of healthcare cost inflation is difficult to predict.)

Public Health and Pension Expenditure Projections

(As a percentage of GDP)



Source: IMF.

In the absence of reforms, the fiscal costs of national pension plans will also pressure the creditworthiness of these countries. As shown in the graph above, however, the burden of national pension systems is not expected to grow nearly as much from current levels as that of health care.

Moreover, the US, which faces the largest projected increase in health care spending, is projected to face relatively small pressures from pension spending. Overall, while these are long-term rating concerns, Moody's does not expect these factors to create immediate pressure on ratings. Over the next decade, however, they could begin to impact ratings in the absence of policy changes.

Near-Term Issues

The big four Aaa-rated governments of the US, the UK, Germany and France – on which this issue of the Aaa Sovereign Monitor focuses – continue to face important internal and external challenges that require decisive action to control the public debt trajectory and preserve very high debt finance-ability at affordable conditions. Despite these challenges, Moody's believes these countries are taking or will take steps to rein in the debt trajectory. However, implementing such measures in the near term has now become more pressing as a result of the recent deterioration in debt metrics. We therefore retain stable outlooks on these countries' ratings, although there are questions about the willingness of the US to take the necessary steps. Without these steps, a negative outlook on the US rating becomes more probable.

The challenge now is to find the right balance between existing economic and financial support measures and the implementation of fiscal austerity measures without damaging the economic recovery. Additional challenges in Europe arise from contagion risks in European government bond markets and banking systems and the contingent liability that banking system exposures might present to government balance sheets.

Moves Toward "Ring-Fencing" of Government Debt in Europe

Despite moves toward ring-fencing, there remains a risk in Europe that governments' direct fiscal outlays and government bond risk premia will be affected by the problems in the "peripheral" Eurozone countries. Aside from direct assistance to the sovereigns, a potential channel for such a development is through the banking systems of the core countries themselves. This was a part of the motivation behind the UK's assistance to Ireland, even though the UK is not part of the Eurozone. At the same time, some ring-fencing of potential risks would be credit-positive for the top-rated governments that are complementing the emergency financing provided by the European Central Bank (ECB) by offering guarantees in times of stress. Such ring-fencing would further support these countries' credibility and demonstrate that they are able and willing to deliver without overstretching their own financial fundamentals. Plans for a future European Stability Mechanism (ESM) seem to target such a ring-fencing by considering some sharing of the risk burden between guarantors, issuers and investors. However, potential assistance to banks is still a risk.

Growth Does Not Provide a Solution to the Debt Trajectory

Another external challenge is the likely moderation of the global and Eurozone economic recovery due to the simultaneous deleveraging in the public and private sectors and the retreat of growth stimuli. Global and European growth forecasts for 2011 were recently revised downwards. Uncertainty over GDP growth and an uneven recovery in the Eurozone and North America may complicate the reversal of growing general government debt ratios.

As a consequence, nominal GDP cannot be expected to be sufficiently dynamic in the medium term for governments to grow out of their public debt. However, Moody's expects Aaa-rated governments' debt to be reversible, i.e. that debt ratios can be put on a declining path in a timely manner if indebtedness has materially increased. Decisive adjustments of government budgets seem to be the only reliable way to achieve this. It is therefore important that Germany and the UK have embarked on important cost- and expenditure-cutting structural reforms, including adjustments to pension systems..

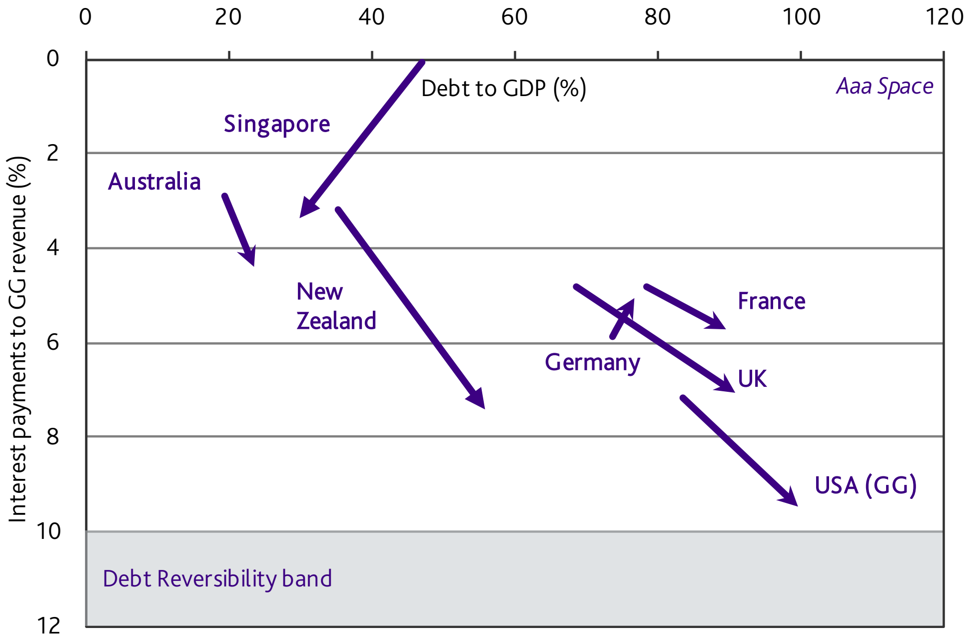
The US stands out in this regard by not yet having a fiscal austerity plan. Although its deficits are forecast to decline, this will not be sufficient to stabilize and ultimately reverse the government's debt trajectory. At the same time, the effect of the Fed's quantitative easing (QE) policy on economic and employment growth will not be significant enough to stabilize the debt trajectory because of the ongoing deleveraging by households and continued high unemployment. Thus, here too, growth is not by itself a solution. However, the debate on some important structural fiscal reforms has developed further. The National Commission on Fiscal Responsibility and Reform published its recommendations for expenditure cuts and revenue measures that would move the budget to primary surplus by 2015. However, these recommendations were not sent to Congress, and only piecemeal adoption of some measures now appears possible. Furthermore, the temporary extension of the "Bush tax cuts" will put pressure on the budget balance, at least for the next couple of years. Overall, therefore, the outlook for near-term stabilization of US government debt ratios is not promising.

Apart From The "Big Four", Other Aaa Sovereigns Face Less Pressure

Apart from the four largest, the fiscal outlook for other Aaa sovereigns is in most cases more positive. While the global recession and fiscal stimulus in a number of these countries resulted in larger budget deficits, this situation is generally temporary, with a return to a sustainable debt trajectory easily within reach. In Canada – the next in size after the four largest Aaa economies – the federal government expects to return to a balanced budget position by 2014-15, after a significant reduction in the deficit during the coming fiscal year. The Canadian banking system remains strong, with little prospect of government funding being required.

Indeed, the average level of debt in the other Aaa countries will remain much lower than in the four largest. This issue of the Aaa Sovereign Monitor contains updates on the three Aaa-rated sovereigns in the Asia-Pacific region: Australia, New Zealand and Singapore. Fiscal metrics for Australia and Singapore, in particular, are among the strongest of Aaa-rated sovereigns. New Zealand's debt position also compares favourably with the group, but the near-term trajectory shows some further rise in its debt ratios before a reversal is achieved.

Debt Trajectories 2009-2014 – Baseline Scenarios



2. Updates on the Largest Aaa Governments

France

Although government debt is rising, we expect its affordability and reversibility to remain within the Aaa range, with a short-term risk to France's budgetary position from intra-European linkages through banks and direct fiscal support.

France's economy is, to some degree, less dependent on foreign demand and more driven by domestic demand than Germany or the UK. This was demonstrated by the lower severity of France's economic recession in 2009 compared with that in many other Eurozone countries, reflecting this lower dependence on foreign demand. The French government's recovery plan, which was responsible for an increase of more than 1% in GDP in 2009-10, has been helping to drive the turnaround in the country's economy since H2 2009 by supporting households' purchasing power and consumption. According to the latest economic data, France's GDP grew 0.4% in Q3 2010, down from 0.7% in Q2 2010. The latest economic data confirmed that the country's recovery is mainly driven by domestic demand. This is in sharp contrast to our observations of the German economy, where exports have been an economic driver – and may indeed limit the potential scope for growth of the French economy.

The challenge for France's government is to balance restrictive fiscal and growth-enhancing economic policies to achieve the agreed deficit reduction. The phasing-out of government support measures for the economy, together with fiscal austerity measures, may lead to weaker-than-expected GDP growth in 2011 of around 1.5% and to a postponement of the hoped-for growth acceleration towards 2%-2.5% in 2012 and beyond. Domestic demand may only be enhanced by a significant improvement in employment; the recent pension reform, which disincentivizes early retirement, may be a step towards this aim, although more wide-ranging reforms may be necessary.

When France entered the financial crisis in 2008, its general government deficit was already 3.3% in relation to nominal GDP. Revenue shortfalls and extra expenditure to support the economy during the 2009 recession led to strong increases in the public deficit and debt ratios. The deficit is estimated to have reached 7.5% of GDP in 2010, similar to the 2009 figure. The government's ongoing phasing-out of support measures, together with potential increases in tax revenues, seem to presage a reduction in the deficit ratio to around 6% in 2011 and below 5% in 2012. This would lead to general government debt in relation to nominal GDP of around 83% and 85% in 2010 and 2011, respectively. We expect this debt ratio to approach 90% in 2012, requiring still further fiscal consolidation to stabilize and reverse the debt trajectory.

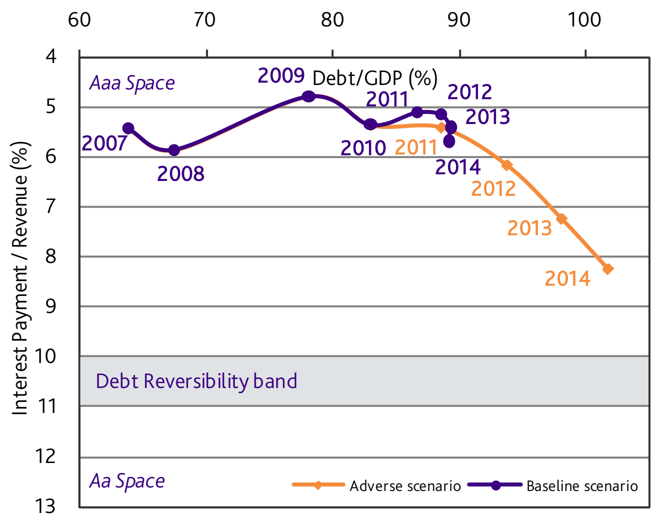
Currently, there seems to be potential for increases of government revenues via the economic recovery and by the government's decision to enlarge the tax base through a reduction of tax credits. On the expenditure side, healthcare and public administration costs remain very high despite the spending freeze at central government level and the reform of the pension system. Efficiency gains, while necessary to create the conditions for the government's planned general government deficit reduction to 3% of nominal GDP by 2013, may not be sufficient.

In the immediate future, the challenges faced by the French government do not give rise to rating concerns because the country's debt affordability remains very high. The French government has continued to benefit from an exceptionally high level of finance-ability – indeed, it has been able to borrow large amounts in the market without experiencing substantial rises in its funding costs – in large part because of the status of its bonds as benchmarks in the euro market. This status relies on the credibility of fiscal performance and ultimately on the expectations of investors that the government will be able and willing to tackle the challenges that lie ahead.

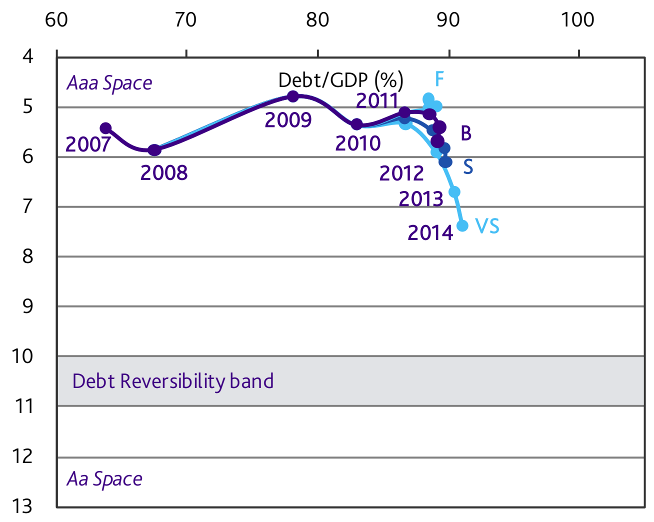
The recently approved pension reform will lift the minimum retirement age to 62 from 60 and the age at which a full pension can be received to 67 from 65. This should encourage a reduction in precautionary savings and thereby support consumption and growth. It may also stimulate labour supply and output growth. The French government's hope is that this will expand the tax base and strengthen its balance sheet.

France

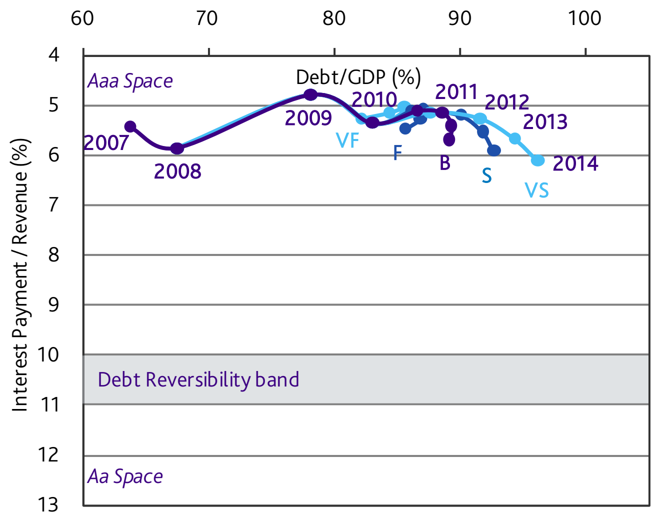
Debt Trajectories 2007-2014



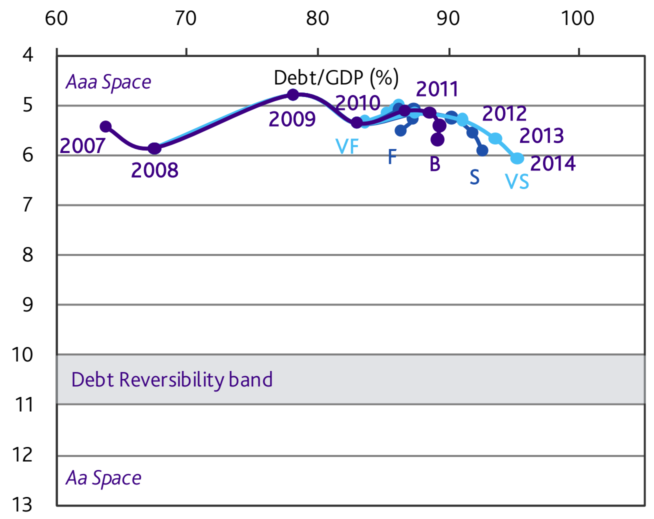
Interest Rate Sensitivity



Fiscal Adjustment Sensitivity



Nominal Growth Sensitivity



Uplift/Discount applied		Nominal Growth Sensitivity		Fiscal Adjustment Sensitivity		Interest Rate Sensitivity	
		2011	2012 onwards	2011	2012 onwards	2011	2012 onwards
VF	Very Favourable	+1%p	+2%p	-1%p	-2%p	-	-
F	Favourable	+0.5%p	+1%p	-0.5%p	-1%p	-50bps	-100bps
S	Severe	-0.5%p	-1%p	+0.5%p	+1%p	+100bps	+200bps
VS	Very Severe	-1%p	-2%p	+1%p	+2%p	+150bps	+300bps

Germany

Economic recovery and fiscal consolidation help to stabilize the debt trajectory and position the government's debt solidly within the Aaa range. The cost of restructuring the public banking system and responding to intra-European risks will likely affect the balance sheet, but fiscal metrics are starting from a strong position.

The German economy has recovered from the financial and economic crisis with remarkable speed – indeed, it performed better during the first three quarters of 2010 than originally expected in the government's spring projections. German Q3 GDP was up 0.7% q-o-q after +2.3% and +0.5% in Q1 and Q2, confirming a robust expansion since the beginning of 2010 and a closing output gap, with capacity utilization returning to long-term averages. This economic growth is supported by solid export activity, reflecting Germany's strong position to benefit from a global recovery.[1] In particular, the German economy's expertise in capital goods production has helped it to benefit strongly from the economic boom in emerging markets. In addition, the recovery has further broadened into the domestic economy. Capital investment, inventories, government expenditure and even private consumption – backed by a robust labour market and gross salary increases – seem to further add to the strengthening of the growth trend.

Thanks to the absence of debt-driven distortions in Germany's domestic economy, there is no need for deleveraging through (private) debt reduction, which is acting as a drag on growth in many EU economies. However, the strength of the country's recovery will be affected by the need to repair banks' balance sheets, the government's deficit reduction plans, and external demand for Germany's exports. Real GDP growth of 3.7% in 2010 and 2.5% in 2011 seems achievable on the basis of strong economic fundamentals. Nominal GDP may expand at rates of around 4% in 2010 and 3.0% in 2011 and 2012, supporting a stabilization and trend reversal of the general government debt ratio.

As Germany had entered the financial crisis with a balanced budget in 2008, the 2009 general government deficit in relation to nominal GDP was moderate in 2009 (3.0%) despite tax revenue shortfalls and extra government spending to support the economy. We expect the 2010 deficit to be below 4% of nominal GDP. This would be below earlier projections, reflecting a strong economic recovery with unemployment reduction and important tax revenue increases. We expect the deficit ratio to narrow to around 3% in 2011 and to 2% by 2012.

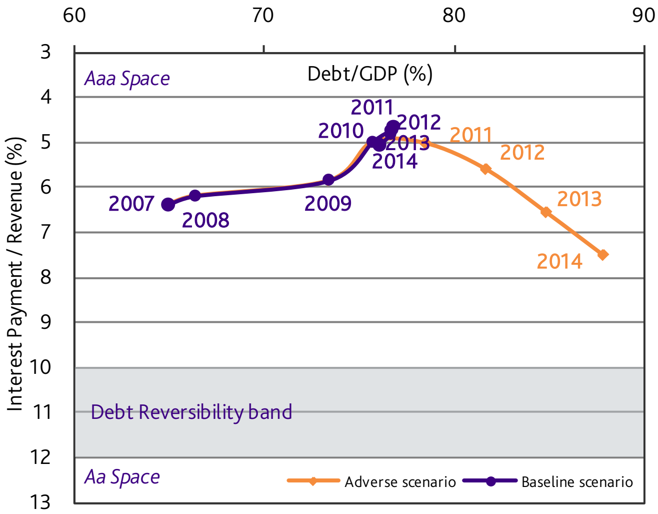
With new taxes, a reduction in tax credits and social expenditures, and a reform of the German army, the government plans to implement austerity measures in the coming four years to rein in public debt and to prepare public finances to cope with the constitutional rules of the debt brake. Germany's general government debt is projected to peak at around 76% of nominal GDP by 2011-12 before starting to reverse. Although our scenarios (presented overleaf) point to the risk of a slight deterioration of Germany's debt affordability over the next two to three years, we believe that debt affordability will nevertheless remain very high at the projected levels.

Germany's fiscal outlook has been improved by the significant upward revision of the government's tax revenue estimates for the years from 2010 to 2012. It seems that the federal government, *Länder* and municipalities can expect substantially higher levels of tax revenue than initially thought. However, tax revenues are still expected to remain below 2008 levels. Furthermore, the government has committed to firmly adhere to its policy of fiscal consolidation even in times of robust economic recovery. The new debt rules that have been built into Germany's constitution enforce the government's focus on fiscal consolidation during periods of economic growth. They set a ceiling of 0.35% of GDP for the structural deficit of the federal government as of 2016. The German *Länder* will be forced to present balanced structural budgets as of 2020. This "debt brake" is a supportive factor in terms of debt reversibility, provided the rules are respected.

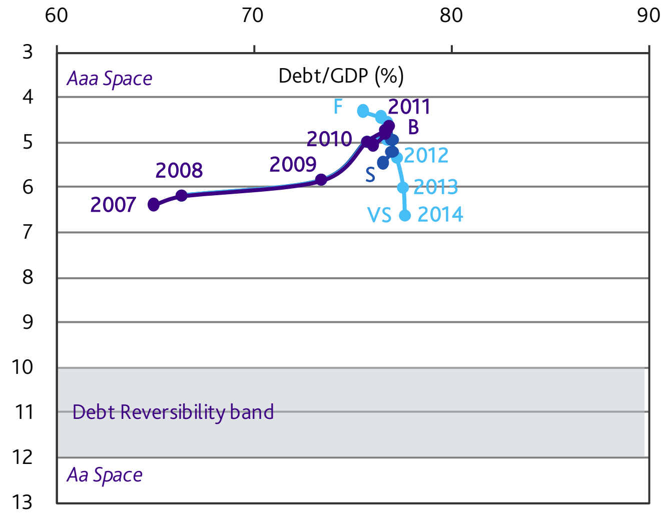
[1] For further details, please refer to our Issuer Comment "Germany: Well Placed to Adjust to Economic and Fiscal Challenges in the Global Crisis."

Germany

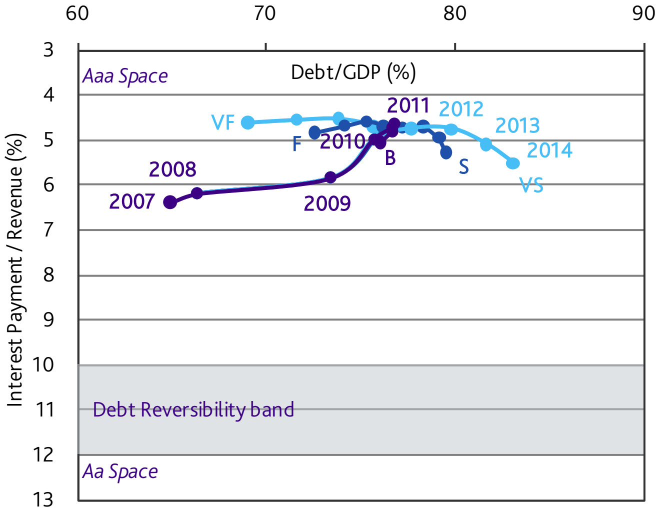
Debt Trajectories 2007-2014



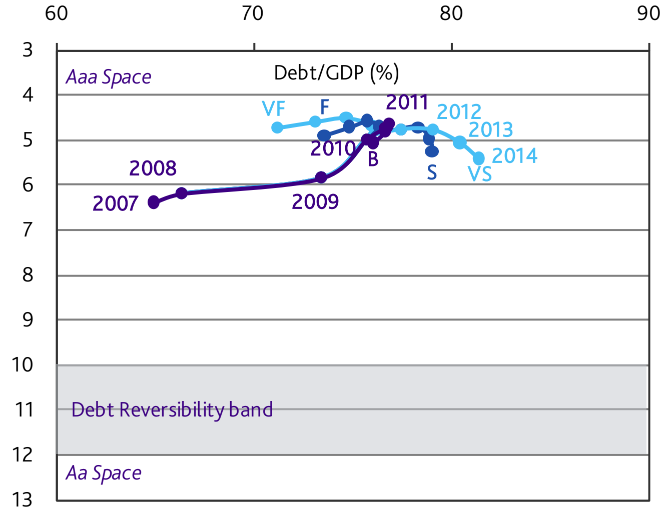
Interest Rate Sensitivity



Fiscal Adjustment Sensitivity



Nominal Growth Sensitivity



Uplift/Discount applied		Nominal Growth Sensitivity 2011	Nominal Growth Sensitivity 2012 onwards	Fiscal Adjustment Sensitivity 2011	Fiscal Adjustment Sensitivity 2012 onwards	Interest Rate Sensitivity 2011	Interest Rate Sensitivity 2012 onwards
VF	Very Favourable	+1%p	+2%p	-1%p	-2%p	-	-
F	Favourable	+0.5%p	+1%p	-0.5%p	-1%p	-50bps	-100bps
S	Severe	-0.5%p	-1%p	+0.5%p	+1%p	+100bps	+200bps
VS	Very Severe	-1%p	-1%p	+1%p	+2%p	+150bps	+300bps

United Kingdom

Despite slower economic growth forecasts, the UK's creditworthiness remains high due to the ambitious fiscal adjustment programme

The United Kingdom's creditworthiness largely hinges on two factors: economic growth and fiscal consolidation. The country will be challenged in both these areas over the coming years, but Moody's central scenario continues to indicate that the UK has the willingness, resources and ability to meet these challenges while maintaining a Aaa rating.

Moody's believes that the front-loaded package of spending cuts[2] laid out in the government's Comprehensive Spending Review (CSR) will allow the UK's general government gross debt-to-GDP ratio to stabilise at around 90% in 2013. This would allow debt affordability to remain at a level that is consistent with a Aaa rating.

The CSR underscores the government's commitment to the very significant deficit reduction that was outlined in the June 2010 emergency budget. The government's mandate is to achieve a cyclically adjusted current balance by the end of 2015-16, although the Office for Budget Responsibility (OBR) believes that there is a probability greater than 50% that this goal may be achieved a year early. Spending cuts, rather than tax hikes, will bear the brunt of the fiscal adjustment. While the cuts to public spending are very large, cuts to social welfare benefits mean that other departmental reductions are lower than anticipated.

Output growth in the UK has been strong and, at 2.7% year-on-year in Q3 2010, slightly above its long-term average. However, Moody's does not expect this rapid pace to continue into 2011, and is forecasting a 2% expansion for the year. According to our central scenario, the private sector is likely to compensate for the contraction in government spending, and real GDP growth will remain above 2% through the middle of this decade. Nevertheless, we still expect the UK to have experienced a significant and permanent loss in output as a result of the financial crisis.

Both the OBR and the Bank of England (BoE) expect inflation to remain above the BoE's 2% target until the end of 2011. Moderately higher inflation has a mixed impact on the UK's fiscal outlook, but, on balance, it is probably more positive than negative due to the importance of nominal GDP growth to a country's debt dynamics. However, given the importance of inflation-linked gilts in the UK's debt stock (they account for 20.4% of the total gilt and T-bill portfolio), higher inflation will result in higher interest costs. According to the OBR, a one percentage point increase in the inflation rate would raise interest costs by £4.3 billion by 2015-2016; for the sake of comparison, a one percentage point increase in gilt rates would lead to a £5.3 billion increase in interest costs.

The very large fiscal adjustment that the UK is undertaking is not without risks, and these risks inform our adverse scenario. Despite the resulting downside risks to growth – particularly given the simultaneous deleveraging in the public and private sectors, both in Britain and in other advanced economies – we believe that significantly lower growth by itself need not jeopardize the UK's Aaa rating.

However, if slower growth were accompanied by weaker-than-expected fiscal consolidation, this could cause the UK's debt metrics to deteriorate to a point that would be inconsistent with a Aaa rating. The government's austerity plans entail some implementation risk – as was demonstrated by the surprisingly large increase in central government current spending in November 2010, although this increase on its own does not yet give rise to concerns about the government missing its fiscal targets. Moreover, a multi-year austerity programme of this kind is a political challenge. The government's political commitment to fiscal consolidation is currently quite strong, but is likely to be tested in the coming years as the electorate digests likely changes to the quantity and quality of public service provision.

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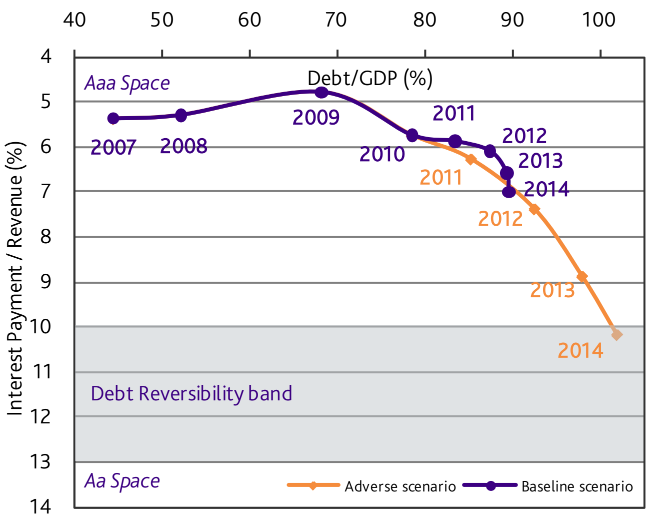
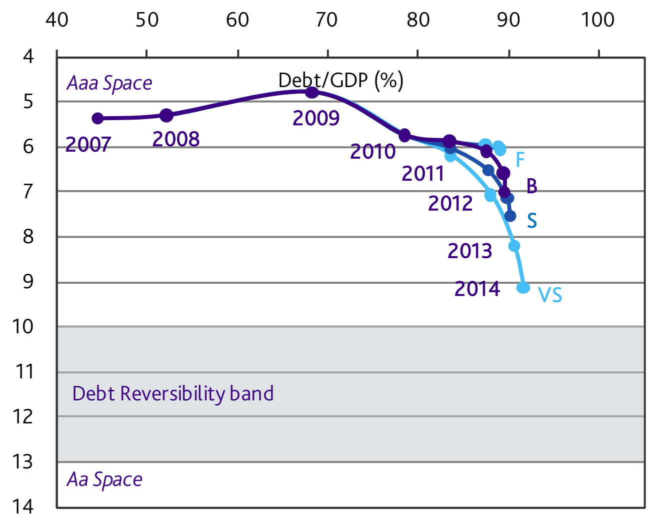
[2] Nearly one-third of spending cuts introduced by the coalition government are scheduled to take place in the first year of its fiscal programme.

UK

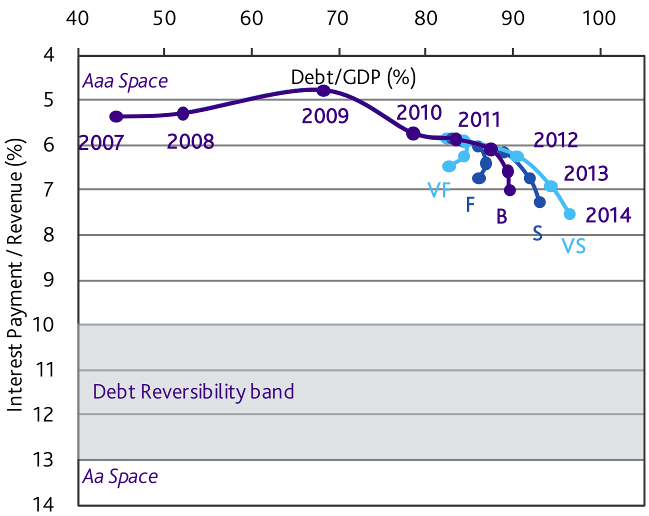
Debt Trajectories 2007-2014



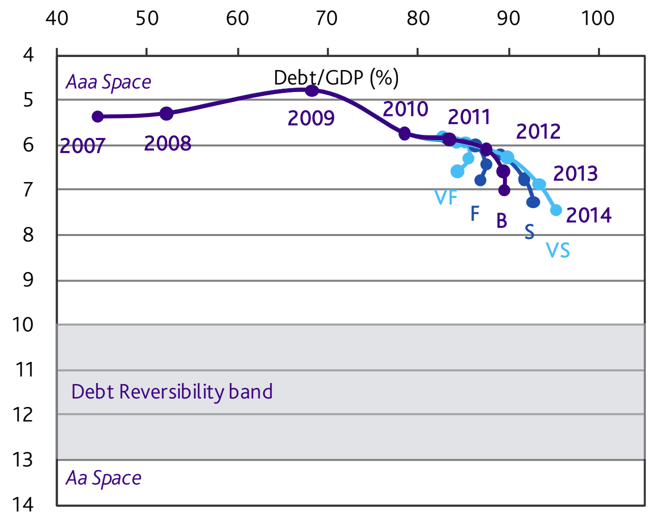
Interest Rate Sensitivity



Fiscal Adjustment Sensitivity



Nominal Growth Sensitivity



Uplift/Discount applied		Nominal Growth Sensitivity		Fiscal Adjustment Sensitivity		Interest Rate Sensitivity	
		2011	2012 onwards	2011	2012 onwards	2011	2012 onwards
VF	Very Favourable	+1%p	+2%p	-1%p	-2%p	-	-
F	Favourable	+0.5%p	+1%p	-0.5%p	-1%p	-50bps	-100bps
S	Severe	-0.5%p	-1%p	+0.5%p	+1%p	+100bps	+200bps
VS	Very Severe	-1%p	-1%p	+1%p	+2%p	+150bps	+300bps

United States

Growth is Accelerating – But Not Enough to Change Fiscal Outlook

The United States's real GDP grew at an annualized rate of 2.6% in Q3 2010, up from the 1.7% rate in Q2 – but still insufficient to make a dent in unemployment, except through declining labor force participation. During 2010, the unemployment rate averaged 9.7%, with no positive trend. This factor is constraining the growth of consumption expenditure, historically the main engine of economic growth.

In order to stimulate growth in employment and to ensure that inflation is sufficiently positive, the Federal Reserve announced on 3 November 2010 that it would purchase $600 billion in Treasury securities during the period through June 2011 and that it would maintain the existing size of its residential mortgage-backed securities (RMBS) portfolio. RMBS currently account for nearly half of the Fed's balance sheet. The new announcement, dubbed QE2, means that the Fed's balance sheet will approach $3 trillion, or roughly 20% of GDP, in 2011. This is by far the highest level in recent decades.

While the effect of QE2 on economic and employment growth is likely to be positive, it will not be large because of the continued deleveraging by households and low industrial capacity utilization. By keeping interest rates lower than they would have been otherwise, QE2 may help to stabilize the housing market. The reduction in the Social Security payroll tax and the extension of long-term unemployment benefits that were passed in December should provide additional stimulus to growth in the near term. Overall, real GDP is forecast to rise about 3% in 2011. On the inflation front, QE2 may help lift core inflation somewhat from its recent very low levels, thereby avoiding deflation, which would be very detrimental to government finances.

As regards federal government finances, the final outcome for the federal budget deficit for the 2010 fiscal year was somewhat better at 8.9% of GDP than the administration's earlier estimate of 10.0%. Lower-than-budgeted net outlays under the TARP and other programs related to the financial industry were the primary reason behind this outcome, but revenues also rose somewhat more than expected.

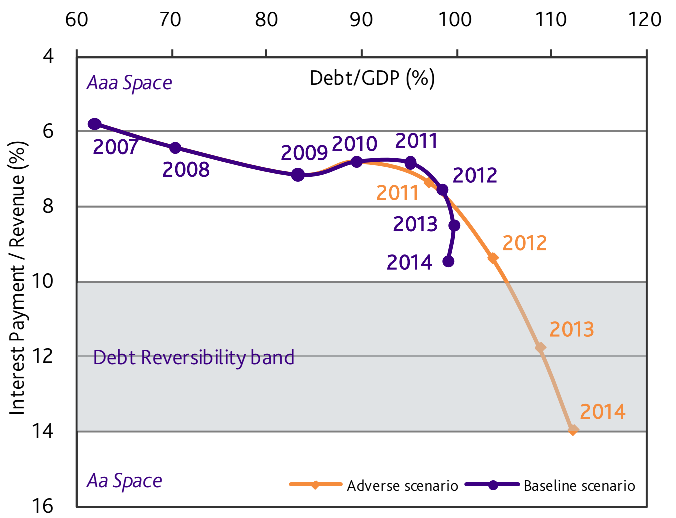
However, the medium-term trajectory for the deficit and debt ratios continues to present a worsening picture. The most recent official numbers from the administration show the ratio of federal debt to revenue averaging 397% of GDP in the period through 2020, while the ratio of interest to revenue will rise steadily from 8.6% in the last fiscal year to 17.6% by 2020. These figures, while for the federal government only, are quite high for a Aaa-rated country, but reflect the relatively small size of the US government in relation to GDP. For the general government (including states and municipalities), the ratios are lower but still show debt affordability (the interest ratio) rising over time to a high level for a Aaa-rated country.

As for debt consolidation, the official projections for the federal budget deficit indicate a continuation of the primary deficit over the next decade. Unlike the UK and Germany, the US has no plan in place to stabilize and ultimately reverse the upward debt trajectory. In early December, the National Commission on Fiscal Responsibility and Reform, appointed by the president, considered a package of measures to achieve a balanced primary budget by 2015, but there was insufficient support to trigger consideration by the full Congress. The recommendations included a wide variety of measures, including Social Security reform, cutbacks in the growth of Medicare outlays, elimination or modification of the mortgage interest tax deduction, a gasoline tax and other measures.

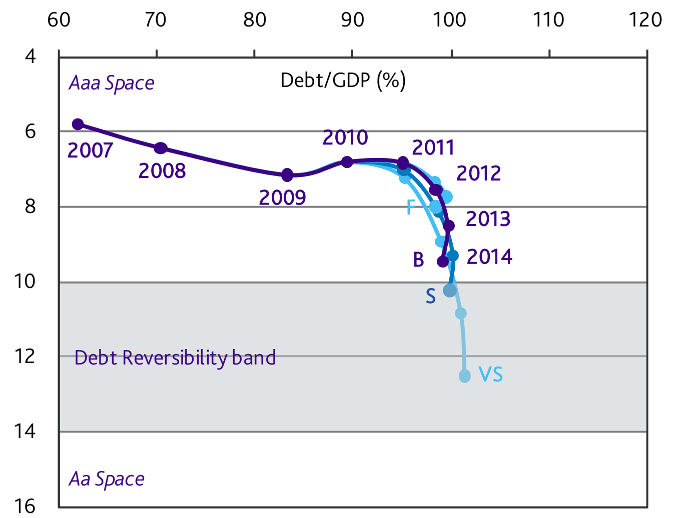
In Moody's view, a plan that would result in a reversal of the upward trajectory in the debt ratios would indeed be supportive of the country's Aaa rating. However, it is unlikely that the Commission's recommendations will be adopted. They should be viewed as laying out the options, some but not all of which may eventually be implemented, although the environment for doing so in the next two years does not look promising. Further actions will be necessary to avoid an unfavourable debt trajectory, which would increase the probability of a change to a negative outlook on the Aaa rating.

United States – General Government

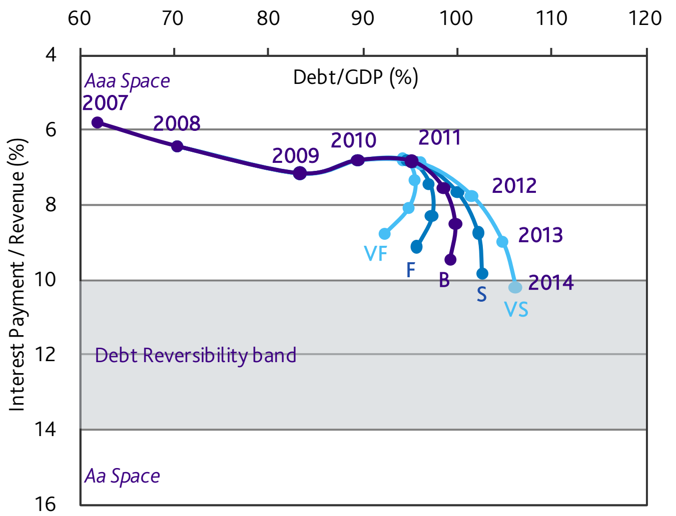
Debt Trajectories 2007-2014



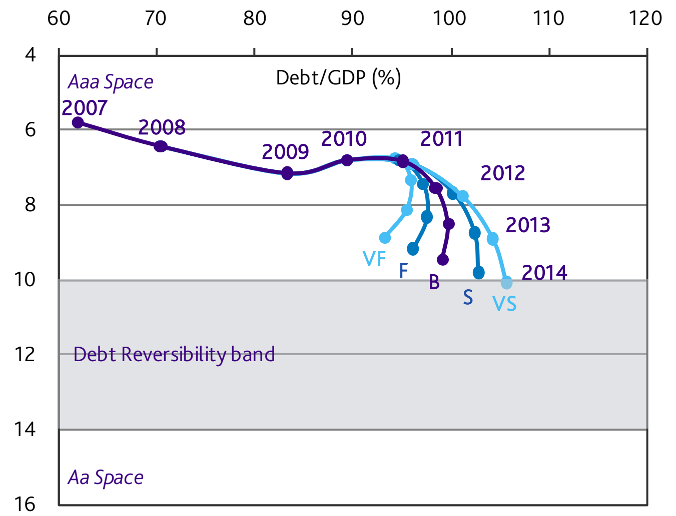
Interest Rate Sensitivity



Fiscal Adjustment Sensitivity



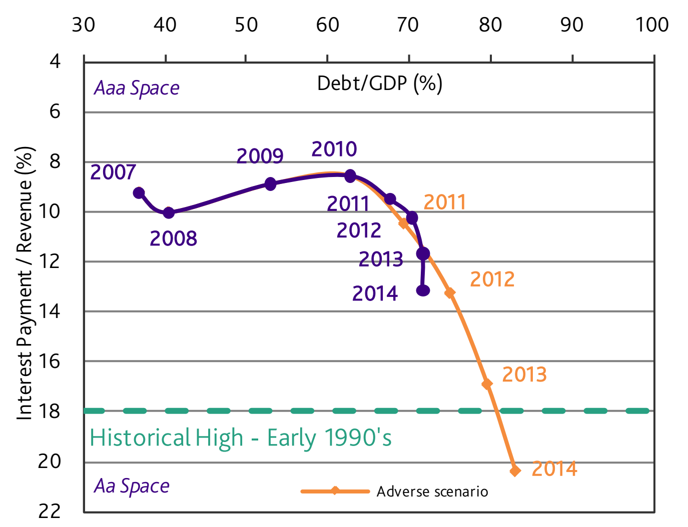
Nominal Growth Sensitivity



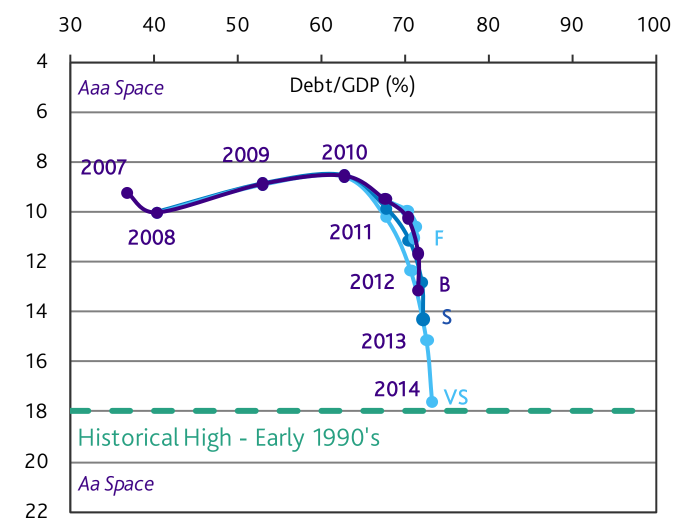
Uplift/Discount applied		Nominal Growth Sensitivity		Fiscal Adjustment Sensitivity		Interest Rate Sensitivity	
		2011	2012 onwards	2011	2012 onwards	2011	2012 onwards
VF	Very Favourable	+1%p	+2%p	-1%p	-2%p	-	-
F	Favourable	+0.5%p	+1%p	-0.5%p	-1%p	-50bps	-100bps
S	Severe	-0.5%p	-1%p	+0.5%p	+1%p	+100bps	+200bps
VS	Very Severe	-1%p	-1%p	+1%p	+2%p	+150bps	+300bps

United States – Federal Government

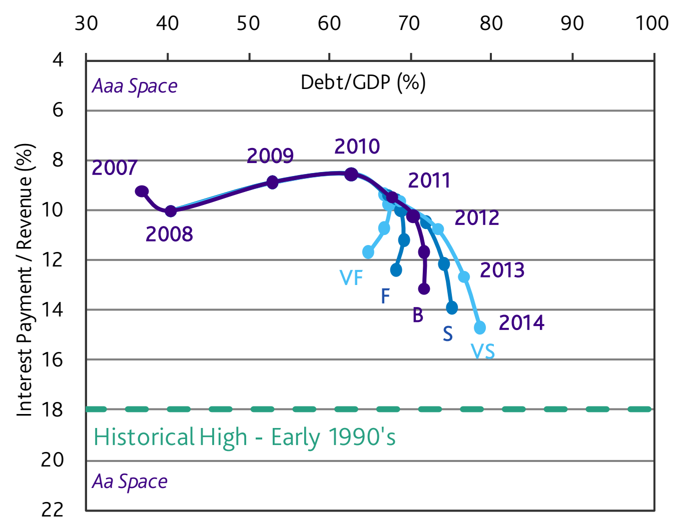
Debt Trajectories 2007-2014



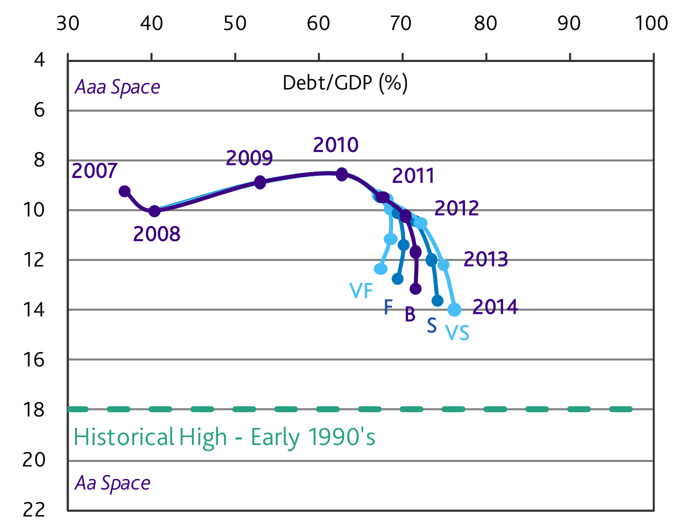
Interest Rate Sensitivity



Fiscal Adjustment Sensitivity



Nominal Growth Sensitivity



Uplift/Discount applied		**Nominal Growth Sensitivity**		**Fiscal Adjustment Sensitivity**		**Interest Rate Sensitivity**	
		2011	**2012 onwards**	**2011**	**2012 onwards**	**20101**	**2012 onwards**
VF	Very Favourable	+1%p	+2%p	-1%p	-2%p	-	-
F	Favourable	+0.5%p	+1%p	-0.5%p	-1%p	-50bps	-100bps
S	Severe	-0.5%p	-1%p	+0.5%p	+1%p	+100bps	+200bps
VS	Very Severe	-1%p	-1%p	+1%p	+2%p	+150bps	+300bps

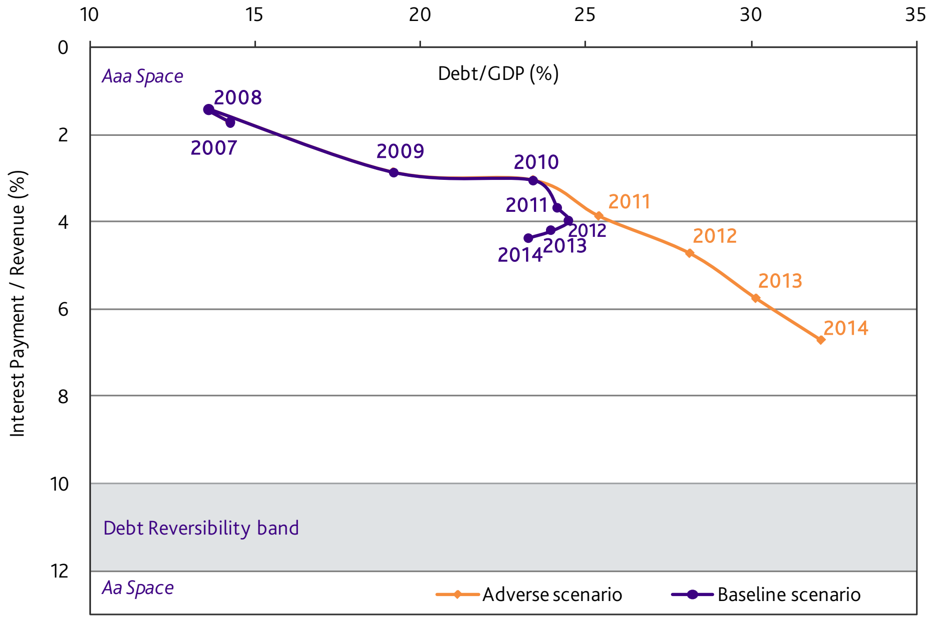
3. Updates on Other Aaa Countries: Australia, New Zealand & Singapore

Australia and New Zealand

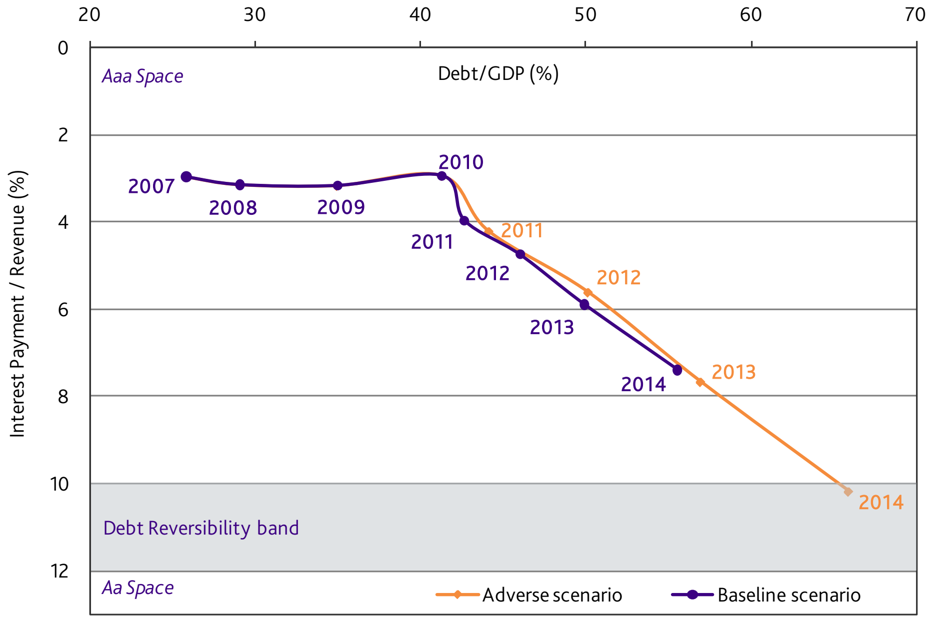
Recent and Forthcoming Developments

	Debt	Growth	Fiscal Consolidation
Australia	Although the downward trend in government debt ratios was reversed as a result of the global crisis, a declining trend will again be in evidence over the coming few years. Australia has among the lowest debt levels of any Aaa-rated sovereign, and there is unlikely to be a change in this relative position. OECD figures on gross general government debt (including states and local governments) show it rising to 25% of GDP in 2011, compared with a figure of 14% in 2008. This figure is expected to begin declining by 2013. Net debt is substantially lower, having been negative as recently as 2008. It should peak at well under 10% of GDP before declining again after 2012. The Commonwealth budget shows a similar pattern, with net debt peaking at 6.4% of GDP at the end of the 2011-12 fiscal year and declining thereafter. According to the longer-term forecast, the Commonwealth will return to a net creditor status in the next several years. Although the government guaranteed the liabilities of the banking system at the height of the financial crisis, the healthy state of the Australian banking system meant that no government cash was necessary to assist the banks. Thus, there was no addition to government debt levels resulting from banking industry support – a factor that has affected the debt positions of some other Aaa sovereigns.	Because of the low level of debt, the Australian government could easily afford to implement a fiscal stimulus program that was one factor in allowing the economy to avoid a recession, with one quarter of negative real GDP growth in Q4 2008. Other factors helping to maintain a relatively solid growth rate included monetary stimulus, trade ties with Asian economies and higher commodity prices for Australia's exports. After growing strongly in H1 2010, the economy slowed in Q3 to an annual rate of less than 1% as household consumption growth slowed, housing investment declined and real net exports were negative. Higher interest rates as a result of policy tightening by the Reserve Bank affected consumption and housing. The slowdown is expected to be temporary, with real GDP increasing 3.2% for the year in 2010 and 3.6% in 2011. Higher terms of trade and relatively strong business investment should contribute to higher growth.	After a decade during which the Commonwealth budget surplus averaged 1.1% of GDP and eliminated net debt (with gross debt falling to less than 10% of GDP), the fiscal balance is now in its third year of deficit, estimated to average 3.2% annually for the three years. By fiscal year 2012-13, a return to surplus is now projected by the government, with surpluses continuing thereafter. The rapid elimination of the deficit is related to the end of stimulus spending and to the fairly buoyant economy. After declining for two years, Commonwealth government revenue is projected to increase at an annual rate of 8.1% for the four years beginning in the current fiscal year. General government is also projected to return to surplus in the same time period.
New Zealand	Despite a significant worsening trend, New Zealand's government debt levels still compare favourably with the median levels of other Aaa-rated sovereigns and are expected to continue to do so. From a low point of 26% of GDP just before the economy entered a prolonged, but mild, recession, the ratio of gross general government debt to GDP has risen to over 40% and will rise somewhat further over the next few years. The central government's net debt, which is the government's policy target, is projected to rise from a low of about 6% of GDP in 2008 to nearly 30% in 2015, when it will peak and begin declining. The long-term goal of fiscal policy is to reduce this ratio to under 20%. These projections represent a small deterioration from those included in the last budget, driven by the effects of the costs of the 2010 Canterbury earthquake, other one-off factors, and expectations of somewhat lower nominal GDP growth than earlier. Nonetheless, New Zealand's general government debt levels, even at their projected peak levels, are well below the median for Aaa-rated countries, both as a percent of GDP and as a percent of government revenues. The country's banking system had no significant problems as a result of the global financial crisis, although access to offshore funding was a potential risk that did not materialize except for a brief period. The strength of the banking system, together with the strength of the Australian parents of the largest NZ banks, indicates that the contingent liability to the government's balance sheet from this source is small. Therefore, even with some further slippage in government debt ratios coming from slower growth or other one-time shocks, it appears highly likely that these ratios will remain within the stronger side of the Aaa range.	Expenditure-based real GDP declined 0.4% in Q3 2010, following several quarters of positive growth. Although household consumption expenditure rose, residential construction and government consumption fell. The drop in real GDP followed five quarters of positive growth and is likely to have been temporary. However, the outlook for growth is somewhat constrained by household debt levels and developments in the property market. In addition, inflation is also likely to be lower as a result of slower real growth, and nominal growth will also not be as high as earlier forecast. Thus, the impact of growth on government revenues will be felt during the coming few years. New Zealand's economic strength is classified as "High" rather than "Very High" in Moody's sovereign rating methodology. This is because of the relative lack of diversity in the economy. Although high dairy prices are currently a source of strength, the somewhat weaker growth trend going forward confirms our assessment of the country's economic strength.	Overall, the path toward reaching the government's target of net debt of less than 20% of GDP has been lengthened by the slower nominal growth and the effect of one-time events in 2010. Nonetheless, the central government ("Core Crown") operating deficit is forecast by the government to peak in at 4.5% of GDP in the current fiscal year and to return to a small surplus in the 2013-14 fiscal year. The government hopes to keep expenditure growth lower than the (downwardly revised) nominal GDP growth in the next several years, with the ratio of expenditure to GDP falling from 34.9% this year to around 32% in 2013-14. With revenue rising a bit more rapidly than nominal GDP, the result is a return to an operating surplus. Another external shock that affected economic growth could, of course, derail the path toward fiscal consolidation, but the baseline indicates that New Zealand's fiscal position will continue to support its Aaa rating.

Debt trajectories 2007-2014 - Australia



Debt trajectories 2007-2014 – New Zealand

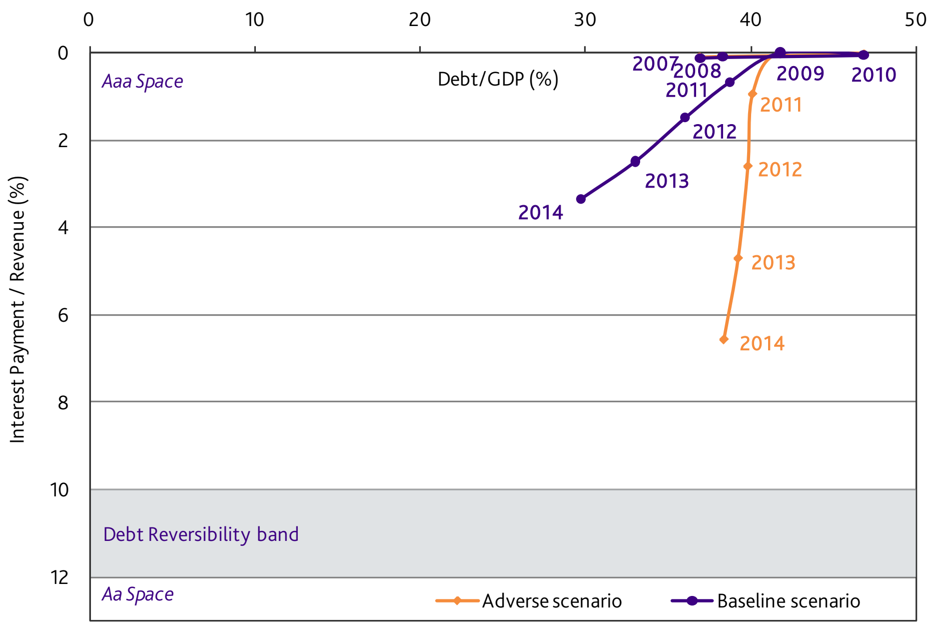


Singapore

Recent and Forthcoming Developments

	Fiscal and debt position	Growth prospects	Fiscal Consolidation
Singapore	The gross outstanding amount of Singapore Government Securities stands at 43% of its GDP. When including "registered stocks and bonds", this figure rises to 103% of GDP. However, on a net basis, the government of Singapore is a creditor. Government deposits in the banking system are projected at 43-45% of GDP in 2010, and the liquid assets of the Monetary Authority of Singapore (MAS, the central bank) and Government of Singapore Investment Corporation (GIC, the sovereign wealth fund) are estimated at more than twice the size of Singapore's GDP. Additionally Temasek (the holding and investment management company of the government) has additional assets amounting to 62% of Singapore's GDP. Much of the gross debt stock of the Singaporean government is either for providing investible assets to the fully funded Central Provident Fund (CPF, the country's public pension fund), and for monetary management (of excess financial flows) by the MAS. The government has run small fiscal surpluses for a considerable length of time, and the need for fiscal financing has been minimal. Even in 2008-09, which was the worst point of the global crisis, the fiscal deficit averaged just -0.2% of GDP, at which time Singapore did run a sizable counter-cyclical fiscal program with a focus on jobs support and infrastructure development. However, the impact to the fiscal position was alleviated by a modest loosening of investment income draw-downs and much stronger-than-expected tax revenue in 2009. The government anticipates the fiscal deficit to be contained at 1% of GDP in 2010, but the actual outcome may revert to a surplus.	Singapore's GDP will grow by 13-15% in 2010 – the fastest rate in Asia – and then moderate towards its long-term average of 4-5% in 2011 and 2012. The main risk to the outlook is currently derived from overheating in property and labour markets, and rising headline inflation, which requires policy tightening but also a degree of calibration that is line with rising two-way risks posed by global, and in particular, EU, fragilities. In view of this, authorities have steepened the nominal appreciation slope of the Singapore Dollar (SGD). As one of the world's most open economies, Singapore's monetary management is not predicated on policy rate adjustments. Moreover, they have also relied increasingly on macro-prudential measures to cool property market pressures and curb speculation.	Unlike several other advanced industrialized countries, Singapore is currently not in any need of large-scale structural fiscal adjustments. The policy emphasis has shifted from crisis management to managing the recovery – whilst dampening overheating pressures. In this regard, the government has begun implementing the recommendations of the Economic Strategies Committee (ESC) which highlighted the need to shift toward a productivity-driven growth model, away from a factor accumulation; and they also emphasized the importance of quality job creation as well as more localized innovation. The implementation of these measures is expected to remain fiscally neutral. The debt dynamics and net creditor position of the government of Singapore will not be adversely impacted by these shifts in the government's long-term economic strategies.

Debt trajectories 2007-2014 - Singapore



4. Special Focus: Debt Level Not Always the Best Indicator

The Ability of Sovereigns to Manage Crises Is Not Merely Determined by Debt Levels

The increase in debt levels among advanced industrial countries – and particularly the debt of the largest Aaa sovereigns – due to the global financial crisis has led to a focus on debt-to-GDP ratios as a measure of a country's creditworthiness. The historical record shows, however, that the ability of countries to manage crises depends not only on their debt levels, but also on a combination of factors including economic resilience, the quality of political institutions and the debt structure.

Our recent study of the history of modern sovereign defaults[3] shows that a high debt-to-GDP level is neither a necessary nor a sufficient condition for sovereign default. Sovereigns with moderately low debt levels have defaulted when their economic prospects were poor, their political institutions were weak and they had a large share of foreign currency-denominated debt and poor debt affordability.

Conversely, countries with high economic resilience, debt that is predominantly denominated in domestic currency and strong political institutions – all characteristics of Aaa-rated sovereigns – have historically been successful in managing relatively large debt burdens and eventually reversing increases in debt-to-GDP ratios caused by macroeconomic shocks and banking crises.

The 20 sovereign defaults on government bonds that have occurred since 1997 were rooted in four main underlying factors. About 15% of the defaults were rooted in banking crises, with costly bank restructuring contributing to a large and sudden build-up of debt and a sharp rise in debt affordability metrics, which in turn triggered capital outflows. For some of the major Aaa sovereigns, this has been a factor in the recent rise in debt ratios, but by no means the only one. In the United States, despite the magnitude of the financial crisis, the final direct cost to the government of capital injections into the financial system appears likely to be less than 5% of GDP. However, the economic downturn had its trigger in the banking crisis, and this contributed to a much larger part of the rise in debt.

Another 15% of defaults were rooted in a combination of stagnating economic conditions, weak fiscal position and domestic vulnerabilities combined with large exogenous shocks and loss of investor confidence. These defaults occurred at relatively low debt-to-GDP ratios.

A further one third of sovereign defaults resulted from persistent external and fiscal imbalances, which built up over time to reach unsustainably high debt burdens. External terms-of-trade shocks or unsustainable government fiscal policies accumulated to reach high debt levels and poor debt affordability (which is much more closely correlated with past default experience than debt-to-GDP). Default occurred at very high debt and debt affordability levels when countries were ultimately unable to service or reduce the debt. While default is clearly not in the picture for Aaa-rated sovereigns, slow economic growth could, going forward, lead to a deterioration in credit fundamentals if appropriate fiscal policy actions are not implemented.

Finally, a third of sovereign defaults were related to institutional and political weaknesses, ranging from political instability to weak budget management and governance problems to political unwillingness to pay. These defaults occurred at various debt levels, including relatively low debt-to-GDP levels. In Moody's view, all Aaa-rated sovereigns have very high institutional strength.

Overall, if one were to use such research to inform the assessment of parallels between past defaults and the position in which Aa-rated countries currently find themselves, one would find that there are a number of important differences. Aaa-rated countries today possess large, wealthy and diversified economies. While all are feeling the effects of the global recession, none exhibit the underlying economic stagnation or the institutional or political weaknesses which have characterized the majority of recent defaults. Almost all have experienced banking crises and,

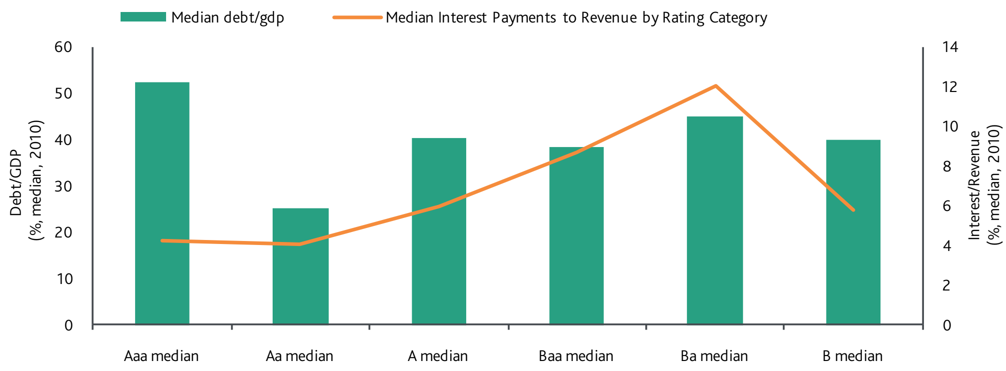
[3] See Moody's Special Comment "The Causes of Sovereign Defaults: Ability to Manage Crises Not Merely Determined by Debt Levels", November 2010.

partly in consequence, have high-debt-to-GDP ratios. But debt affordability, and the ability to persuade investors to refinance debt on maturity at affordable yields, is the most important factor.

In this context, Aaa-rated economies enjoy a number of advantages. They generally possess deep capital markets and broad domestic investor bases which help to sustain demand for their debt through volatile market conditions. The fact that such countries issue almost all of their debt in domestic currency can be helpful in mitigating the short-term effects of exchange rate volatility that has been a major driver of past sovereign defaults – although it is of less help in cases where that volatility reflects underlying investor concerns or where the issuer is constrained in the management of its own currency (for example in a currency union).

Despite the high debt-to-GDP ratios, debt affordability for advanced countries remains very high. Moreover, the debt structure of Aaa-rated countries contributes to a slower transmission of the increase in market interest rates into increases in debt-servicing costs than has been the case for emerging market defaulters. In particular, Aaa-rated countries have long average maturities on their debt[4] and a low share of floating-rate and indexed debt.

Debt Ratios by Rating Category



** Ratings as of December 9, 2010*

Nevertheless, the universe of sovereign debt issuers is itself small, and the even smaller set of defaulters is limited to emerging market economies, in which defaults resulted from a complex interplay of economic conditions, government policies and external shocks.

The scale of the recent deterioration in fiscal positions and longer-term demographic challenges facing some Aaa-rated sovereigns are unprecedented and may pose risks that are not well captured by historical experience. Ultimately, the ability of advanced countries to persuade investors to refinance debt at affordable yields will depend on the credibility of their fiscal strategies. So far, debt affordability remains high, and Moody's ratings are predicated on it remaining so.

[4] The US government debt has a lower average maturity than the debt of other Aaa-rated countries; however, the US dollar enjoys the status of the world's reserve currency.

Appendix I: Review of Our Analytical Approach

Where is the Aaa-Aa Demarcation Zone?

This section summarizes our analytical approach to differentiating between Aaa and Aa sovereigns. It provides a guide to interpreting the country-specific debt trajectory charts.[5] The ratios provided here offer a tool for reconsidering ratings, but do not automatically lead to rating changes.

Which factors determine the Aaa-Aa boundary? Moody's sovereign rating methodology is based on an assessment of four rating factors: (i) the economic strength of a country, (ii) the robustness of its institutions, (iii) the strength of the government balance sheet and (iv) its vulnerability to event risk. Countries eligible for a Aaa rating tend to score highly or even very highly on all four factors. While the other factors are more stable over time, the main factor that might lead a government to lose its Aaa rating in the current crisis is a deterioration of its balance sheet. Therefore, at the Aaa-Aa boundary, our emphasis is primarily on debt metrics.

The focus is on affordability, not sustainability. At both the Aaa and Aa level, the risk of default is negligible. The point at which a Aaa government crosses over the Aaa-Aa boundary does not reflect the point at which debt is *intolerable*, but the point at which debt becomes a material and noticeable *constraint* in the making of public policy. This is a normative assessment, informed by historical references.

How do we measure the inconvenience of debt? Our primary measure in this context is ***debt affordability***. This is defined as the proportion of a government's revenues that is consumed by the service of the debt (the interest-payments-to-revenue ratio). This indicator captures the burden of public debt for a country because it encapsulates not only the size but also the cost of debt. (In this respect, it is more useful than the debt-to-GDP ratio for instance.) The higher this ratio, the more public debt constrains the formulation and delivery of other policies.

The Aaa category does not have an upper boundary. There is no limit to how creditworthy a government can become. Therefore the "altitude" of a government within the Aaa space matters. Negative economic and financial news and a deterioration of credit metrics need not translate into a rating downgrade if the initial position of the government is very high within the Aaa space to begin with. Such changes may simply result in a loss of altitude – in other words, a narrowing of the government's "distance-to-downgrade".

Where does the Aaa-Aa boundary lie? Historically, countries with single-digit debt affordability ratios do not experience material interference to policy formulation and execution as a consequence of their public debt. When the affordability ratio moves into double-digit territory, policy becomes perceptibly constrained. This 10% threshold – plus the 1-3 percentage point margin above that, which constitutes the "reversibility band" described in more detail below – is one of the important factors determining the Aaa-Aa boundary.

The assessment is not static but dynamic. Moody's defines a Aaa government as a government whose debt is highly affordable and whose balance sheet flexibility allows it to keep debt highly affordable across cycles and crises. Rating assessments are forward-looking: it is not just whether a government's debt affordability deteriorates as a consequence of a shock that is important, but whether the government can absorb the shock and repair its balance sheet. Balance sheet flexibility has two components:

» ***Debt finance-ability*** which is the ability of the government to raise large amounts of debt without triggering large increases in its cost of funding.

» ***Debt reversibility*** which is the capacity of a country/government to restore debt affordability after a shock, by combining discretionary fiscal adjustment and/or nominal growth.

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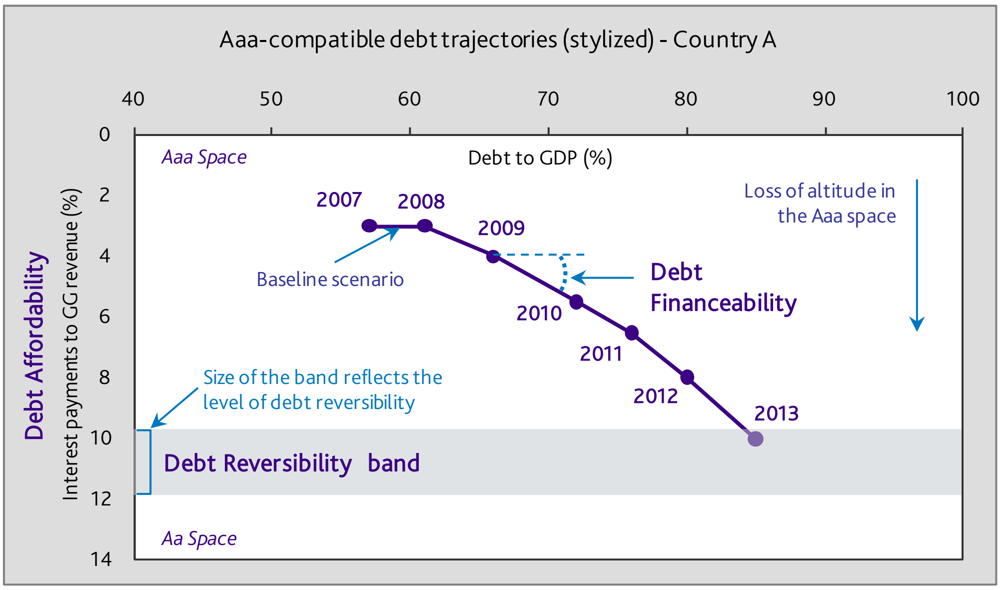
[5] Please refer to Moody's Special Comment entitled "Why Aaa Sovereigns get Downgraded" (September 2009) which provides further details about our approach.

Governments are rated on the same rating scale as corporations or banks, but benefit from a greater degree of balance sheet flexibility than other issuers. This is because they can unilaterally increase their revenues (through taxation) and, in some cases, influence the amounts that they can borrow and the price at which they do so (through regulation).

How to Interpret our Debt Trajectory Charts

These charts plot the position of a government, year by year, on the basis of its debt-to-GDP ratio and debt affordability ratio.



What do the axes represent? The horizontal axis of the chart simply measures the debt-to-GDP ratio. The vertical axis measures the debt affordability ratio, which is the more relevant concept for determining a government's debt-service burden. This axis is inverted, so that a downward trajectory over time means a gradual deterioration of debt affordability, i.e. a loss of altitude within the rating space.

How to identify rating pressure points from the chart (Aaa space vs. Aa space)? The space of the chart consistent with a single-digit debt affordability ratio (i.e. the space *above* the shaded band) is the "Aaa space". A Aaa government, whose debt is projected to remain in this range under plausible scenarios, would face no particular rating pressure. The space of the chart *below* the shaded area represents the "Aa space". If a debt trajectory enters this area, the likelihood is that the government in question would not be able to bring its affordability ratio back to a level consistent with a Aaa rating for a prolonged period. This is the situation that led to the downgrade of Ireland from Aaa to Aa1 in July 2009. (Moody's subsequently downgraded Ireland by a further notch to Aa2 in July 2010, and then by five notches to Baa1 in December 2010.)

How does debt finance-ability appear on the chart? The slope and curvature of the curve provide a crude indication of a government's degree of debt finance-ability. A flat curve indicates that a government can increase its debt without experiencing a dramatic deterioration of its debt burden. A steeper curve indicates that a rise in debt is accompanied by a rapid deterioration of affordability – typically through an associated increase in interest rates (which makes the curve bend). Interest rates may of course be influenced by factors other than government borrowing.

What is the debt reversibility band and how to interpret it? The shaded area represents the "debt reversibility band", which shows how far debt affordability may potentially deteriorate without necessarily threatening the Aaa rating of a government. When a debt trajectory enters the reversibility band, it means that the adjustment capacity of the country is being tested. The maintenance of the Aaa rating becomes conditional on the government making use of its adjustment capacity to repair the damage.

The width of the band is country-specific. If a government's debt affordability ratio rises to 13% during this crisis, but we believe that it can realistically and rapidly bring the ratio back to single-digit levels, the width of the band would be 13% - 10% = 3%. A lower adjustment capacity would translate into a narrower reversibility band.

Mapping the Near Future – Our Scenarios

Moody's ratings are determined by looking at how government debt metrics perform not just under one scenario, but under a wide range of plausible situations. There are numerous variables that can affect trends in debt affordability for Aaa governments over the next few years.

The first is the eventual impact of the financial sector rescue operations on the government's debt. This remains uncertain despite the reduction in government exposure as banks exit government support schemes. The final cost of these operations depends on the value at which assets acquired (such as equity in banks) will be realized and on whether any guarantee issued debt will end up being called.

Other variables that will affect affordability are the trend in interest rates, the pace of economic recovery and of course the magnitude of the fiscal consolidation efforts that governments will undertake.

In order to capture plausible outcomes and risks around these scenarios, we have developed two main scenarios and several variants. The assumptions underlying the two main scenarios are described in the table below. These scenarios are illustrated graphically in the main debt trajectory charts for each country.

TABLE 1.

Main scenarios

	Economic assumptions	Financial Sector Rescue Operations Recovery assumptions
Baseline scenario (blue line)	» Muted economic recovery » Moderate fiscal adjustment (generally in line with government plans) » Moderate interest rate shock[6]	» Financial Sector Rescue operations add to net debt, with recovery rates on residual exposure close to historical experience (55% on fiscal measures). Recovery time of 5 years.
Adverse scenario (orange line)	» Lower rate of growth (by 0.5% each year); » Lower fiscal adjustment (primary balance lower by 1% of GDP each year) » Stronger interest rate shock	» More severe recovery assumptions: 30% on fiscal measures. Recovery time of 10 years.

In addition, for the four largest Aaa governments, we graphically represent variants of the baseline scenario to illustrate the sensitivity of debt affordability to the level of interest rates, to the trend in growth and to the magnitude of the fiscal adjustment (in each case, all other factors remaining equal). This includes extreme scenarios, the plausibility of which is admittedly low, but which are useful for identifying vulnerabilities. The assumptions underlying these scenarios are summarized in the table below:

TABLE 2.

Assumptions for sensitivity analysis

Uplift/Discount applied		Nominal Growth Sensitivity		Fiscal Adjustment Sensitivity		Interest Rate Sensitivity	
		2011	2012 onwards	2011	2012 onwards	2011	2012 onwards
VF	Very Favourable	+1%p	+2%p	-1%p	-2%p	-	-
F	Favourable	+0.5%p	+1%p	-0.5%p	-1%p	-50bps	-100bps
S	Severe	-0.5%p	-1%p	+0.5%p	+1%p	+100bps	+200bps
VS	Very Severe	-1%p	-1%p	+1%p	+2%p	+150bps	+300bps

6 For interest rates, our baseline scenario assumes that the average borrowing costs of governments in 2011 will be 50 bps above the current three-month moving average of the five-year government bond yield. We then assume a further 100 bps increase in yields in 2012, and 50 bps in 2013. For the adverse scenario, we assume interest rate shocks to be twice as large as in the baseline scenario for each year.

Appendix II: Debt Projections

Debt Projections: Baseline Scenario

		Average 2004 to 2007	2008	2009	2010	2011	2012	2013	2014
France	Nominal GDP Growth	4.4	2.8	-2.1	2.1	3.0	3.4	3.7	4.0
Aaa/STA	Budget Balance	-2.9	-3.3	-7.5	-7.5	-6.1	-4.8	-4.0	-3.3
	Interest Rate	3.5	3.9	2.6	2.0	2.5	3.5	4.0	4.0
	Debt/GDP	64.7	67.5	78.1	83.0	86.7	88.6	89.4	89.2
	Intpmts/Revenue	5.4	5.9	4.8	5.4	5.1	5.1	5.4	5.7
Germany	Nominal GDP Growth	3.0	2.0	-3.4	3.6	2.9	3.4	3.2	3.1
Aaa/STA	Budget Balance	-2.2	0.0	-3.0	-3.7	-3.6	-3.1	-2.6	-2.2
	Interest Rate	3.5	3.7	2.4	1.8	2.3	3.3	3.8	3.8
	Debt/GDP	66.6	66.4	73.4	75.7	77.1	77.2	77.1	76.4
	Intpmts/Revenue	6.4	6.2	5.8	5.0	4.7	4.6	4.8	5.1
UK	Nominal GDP Growth	5.4	2.9	-3.7	5.0	4.3	4.3	4.6	4.8
Aaa/STA	Budget Balance	-3.0	-4.9	-11.2	-11.4	-8.9	-8.3	-6.5	-4.9
	Interest Rate	4.7	4.2	2.7	2.3	2.8	3.8	4.3	4.3
	Debt/GDP	42.8	52.1	68.2	78.5	84.2	88.3	90.2	90.4
	Intpmts/Revenue	5.1	5.3	4.8	5.7	6.1	6.4	6.8	7.0
US Federal	Nominal GDP Growth	6.0	2.2	-1.7	4.9	4.7	4.4	4.4	4.5
Aaa/STA	Budget Balance	-2.3	-3.2	-10.0	-8.9	-8.1	-4.6	-3.6	-3.3
	Interest Rate	4.2	2.8	2.2	1.9	2.4	3.4	3.9	3.9
	Debt/GDP	37.2	40.4	53.0	62.7	68.0	69.5	71.0	71.8
	Intpmts/Revenue	8.9	10.0	8.9	8.6	9.5	10.2	11.7	13.1
US General	Nominal GDP Growth	6.0	2.2	-1.7	4.9	4.7	4.4	4.4	4.5
Aaa/STA	Budget Balance	-3.2	-6.5	-11.3	-10.5	-7.6	-6.5	-4.8	-3.9
	Interest Rate	2.9	1.2	2.0	2.0	2.5	3.5	4.0	4.0
	Debt/GDP	61.3	70.4	83.3	89.5	93.0	97.6	99.1	99.4
	Intpmts/Revenue	5.8	6.4	7.2	6.8	6.8	7.5	8.5	9.5
Australia	Nominal GDP Growth	8.0	9.0	1.6	6.6	6.5	4.4	5.7	5.6
Aaa/STA	Budget Balance	1.4	0.3	-3.9	-3.2	-2.2	-1.4	-0.8	-0.6
	Interest Rate	5.7	5.7	4.7	5.0	5.5	6.5	7.0	7.0
	Debt/GDP	15.6	13.6	19.2	23.4	24.2	24.5	24.0	23.3
	Intpmts/Revenue	2.5	1.4	2.9	3.1	3.7	4.0	4.2	4.4
New Zealand	Nominal GDP Growth	6.7	1.3	2.2	7.3	6.3	4.7	5.7	4.1
Aaa/STA	Budget Balance	4.4	0.4	-3.5	-5.3	-3.8	-5.3	-6.3	-7.6
	Interest Rate	6.2	6.1	4.7	4.9	5.4	6.4	6.9	6.9
	Debt/GDP	26.9	29.1	35.0	41.3	42.7	46.0	49.9	55.5
	Intpmts/Revenue	3.3	3.2	3.2	2.9	4.0	4.8	5.9	7.4
Singapore	Nominal GDP Growth	11.1	8.4	-1.5	15.7	7.5	7.4	7.6	7.5
Aaa/STA	Budget Balance	0.7	0.1	-1.1	-0.9	0.2	0.0	0.5	0.9
	Interest Rate	2.7	1.9	1.3	1.0	1.5	2.5	3.0	3.0
	Debt/GDP	37.9	38.3	46.8	41.8	38.7	36.0	33.0	29.8
	Intpmts/Revenue	0.6	0.1	0.1	0.0	0.7	1.5	2.5	3.3
Austria	Nominal GDP Growth	5.1	4.1	-3.1	3.7	3.4	3.1	3.8	4.3
Aaa/STA	Budget Balance	-2.1	-0.5	-3.5	-4.5	-3.1	-3.2	-3.0	-2.9
	Interest Rate	3.5	3.9	3.0	2.2	2.7	3.7	4.2	4.2
	Debt/GDP	62.5	62.4	67.1	69.7	70.5	71.5	71.7	71.5
	Intpmts/Revenue	6.1	5.4	5.5	6.1	5.6	5.2	5.1	5.1
Canada	Nominal GDP Growth	6.0	4.6	-4.7	5.7	4.4	5.0	4.6	4.3
Aaa/STA	Budget Balance	1.4	0.1	-5.5	-4.9	-2.6	-3.5	-3.6	-3.7
	Interest Rate	3.9	3.1	2.3	2.5	3.0	4.0	4.5	4.5
	Debt/GDP	69.7	69.7	82.9	83.2	82.2	81.2	80.7	80.5
	Intpmts/Revenue	2.4	0.4	2.3	1.0	2.1	3.4	4.9	6.5
Denmark	Nominal GDP Growth	4.8	2.7	-4.3	4.6	3.7	4.7	4.7	4.5
Aaa/STA	Budget Balance	4.2	3.3	-2.8	-4.3	-3.6	-2.4	-1.2	-0.7
	Interest Rate	3.5	4.2	2.9	1.9	2.4	3.4	3.9	3.9
	Debt/GDP	35.6	34.2	41.4	42.9	45.0	47.0	46.9	45.5
	Intpmts/Revenue	4.4	3.3	4.1	4.1	3.6	3.3	3.0	2.6

Debt Projections: Baseline Scenario

		Average 2004 to 2007	2008	2009	2010	2011	2012	2013	2014
Finland	Nominal GDP Growth	5.5	2.8	-7.2	2.8	4.2	4.8	5.0	5.5
Aaa/STA	Budget Balance	3.4	4.2	-2.7	-3.3	-3.1	-1.7	-1.2	-1.2
	Interest Rate	3.5	3.9	2.7	1.9	2.4	3.4	3.9	3.9
	Debt/GDP	40.2	34.1	43.8	49.1	50.2	52.2	53.5	54.5
	Intpmts/Revenue	3.1	2.7	2.6	2.7	2.6	2.7	2.9	3.2
Luxembourg	Nominal GDP Growth	9.8	5.7	-4.0	4.9	5.5	4.8	4.1	4.1
Aaa/STA	Budget Balance	1.0	2.9	-0.8	-2.5	-3.2	-4.0	-3.8	-3.0
	Interest Rate	3.3	4.6	4.2	3.2	3.7	4.7	5.2	5.2
	Debt/GDP	6.4	13.6	14.4	19.0	21.3	23.9	26.3	27.9
	Intpmts/Revenue	0.5	0.8	1.2	1.2	1.6	1.8	2.3	2.8
Netherlands	Nominal GDP Growth	4.6	4.3	-4.1	3.0	3.5	2.6	2.7	2.9
Aaa/STA	Budget Balance	-0.4	0.6	-5.4	-5.9	-4.1	-4.7	-4.4	-4.1
	Interest Rate	3.5	3.9	2.7	1.9	2.4	3.4	3.9	3.9
	Debt/GDP	49.3	58.2	60.8	66.0	67.9	69.4	70.5	71.3
	Intpmts/Revenue	5.2	4.7	4.8	5.2	4.8	4.6	4.7	4.8
Norway	Nominal GDP Growth	9.3	10.8	-5.4	3.0	4.0	5.7	5.3	4.7
Aaa/STA	Budget Balance	15.6	19.3	9.9	11.5	6.7	7.2	8.0	8.3
	Interest Rate	3.8	4.4	2.9	2.7	3.2	4.2	4.7	4.7
	Debt/GDP	55.2	56.7	54.3	55.9	47.1	36.6	26.1	16.0
	Intpmts/Revenue	3.9	5.1	4.3	4.4	4.1	3.2	2.4	1.6
Sweden	Nominal GDP Growth	5.3	2.8	-3.3	4.2	4.6	6.2	5.0	5.0
Aaa/STA	Budget Balance	2.1	2.2	-1.0	-1.3	-0.3	0.1	0.0	-0.1
	Interest Rate	3.6	3.8	2.5	2.2	2.7	3.7	4.2	4.2
	Debt/GDP	46.4	37.6	41.6	41.4	39.9	37.9	36.6	35.5
	Intpmts/Revenue	3.3	3.1	2.2	1.5	1.5	1.6	1.9	2.1
Switzerland	Nominal GDP Growth	4.5	4.4	-1.6	3.6	2.8	2.8	3.0	3.0
Aaa/STA	Budget Balance	0.0	2.5	-0.9	-0.5	-0.7	0.0	0.3	0.3
	Interest Rate	2.1	2.5	1.3	0.9	1.4	2.4	2.9	2.9
	Debt/GDP	49.5	40.9	39.0	39.5	39.1	38.0	36.6	35.2
	Intpmts/Revenue	4.1	3.3	4.9	4.8	4.0	3.4	3.0	2.6

Notes:

(1) The main recursive equation governing the dynamics of the debt is $D_t = D_{t-1} + IP_t - PB_t + SFA_t$, that is, debt in the next period D_t, equals debt in the previous period D_{t-1}, plus interest payments on the debt IP_t, minus the primary budget balance PB_t, plus a stock-flow adjustment SFA_t (e.g.: privatization receipts, bank recapitalization costs, etc.). In calculating the interest payments on the debt, we assume that the new gross debt issuance – that is, newly issued debt plus the share of debt rolled-over in the current year are refinanced at market interest rates, which could differ from the average yield on the non-refinanced stock of debt. Projecting the dynamics of debt forward in time requires an assumption on the path of future budget deficits, economic growth, interest rates, and the share of debt to be refinanced.

(2) Interest rate shown in the table refers to the effective interest rate on the country's debt, not to the market yield. The cells shaded in light green reflect a positive revision of Moody's estimate compared to the forecast published in the August 2010 Aaa Sovereign Monitor; while the ones shaded in light red represent a negative revision.

Debt Projections: Adverse Scenario

		Average 2004 to 2007	2008	2009	2010	2011	2012	2013	2014
France	Nominal GDP Growth	4.4	2.8	-2.1	2.1	3.0	3.4	3.7	4.0
Aaa/STA	Budget Balance	-2.9	-3.3	-7.5	-7.5	-7.2	-7.3	-6.8	-6.6
	Interest Rate	3.5	3.9	2.6	2.0	3.5	5.0	5.0	5.0
	Debt/GDP	64.7	67.5	78.1	83.0	88.6	93.8	98.1	101.8
	Intpmts/Revenue	5.4	5.9	4.8	5.4	5.4	6.2	7.2	8.3
Germany	Nominal GDP Growth	3.0	2.0	-3.4	3.6	2.9	3.4	3.2	3.1
Aaa/STA	Budget Balance	-2.2	0.0	-3.0	-3.7	-4.7	-5.4	-5.4	-5.2
	Interest Rate	3.5	3.7	2.4	1.8	3.3	4.8	4.8	4.8
	Debt/GDP	66.6	66.4	73.4	75.7	79.0	82.1	85.3	88.3
	Intpmts/Revenue	6.4	6.2	5.8	5.0	5.0	5.6	6.6	7.5
UK	Nominal GDP Growth	5.4	2.9	-3.7	5.0	4.3	4.3	4.6	4.8
Aaa/STA	Budget Balance	-3.0	-4.9	-11.2	-11.4	-10.0	-10.6	-9.1	-7.9
	Interest Rate	4.7	4.2	2.7	2.3	3.8	5.3	5.3	5.3
	Debt/GDP	42.8	52.1	68.2	78.5	86.0	93.2	98.5	102.1
	Intpmts/Revenue	5.1	5.3	4.8	5.7	6.4	7.3	8.4	9.3
US FG	Nominal GDP Growth	6.0	2.2	-1.7	4.9	4.7	4.4	4.4	4.5
Aaa/STA	Budget Balance	-2.3	-3.2	-10.0	-8.9	-9.3	-7.1	-6.4	-6.4
	Interest Rate	4.2	2.8	2.2	1.9	3.4	4.9	4.9	4.9
	Debt/GDP	37.2	40.4	53.0	62.7	69.7	74.2	78.9	83.3
	Intpmts/Revenue	8.9	10.0	8.9	8.6	10.5	13.3	16.9	20.4
US GG	Nominal GDP Growth	6.0	2.2	-1.7	4.9	4.7	4.4	4.4	4.5
Aaa/STA	Budget Balance	-3.2	-6.5	-11.3	-10.5	-8.7	-9.0	-7.8	-7.3
	Interest Rate	2.9	1.2	2.0	2.0	3.5	5.0	5.0	5.0
	Debt/GDP	61.3	70.4	83.3	89.5	94.9	102.9	108.1	112.4
	Intpmts/Revenue	5.8	6.4	7.2	6.8	7.4	9.4	11.8	14.0
Australia	Nominal GDP Growth	8.0	9.0	1.6	6.6	6.5	4.4	5.7	5.6
Aaa/STA	Budget Balance	1.4	0.3	-3.9	-3.2	-3.2	-3.6	-3.3	-3.3
	Interest Rate	5.7	5.7	4.7	5.0	6.5	8.0	8.0	8.0
	Debt/GDP	15.6	13.6	19.2	23.4	25.4	28.2	30.2	32.1
	Intpmts/Revenue	2.5	1.4	2.9	3.1	3.9	4.7	5.8	6.7
New Zealand	Nominal GDP Growth	6.7	1.3	2.2	7.3	6.3	4.7	5.7	4.1
Aaa/STA	Budget Balance	4.4	0.4	-3.5	-5.3	-4.9	-7.6	-9.0	-10.6
	Interest Rate	6.2	6.1	4.7	4.9	6.4	7.9	7.9	7.9
	Debt/GDP	26.9	29.1	35.0	41.3	44.1	50.1	56.9	65.9
	Intpmts/Revenue	3.3	3.2	3.2	2.9	4.2	5.6	7.7	10.2
Singapore	Nominal GDP Growth	11.1	8.4	-1.5	15.7	7.5	7.4	7.6	7.5
Aaa/STA	Budget Balance	0.7	0.1	-1.1	-0.9	-0.9	-2.2	-1.9	-1.6
	Interest Rate	2.7	1.9	1.3	1.0	2.5	4.0	4.0	4.0
	Debt/GDP	37.9	38.3	46.8	41.8	40.1	39.9	39.3	38.4
	Intpmts/Revenue	0.6	0.1	0.1	0.0	1.0	2.6	4.7	6.6
Austria	Nominal GDP Growth	5.1	4.1	-3.1	3.7	3.4	3.1	3.8	4.3
Aaa/STA	Budget Balance	-2.1	-0.5	-3.5	-4.5	-4.3	-5.6	-5.7	-6.0
	Interest Rate	3.5	3.9	3.0	2.2	3.7	5.2	5.2	5.2
	Debt/GDP	62.5	62.4	67.1	69.7	72.3	76.3	79.7	83.0
	Intpmts/Revenue	6.1	5.4	5.5	6.1	5.8	6.1	6.7	7.3
Canada	Nominal GDP Growth	6.0	4.6	-4.7	5.7	4.4	5.0	4.6	4.3
Aaa/STA	Budget Balance	1.4	0.1	-5.5	-4.9	-3.7	-5.9	-6.3	-6.9
	Interest Rate	3.9	3.1	2.3	2.5	4.0	5.5	5.5	5.5
	Debt/GDP	69.7	69.7	82.9	83.2	84.1	86.1	88.9	92.4
	Intpmts/Revenue	2.4	0.4	2.3	1.0	2.4	4.4	6.9	9.5
Denmark	Nominal GDP Growth	4.8	2.7	-4.3	4.6	3.7	4.7	4.7	4.5
Aaa/STA	Budget Balance	4.2	3.3	-2.8	-4.3	-4.7	-4.7	-3.7	-3.4
	Interest Rate	3.5	4.2	2.9	1.9	3.4	4.9	4.9	4.9
	Debt/GDP	35.6	34.2	41.4	42.9	46.5	51.2	53.8	55.4
	Intpmts/Revenue	4.4	3.3	4.1	4.1	3.7	3.8	4.0	4.0

Debt Projections: Adverse Scenario

		Average 2004 to 2007	2008	2009	2010	2011	2012	2013	2014
Finland	Nominal GDP Growth	5.5	2.8	-7.2	2.8	4.2	4.8	5.0	5.5
Aaa/STA	Budget Balance	3.4	4.2	-2.7	-3.3	-4.2	-4.0	-3.8	-4.1
	Interest Rate	3.5	3.9	2.7	1.9	3.4	4.9	4.9	4.9
	Debt/GDP	40.2	34.1	43.8	49.1	51.8	56.5	60.8	64.9
	Intpmts/Revenue	3.1	2.7	2.6	2.7	2.8	3.4	4.1	4.9
Luxembourg	Nominal GDP Growth	9.8	5.7	-4.0	4.9	5.5	4.8	4.1	4.1
Aaa/STA	Budget Balance	1.0	2.9	-0.8	-2.5	-4.3	-6.2	-6.2	-5.7
	Interest Rate	3.3	4.6	4.2	3.2	4.7	6.2	6.2	6.2
	Debt/GDP	6.4	13.6	14.4	19.0	22.5	27.4	32.4	36.6
	Intpmts/Revenue	0.5	0.8	1.2	1.2	1.7	2.3	3.4	4.5
Netherlands	Nominal GDP Growth	4.6	4.3	-4.1	3.0	3.5	2.6	2.7	2.9
Aaa/STA	Budget Balance	-0.4	0.6	-5.4	-5.9	-5.2	-7.0	-7.1	-7.1
	Interest Rate	3.5	3.9	2.7	1.9	3.4	4.9	4.9	4.9
	Debt/GDP	49.3	58.2	60.8	66.0	69.6	74.1	78.5	82.7
	Intpmts/Revenue	5.2	4.7	4.8	5.2	5.1	5.5	6.3	7.1
Norway	Nominal GDP Growth	9.3	10.8	-5.4	3.0	4.0	5.7	5.3	4.7
Aaa/STA	Budget Balance	15.6	19.3	9.9	11.5	5.6	5.0	5.7	5.8
	Interest Rate	3.8	4.4	2.9	2.7	4.2	5.7	5.7	5.7
	Debt/GDP	55.2	56.7	54.3	55.9	48.8	40.8	32.7	25.0
	Intpmts/Revenue	3.9	5.1	4.3	4.4	4.3	3.6	3.0	2.4
Sweden	Nominal GDP Growth	5.3	2.8	-3.3	4.2	4.6	6.2	5.0	5.0
Aaa/STA	Budget Balance	2.1	2.2	-1.0	-1.3	-1.4	-2.1	-2.4	-2.8
	Interest Rate	3.6	3.8	2.5	2.2	3.7	5.2	5.2	5.2
	Debt/GDP	46.4	37.6	41.6	41.4	41.3	41.8	43.2	44.8
	Intpmts/Revenue	3.3	3.1	2.2	1.5	1.6	2.0	2.7	3.3
Switzerland	Nominal GDP Growth	4.5	4.4	-1.6	3.6	2.8	2.8	3.0	3.0
Aaa/STA	Budget Balance	0.0	2.5	-0.9	-0.5	-1.7	-2.2	-2.1	-2.2
	Interest Rate	2.1	2.5	1.3	0.9	2.4	3.9	3.9	3.9
	Debt/GDP	49.5	40.9	39.0	39.5	40.5	42.0	43.3	44.6
	Intpmts/Revenue	4.1	3.3	4.9	4.8	4.2	4.1	4.2	4.3

Note: *Interest rate refers to the effective interest rate on the country's debt, not to the market yield. The cells shaded in light green reflect a positive revision of Moody's estimate compared to the forecast published in the August 2010 Aaa Sovereign Monitor; while the ones shaded in light red represent a negative revision.*

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