Discussion Paper No. 15-041

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30th Aril 2015

Abstract

The German experience of the crisis was very different compared to those of most other countries in Europe. Germany was hit by a very strong shock which was relatively concentrated in the exporting, manufacturing industries. In addition, the German labour market was very resilient during the crisis due to earlier labour market reforms and policy instruments facilitating labour hoarding. As a consequence, public finances were only moderately affected and not many policy reforms had to be enacted. This chapter will present the German experience of the financial crisis. We start by presenting the macroeconomic situation and how the crisis unfolded in Germany, before focusing on the situation of public finances. Finally, we analyse the policy responses to the financial crisis.

JEL Classification: H12, H23, H32, H60

Keywords: crisis management, financial crisis, redistribution, budget deficit and debt

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# 1 Introduction

The German experience of the crisis differs from that of most other countries in Europe. In Germany, the financial crisis occurred as a very strong shock, but one that was relatively concentrated in the exporting, manufacturing industries. In 2009, real GDP fell by more than 5%. To a large extent this was driven by a massive decline in exports (14%). Due to earlier labour market reforms which increased flexibility and kept unit labour costs at low levels, and thanks to policy instruments facilitating labour hoarding ('short time working scheme', Bargain et al., 2012), the German labour market survived the crisis without a lasting effect on unemployment rates. In fact, unemployment decreased further to new record lows after 2010.

Next to the strong but transitory shock in the export industry, the German banking sector was severely affected. The German government mobilised significant resources to support banks. As a result of both the decline in GDP and the bank stabilisation operations, the German public debt to GDP ratio increased from 65 per cent in 2008 to just over 80 per cent in 2010. Yet the interventions in the banking sector were essentially one-off expenses, and the increase in the debt ratio overstates the cost of banking sector stabilisation because the public sector also acquired significant assets. [2] The overall fiscal burden of the financial crisis will only be known when these assets are liquidated.

A third important aspect is that the public sector budget in Germany was almost balanced before the crisis, so that there was room for letting automatic stabilisers play their part (Dolls et al., 2012). Since Germany quickly recovered from the initial decline in GDP, the need for fiscal consolidation was limited. Therefore no significant tax reforms or budget cuts were made in the years after the crisis.

This paper will present the German experience of the financial crisis. The paper starts by presenting the macroeconomic situation and how the crisis unfolded in Germany (section 2), before focusing on the situation of public finances (section 3). Section 4 is dedicated to the policy responses to the financial crisis. Section 5 concludes.

# 2 Impact of the financial crisis: the macro picture

## 2.1 National income

With the exceptions of 1993 and 1996, the 1990s were characterized by stable real GDP growth rates of around 2 per cent per year. Real GDP growth flattened in the early 2000s with close to zero and negative real GDP growth in 2002 and 2003, but became stronger from 2004 onwards with real GDP reaching its pre-crisis peak in 2008. Germany was hit by a severe output shock in 2009 when real GDP fell by more than 5%. This was to a large extent driven by a significant reduction in exports (14%) contributing roughly 6 percentage points to the GDP drop. However, output recovered quickly in the following years and exceeded its pre-crisis peak already in 2011.

[2] The direct costs of financial sector intervention from 2008-2010 amounted to 10.8% of 2010 GDP (IMF Fiscal Monitor 2011). Note, however, that this includes recoverable assets of 240 bill. EUR purchased in 2010. Excluding asset purchases, the debt would have increased to 71% of GDP in 2010. Which parts of these assets will in fact be recovered is, however, still unknown. In 2014, the impact of financial sector interventions on gross public debt was still 7.9% of 2014 GDP (IMF Fiscal Monitor April 2015).

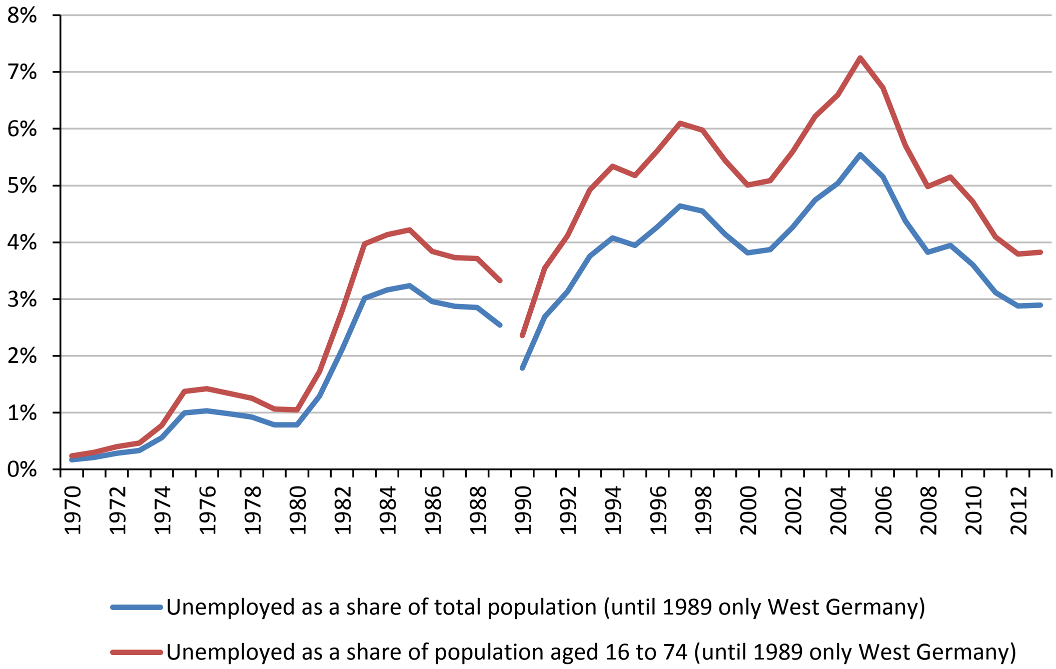
Real GDP forecasts from May 2008 and 2009 from the Working Party on Tax Revenue Forecasting, an advisory council at the Federal Ministry of Finance show clearly that the negative GDP shock in 2009 was not anticipated in 2008. The projection from spring 2008 still foresaw a growth rate of 1.2% for 2009 and it was only in spring 2009 that the forecast was significantly corrected downwards to -6%.[3] Interestingly, forecasts from 2008 and 2009 did not foresee GDP growth to be as strong as observed in 2010 and 2011, whereas forecasts were too optimistic for 2012 and 2013.

## 2.2 Labour markets

Figure 1 shows that the share of the unemployed population in Germany increased sharply after reunification with the number of unemployed rising from 2.1 million in 1991 to 3.8 million in 1997. From 1997 to 2000, the unemployment rate decreased in three consecutive years, but continued rising in the early 2000s and reached its peak in 2005 when 4.5 million people were seeking work. Around that time, Germany was often called the '*sick man in Europe'*. The surge in unemployment put the center-left coalition of chancellor Gerhard Schröder under enormous pressure. The government enacted labor market reforms known as the 'Hartz-reforms' from 2003-2005 with the aim to make the German labor market more dynamic and to reduce long-term unemployment. Since then, the unemployment rate has been declining and to the surprise of many observers, it did not soar up in 2009 when real GDP declined by 5.6%. Unemployment increased only very moderately in 2009, but continued falling in recent years. There are different views on which factors contributed to the impressive labor market development since 2005. Some observers argue that the Hartz reforms played an important role in making the labor market more flexible and in strengthening job search incentives while others point to the German system of industrial relations which helped the German industry to improve its competitiveness (see Dustmann et al. 2014, Rinne and Zimmermann, 2012, 2013).

[3] Even in November 2008, real GDP was projected to grow by 0.2%.

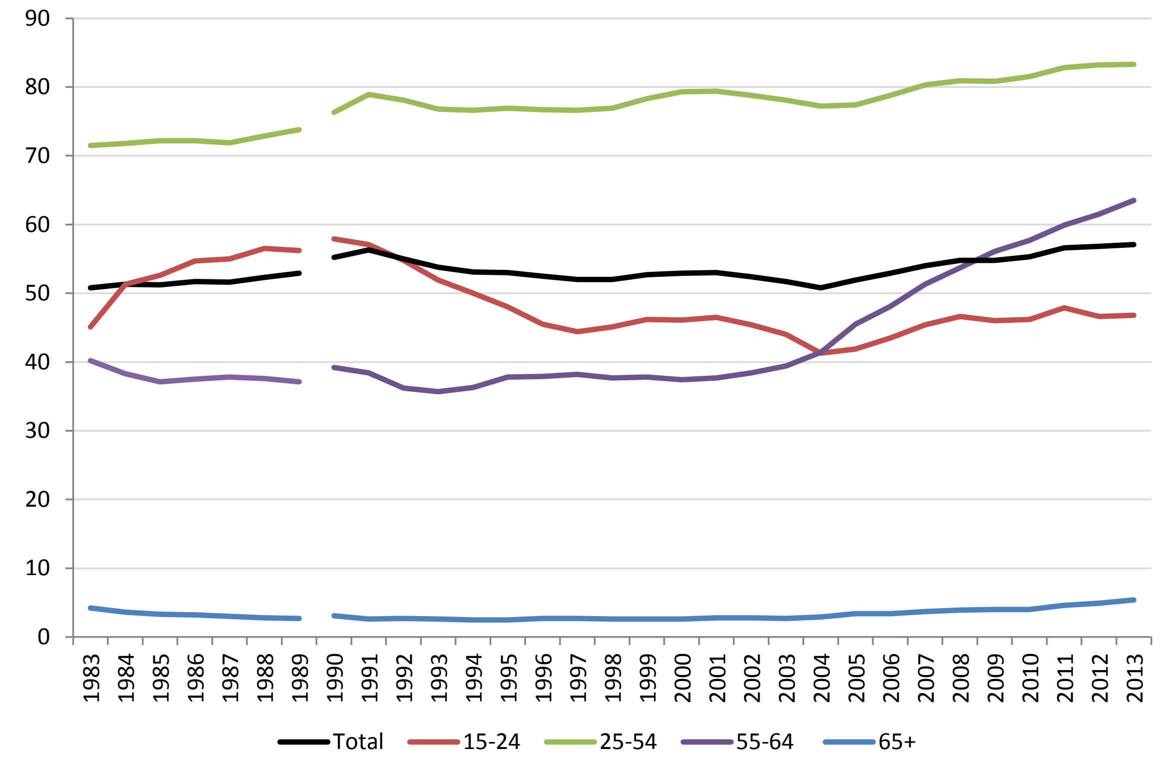
**Figure 1: Evolution of share of population unemployed, Germany 1970-2013**




Note: Unemployment definition follows ILO concept. Source: German Council of Economic Experts.

Figure 2 shows the evolution of the employment rate since the early 80s. In line with the reduction of the unemployment rate since 2005 shown in Figure 1, the employment rate has steadily increased since 2004. For the total population, it rose from 50.8% in 2004 to 57.1% in 2013. The employment rate rose fastest - by 22 percentage points in that period - for those in the 55-64 age group, and moderately for all other age groups. The retirement entry age will increase stepwise to the age of 67 in the period 2012-2023 which might further strengthen this trend.

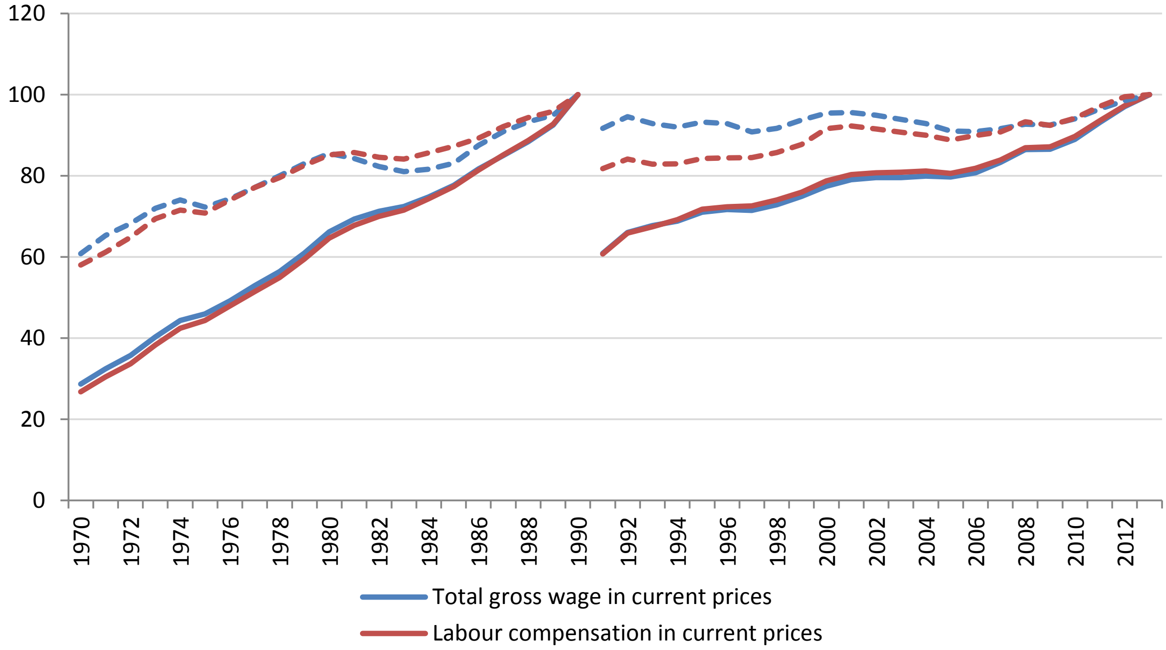
**Figure 2: Employment-to-Population ratio, Germany 1983-2013**




Note: Employment rate defined as number of persons who are employed as a percent of the total of working age population. Note: Until 1989 data are for West Germany only. Source: ILOSTAT Database: LFS - EU Labour Force Survey.

Figure 3 shows the evolution of real and nominal growth rates for gross wages and labor compensation. It stands out that real wage growth stagnated from 2001 to 2006, in a time period with rising unemployment (see Figure 1). As argued by Dustmann et al. (2014), stronger bargaining power of employer federations due to new opportunities to move production to central and eastern Europe has forced unions to agree to wage restraint  in that period which has helped the German industry to regain competitiveness.

**Figure 3: Change in real and nominal wage growth, Index series, Germany 1970-2013**




Note: The base year for the time period before (after) reunification is 1990 (2013). The time series until 1990 includes West Germany only. Real wages are based on the CPI (base year for West Germany: 1995; base year for the time period after reunification: 2013). Labour compensation is deflated using GDP deflator (base year for West Germany: 1991; base year for the time period after reunification: 2013).
Source: Federal Statistical Office, National Accounts.

# 3 Public finance responses

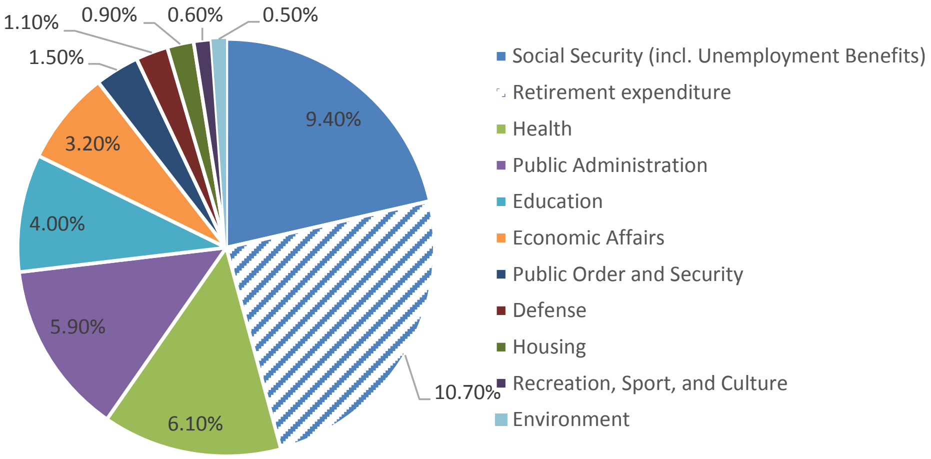
## 3.1 Fiscal stance before the crisis

**Box 1: the budgetary process in Germany**

The budget process can be divided into three distinct phases. First, external forecasts of the German Council of Economic Experts (GCEE) and internal tax revenue forecasts prepared by the Federal Ministry of Finance feed into the preparation of internal benchmark figures and the annual `Stability Programme' as required under EU rules. Second, a new round of economic forecasts by a panel of experts from independent research institutes, the federal government and the Working Party on Tax Revenue Forecasts, an independent advisory council, leads to the preparation of the draft federal budget and the five-year Financial Plan which are submitted to the federal parliament in August each year. Third, a similar sequence of budgetary forecasts in autumn is the basis for the finalization of the federal budget documentation. The budget is scrutinized by the Budget Committee of the Bundestag and finally adopted by the parliament. A recent budget review of the OECD (OECD, 2014) comes to the conclusion that independent experts such as the Council of Economic Experts, independent research institutes as well as the newly introduced Stability Council and its Advisory Council, a fiscal watchdog which monitors budget plans of the federal government and the Länder, play an important role in the German budgetary framework. Although the government could rely on own macroeconomic assumptions and forecasts, it would need convincing reasons to do so since significant deviations from the forecasts of the independent bodies would put the government under considerable pressure to justify its deviating assessments.

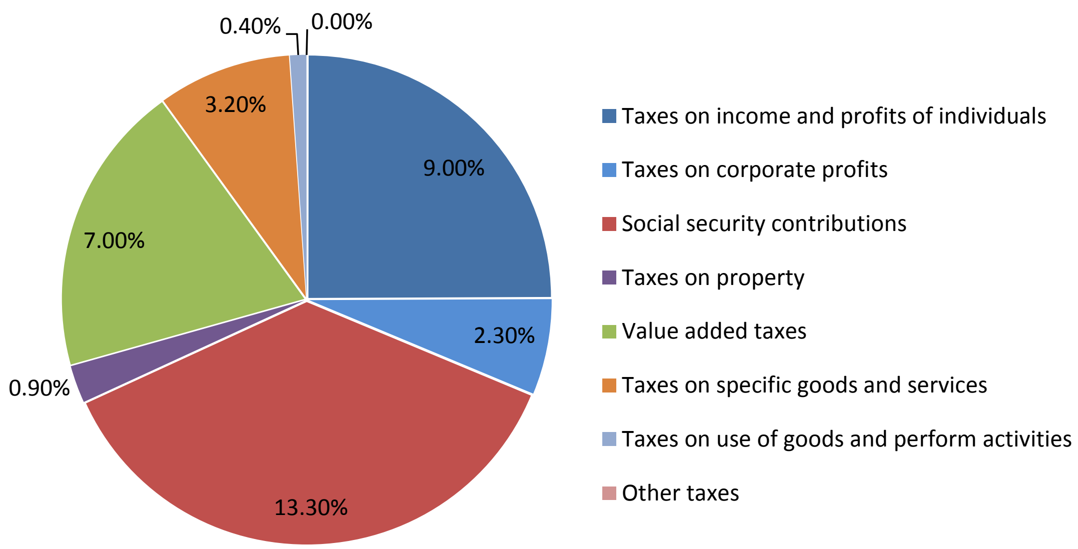
Figures 4 and 5 show the composition of public spending and revenue in Germany before the crisis. Social security and retirement expenditure make up a large fraction (46%) of total government expenditure in Germany. Among the OECD countries, only a few countries (Austria, France, Greece, Italy, Portugal) have public retirement expenditure as high as Germany (10.7% of GDP in 2007, see OECD, 2012). Given the unfavorable demographic trends in Germany, the burden of old-age expenditure on public budgets can be expected to grow even further. According to the 2012 Ageing Report of the European Commission, it is projected to increase to more than 13 per cent by 2060 (European Commission, 2012). On the revenue side, the income tax, the value added tax and social security contributions are the largest sources of revenue in Germany.

**Figure 4: Composition of Public Spending as a percentage of GDP, Germany 2007**




Note: Shares add up to 43.9% of GDP. Total public spending in 2007: 1064 bill. EUR.
Source: Federal Statistical Office, OECD: Die OECD in Zahlen und Fakten

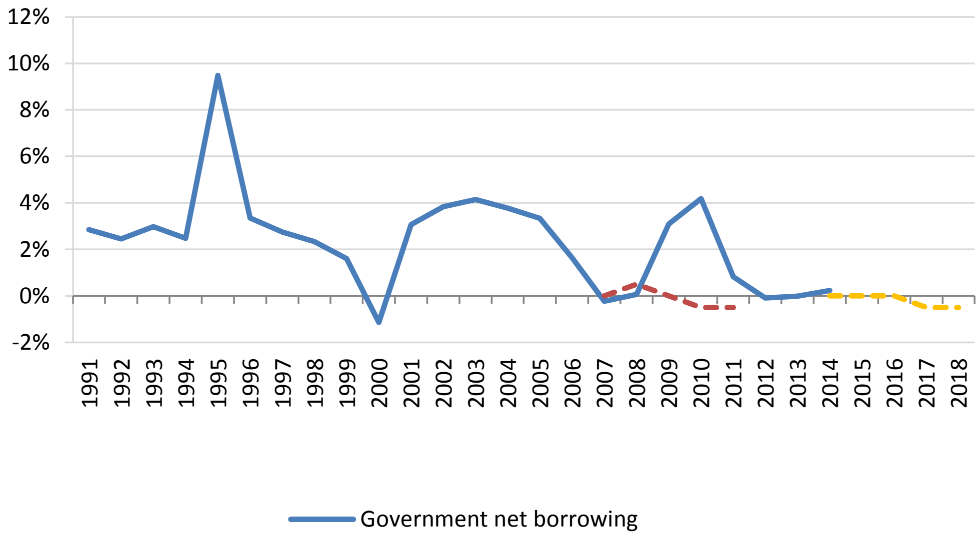
**Figure 5: Composition of Public Revenue as a percentage of GDP, Germany 2007**




Note: Since revenues are shown as percentage of GDP, shares do not add up to 100, but to total revenue per GDP.
Total revenue in 2007: 872.7 bill. EUR. Revenue as a share of GDP in 2007: 36.2%
Source: OECD Revenue Statistics 2011, 29 Nov 2011

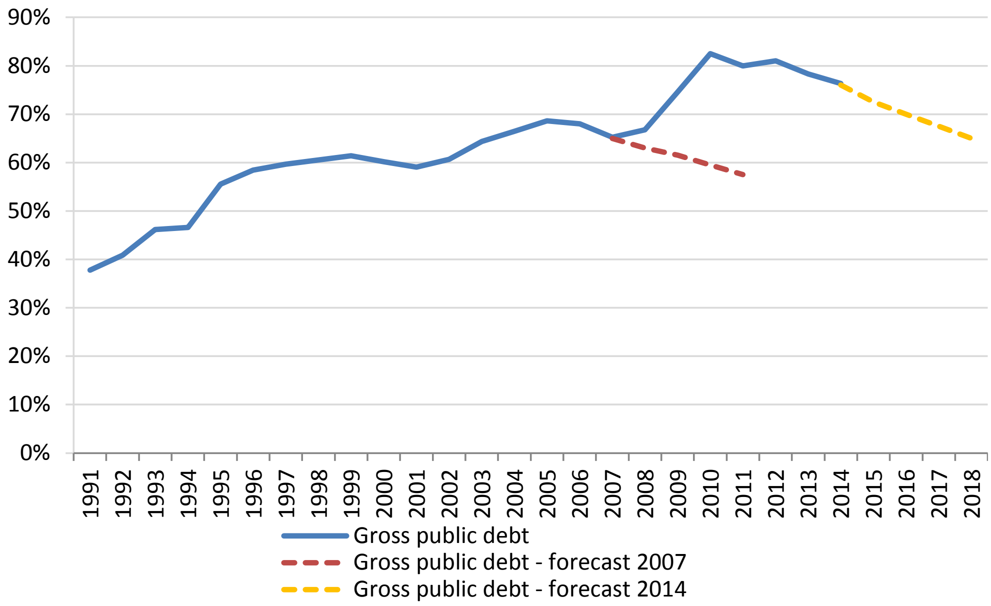
The pre-crisis public finance situation in Germany can be described by consolidation efforts of the federal government to secure the sustainability of public finances. As can be seen in Figure 6, the government succeeded in cutting the overall budget deficit to 1.6% of GDP in 2006 and thus one year earlier than postulated by the ECOFIN-council in March 2006. Consequently, the excessive deficit procedure against Germany was terminated in June 2007. European Commission forecasts in autumn 2007 foresaw a balanced budget for 2008 and 2009 which, according to the German Stability Programme in 2007, was due to cyclical and structural factors. Indeed, the 2007 autumn forecast projected a structurally balanced budget for that year and only small structural deficits (-0.4, -0.2) for 2008 and 2009. Figure 7 shows that the German government projected the debt-to-GDP ratio to fall below 60% in 2010, the reference value of the Maastricht treaty. Compared with the pre-crisis forecast, the debt-to-GDP ratio in 2011 (80%) was more than 20 percentage points higher than projected.

**Fig 6: Government net borrowing, as a percentage of GDP, Germany,
Actual GDP 1991-2014, forecasts in 2007 for 2008-2011 and in 2014 for 2014-2018.**




Note: Dashed lines indicated forecasts. Forecasts from 2007 to 2011 are from 2007, forecasts from 2014 onwards are from 2014.
Source: Economic Outlook No 95 - May 2014 - OECD Annual Projections, European Economic Forecasts, autumn 2007 and 2014.

**Figure 7: Gross Public Debt, as a percentage of GDP, Germany,
Actual GDP 1991-2014, forecasts from 2007 for 2014-2018 from 2014.**




1991-1994: General government gross financial liabilities. Since 1995: Gross public debt according to Maastricht criterion. Source: Economic Outlook No 95 - May 2014 - OECD Annual Projections. Source forecasts: Federal Ministry of Finance, German Stability Programme, Update December 2007 and Update 2014

## 3.2 How did the crisis affect the public finances?

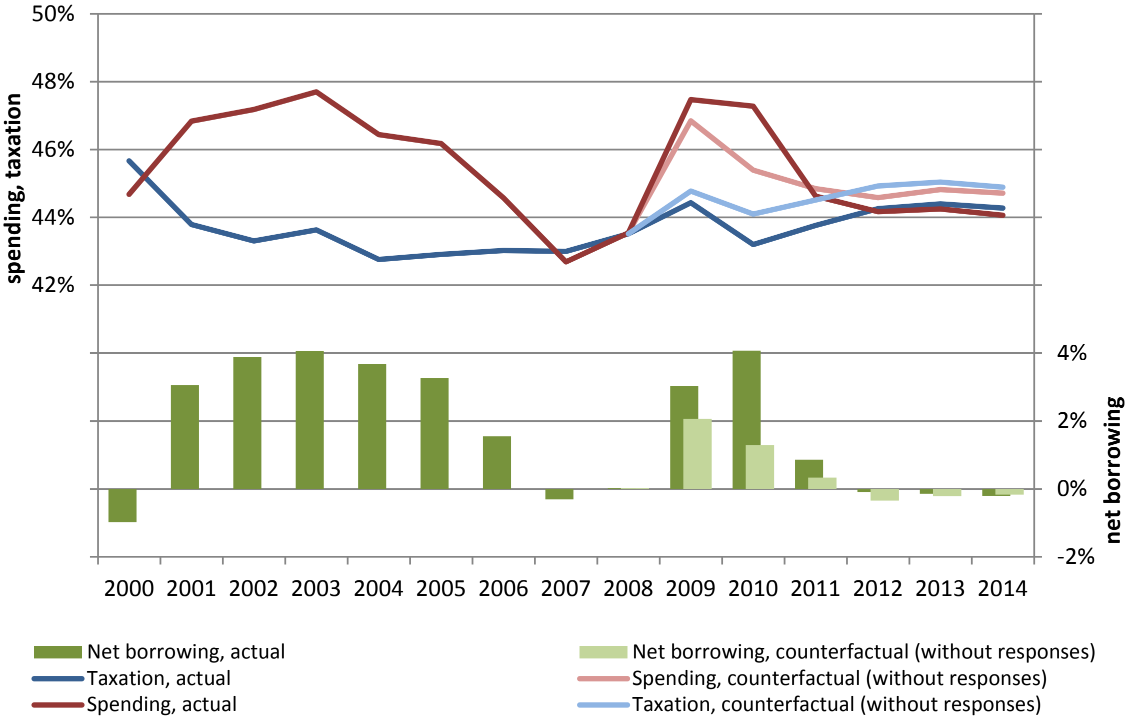
Since 2008, the German government enacted three packages[4] of various expansionary fiscal measures in response to the recession, mainly to stimulate production demand: The 'Economic Stability Plan 1 and 2' ('Konjunkturpaket' 1 and 2) enacted 2008 and 2009 respectively, and the 'Growth Acceleration Law' ('Wachstumsbeschleunigungsgesetz') enacted in 2009, became effective since 2009 and can be seen as a response to the declining export demand. In contrast to these expansionary measures, it introduced the 'Future Package' ('Zukunftspaket') in 2010. The 'Future Package' included in turn policy measures that reduce public spending and increase taxes to react to the increasing national debt and the European national debt crisis. Furthermore, there was financial sector support by the German government.

A comparison of actual taxation and spending and a counterfactual in the absence of any policy responses can be found in Figure 8.[5] The composition of the policy responses (Figure 9) will be described in detail in section 3.3 where the impact of the reforms on actual government spending, taxation and net borrowing will be evaluated on this basis. The dark lines show the actual outturns for receipts and disbursements of the total government and the lighter line shows the counterfactual.

[4] It is controversial whether some of the measures which are part of these three policy packages that are officially branded as responses to the crisis by the German government would also have been implemented without the crisis.

[5] We use data from the Economic Outlook No 96 - November 2014 - OECD Annual Projections. Spending is defined as total disbursements of the general government, and taxation as the total receipts of the general government, all as a percentage of GDP. To calculate the additional fiscal burden of the particular policy reactions, we use data from the Federal Ministry of Finance and estimations made by the German Council of Economic Experts (GCEE). For the 'Economic Stability Plan' 1 and 2 see GCEE Annual Report 2009/10, page 65; for the 'Growth Acceleration Law' see Hübner (2010), page 240; for the 'Future Package' see GCEE Annual Report 2010/11, page 209. Financial sector support includes only direct capital injections from the states and KfW and we use estimates from the IMF (Fiscal Monitor, April 2011, page 8).

**Figure 8: Taxation, spending and borrowing actual and counterfactual in % of GDP**




Own calculations. The counterfactual series relates to the calculations on the additional fiscal burden of the reactions to the crisis that are represented in Table 1: Counterfactual taxation subtracts the net effect of changes to category i) from actual taxation. Counterfactual spending subtracts the additional fiscal burden of changes to category ii), iii), and iv) from actual spending. Sources for GDP and government receipts and disbursements: Economic Outlook No 96 - November 2014 - OECD Annual Projections. Sources for counterfactual analysis: GCEE Annual Report 2009/10, p. 65; Hübner (2010), p. 240; GCEE Annual Report 2010/11, page 209; IMF Fiscal Monitor, April 2011, p. 8.

As can be seen in Figure 8, the changes in taxation which can be attributed to responses to the crisis were reducing government receipts. Therefore, the counterfactual taxation would have been higher if these reforms did not take place. The GDP reached its pre-crisis peak in 2008. In 2009, the nominal GDP fell by around 4% while nominal government receipts decreased by around 2% even with the tax-decreasing reforms in place. Relative to GDP, government receipts increased in 2009 and without policy responses tax receipts would have been a bit higher. The short term responses to the crisis were increasing spending because government wanted to stimulate consumption and dampen the effect of the downturn in exports. Later, the German government had to react to the increasing debt and from 2011 on reforms became effective that decreased spending compared to the counterfactual. However, the quick return to the pre-crisis GDP level and positive growth rates afterwards were the main drivers to let spending relative to GDP go down. In comparison to other European countries, the responses to the crisis were relatively small in Germany and the combined effect of all policy reactions to the crisis mainly showed up in 2009 and 2010 when the stimulus packages were effective and before the counteracting fiscal tightening took place. In contrast to other countries the fiscal contraction due to reforms was very small in Germany and did just counterbalance the expansionary measures.

The additional fiscal burden of the policy reactions increased national debt by 24 billion EUR (1% of GDP) in 2009 and 72 billion EUR (2.8% of GDP) in 2010, whereas since 2011 those policy measures partly lost their impact as well as other expansionary packages ('Growth Acceleration Law') and the counteracting policy measures of the 'Future Package' became effective. However, the latter packages were relatively small and combined reduced government debt by around 3 billion EUR (2010), 10 billion EUR (2012), 15 billion EUR (2013), and 18 billion EUR (2014) which was each below 1% of GDP. Given that some of the expansionary measures introduced by the 'Economic Stability Plans' 1 and 2 were permanent, the net effect of all cumulative measures introduced in response to the crisis was virtually zero in each year since 2012.

Most of the additional fiscal burden in 2009 and 2010 was due to increases in spending (around 65 billion EUR combined in both years) while taxation fell by 28 billion EUR in both years combined. A significant part (33 billion EUR) of the additional spending in 2010 was financial sector support in the form of direct capital injections by the states and KfW.[6]

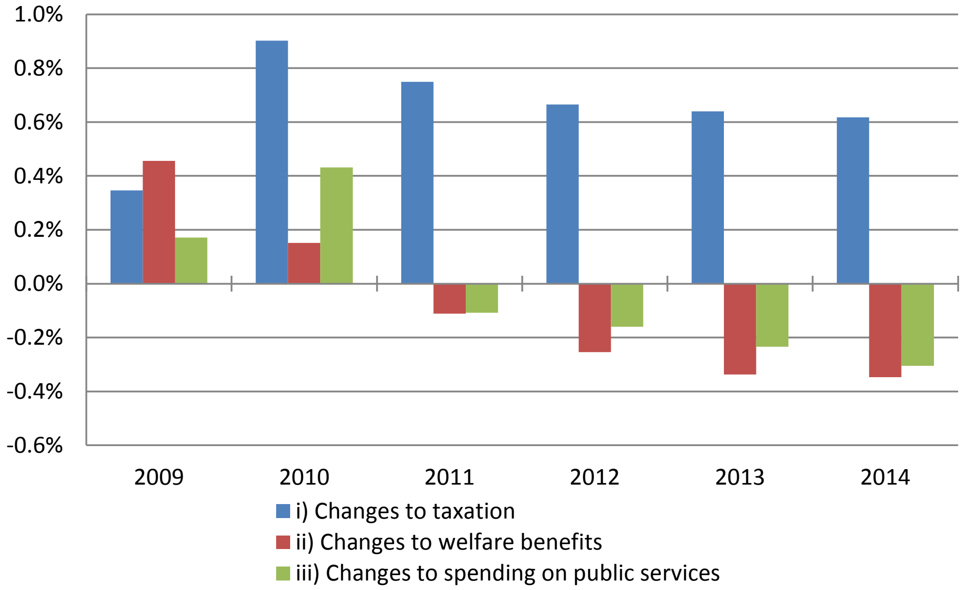
As can be seen in Figure 8 though, without policy responses government spending would have still been higher than taxation during the crisis. Therefore, counterfactual net borrowing during this period would have still been positive. Note, however, that counterfactual tax revenue in Figure 8 are lower than projected before the crisis which explains why our counterfactual series do not show a balanced budget which was expected before the outbreak of the crisis (see section 2.1). In comparison to earlier recessions, the counterfactual figures on net borrowing during the crisis of 2008 to 2010 indicate a rather cyclical pattern. The policy responses during the crisis did increase government debt beyond the cyclical deficit, but to a rather small amount.

[6] Financial sector support in the form of asset purchases (240 billion EUR) is not considered for the counterfactual.

## 3.3 What was the fiscal response to the crisis?

Figure 9 decomposes the public finance responses, as % of GDP, into changes to taxation, changes to welfare benefits, and changes to spending on public services. For a further decomposition into single measures see Table 1.

**Figure 9 Composition of the public finances responses, as % GDP**




Note: Policy responses are effective since 2009. Financial sector interventions excluded. Sources: Own calculations based on GCEE and Hübner (2010); Economic Outlook No 96 - November 2014 - OECD Annual Projections

The earliest policy reactions were included in the 'Economic Stability Plan' 1 und 2, which contained budgetary costs of 56 billion EUR in 2009 and 2010 of which 26 billion EUR were due to changes in taxation. The 'Economic Stability Plan' 1 und 2 included permanent changes to taxation of around 17.1 billion EUR per year since 2011. With the 'Economic Stability Plan' 1, adopted in 2008, the fiscal burden on enterprises and households decreased. By improving the depreciation allowances for SMEs, and the limited tax-exemption for new cars and other facilitating measures, the state had additional costs of around 8.3 billion EUR in 2009 and 2010 and around 5.7 billion EUR each year afterwards. As part of the 'Economic Stability Plan' 2, adopted in 2009, the income tax basic allowance was increased by 170 EUR and the lowest marginal tax rate was decreased from 15 to 14 per cent. Another important factor has been the reduction of the average premium to the public health insurance, which cost the state 3.1 billion EUR in 2009 and 6.0 billion EUR yearly since 2010. The costs of the measures amounted to 5.9 billion EUR in 2009 and around 11.4 billion beach year afterwards. The 'Growth Acceleration Law', also enacted in 2009, was further improving the situation for enterprises due to specific deductions. In addition, the inheritance tax decreased (reducing taxes by around 400 million EUR per year). The reduced taxation is estimated by the German Council of Economic Experts (GCEE) to be 6.1 billion EUR in 2010 and 8.4 billion EUR in later years (see Hübner, 2010). The changes in taxation which are laid down in the 'Future Package' had an opposite effect than the other measures. It introduced a new air traffic taxes, lower energy tax breaks and a nuclear fuel tax (*'Kernbrennstoffsteuer'*) for nuclear power plants[7]. The tax changes of the 'Future Package' sum up to around 7.5 bn EUR per year of additional taxation.

The 'Economic Stability Plan' 1 and 2 temporary increased spending on public services and other spending as well as welfare benefits in 2009 and 2010 by around 15 billion EUR in each year. Notably, the 'Economic Stability Plan' 1 determines a traffic investment programme which contained 2 billion EUR. Furthermore, the duration of short-time work (see Box 2) has been increased to 18 months. The investment programme of the 'Economic Stability Plan' 2 provided 13.3 billion EUR for investments in infrastructure and the education system. Moreover, the government decided to allocate a supplement child bonus, which amounted to 100 EUR per child. There has also been a special programme to support the automotive industry and readjustments in the vehicle tax to enforce environmentally friendly techniques. Once again the duration of short-time working allowance increased to 24 months and its subsidisation scheme increased so that the state had additional costs of around 7.3 billion EUR. The 'Growth Acceleration Law' included a relief for families of around 4.6 billion EUR each year, by increasing the child benefit and a higher tax-exempt amount. Lastly the 'Future Package' contained measures contrary to the other new regulations. With lower costs in the public and military sector and a readjustment of social laws, the state lowered its costs by around 6 billion EUR in 2011, 12 billion EUR in 2012, 16 billion EUR in 2013, and 19 billion in 2014.

Financial sector support, not shown in Figure 9, during the crisis consisted of asset purchases (240 billion EUR, 9.5 % of GDP) and direct capital injections (33 billion EUR in 2010) by the federal states and KfW. The direct capital injections amounted to a significant part of the increases in government expenditures in 2010 (1.3 % of GDP).

**Box 2: Short-time work in Germany during the Crisis**

The German short-time working scheme aims at preserving jobs during recessions, i.e. when firms experience temporary demand shocks. In short-time work, employees temporarily reduce their weekly working hours. The hours worked are paid by the employer while the government pays between 60-67 percent of the net wage loss due to reduced working hours. Employees keep their health insurance and obtain the same pension entitlements as if they had worked full-time during this period. Similarly, social security contributions for hours worked are paid for by the employer and for the reduced hours the government pays the fee. Before the crisis, the maximum duration of short-time work was six months. The maximum duration has been extended by the 'Economic Stability Program' 1 and 2 to 18 and 24 months, respectively. Since 2012, it has been reduced again to 6 months.

Short-time work has already been used heavily during the economic downturn of the early 1990s with over 2 million short-time workers in 1991 and 1.2 million short-time workers in 1993. From

[7] The nuclear fuel tax (*'Kernbrennstoffsteuer'*) is also part of the 'Ecological readjustment', changes in nuclear energy policy after the Fukushima nuclear disaster.

1997 to 2008 the use of short-time work was comparatively low (around 100 to 200 thousand workers per year) and showed mainly a seasonal figure. In May 2009, about 1.4 million people (circa 5% of all employees in jobs subject to social security contributions) were on short-time work. In total, the additional cost on the federal budget amounted to 4.4 billion EUR in 2009 and 3.9 billion EUR in 2010 (GCEE Annual Report 2009/10).

Short-time work allowed for higher internal flexibility during the temporary demand shocks in 2009 (GCEE Annual Report 2013/14) and can be seen as one key factor in explaining the mild job losses during the crisis (e.g. Brenke et al., 2013). As the German economy has been hit mainly by shocks in export demand, short-time work especially helped firms with subsequent declining output. Firms that applied for short-time work had a high export share and were concentrated in the manufacturing sector (Boeri and Bruecker, 2011).

**Table 1: Additional fiscal burden by reform package, categories and measures as % of GDP**

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| **Economic Stability Plan 1 (2008)** | **0.15** | **0.29** | **0.21** | **0.21** | **0.20** | **0.20** |
| i) Taxation | | | | | | |
| Improving depreciation allowances for SME, limited tax-exemption for new cars and other facilitating measures | 0.11 | 0.22 | 0.21 | 0.21 | 0.20 | 0.20 |
| ii) Welfare benefits | | | | | | |
| Increase in STW duration | 0.01 | 0.03 | | | | |
| iii) Spending on public services | | | | | | |
| Public investment | 0.04 | 0.04 | | | | |
| **Economic Stability Plan 2 (2009)** | **0.82** | **0.96** | **0.42** | **0.41** | **0.41** | **0.39** |
| i) Taxation | | | | | | |
| Income tax basic allowance increased by 170 EUR; lowest marginal tax rate decreased from 15% to 14% | 0.11 | 0.21 | 0.20 | 0.20 | 0.19 | 0.19 |
| Reduction of the average premium of the public health insurance | 0.13 | 0.23 | 0.22 | 0.22 | 0.21 | 0.21 |
| ii) Welfare benefits | | | | | | |
| One-time benefit of 100 EUR per child and a small permanent increase of monthly payments for 6-13 year old children | 0.07 | | | | | |
| One-time benefit to households: 'cash for clunkers' | 0.20 | | | | | |
| Additional subsidisation of short-time work during the crisis | 0.17 | 0.12 | | | | |
| iii) Spending on public services | | | | | | |
| Public investment in infrastructure and education | 0.13 | 0.39 | | | | |
| **Growth Acceleration Law (2009)** | | **0.24** | **0.31** | **0.31** | **0.30** | **0.29** |
| i) Taxation | | | | | | |
| Increase in tax allowance for children and increase in child benefits by 20 EUR per child | | 0.11 | 0.17 | 0.17 | 0.16 | 0.16 |
| Tax reductions for SME and changes in corporate taxation | | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 |
| Changes to inheritance taxation | | | 0.01 | 0.01 | 0.01 | 0.01 |
| **Future package (2010)** | | | **-0.42** | **-0.68** | **-0.84** | **-0.91** |
| i) Taxation | | | | | | |
| Reduction of subsidies and changes to ecological taxes (Reductions of energy tax allowances, air flight taxes) | | | -0.09 | -0.08 | -0.09 | -0.09 |
| Corporate Taxes: tax compensation from the nuclear energy industry, railway dividend, financial market transaction taxes (since 2012), insolvency code | | | -0.11 | -0.18 | -0.18 | -0.17 |
| ii) Welfare benefits | | | | | | |
| Changes to housing allowance (reduction in heating costs), additional subsidy to public health insurance (only 2011) | | | -0.11 | -0.25 | -0.34 | -0.35 |
| iii) Spending on public services | | | | | | |
| Military reform | | | | | -0.04 | -0.10 |
| Cuts to liquid resources and changes in public administration | | | -0.09 | -0.12 | -0.14 | -0.13 |
| Reductions in interest payments | | | -0.02 | -0.04 | -0.06 | -0.07 |
| **Fiscal market stabilisation law (2010)** | | **1.30** | | | | |
| iv) Financial sector interventions | | | | | | |
| Direct capital injections by the federal states and KfW | | 1.30 | | | | |
| Gross domestic Product in bn EUR | 2455 | 2570 | 2695 | 2751 | 2814 | 2912 |

Sources: Economic Outlook No 96 - November 2014 - OECD Annual Projections. GCEE Annual Report 2009/10, p. 65; Hübner (2010), p. 240; GCEE Annual Report 2010/11, page 209; IMF Fiscal Monitor, April 2011, p. 8. Note: Negative numbers indicate fiscal contraction.

# 4 Policy responses: an opportunity for reform?

## 4.1 Changes to tax and benefits

This section presents micro analysis on the changes to the tax and benefit system introduced after the crisis. First, the additional fiscal burden of the policy responses will be further disaggregated into individual measures and yearly changes, and second, we show the redistributive impacts of these changes.

Table 1 shows the additional fiscal burden in % of GDP of the tax changes of the four policy packages discussed in sections 2.2 and 2.3. The 'Economic Stability Plan' 1 introduced changes in taxation which affected mainly small and medium enterprises rather than households. The biggest changes in household taxation happened through the 'Economic Stability Plan' 2. The German Council of Economic Experts estimates the additional fiscal burden of the reduction of the income tax to be 5.4 billion EUR in each year since 2010.

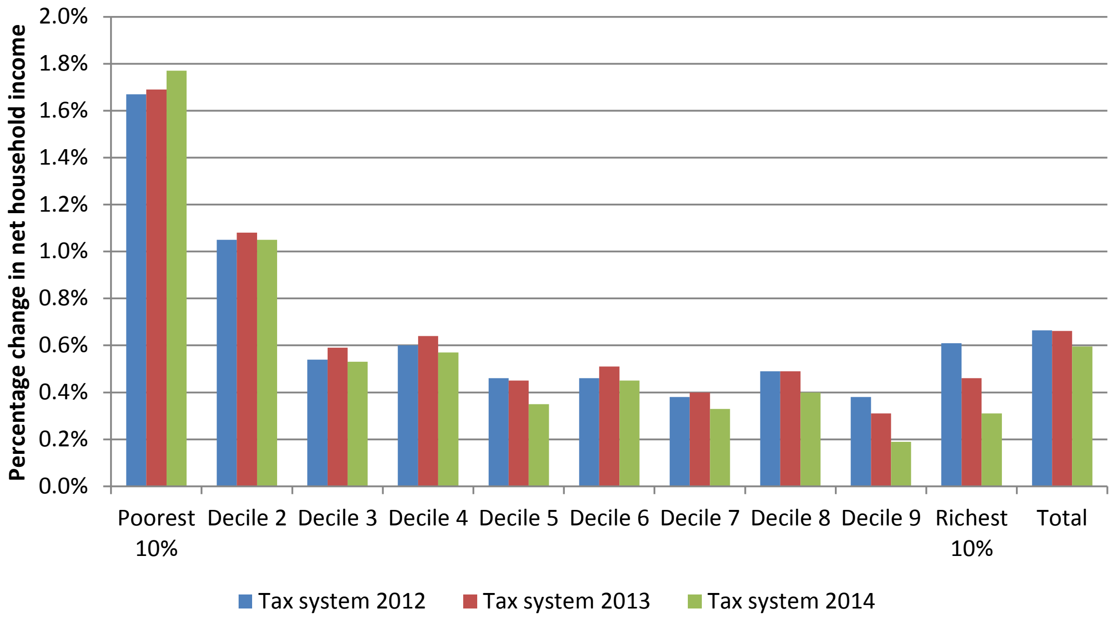
It can also be seen that additional fiscal burden of the benefit changes and one-time benefits were rather small. The 'Economic Stability Plan' 1 accounted for less than 1 billion EUR additional spending. The 'Economic Stability Plan' 2 included a one-time benefit of 100 EUR per child and a permanent increase of monthly payments for 6-13 year old children which amounts to 1.8 billion additional spending. Another one-time benefit to households was a premium of 2,500 EUR to promote the replacement of old cars ('*cash for clunkers*'). The German Council of Economic Experts estimated the impact of the programme on the budget to be 5 billion EUR. With further costs of 4.2 billion EUR in 2009 and 3.1 billion EUR in 2010 for the additional subsidisation of short-time work during the crisis the 'Economic Stability Plan' 2 played the dominant role for the spending increases on benefits.

As mentioned in the previous discussion, the German government's fiscal responses to the crisis included only minor permanent changes to the tax and benefit system. The most prominent among these actions entailed increases in the basic allowance of the federal income tax and more generous child benefits as well as child allowances (see Section 3.3). Besides such direct fiscal responses announced with the 'Economic Stability Plans', the federal government also enacted a series of other policy reforms since the beginning of the crisis in late 2008. Most of these tax-benefit changes were not designed as a reaction to the economic downturn but have already been planned months or even years before, or have been implemented as a consequence of judgements by the Federal Constitutional Court pending for several years. Although they were not meant officially as responses to the crisis, these changes in the tax and benefit system still affected household incomes especially at both ends of the income distribution. We therefore include them in the following discussion of the tax-benefit reforms since 2008. Figure 10 provides an overview how the tax and benefit changes affected real equivalized household net incomes. For each decile we compare mean net incomes after taxes and benefits according to the 2008 policy system and the tax-benefit system of 2012, 2013 and 2014, respectively. [8] As can be seen in the last

[8] The redistributive effects are simulated using the static microsimulation model of IZAΨMOD (Löffler et al., 2014).

column the policy changes increased disposable net household incomes modestly by 0.6-0.7 percent on average.

**Figure 10: Redistributive impact of tax and benefit changes since 2008 by decile expressed as percentage change in net household income.**




Source: IZAΨMOD 3.0.0.

The reforms can be grouped into three categories: First, the income tax system was adjusted to wage and income growth in the years before to reduce the effect of bracket creep and stabilize net incomes during the crisis. This entailed an increase in the basic allowance from 7,680 EUR in 2008 to 8,004 EUR in 2012 as well as slight increases in higher tax brackets. Since then, the basic allowance is regularly adjusted to account for rising prices and the subsistence level, which lowers the tax burden especially for low-income households. All other tax brackets remained nominally constant ever since. After a political debate for over two years, the federal government also introduced a Withholding Tax (*Abgeltungsteuer*) in 2009 that effectively limits the top marginal tax rate on capital income and capital gains to 25 %, instead of taxing it according to the regular tax rate (with marginal tax rates up to 45 %). This reform lowered the tax burden especially for high-income households and most importantly households with high capital incomes, which explains the slight gains of the richest 10 percent compared to the 5$^{th}$ to 9$^{th}$ decile in Figure 10.[9] Besides these changes to the income tax schedule, there were minor changes to the deduction of special expenses for pension and health insurance contributions.

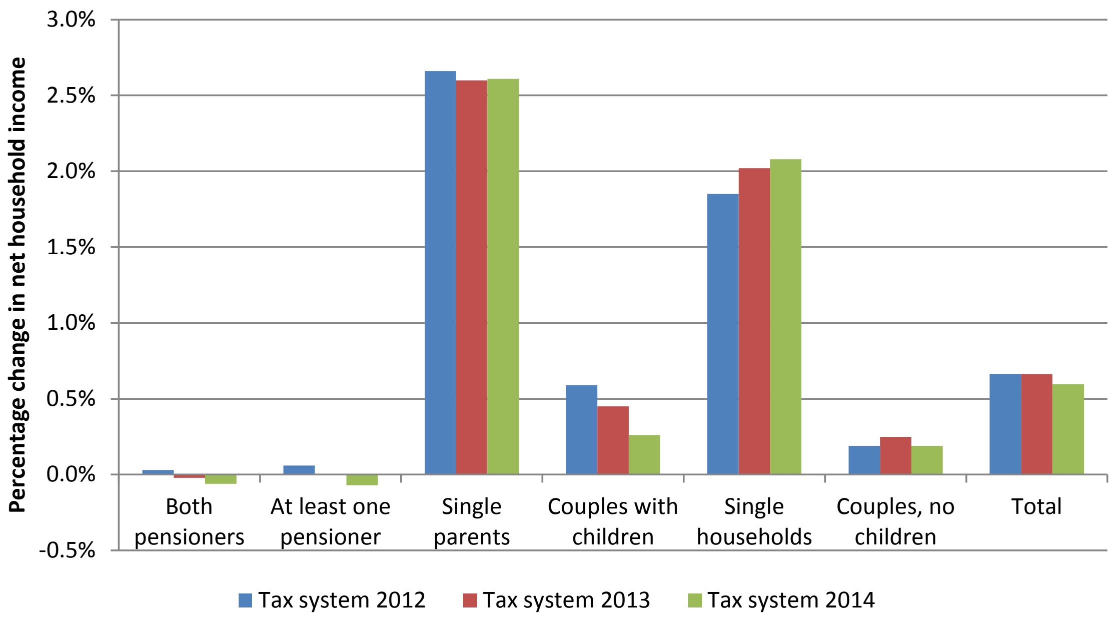
Second, there were adjustments to social assistance (*Arbeitslosengeld II*) and housing assistance. Both became slightly more generous in the period 2008-2012. In reaction to a judgement by the Federal

[9] High income households and capital incomes in general are known to be rather underrepresented in the Socio-economic Panel (GSOEP) that builds the underlying data base of IZAΨMOD. Our results should thus be interpreted as an lower-bound estimate of the gain in net household incomes for the 10$^{th}$ decile of the income distribution.

Constitutional Court, social assistance is now linked more closely to the growth of wages and prices. Benefit payments are regularly adjusted to inflation and recalculated according to the living standard of low income households. The monthly payments for single households (excluding benefits for housing and heating) increased from 351 EUR (in 2008) to 374 EUR (in 2012) and were further raised to 382 EUR (in 2013) and 391 EUR (in 2014). As mentioned earlier, child benefits became more generous as well and monthly payments were raised from 154 EUR (in 2008) to 184 EUR (since 2010). As can be seen in Figure 10, this helped households in the lower deciles and increased their disposable income by 1.0-1.7 percent. Compared to the overall gain of 0.6-0.7 percent on average, this shows the progressive nature of the reforms. However, even an 1.7 percent increase for the bottom 10 percent amounts to only 13 EUR per month.

Figure 11 differentiates the combined effect of the tax-benefit changes since the crisis on real equivalized household net incomes. It is clear to see that especially single households benefited from these reforms. Given that single households and all the more single parents belong to the low-income deciles, which benefited most from reforms to the benefit system, the numbers are well in line with Figure 10.

**Figure 11: Redistributive impact of tax and benefit changes since 2008 by family type expressed as percentage change in net household income.**




Source: IZAΨMOD 3.0.0.

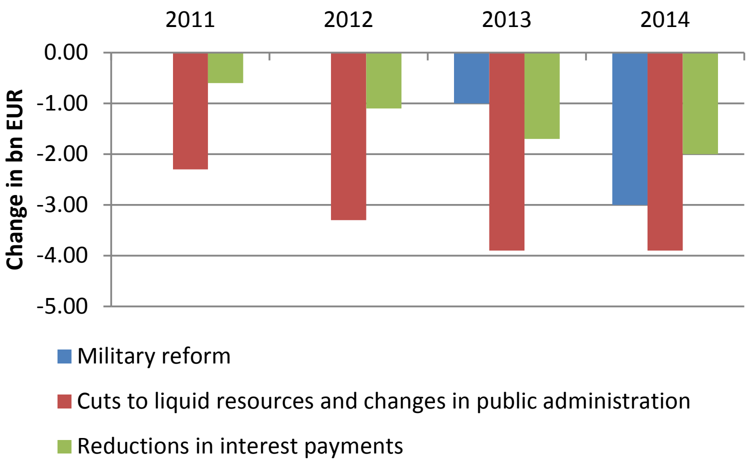
The third category of policy changes affected the social security contributions. As an immediate reaction to the crisis, the government lowered the unemployment insurance contribution rate of employers and employees (each paying the same rate) from 1.65 (in 2008) to 1.4 percent (for 2009 and 2010). Contributions went up to 1.5 percent in 2011. Because of a good performance of the German labour market, pension insurance contributions (again, employers and employees paying the same rate) decreased from 9.95 (in 2008) to 9.45 percent (in 2013). In contrast to these changes, contributions for health care and long-term care insurances were raised by 0.3 and 0.05 percentage points, respectively.

The overall real effects of tax-benefit changes since the crisis were quite limited to less than one percent of equivalized household net incomes. However, there is a strong progressive pattern in these (small) reforms. While incomes of the lowest ten percent of households were raised by 1.8 percent and incomes of the second decile increased by one percent due to the policy reforms, the remaining eighty percent of the population saw their net incomes grow by only 0.4 to 0.6 percent. While the reforms between 2008 and 2012 led to real income gains across all deciles, this effect vanishes since then because high-income households do not benefit in the same magnitude from the more recent reforms, namely the indexation of social assistance benefits and increases in the basic allowance, as lower income households.

## 4.2 Changes to spending on public goods and services

Reductions in spending on public goods and services were mainly part of the 'Future Package' which has been announced in June 2010 and were part of the public budget since 2011. As discussed in section 3.3, these changes in spending were very small and amounted to a reduction of the fiscal burden by 22.8 billion EUR during the years 2011 to 2014 (see Figure 12).

**Figure 12: Distribution of changes in spending on public goods and services, Category iii), in billion EUR**




Source: German Council of Economic Experts, Ministry of Finance. Note: Negative numbers indicate fiscal contraction.

Cuts have been made in particular to liquid resources and public administration, and a military reform which is effective since 2013. With 0.02% of GDP in 2011 and 0.07% of GDP in 2014 (Table 1) these spending cuts play only a minor role. This is another regard in that Germany's experience of the crisis differs significantly from other European countries.

## 4.3 Other structural reforms

In 2009 a balanced budget rule ('debt brake') has been introduced as part of the German constitution which sets strict limitations for net borrowing. The 'debt brake' was a direct response to the increasing public debt (see Figure 7) which has been significantly above the Maastricht threshold of 60% of GDP since 2002 and had its peak during the crisis 2010. The new balanced budget rule limits the structural net borrowing to 0.35% of GDP for the federal government from 2016 and to 0% for the federal states from 2020 onwards. Before 2009 though, the level of net borrowing was already limited but due to a general escape clause the government could legitimate a violation of this 'golden rule' when claiming to be in a macroeconomic disequilibrium. With the new balanced budget rule exemptions are defined more strictly and refer to emergency cases which are not under control by the state. In addition, the debt brake creates a direct link between new debt and an explicit repayment regulation. Furthermore, the new 'Stability Council' was created to observe if the restrictions with regard to the structural deficit are respected.

Beside the reactions to the crisis, other structural reforms have been implemented. Most notably, a statutory uniform minimum wage of 8.50 EUR per hour has been introduced. Prior to its introduction in the year 2015, minimum wages had been implemented only in selected industries. The effect on the labour market is still heavily discussed and the impact on the public budget, i.e. on unemployment benefits is unclear.

In 2007 the German government introduced a major reform of the statutory pension system. This involved a gradual increase of the standard retirement age from 65 to 67 from 2012 to 2029. In 2014 however, the government introduced a counteracting reform which reduces the standard retirement age for employees who were long time insured and parents with children before 1992.

## 5 Conclusions

The German experience of the crisis was very different compared to most other countries in Europe. Germany was hit by a very strong shock which was luckily relatively concentrated in the exporting, manufacturing industries. In addition, the German labour market was very resilient during the crisis due to earlier labour market reforms and policy instruments facilitating labour hoarding ('short-time working scheme'). As a consequence, public finances were only moderately affected. Moreover, Germany had a balanced public sector budget when the crisis broke out, so that enough fiscal space was available to let automatic stabilisers work. Therefore fundamental tax end expenditure reforms, which were driven by fiscal consolidation pressures in other countries, did not take place in Germany.

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