



Gisela Färber

Impacts of the Global Financial Crisis
in a Federation:
Evidence from Germany



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Deutsches Forschungsinstitut für öffentliche Verwaltung Speyer

2012

Gefördert durch die Bundesrepublik Deutschland

Nicht im Buchhandel erhältlich

Schutzgebühr: € 5,-

Bezug: Deutsches Forschungsinstitut
für öffentliche Verwaltung Speyer
Postfach 14 09
67324 Speyer

<http://www.foev-speyer.de>

ISSN 1868-971X (Print)

ISSN 1868-9728 (Internet)

Universitätsprofessorin Dr. rer.pol. Gisela Färber

Ordentliches Mitglied des
Forschungsinstituts für öffentliche Verwaltung

Inhaberin des Lehrstuhls für Wirtschaftliche Staatswissenschaften,
insbesondere Allgemeine Volkswirtschaftslehre und Finanzwissenschaft
an der Deutschen Hochschule für Verwaltungswissenschaften Speyer.

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Impacts of the Global Financial Crisis in a Federation: Evidence from Germany¹

1. Introduction

Germany, unlike many other industrial countries, was not directly affected by the bursting of the asset bubble or by the crash of real estate and commodity prices. However, the collapse of the export market, which in Germany dominates the total demand for goods more so than in other countries, led to a correspondingly sharper decline in GDP than elsewhere. Nevertheless, the advanced social welfare system (unemployment insurance – particularly the subsidies for reduced working time in jobs – and the pay-as-you-go pension system) stabilized the economy during the first stage of financial shock and prevented massive job losses. However, the global crisis has hit Germany in different ways, namely:

- The banking system has suffered severely. Not only private banks but also some big state owned ones (Federation and Länder) had to be bailed out. The Federation offered guarantees amounting to several hundred billion Euros.
- In order to compensate for the negative situation in the financial system, real economy and social welfare, the federal government set up an extensive stimulus program totalling some 50 billion Euros.

The federal stimulus program, as well as the securities and the costs for taking over bankrupt private banks, were financed by borrowing that was booked in a special federal fund which has no direct connections to the federal budget except for the obligation to finance interest payments and redemptions whenever payable.

1 I owe many thanks to Dipl.-Volkswirtin *Stefanie Hengstwerth* for her critical review and Dr. *Jesse Paul Lehrke* for the language control of the paper and many good suggestions for improvement.

In 2010, Germany has started a period of unexpectedly strong economic recovery. However, the marks of the crisis – and particularly of the European debt crisis which has followed the initial financial market crisis – emboss the development of deficits, guarantees and special debt funds in the public sector not only in the years of the original crisis, but also in the following years. The financial crisis has caused a significant increase in budget deficits through all levels of government by decreased tax revenues and increased expenditures for federal matching grants and – with a certain time lag – for social transfers. The recently established new rules for (almost) balanced budgets from 2016 and/or 2020 will lead to sharp budgetary cuts over the next several years, which might lead also to changes in inter-federal transfer payments as well as the scopes or necessities of federal tax policies. The financial burden has hit the federal tier as well as the Länder and their communities, but not equally, with each facing different conditions under which they must cut back their deficits. Deep changes in the intergovernmental financial balance of power will probably result from the long-term consolidation policies undertaken.

This paper aims to analyse the financial impacts of the economic and financial crisis on the public budgets and intergovernmental financial structure in Germany. Making use of the available statistical data on general economic and budgetary indicators, the paper analyses public expenditures, revenues and borrowings at the federal, regional and local levels as well as among the Länder and the communities in their respective territories. The new constitutional rules for public debt, which prescribe balanced budgets for the Federation from 2016 on and for the Länder from 2020 on, provide an excellent analytical condition for measuring the budgetary consequences of the financial crisis and for discussing the possible resulting financial imbalances and additional intergovernmental conflicts that may arise, e.g. in questions of state and local fiscal equalisation or in the approval of the Länder for federal tax reductions.

Using a model of financial sustainability the differing financial burdens on the three tiers (federal, state and local) that were induced by the economic crisis are modelled in order to isolate the effects of the crisis on the different levels of government as well as – in a horizontal perspective – on the states and their communities. First, a quantitative background of different strategies pursued by the different tiers in order to achieve financial consolidation is analysed. Considering the high financial interconnection of German executive

federalism, these strategies will either preserve old or promote future financial imbalances and intergovernmental conflicts, e.g. regarding questions of state and local fiscal equalisation as well as the risk that public sector budgets will not be rehabilitated by 2020 when also the Länder have to produce balanced budgets.

The paper starts with an explanation of the new constitutional debt rules. Section 3 explains the model used and presents empirical results for the period from 2008 to 2020, which is divided into the year before the crisis, 2008; the period of the main budgetary effects of the crisis, 2009 and 2010; and the period from 2011 to 2020 during which the budgetary consolidations have to take place, resulting ultimately in balanced budgets. The last chapter discusses the expected problems of a successful consolidation and the possible conflicts within the federal system that could result.

2. Changes in the constitutional rules on public debt during the economic crisis

In Germany, the basic rules of public debt are regulated by the constitution. Since 1969/70, a rule of inter-temporal equivalence has been in force which limits annual net borrowing to the volume of public investment expenditures except in situations of severe economic imbalances. Art. 109 Basic Law also obligates the Federation and the states to use their budgets to counter economic crises. More or less equal limits have existed in the Federal Constitution and all Länder Constitutions. The states – except the so-called city-states – regulate the conditions and limits on local debt in a very similar way: The current budgets are to be balanced; borrowing is allowed in order to finance investment expenditures. The states control the local budgets and must formally approve the borrowing allowances of the communities before these become valid.

All these regulations and limits could not prevent a continuous increase in public debt. Thus, the most recent Commission for Federal Reform II, which consisted of members of the parliaments and governments of the Federation and all Länder, met to discuss changes. They decided to establish new rules for public debt and changed the Basic Law: From 2011 on, basically all public budgets have to be balanced; for the Federation, balanced means 0.35% of GDP, for the states 0.0%. Exceptions exist only for actively or

passively² fighting against economic crises or the effects of natural disasters, the borrowings for which have to be booked in a separate account and paid off within a medium-term period; before the next crisis starts.

With regard to the high deficits resulting from the economic crisis, the Federation has to achieve the constitutionally mandated balanced budget by 2016 and the states by 2020. In the meantime they have to consolidate their expenditures and revenues. For five extremely indebted states (Bremen, Saarland, Berlin, Schleswig-Holstein and Sachsen-Anhalt) the Federation will give grants of 800 billion Euros each year from 2011 to 2019. Budget emergencies will be prevented by an early warning system which is coordinated by a committee of members from the Federation and the Länder. There are no explicit rules for local debt but local governments are considered parts of the Länder with regard to the financial stipulations of the constitution. There are ongoing considerations as to whether the new balanced budget rules should apply to the communities as well, or whether they can stick to the existing state laws.

Meanwhile, the Bund has passed a law adopting the new constitutional rules for its budgetary regulation. Some states have followed suit or have started to change their constitutions, but others are in conflict and argue that they would lose important parts of their federal autonomy, as they have no tax legislation powers and their budgetary expenditures would include a high proportion of federally regulated spending³. Schleswig-Holstein has filed a complaint with the Federal Constitutional Court requesting the questions to be clarified. Nevertheless, they have recently adopted the new rules due to the fact that they need the federal grants for consolidation.

The Federation applied the new accounting rules for parts of its borrowings during the crisis. It established two separate accounts: the fund for stabilising the financial markets amounted to 36,540 million Euros of debt and a so-called fund for investments and redemptions contained 7,493 million Euros by the end of 2009. The 'normal'

2 'Passively' means the acceptance of temporary deficits due to lost tax revenues or additional expenditures caused by the crisis.

3 See *Hans-Peter Schneider: Die Haushaltswirtschaft der Länder – Verfassungsrechtliche Grenzen einer „Schuldenbremse“*, 2009. (http://www.nachdenkseiten.de/upload/pdf/0905060_hans_peter_schneider_schuldenbremse.pdf; download: 03.12.2010)

federal debt by this time had already reached 973.7 billion Euros plus 17.5 billion Euros for cash credits, totalling 1,068 billion Euros. The states had debts amounting up to 509 billion Euros plus 2,909 billion Euros in cash credits and the communities had accumulated debts coming to the comparably low amount of 79 billion Euros plus almost 35 billion Euros in cash credits. In total, the amount of public debt in Germany was 1,709 billion Euros by the end of 2009⁴. Of that enormous sum 8.5%, 145.5 billion Euros, were accumulated in 2008 and 2009 alone, during the financial and economic crisis.

3. The empirical analysis

The question of how the financial and economic crisis affects the intergovernmental relations begins with the basic idea that the function of economic stabilisation⁵ is strongly connected with the upper tiers of a federal state but that this connection decreases the lower the tier and the smaller the jurisdiction. The ability to take out credits and pay them back later using the higher revenues obtained during the following recovery period depends on the size and economic wealth of a jurisdiction. Furthermore, the impact of public budgets on economic demand spreads across the frontiers of jurisdictional boundaries, providing benefits also to neighbouring jurisdictions. For these reasons, the most responsibility for an active fiscal policy falls to the central level. However, lower level jurisdictions should at least not react to the crisis in an antagonizing way which interferes with the efforts of the central level, e.g. by cutting their expenditures during a period of weak private economic demand.

4 This is more than three times the 519 billion Euros debt prior to German unification at the end of 1990 (see Statistisches Bundesamt: Fachserie 14 Reihe 5, 2009, 2010).

5 See *Musgrave, Richard Abel*: The Theory of Public Finance, New York: McGraw Hill 1959, pp. 179.

3.1 The theoretical framework of the empirical analysis and the model applied

Fiscal policy always deals with deficits and borrowing, and the theory of sustainable public debt can be used to analyse the patterns for the diverse budgets in a federation during the crisis. Thereby, the jurisdictions most affected by the crisis are presumably those which undertake the most 'active' fiscal policy. That does not 'happen' equally across the whole territory of a big country. Governments with smaller deficits react only 'passively' against the effect of the crisis, as they experience only a weak loss of demand and jobs.

The basic idea of the model is quite simple. A deficit in period 1 leads to additional interest payments in period 2, which commits some financial resources that therefore cannot be used to finance public goods⁶. The higher the public debt is, the higher are the resulting interest payments, crowding out other expenditures or requiring higher tax revenues to close the gap between budgetary receipts and spending. For a given volume of debt these budgetary consequences can be calculated, as can the consequence of the increasing deficits during the economic crisis. In order to eliminate the effects of previously accumulated deficits a so-called single year's budget (SYB), which excludes all transactions related to public debt and property, is established: expenditures are decreased by amount of the interest payment, thereby reflecting the pure expenditures for public goods and transfer payments, and revenues exclude gains from sales of properties. The deficit or surplus of that single year's budget, of the revenues against respective expenditures as defined above, indicates whether the 'regular' expenditures are covered by 'regular' revenues.

The consequences of single year's budget deficits from the financial and economic crisis are calculated by introducing the official estimates of the mid-term financial planning for revenues (taxes, fiscal equalisation, other revenues) and expenditures (single year's budget expenditures and interest payments) for the next years until 2014 into

6 See *Blanchard, O.J.* et al.: The Sustainability of Fiscal Policy: New Answers to an Old Question; in: OECD Economic Studies 15/1990, pp. 7, and *Blanchard, Olivier*: Suggestions for a New Set of Fiscal Indicators; in: Verbon, Harrie A.A./van Winden, Frans A.A.M. (ed.): The Political Economy of Fiscal Debt, Amsterdam 1993, pp. 307.

a simulation model and to continue the model from 2015 until 2020 by increasing tax and fiscal equalisation revenues by 3% and single year's expenditures by a maximum of 1% until the budget is balanced. For the new Länder the loss of their special supplementary grants until 2020 which they receive for compensation of the disadvantages of the German division is included in the revenue side of the model budgets. In those cases where the 1% increase in expenditures is not sufficient to balance the budget by 2016 for the Federation and 2020 for states and local governments the increase in expenditures is reduced to zero growth. Although the Bund has the right to balance its budget with a deficit of 0.35% of GDP after 2016, the model applies a zero debt line for the centre, which has the advantage of equalizing the budget balancing conditions for all levels of government. Interest rates are slowly increased to 4% by 2015 for all jurisdictions, an assumption which is acceptable for Germany given the still non-existent credit rating of governments.

The financial consequences of the crisis in that model are indicated by:

- an increase of total debt from 2008 to 2020 resulting from the additional deficits until the budgets are balanced and also from the additional interest payments for the additional credits;
- the single year's budget expenditures, which – under the conditions of a balanced budget – show the consequences of the increased interest payments;
- the changes in the relationship between interest payments and tax revenues (after fiscal equalisation) in that period.

For the results of the Länder tier the states are calculated individually and then aggregated. For the communities, data is available only for the aggregates within the states. These do not show the heterogeneity of the financial situation of local governments within a state but give a good picture of the diverging inter-regional problems. Unlike standard definitions the amount of public debt also includes the amount of cash credits which require interest payments.

3.2 Diverging fiscal policies of governments combating the global financial crisis

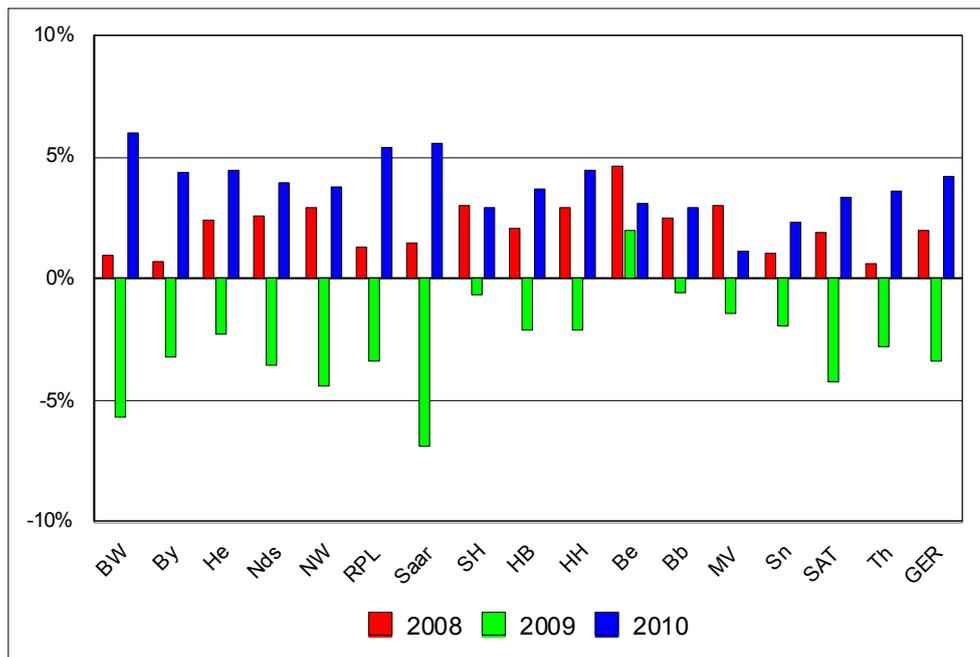
The global economic crisis hit the different levels of German government in very different ways and they showed diverging reactions in fighting against the threat of unemployment and budgetary deficits. The Federation carried the main burden for safeguarding illiquid financial institutions and banks as well as for establishing economic recovery programs. By autumn 2008 it had already set up a program of 50 billion Euros consisting of, amongst others, subsidies for the purchase of new cars and other grants for state and local infrastructure projects, conditional upon these being additional expenditures. The social securities played an important role not only for its stabilization of demand by preventing a reduction in consumer spending, but also by maintaining employment levels. The Public Unemployment Insurance subsidized the wages of employees experiencing reduced working hours when their employers experienced a lack of new orders during the crisis, thus preventing the employees from being fired. Therefore, German unemployment rates remained relatively stable and have now declined to below their pre-crisis levels, while also preventing loss of skill and the need for costly re-hiring and re-training programmes.

The successful stabilization policy provided typical budgetary 'footprints': The expenditures of the Federation increased by 9.4% from 2008 to 2009, while those of the social security programs increased by 5.9%. Tax revenues declined by 3.2%, contributing to a historically high net borrowing of 68 billion Euros. The Länder only increased their expenditures slightly, by 2.4%, but suffered from a higher loss of tax revenues, which decreased by 9.3% in 2009. Local governments experienced the greatest divergence between revenues and spending: they lost tax revenues in an amount of 8 billion Euros or 11.4% on the one side and increased expenditures by 5% on the other. After a net redemption of 6.1 billion Euros in 2008 they experienced a deficit of 7.2 billion Euros in 2009. All told, the deficit of the Federation came to 34.5 billion Euros in 2009, which is only slightly higher than that of the state and local governments, which combined amounted to 33 billion Euros. In 2010, the deficit of the Bund decreased to 17.9 billion Euros while at the state level the expenditures exceeded revenues by 22.3 billion Euros and local governments by 7.7 billion Euros, with both sub-national levels together thus totalling 30.0 billion Euros.

	expenditures						tax revenues (after state fiscal equalisation)					
	2008		2009		2010		2008		2009		2010	
Länder												
BW	34.708	34.578	-0,4%	35.694	3,2%	37.170	33.204	-10,7%	33.079	-0,4%		
By	41.124	47.414	15,3%	41.871	-11,7%	43.592	39.656	-9,0%	39.748	0,2%		
He	21.638	20.826	-3,8%	20.627	-1,0%	21.802	19.204	-11,9%	19.643	2,3%		
Nds	23.747	24.626	3,7%	24.534	-0,4%	24.873	23.429	-5,8%	23.217	-0,9%		
NW	51.300	52.093	1,5%	55.266	6,1%	60.641	55.021	-9,3%	55.231	0,4%		
RPL	13.579	13.305	-2,0%	13.817	3,8%	13.084	11.587	-11,4%	11.826	2,1%		
Saar	3.399	3.539	4,1%	3.908	10,4%	3.333	2.897	-13,1%	2.913	0,6%		
SH	8.779	8.886	1,2%	9.306	4,7%	8.928	8.134	-8,9%	8.017	-1,4%		
HB	4.227	4.259	0,8%	4.572	7,3%	2.989	2.652	-11,3%	2.601	-1,9%		
HH	11.338	10.486	-7,5%	11.020	5,1%	8.873	7.799	-12,1%	8.122	4,1%		
Be	20.993	21.040	0,2%	21.670	3,0%	14.807	13.526	-8,7%	14.270	5,5%		
Bb	10.048	10.021	-0,3%	10.010	-0,1%	7.906	7.091	-10,3%	7.082	-0,1%		
MV	6.890	6.775	-1,7%	6.832	0,8%	5.175	4.802	-7,2%	4.613	-3,9%		
Sn	16.054	16.814	4,7%	16.792	-0,1%	13.328	12.193	-8,5%	11.940	-2,1%		
SAT	9.872	9.843	-0,3%	9.946	1,0%	7.374	6.766	-8,2%	6.578	-2,8%		
Th	9.117	9.054	-0,7%	9.288	2,6%	7.104	6.344	-10,7%	6.238	-1,7%		
all Länder	286.813	293.559	2,4%	295.153	0,5%	280.979	254.305	-9,5%	255.118	0,3%		
Bund		346.463	9,4%	353.299	2,0%	260.945	252.895	-3,1%	254938	0,8%		
	316.581											
Social insurances	477.384	505.579	5,9%	512.260	1,3%	382.145	384.097	0,5%	392826	2,3%		
local governments												
BW	24.879	27.476	10,4%	26.655	-3,0%	11.547	9.872	-14,5%	9.974	1,0%		
By	26.505	28.985	9,4%	30.294	4,5%	13.147	11.990	-8,8%	12.196	1,7%		
He	15.937	15.436	-3,1%	16.906	9,5%	7.390	6.302	-14,7%	6.457	2,5%		
Nds	15.937	16.960	6,4%	17.096	0,8%	6.565	5.820	-11,3%	6.111	5,0%		
NW	42.647	43.878	2,9%	45.608	3,9%	18.295	16.485	-9,9%	16.749	1,6%		
RPL	8.060	8.138	1,0%	8.800	8,1%	3.303	2.760	-16,4%	3.048	10,4%		
Saar	1.806	1.920	6,3%	2.018	5,1%	850	712	-16,2%	703	-1,3%		
SH	6.396	6.411	0,2%	6.362	-0,8%	2.162	2.016	-6,8%	2.032	0,8%		
Bb	5.714	5.907	3,4%	5.989	1,4%	1.467	1.371	-6,5%	1.380	0,7%		
MV	3.686	3.751	1,8%	3.796	1,2%	736	716	-2,7%	757	5,7%		
Sn	8.095	8.803	8,7%	9.073	3,1%	2.480	2.211	-10,8%	2.322	5,0%		
SAT	4.636	4.809	3,7%	4.890	1,7%	1.285	1.130	-12,1%	1.164	3,0%		
Th	4.483	4.719	5,3%	4.699	-0,4%	1.163	1.001	-13,9%	1.031	3,0%		
all Länder	168.781	177.193	5,0%	182.186	2,8%	70.390	62.386	-11,4%	63.924	2,5%		

Tab. 1: Expenditures and tax revenues of German governments in billion Euros 2008 - 2010

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008, 2009, 2010; proper calculations



Pic. 1: Regional and national growth rates of GDP 2008 - 2010

Source: Statistisches Bundesamt: Volkswirtschaftliche Gesamtrechnungen der Länder; proper calculations

The sub-national financial deficits, however, vary greatly. This variation is only partly a result of the different consternation by the decline of GDP, which came to -3.1%, including price growth for all of Germany in 2009. The West German 'old' industrial and export oriented regions suffered from the sharpest economic problems; they had in 2010 however the highest rates of economic recovery. All new Länder experienced a below average contraction or even showed real growth rates higher than the inflation rate in 2009, such as Berlin; in 2010 the growth rates of GDP were under average, but higher than the inflation rate except in Mecklenburg-Western Pomerania.

Among the Länder, the city state Bremen not only shows the highest total debt but also the highest deficits for the years 2009 and 2010 – at 1,383 and 1,927 Euros per inhabitant. Among the 'spatial states', the Saarland exceeds even the values of Bremen with a deficit of state and local governments totalling 1,154 in 2009 and 1,164 Euros per inhabitant in 2010. The 'best' states in 2009 with regard to budgetary deficits were Mecklenburg-Western Pomerania and Saxony, two new Länder in East Germany, which even realized surpluses in

2009 and comparatively low deficits respectively a small surplus in 2010. On average the communities in the new Länder still had revenues that exceeded spending in 2009 and most of them also in 2010; the municipalities in Brandenburg and Thuringia at least experienced lower deficits than the West German local governments. In West Germany, many local governments showed remarkably high and even growing deficits in 2010, which in some Länder (Saarland, Rhineland-Palatinate, North Rhine-Westphalia and Hessen) resulted from, among other factors, chronic and growing ‘illegal’ current account imbalances and high structural deficits which were not redeemed when the crisis started in autumn 2008.

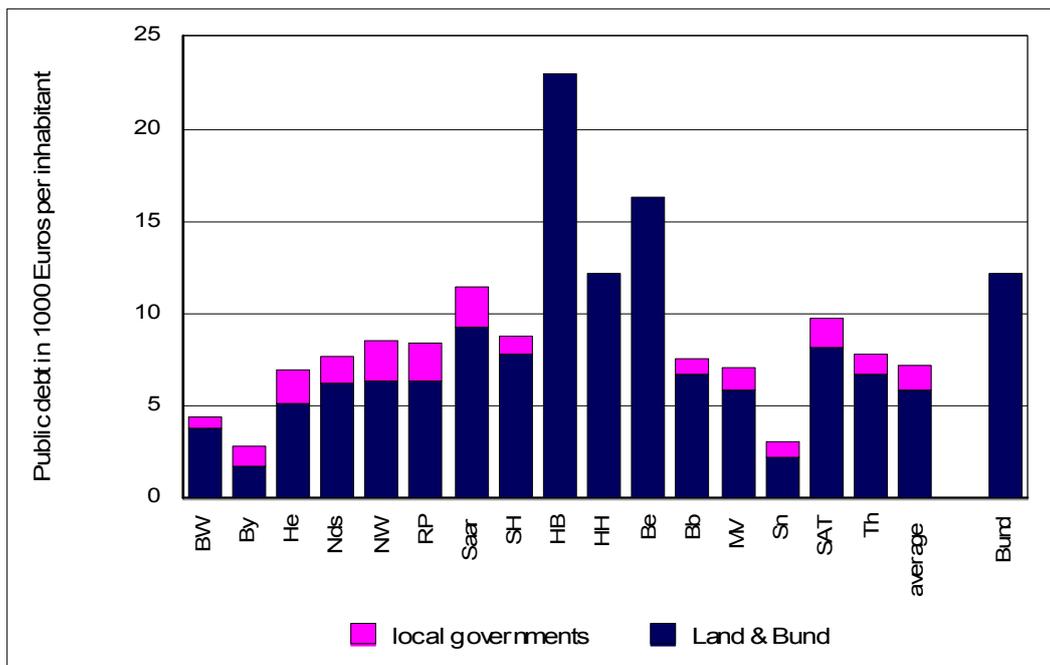
	Land			local governments			Land + local governments		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
net borrowing (-)/net surpluses (+) per inhabitant in Euro									
BW	104,65	-125,05	-78,98	163,91	-237,03	-64,00	268,56	-362,08	-142,98
By	-2,72	-645,75	-105,84	144,65	-12,80	-27,24	141,93	-658,55	-133,08
He	-275,01	-444,42	-316,46	-65,05	-138,46	-437,01	-340,05	-582,88	-753,48
Nds	-88,94	-184,51	-237,13	79,41	-108,37	-75,14	-9,53	-292,88	-312,27
NW	-69,51	-271,83	-360,94	35,56	-103,61	-133,39	-33,95	-375,45	-494,33
RP	-353,22	-403,60	-480,16	-62,54	-212,50	-172,70	-415,76	-616,10	-652,86
Saar	-548,91	-969,25	-944,29	1,93	-184,29	-219,65	-546,98	-1.153,55	-1.163,94
SH	-173,40	-357,94	-469,74	-135,69	-166,78	-113,73	-309,09	-524,71	-583,46
HB	-859,60	-1.383,16	-1.927,04				-859,60	-1.383,16	-1.927,04
HH	-176,78	-564,08	-469,89				-176,78	-564,08	-469,89
Be	208,41	-426,26	-411,10				208,41	-426,26	-411,10
Bb	58,37	-203,80	-196,60	203,89	44,92	-43,07	262,25	-158,88	-239,67
MV	185,75	253,39	-106,89	133,36	49,49	23,69	319,10	302,88	-83,20
Sn	289,56	45,96	-42,61	220,61	66,07	50,80	510,17	112,03	8,19
SAT	2,90	-109,40	-304,95	145,08	51,11	23,88	147,98	-58,29	-281,06
Th	110,08	-94,37	-262,81	121,44	7,53	-8,92	231,52	-86,84	-271,73
Länder ave.	-39,64	-315,38	-272,87	74,38	-87,56	-94,38	34,74	-402,94	-367,25
Bund							-143,52	-422,09	-990,69

Tab. 2: Net borrowings and net surpluses of German jurisdictions 2008 - 2010

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008 und 2009; proper calculations

The different starting positions of the governments before the crisis are illustrated by public debt (see pic. 2) and deficits and/or surpluses of the single year's budgets (see tab. 3). For the consolidation of structural deficits a surplus of this indicator is necessary because a surplus of regular revenues against spending (excluding interest payments) is needed to regain scope for spending for public goods. While in 2008

all Länder except the Saarland realized single year's budget surpluses, the communities in Hessen, Rhineland-Palatinate and Schleswig-Holstein still had deficits. The single year's budget surpluses of the new Länder and their local governments were much higher than the ones in the West. This better financial situation in the East was mainly the result of consistently higher total 'regular' revenues (excluding revenues from asset sales) in the new Länder, including by their local governments, which even grew during the crisis from 106.3% of the average in 2008 to 110.2% in 2009, while the old Länder shrank from 93.6% to 92.6%. The leading position of the city states concerning revenues decreased during this period: their single year's budget revenues decreased from 125.5% of the average to 118.2%, which also explains a certain part of their above average single year's budget deficits.



Pic. 2: State and local debt per inhabitant (including cash deficits) per inhabitant in 2008

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008; proper calculations

The statistical indicators show that the financial and economic crisis had divergent direct effects on the budgets of the three governmental tiers in Germany, but that this divergence was even more pronounced

across the Länder. The economic recovery in 2010 has not had a correspondent improvement in most of the state and local budgets. Most of them rather experienced increasing SYB deficits respectively shrinking SYB surpluses although some jurisdictions have started the consolidation of their budgets in 2010. The highest increases of expenditures happened in the states with the highest per capita debts (Saarland, Bremen, North Rhine-Westphalia) and express special political decisions of the governments which were discovered under a budgetary policy intended to fight against the crisis; this policy is continued in 2011 when the economic recovery is lasting.

	Land			local governments			Land + local governments		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
deficits / surpluses of the single year's budgets per inhabitant in Euro									
BW	270,89	16,84	86,23	198,85	-557,97	-144,75	469,74	-541,13	-58,51
By	71,56	-574,77	-23,96	46,80	-359,60	-95,21	118,37	-934,38	-119,18
He	-72,79	-229,06	-100,60	17,39	-165,19	-407,00	-55,40	-394,25	-507,60
Nds	177,38	85,08	-3,91	158,31	-81,05	-84,59	335,69	4,03	-88,50
NW	195,20	-15,82	-110,98	361,90	-8,27	-98,09	557,11	-24,09	-209,07
RP	-45,48	-110,23	-215,87	318,86	1,00	-135,76	273,38	-109,24	-351,64
Saar	-135,06	-548,01	-460,87	873,05	313,01	-157,87	737,99	-235,00	-618,74
SH	152,96	-23,32	-128,56	206,53	-4,59	-115,49	359,48	-27,91	-244,05
HB	45,24	-506,00	-929,41				45,24	-506,00	-929,41
HH	402,69	-201,34	-18,55				402,69	-201,34	-18,55
Be	577,23	178,98	163,74				577,23	178,98	163,74
Bb	370,31	68,49	47,06	337,58	-219,42	-50,64	707,89	-150,93	-3,59
MV	439,36	496,63	122,68	182,77	-182,89	27,33	622,13	313,74	150,01
Sn	403,54	141,72	45,98	-106,16	-485,71	44,78	297,38	-343,99	90,76
SAT	405,39	240,75	26,02	369,74	-54,06	54,17	775,13	186,69	80,18
Th	390,09	167,92	18,29	306,66	-152,41	5,35	696,75	15,51	23,65
Länder ave.	199,09	-80,74	-38,69	190,89	-187,24	-103,08	389,98	-267,98	-141,77
Bund							266,27	-1,93	-538,71

Tab. 3: Net borrowings and net surpluses of single year's budgets of German jurisdictions 2008 - 2010

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008, 2009, 2010; proper calculations

3.3 The impacts of the financial and economic crisis on intergovernmental relations in Germany

The above developed simulation model outlines the long term effects of the financial and economic crisis under the conditions of the new constitutional rules for balanced budgets. For the Federation, the original crisis will create additional public debt – the direct deficits

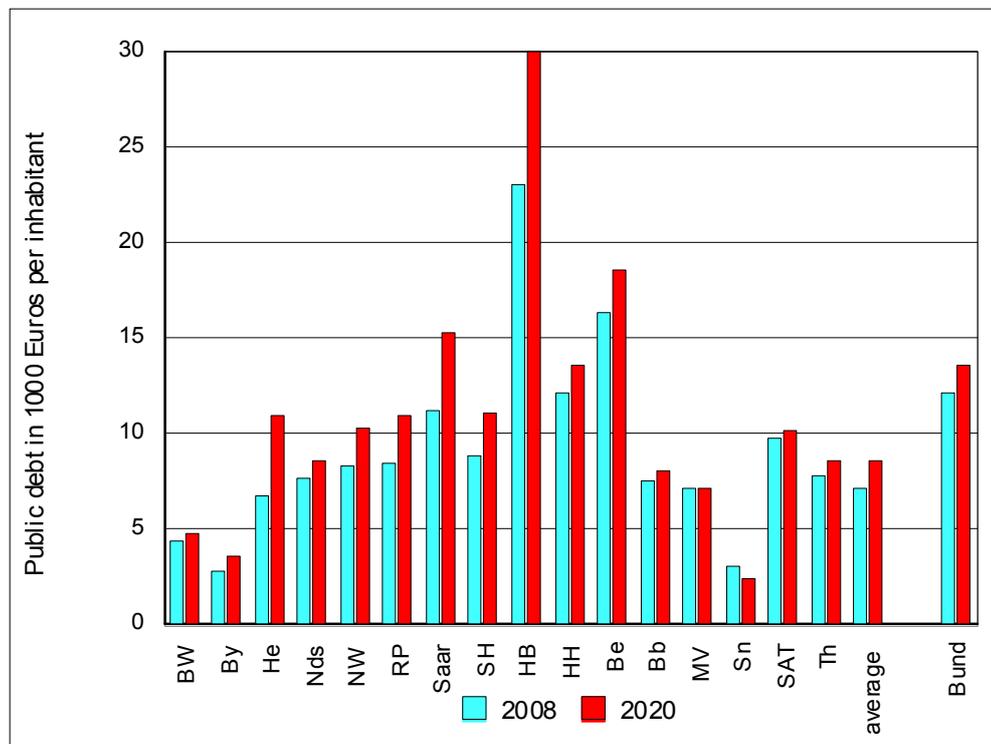
plus the accumulated 'shadow effects' of the additional interest payments – of 112 billion Euros, or 12% greater than in 2008, and the public debt of the Länder will have grown by 85 billion Euros (18%) between 2008 and 2020, while the debt of the communities will reach 140 billion Euros, which is 63,6 billion Euros or 33% more than in 2008. The relative positions of the tiers with regard to public debt will change only slightly: The public debt of the states will decrease from 48.0% of federal debt to 50.7%. Local governments will see a remarkable increase of their relative position against the federation, from 11.5% in 2008 to 13.6% in 2020. The aggregated public debt of state and local governments will increase at a rate of 21%, a rate which is almost twice as high than that of the Federation, while its relation to federal debt will increase from 59.5% in 2008 to 64.4% in 2020. The impact of the original crisis is considerably weaker than expected before, because of the quick recovery of economic growth resulting in increased tax revenues and decreased interest rates⁷.

The effects of the crisis, however, show high divergences among the different states and local governments. The strongest increase takes place in Bavaria, where the crisis led to a deficit of 6 billion Euros in 2009, particularly due to the losses of the state owned Bayrische Landesbank. Therefore, the public debt per inhabitant of Bavaria will reach a value of 135,4% of what it was in 2008. Nevertheless, Bavaria's relative position of 34.8% of the Länder average will still be the second lowest after Saxony, which will be indebted only by 23.0% of the Länder average. Baden-Württemberg, Lower Saxony, Bremen, Berlin, and all Eastern Länder will see an improvement in their relative positions regarding public debt as compared to 2008. Considerably above average increases in public

7 The Federation however also carries the burden of the subsequent Euro debt crisis of the over-indebted countries of the Euro zone. Assumed the additional debt of the Federation in 2010 and 2011 which probably amounts up to 260 billion Euros and is accounted in special out-of-budget funds would cover these burdens the total increase of debt of the Bund until 2020 would increase to 1,652 billion Euro, 554 billion more than the simulation of the original crisis. This development however will be subject of a new paper. (See N.A.; <http://www.muensterschezeitung.de/nachrichten/politik/inland/art29862,1462971>; download: 10.11.2011)

debt will occur in the Länder Hessen, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, Schleswig-Holstein, and Hamburg.

Local governments suffering from the crisis will experience a per capita increase of debt of 259 Euros before balancing their budgets. The sharpest increase of local debt – from different relative starting positions – was seen in Hessen, Saarland, and Rhineland-Palatinate, while all other Länder will improve their positions relative to 2008. The communities in four of the five new Länder even have had a lower per capita debt in 2010 than in 2008 as a result of their budgetary surpluses during the years of the crisis. The debt of communities in Baden-Württemberg will increase at a rate only slightly above average (see tab. A1). So the German communities will have the strongest relative growth of local debt as a result of the crisis.



Pic. 3: State and local and federal debt per inhabitant in 2008 and 2020

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008, 2009, 2010; proper calculations

As local governments are parts of the Länder according to the financial constitution, the comparison of the development of the Bund on the

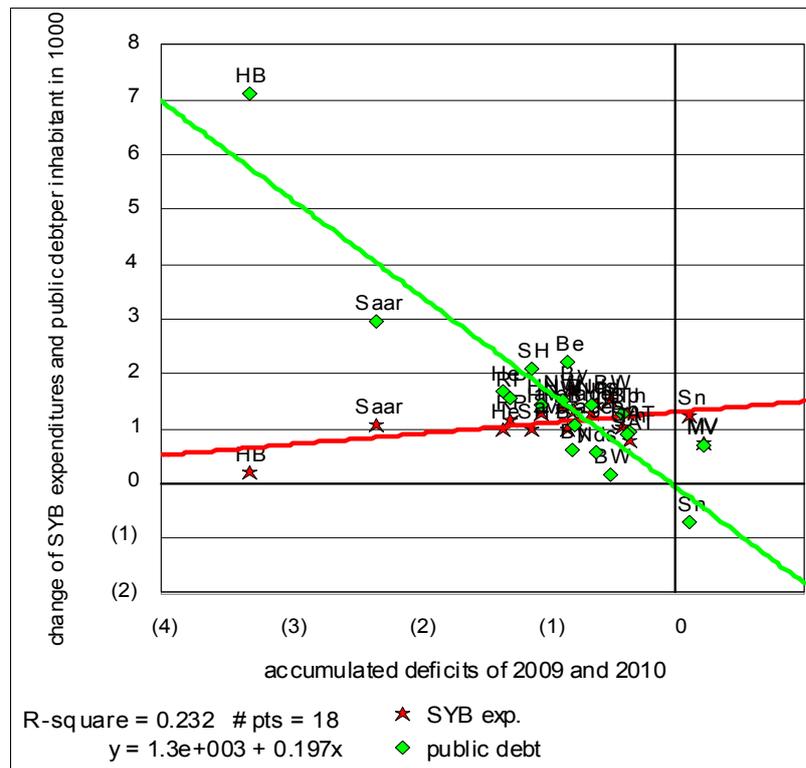
one hand and of the state level including local governments on the other hand, is of particular importance. Here, the sub-national tiers will share a very similar burden from the crisis by 2020: the debt of the Federation will increase by 1445 Euros to 13,618 Euros per inhabitant, while the debt of the states and communities combined will reach 8,091 Euros per inhabitant, 1317 Euros more than in 2008. The relative weight of state and local debt will increase very slightly from 35.8% to 37.3% of total public debt in Germany. In some Länder (e.g. in Hessen, Rhineland-Palatinate, Saarland, Saxony-Anhalt) state and community debt are experiencing diverging trends. In these Länder the communities bear extremely high burdens of local debt, but when this is amalgamated with the debt of the respective states, the total comes to a more 'homogeneous' increase of debt. Nonetheless, these Länder will be the most indebted of the 'spatial states' in 2020 despite the special consolidation grants given to two of them (Saarland and Schleswig-Holstein). The absolute leading position among the 'spatial states' will be held by the Saarland, where the public debt will reach 169% of the average. The city states will carry even higher debt, with Bremen (30,144 Euros per inhabitant) and Berlin (18,656 Euros) at the top of the list and Hamburg a bit lower with 13,656 Euros per inhabitant (see tab. A1). While the spread of per capita public debt sharply increases on the local level, it only grows slightly for the Länder and the aggregated level of states and local governments.

For consolidation to occur, high deficits and especially high SYB deficits need to be cut back so that expenditures adapt below-average growth⁸. Therefore, SYB expenditures are 'mirrors' of public debt indicators which show the displacement effect of additional borrowings. Here the effects of the crisis are much more different amongst the different levels than they were regarding the public debt per inhabitant.

Due to the quick economic recreation, the Federation will be able to balance its budget in 2011 and can use additional tax revenues for primary expenditures from 2012. It realizes the highest increase of SYB expenditures of the three tiers by 43% until 2020. The communities need restrictive budgetary policies particularly in the highly indebted states; therefore, they only can increase their average SYB expenditures by 34% until 2020. The average of the Länder carry

8 Under the condition that there is no increase in revenues.

the highest burden of the crisis, they can increase spending for public goods and transfer payments until 2020 only by 24.6%. The aggregated state and local level will spend 30% more in 2020 than in 2008 (see tab. A2). Thus the Federation has an advantage in this aspects compared to the Länder and their communities despite its higher initial deficits during the crisis.



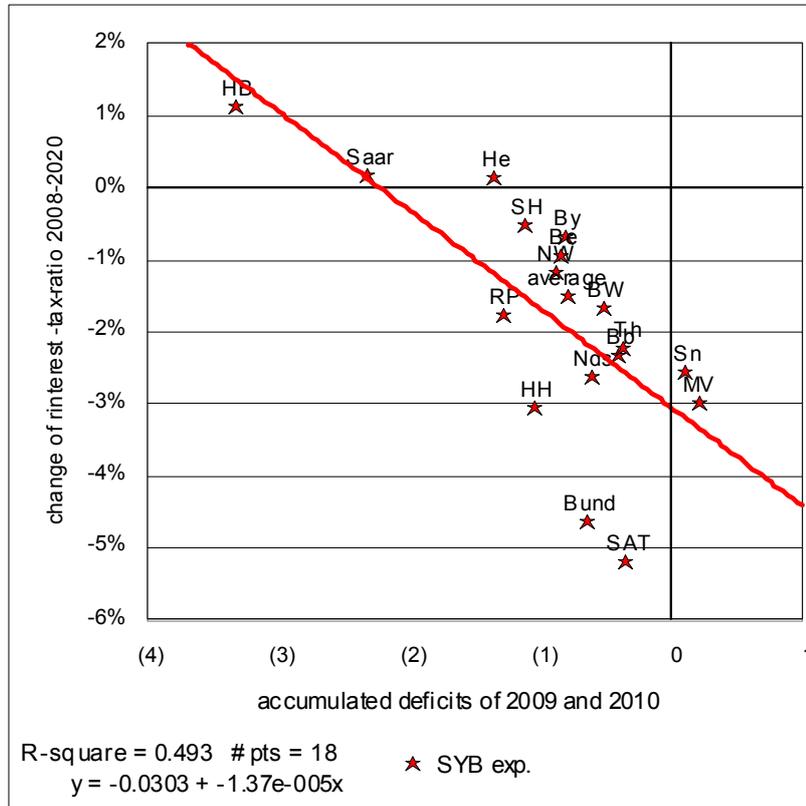
Pic. 4: Effects of net borrowing 2009 + 2010 on change of SYB expenditures and public debt in thousand Euros per inhabitant 2008 - 2020

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008 und 2009; proper calculations

Picture 4 presents the correlation of the accumulated changes in deficits in 2009 and 2010 to the changes in SYB expenditures and public debt during the period until 2020 (all per inhabitant) for the Federation and for the aggregated Länder and local governments. High deficits during the crisis lead on average to higher public debt before balancing the budgets and lower the growth of SYB expenditures to only 40% of its potential. The results of the regressions are:

$y = -46.8 - 1.76x$ with r-square $r^2 = 0.82$ for the change in public debt, and

$y = 1.3e + 003 + 0.197x$ with r-square $r^2 = 0.232$ for the change in SYB expenditures.



Pic. 5: Effects of net borrowing of state + local governments 2009 + 2010 on change of the interest-tax ratio 2008 -2020

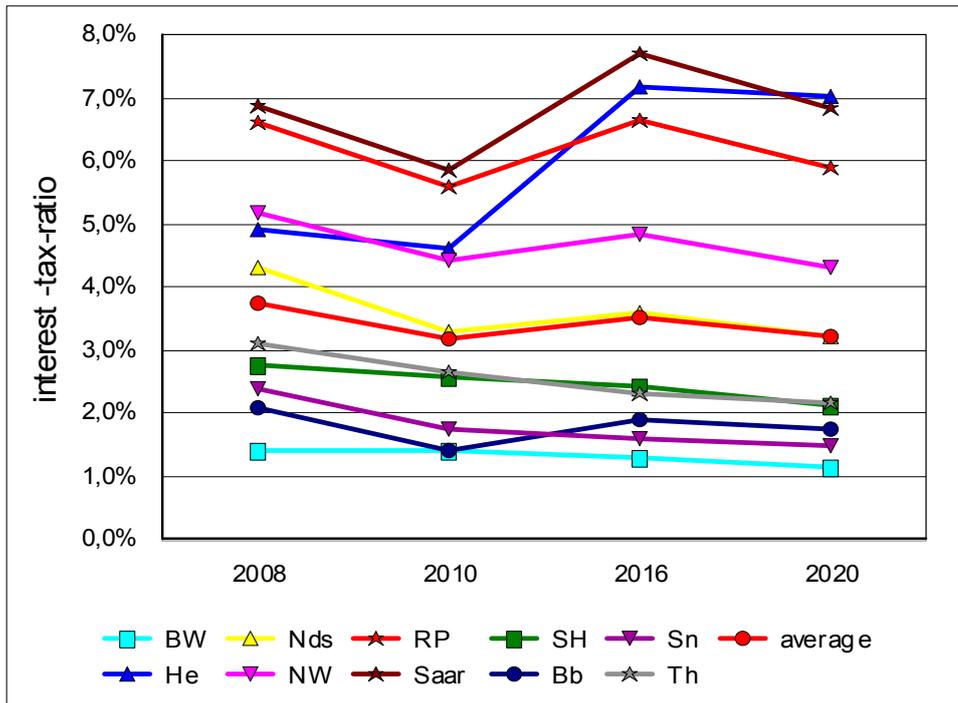
Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008 und 2009; proper calculations

The third indicator of the impact of fiscal policies during the crisis is the relationship between interest payments and tax revenues, which have been simulated “after fiscal equalisation”⁹. The ratio indicates

9 In order to isolate the effects of the crisis on public debt and spending of the jurisdictions the relative horizontal fiscal capacities of the state and local governments are kept constant until 2020. That consideration neglects differences in economic growth and inner-German migrations which are probably influenced by, among other factors, public spending and debt. However, the simulation model cannot include this level of complexity.

the annual budgetary burden of accumulated public debt on tax revenues, the most important source of independent financial means for jurisdictions. Here the quick recovery after the financial and economic crisis becomes clearly visible: Interest payments which remain stable after the budgets balanced shrink compared to the growth of tax revenues in most of the German jurisdictions. The higher the deficits during the crisis, and the later the cutbacks in expenditures take place, the weaker are the decreases in the burden of interest payments on future tax revenues (see picture 5). Here, the model does not consider changes in future borrowing conditions for the extremely indebted jurisdictions. After the experience of the Euro crisis in spring 2010, that assumption may not hold until 2020, particularly not in those cases where the necessary cutbacks in expenditures will be too late and not strong enough to balance the budgets earlier than 2020. At the moment, the interest rates are at a historically low value of 2% for 10 year loans to the Federation. But these very favourable conditions for borrowing will not last; the recovery of the economy will increase inflation rates and will necessarily lead to changes in the monetary policy of the ECB, which will increase interest rates. Governments should avoid the temptation to spend the savings realized from low interest rates as they have done in the past and should book these savings for consolidation purposes. Such rational behaviour – as evidenced by the budgetary policies of the past – is more likely to come from the low indebted jurisdictions than from the over-indebted ones. This would lead to an even higher divergence of indebtedness for 2020 than the model indicates.

While the Federation will spend almost every eighth Euro of the collected taxes for interest payments in 2020, the states on average will only need 8.5% of their tax revenues to service their debts, while the communities will need an average of only 3.2% (see table A3). However, the high and even increasing spread of interest-tax ratios for different local governments is alarming: the communities in Hessen, Rhineland-Palatinate and Saarland will have to spend about 6-7% on average of their tax revenues for interest payments in 2020, in Hessen 42% more than in 2008! The communities in North Rhine-Westphalia will not be affected in the same degree, but should also be considered as seriously over-indebted. For the majority of communities the relative burdens of tax revenues from interest payments starts to decrease after balancing their budgets.



Pic. 6: Interest-tax ratios of local governments 2008 – 2020

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008 und 2009; proper calculations

The simulation model shows the long-term effects of the budgetary deficits resulting from the financial and economic crisis 2008-2010. The new constitutional requirement for balanced budgets by 2016 or 2020, respectively, creates an ideal base, not only for vertical but particularly for horizontal comparisons. The most important results of the calculations are:

- Although the deficits of Bund, Länder and local governments have been and still are very different in absolute size and in relation to their budgetary volume, the relative burdens of the crisis weigh on future budgets and are similar for the three tiers. They are not so strong as expected earlier due to the high tax revenues from 2010, but also depend on strict consolidation policies of the respective governments. While with regard to the volume of debt in 2020 the communities will carry the highest relative burdens, the states will be required to make the highest cuts in spending in order to balance their budgets by 2016. The interest-tax ratio also shows that local governments will experience the heaviest burden. The Länder in total will experience the fewest negative

effects due to their restrictive fiscal policies and borrowing during the crisis which is a result of some of them restricting from fiscal policies and deficits during the crisis.

- The Federation regains its absolute and – compared with states and communities – relative losses in spending power through higher increases in expenditures after balancing its budget in 2011. This is because it can use all additional revenues for additional spending. Its consolidation program in 2010 also contains the introduction of new taxes on flights and nuclear plants as well as a reduction in tax exemptions for energy use. Thus SYB spending will not decline to the extent as foreseen in the model. The crisis of the Euro zone debts creates additional borrowing and spending for the Federation which leads to increasing deficits in 2012¹⁰. A not unimportant proportion of states and communities will still have deficient budgets 2016. Thus each year they will require an additional share of their, albeit once again growing, revenues in order to cover the growing interest payments and will have to keep spending growth rates lower than revenue growth rates. Therefore, the Federation owes its comparably comfortable budgetary situation in 2020 to its sharp and politically difficult spending cuts in 2011¹¹.
- Among the states and the local governments in the respective states the burden of the crisis diverges very strongly. The highest burdens are in those states which had high structural deficits and where the SYB surplus before the crisis, in 2008, was not sufficient to cover the above average interest payments. Therefore, all indicators – the increase in public debt, the decrease and/or stagnation of SYB spending, and the loading of tax revenues by interest payments – are much higher than the average in Bremen,

10 As the consolidation program has not yet passed the Parliament and the discussion of whether the new tax burdens would damage the enterprises is still heated, it was not useful to model these elements. They have effects only on the SYB expenditures, which will be higher than expected. That means that the Federation will not have suffered any losses in its spending level relative to the Länder in 2020.

11 See Bundesregierung: Die Grundpfeiler unserer Zukunft stärken, pp. 2: http://www.bundesregierung.de/Content/DE/___Anlagen/2010/2010-06-07-eckpunkte-kabinett.property=publicationFile.pdf (download: 11.10.2010); <http://www.bundesregierung.de/Webs/Breg/DE/Zukunftspaket/zukunftspaket.html> for an overview of the measures to be taken from 2011 on.

Saarland, Berlin, Hamburg, and Hessen. Bavaria loses a bit of its leading position relatively to the other states as a consequence of the high losses of the state owned Bayerische Landesbank. Lower burdens will be seen in the new Länder, which – aside from Brandenburg – pursued a very passive fiscal policy in 2009 and 2010. As they have to cut back budgetary expenditures, due to the cessation of federal grants and their privileged revenue situation until 2020, they will face a different consolidation situation and the majority of the states obviously did not dare to undertake an active anti-cyclical fiscal policy¹².

- Local governments will carry the highest and the ‘latest’ burdens because their revenues from fiscal equalisation on the one hand and increasing expenditures for social affairs – most of them related directly or indirectly to long-term unemployment – on the other hand will force them to make longer and harder cutbacks in expenditures for their ‘proper’ responsibilities. The extreme problems of local governments in some Western Länder – Saarland and Rhineland-Palatinate, and in a slightly less severe situation, North Rhine-Westphalia – are the result of chronically deficient current accounts which ‘exploded’ at the outbreak of the crisis¹³. Whether the problems can be solved by 2020 is not certain, as some municipalities are at risk of being denied future credit by private banks, though their outrunning credits are currently being refunded by publicly owned banks. The political actors are trying to cover up the problems fearing that rating agencies could downgrade the credit rating of at least some governments in Germany, which would mean not only increased interest costs for public debt, but could also threaten the Euro.

12 Thuringia seems to be following a different strategy of late and weak consolidation in its financial planning documents, which explains the long lasting deficits from decreased revenues. It is, however, not very probable that the Land will execute its budget in the manner outlined in the documents over the medium-term.

13 See *Florian Boettcher/Martin Junkernheinrich*: Kommunal финанzen im Jahr 2009 – Krisenreaktion im Ländervergleich; in: *Jahrbuch für öffentliche Finanzen 2010*, Band 218, Berliner Wissenschafts-Verlag, S.235. *Anton, Stefan/Diemert, Dörte*: Kommunal финанzen im freien Fall? Gemeindefinanzbericht 2009; in: *der Städtetag* 5/2009.

4. Fiscal crisis and intergovernmental relations in Germany: Some political consequences

Against the background of the budgetary effects of the financial and economic crisis discussed above, some concluding considerations on the intergovernmental consequences of the crisis are necessary. Here, several aspects are important to consider:

1. To what extent will the governments cut back transfer payments and grants to lower levels of governments when they consolidate their spending? Will the volume of local fiscal equalisation grants be affected, and what would be the consequences for the financial situation of the recipient jurisdictions?
2. Is it plausible that the highly indebted sub-national jurisdictions will pursue the necessary consolidation policies? Is the growing spread of remaining SYB expenditures and of burdens from interest payments among the Länder a danger for inter-federal solidarity?
3. What are the consequences of the post-crisis financial situation of governments for tax policies? The comprehensible refusal of the Federal Government to lower the taxes, despite the agreement of the governing parties in the coalition treaty, is in danger as the economy quickly and vigorously recovers. Or is it necessary to increase the tax rates, particularly to cover the deficits of the over-indebted sub-national jurisdictions?

Important shares of the federal and state budgets are grants to subordinated levels of governments. These can be distinguished into general grants for vertical and horizontal fiscal equalisation purposes on the one hand and specific purpose grants which aim to influence the spending priorities of the recipient jurisdictions. The necessary cut-backs after the crisis cannot avoid affecting these expenditures¹⁴, but their effects should be carefully considered. They *ceteris paribus* decrease the revenues of the recipient governments and either increase their deficits or make it necessary for additional cutbacks in spending. In the case of specific purpose grants or even matching grants, which often are used to subsidize local infrastructure investment programs,

14 So the Federation decided to cut in half transfers for the promotion of city construction projects.

this threatens to induce the further decline in investment expenditures and the devaluation of public infrastructure¹⁵. Even more difficult are the consequences of cutbacks in general grants, which stock up state and local tax equipment which are deficient from the primary distribution of tax sources. In these cases the sub-national governments cannot decrease their spending on compulsory responsibilities and thus they have to reduce their activities related to their autonomous tasks. In particular, the existing formulas for local fiscal equalisation also feed the expectation of unintended changes in the horizontal fiscal capacity of the different types of local governments (district-free cities, districts and communities within districts) and between the different governments within each group.

With regard to the somewhat desperate financial situation of many German communities, there is no space to use local fiscal equalisation for the consolidation of the Länder budgets. On the contrary, in the Länder with an extreme indebtedness of communities (particularly in Hessen, Rhineland-Palatinate, Saarland and North Rhine-Westphalia), many communities need additional financial help in order to avoid 'insolvency'¹⁶. Rhineland-Palatinate was the first Land to offer a program to save over-indebted cities¹⁷, meanwhile the red-green state government of North Rhine-Westphalia has started a similar program¹⁸. Even Hessen has decided to help over-indebted communities with a special program¹⁹. Here, the state government

15 See for instance, *Landsberg, G. et. al.* (2010), in *Wirtschaftsdienst* 90, 5, pp. 283-308.

16 Insolvency of communities is legally prohibited in Germany due to some bad pre-war experiences. However, the first cities will show negative values of their 'company capital' in the recently introduced double bookkeeping balance sheets and private banks will start to give them new credits.

17 See *Göhring, Uwe/Müller, Walter/Meffert, Horst/Wagenführer, Andreas*: Der kommunale Entschuldungsfonds Rheinland-Pfalz; in: *LKRZ* 1/2011, pp. 1
(http://www.lkrz.nomos.de/fileadmin/lkrz/doc/Aufsatz_LKRZ_11_01.pdf; download: 30.11.2011)

18 See Ministeriums für Inneres und Kommunales NRW
(<http://www.nrw.de/meldungen-der-landesregierung/soforthilfe-300-millionen-euro-fuer-kommunen-9585/>; download: 14.12.2011)

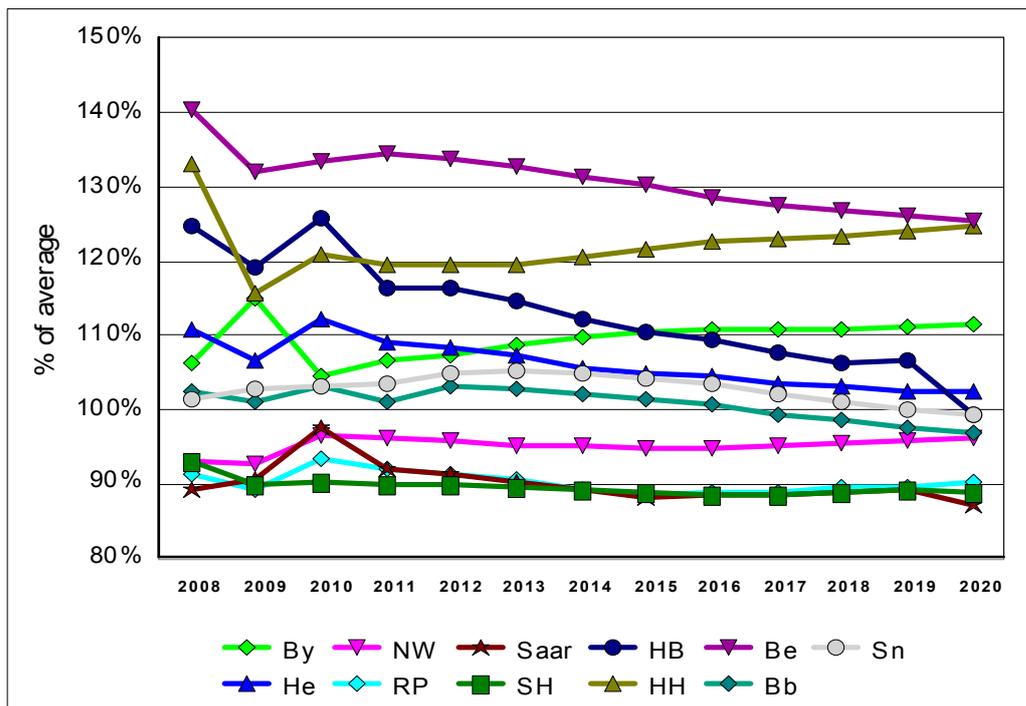
19 See Ministerium der Finanzen Hessen: "Kommunaler Schutzschirm – Gemeinsam für stake Kommunen in Hessen"
http://www.hessen.de/irj/HMdF_Internet?uid=f9a0ab19-bcce-a21f-012f-

authorities need to either increase their net borrowing and/or decide on additional cuts in spending in other areas in all cases where the growth of tax revenues is not sufficient²⁰. North Rhine-Westphalia in addition discusses a special apportionment on the tax capacity of rich municipalities²¹. And Saxony-Anhalt uses the federal grants it receives for consolidation purposes for the financial assistance of highly indebted communities²².

The need for above average spending cutbacks in the extremely indebted states gives rise to the possibility that the necessary political discipline for achieving that goal will not exist for the whole 10-year period until 2020. The highly indebted states and communities are diverging from the average SYB spending level more and more, even though they are receiving special additional grants to help reduce their debt by 2019. Whether a SYB spending level by state and local governments²³ of 76.2% of the average in the Saarland or 103.7% in Bremen (see picture 7) would be constitutional will probably be decided by the Federal Constitutional Court.

[31e2389e4818](#) (download: 03.12.2010); Ministerium der Finanzen Hessen: „Kommunaler Schutzschirm – Gemeinsam für starke Kommunen in Hessen“, Kurzinfo des hessischen Ministeriums für Finanzen (<http://www.hmdf.hessen.de>; download: 03.12.2010)

- 20 For the Saarland is no information on a potential program available, even though the communities there have the highest deficits of the current budgets of all Länder.
- 21 See Ministerium für Inneres und Kommunales des Landes NRW: „Hilfspaket für überschuldete Städte und Gemeinden ist geschnürt - Kommunalminister Jäger: Ein guter Tag für die NRW-Kommunen“ (<http://www.mik.nrw.de/presse-mediathek/aktuelle-meldungen/aktuelles-im-detail/news/hilfspaket-fuer-ueberschuldete-staedte-und-gemeinden-ist-geschnuert-kommunal-minister-jaeger-ein.html>; download: 15.12.2011)
- 22 See *Jens Bullerjahn*: “Not macht erfinderisch: Das Programm „Stark II“ soll die Finanznot der Kommunen in Sachsen-Anhalt lindern“, in: *Der Neue Kämmerer* 04, 2010, p. 2. (<http://www.derneuekaemmerer.de/zeitung/archiv/pdf/DNK-04-2010-Schwerpunkt.pdf>; download: 15.12.2011)
- 23 In order to compare spatial states and city states.



Pic. 7: SYB expenditures of state + local governments 2008 – 2020 in % of average

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008 und 2009; proper calculations

However, any new bailout debate in Germany will reveal the weakness of the new constitutional rules for public debt. The debt regulations might not provide sufficient incentives for the highly indebted states to balance their budgets and pay the price for their former above-average spending in the form of future far below average SYB expenditures. In contrast to the new programs for over-indebted local governments, the grants which have been given to over-indebted states since 1994 have never been conditioned upon comprehensible precisely defined and appropriate spending cuts. One reason for this institutional weakness may be the result of the involvement of state governments in federal legislation and the necessity for the approval of the Bundesrat for many federal laws and decrees. Thus the financial crisis again reduces the solidarity of the states. Some rich states in Southern Germany recently announced they would file a complaint against the fiscal equalisation scheme with the Federal Constitutional Court. Additionally, some new Länder have begun asking for a prolongation after 2020 of the specific federal grants for the compensation for the disad-

vantages of the German division. All these conflicts only can be 'solved' by additional grants from the federal budget. But these would be difficult to justify when one takes into account the difficult budgetary situation of the Federation.

Given all this, the political door is open for tax increases. The Bund has, therefore, introduced new taxes, for which the approval of the Bundesrat is not needed. Local governments have already increased user fees and local multipliers for the real estate tax and will probably follow that example in the coming years. The Länder, which do not possess substantial tax autonomy, have started to increase the rate of the land acquisition tax, the rate for which they were given back the right to determine in 2005. But that will not provide them with the necessary volume of revenues for balancing their budgets. Therefore, the only logical way out of the political dilemma is to increase the joint taxes from which all levels of government would benefit. Meanwhile the plans of the federal government to abolish the local enterprise tax and replace it with local surcharges on personal and corporate income taxes are not yet under discussion. Because enterprises contribute an ever more declining share to total tax revenues, as they shift important parts of their tax bases abroad, consumers and the middle class of the economically active population would have had to pay for the costs of the crisis then.

Very recent economic data is showing signs of a slowdown of the economic development after the quick recovery in 2010 resulting from the so-called Euro crisis of the over-indebted Southern European Euro countries. However, Germany has passed the deficit-to-GDP ratio below the 3% level set out in the Maastricht Treaty in 2011²⁴. On the one hand, those encouraging developments give some hope that the cutbacks will be less painful than expected earlier. On the other hand, Germany will carry heavy budgetary burden for the European Financial Stability Facility. The actually extremely low interest rates for German public loans should be used as additional contributions for consolidation. However, the scope for expensive revenue reducing tax

24 See Bundesministerium der Finanzen: Dritter Bericht zur Tragfähigkeit der öffentlichen Finanzen, Berlin 2011, pp. 12 (http://www.bundesfinanzministerium.de/nr_53848/DE/BMF_Startseite/Servi-ce/Broschueren_Bestellservice/Finanz_und_Wirtschaftspolitik/40280_Dritter_Tragefaehigkeitsbericht,property=publicationFile.pdf; download Dec. 15th, 2011).

reforms – particularly for those taxes from which state and local governments receive a share or all of the revenues – will not exist before 2015, because reducing structural deficits and balancing the budgets must have absolute priority once the economy is stable and the recovery well underway. That will not be an easy task for the ‘political rationality’ of the actors within a federal system.

Appendix:

	2008	2010	2016	2020	2008	2010	2016	2020	2010	2016	2020
Public debt per inhabitant in €					<i>in % of average</i>				<i>in % of 2008</i>		
Bund	12.172,7	13.499,7	13.617,9	13.617,9	179,7%	181,6%	167,9%	167,5%	110,9%	111,9%	111,9%
Länder											
BW	3.879,6	4.030,5	4.058,5	4.058,5	66,4%	62,1%	59,1%	59,1%	103,9%	104,6%	104,6%
By	1.766,5	2.337,1	2.391,2	2.391,2	30,2%	36,0%	34,8%	34,8%	132,3%	135,4%	135,4%
He	5.031,6	6.124,8	6.728,8	6.728,8	86,1%	94,4%	98,0%	98,0%	121,7%	133,7%	133,7%
Nds	6.298,4	6.811,4	6.866,5	6.866,5	107,8%	105,0%	100,0%	100,0%	108,1%	109,0%	109,0%
NW	6.312,3	7.153,4	7.819,8	7.819,8	108,0%	110,2%	113,9%	113,9%	113,3%	123,9%	123,9%
RP	6.358,0	7.176,5	7.915,2	7.915,2	108,8%	110,6%	115,3%	115,3%	112,9%	124,5%	124,5%
Saar	9.158,8	11.383,4	12.108,5	12.108,5	156,8%	175,4%	176,4%	176,4%	124,3%	132,2%	132,2%
SH	7.884,7	9.052,2	9.978,7	9.978,7	134,9%	139,5%	145,4%	145,4%	114,8%	126,6%	126,6%
HB	23.038,8	27.060,4	30.003,2	30.144,1	394,3%	417,0%	437,2%	439,1%	117,5%	130,2%	130,8%
HH	12.209,4	13.248,5	13.656,3	13.656,3	209,0%	204,1%	199,0%	198,9%	108,5%	111,9%	111,9%
Be	16.380,6	17.531,1	18.656,2	18.656,2	280,4%	270,1%	271,8%	271,8%	107,0%	113,9%	113,9%
Bb	6.757,1	7.226,3	7.129,2	7.129,2	115,6%	111,3%	103,9%	103,9%	106,9%	105,5%	105,5%
MV	5.903,4	5.955,5	5.955,5	5.955,5	101,0%	91,8%	86,8%	86,8%	100,9%	100,9%	100,9%
Sn	2.271,0	1.575,5	1.575,5	1.575,5	38,9%	24,3%	23,0%	23,0%	69,4%	69,4%	69,4%
SAT	8.210,6	8.761,1	8.948,4	8.948,4	140,5%	135,0%	130,4%	130,4%	106,7%	109,0%	109,0%
Th	6.691,9	7.271,2	7.490,6	7.490,6	114,5%	112,0%	109,1%	109,1%	108,7%	111,9%	111,9%
average	5.842,9	6.489,9	6.863,2	6.864,3	100,0%	100,0%	100,0%	100,0%	111,1%	117,5%	117,5%
<i>in % of Bund</i>	48,0%	48,1%	50,4%	50,4%							
<i>stddev/ave.</i>	88,63%	92,94%	97,33%	97,71%							
local governments											
BW	524,8	545,5	690,2	690,2	56,3%	57,9%	57,0%	56,3%	104,0%	131,5%	131,5%
By	1.034,7	1.052,3	1.193,7	1.193,7	111,1%	111,6%	98,7%	97,3%	101,7%	115,4%	115,4%
He	1.230,8	1.512,4	3.281,3	3.511,7	132,1%	160,4%	271,2%	286,2%	122,9%	266,6%	285,3%
Nds	893,3	933,3	1.122,7	1.122,7	95,9%	99,0%	92,8%	91,5%	104,5%	125,7%	125,7%
NW	1.292,4	1.265,3	1.450,9	1.450,9	138,7%	134,2%	119,9%	118,2%	97,9%	112,3%	112,3%
RP	1.174,6	1.248,6	1.663,7	1.663,7	126,1%	132,4%	137,5%	135,6%	106,3%	141,6%	141,6%
Saar	926,1	1.034,6	1.565,8	1.565,8	99,4%	109,7%	129,4%	127,6%	111,7%	169,1%	169,1%
SH	788,4	819,0	951,7	951,7	84,6%	86,9%	78,7%	77,6%	103,9%	120,7%	120,7%
Bb	631,8	584,7	702,6	702,6	67,8%	62,0%	58,1%	57,3%	92,6%	111,2%	111,2%
MV	947,2	860,7	902,2	902,2	101,7%	91,3%	74,6%	73,5%	90,9%	95,3%	95,3%
Sn	871,3	788,8	793,3	793,3	93,5%	83,7%	65,6%	64,7%	90,5%	91,0%	91,0%
SAT	1.198,8	890,8	899,5	899,5	128,7%	94,5%	74,3%	73,3%	74,3%	75,0%	75,0%
Th	1.067,6	991,6	998,6	998,6	114,6%	105,2%	82,5%	81,4%	92,9%	93,5%	93,5%
average	931,7	942,8	1.209,9	1.227,0	100,0%	100,0%	100,0%	100,0%	101,2%	129,9%	131,7%
<i>in % of Bund</i>	7,7%	7,0%	8,9%	9,0%							
<i>stddev/ave.</i>	23,88%	27,50%	54,60%	58,33%							

	2008	2010	2016	2020	2008	2010	2016	2020	2010	2016	2020
Public debt per inhabitant in €					<i>in % of average</i>				<i>in % of 2008</i>		
Land + local governments aggregated											
BW	4.404,4	4.576,0	4.748,7	4.748,7	65,0%	61,6%	58,8%	58,7%	103,9%	107,8%	107,8%
By	2.801,2	3.389,5	3.584,9	3.584,9	41,3%	45,6%	44,4%	44,3%	121,0%	128,0%	128,0%
He	6.262,4	7.637,2	10.010,2	10.240,5	92,4%	102,8%	124,0%	126,6%	122,0%	159,8%	163,5%
Nds	7.191,7	7.744,7	7.989,2	7.989,2	106,2%	104,2%	99,0%	98,7%	107,7%	111,1%	111,1%
NW	7.604,7	8.418,7	9.270,7	9.270,7	112,3%	113,3%	114,8%	114,6%	110,7%	121,9%	121,9%
RP	7.532,6	8.425,1	9.578,9	9.578,9	111,2%	113,4%	118,7%	118,4%	111,8%	127,2%	127,2%
Saar	10.084,9	12.418,0	13.674,4	13.674,4	148,9%	167,1%	169,4%	169,0%	123,1%	135,6%	135,6%
SH	8.673,1	9.871,2	10.930,4	10.930,4	128,0%	132,8%	135,4%	135,1%	113,8%	126,0%	126,0%
HB	23.038,8	27.060,4	30.003,2	30.144,1	340,1%	364,1%	371,6%	372,5%	117,5%	130,2%	130,8%
HH	12.209,4	13.248,5	13.656,3	13.656,3	180,2%	178,2%	169,2%	168,8%	108,5%	111,9%	111,9%
Be	16.380,6	17.531,1	18.656,2	18.656,2	241,8%	235,9%	231,1%	230,6%	107,0%	113,9%	113,9%
Bb	7.388,9	7.811,0	7.831,8	7.831,8	109,1%	105,1%	97,0%	96,8%	105,7%	106,0%	106,0%
MV	6.850,6	6.816,2	6.857,8	6.857,8	101,1%	91,7%	84,9%	84,8%	99,5%	100,1%	100,1%
Sn	3.142,3	2.364,3	2.368,8	2.368,8	46,4%	31,8%	29,3%	29,3%	75,2%	75,4%	75,4%
SAT	9.409,3	9.651,9	9.847,9	9.847,9	138,9%	129,9%	122,0%	121,7%	102,6%	104,7%	104,7%
Th	7.759,5	8.262,8	8.489,2	8.489,2	114,5%	111,2%	105,2%	104,9%	106,5%	109,4%	109,4%
average	6.774,6	7.432,7	8.073,1	8.091,3	100,0%	100,0%	100,0%	100,0%	109,7%	119,2%	119,4%
<i>in % of Bund</i>	55,7%	55,1%	59,3%	59,4%							
<i>stddev/ave.</i>	71,95%	77,28%	78,82%	78,97%							

Tab. A1: Public debt per inhabitant in € 2008, 2010, 2016 and 2020

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008, 2009, and 2010; proper calculations

	2008	2010	2016	2020	2008	2010	2016	2020	2010	2016	2020
expenditures of the single year's budget per inhabitant in €					<i>in % of average</i>				<i>in % of 2008</i>		
Bund	2.937,8	3.351,1	3.694,4	4.197,6	67,1%	71,0%	71,4%	73,7%	114,1%	125,8%	142,9%
Länder											
BW	3.879,6	4.030,5	4.058,5	4.058,5	66,4%	62,1%	59,1%	59,1%	103,9%	104,6%	104,6%
By	1.766,5	2.337,1	2.391,2	2.391,2	30,2%	36,0%	34,8%	34,8%	132,3%	135,4%	135,4%
He	5.031,6	6.124,8	6.728,8	6.728,8	86,1%	94,4%	98,0%	98,0%	121,7%	133,7%	133,7%
Nds	6.298,4	6.811,4	6.866,5	6.866,5	107,8%	105,0%	100,0%	100,0%	108,1%	109,0%	109,0%
NW	6.312,3	7.153,4	7.819,8	7.819,8	108,0%	110,2%	113,9%	113,9%	113,3%	123,9%	123,9%
RP	6.358,0	7.176,5	7.915,2	7.915,2	108,8%	110,6%	115,3%	115,3%	112,9%	124,5%	124,5%
Saar	9.158,8	11.383,4	12.108,5	12.108,5	156,8%	175,4%	176,4%	176,4%	124,3%	132,2%	132,2%
SH	7.884,7	9.052,2	9.978,7	9.978,7	134,9%	139,5%	145,4%	145,4%	114,8%	126,6%	126,6%
HB	23.038,8	27.060,4	30.003,2	30.144,1	394,3%	417,0%	437,2%	439,1%	117,5%	130,2%	130,8%
HH	12.209,4	13.248,5	13.656,3	13.656,3	209,0%	204,1%	199,0%	198,9%	108,5%	111,9%	111,9%
Be	16.380,6	17.531,1	18.656,2	18.656,2	280,4%	270,1%	271,8%	271,8%	107,0%	113,9%	113,9%
Bb	6.757,1	7.226,3	7.129,2	7.129,2	115,6%	111,3%	103,9%	103,9%	106,9%	105,5%	105,5%
MV	5.903,4	5.955,5	5.955,5	5.955,5	101,0%	91,8%	86,8%	86,8%	100,9%	100,9%	100,9%
Sn	2.271,0	1.575,5	1.575,5	1.575,5	38,9%	24,3%	23,0%	23,0%	69,4%	69,4%	69,4%
SAT	8.210,6	8.761,1	8.948,4	8.948,4	140,5%	135,0%	130,4%	130,4%	106,7%	109,0%	109,0%
Th	6.691,9	7.271,2	7.490,6	7.490,6	114,5%	112,0%	109,1%	109,1%	108,7%	111,9%	111,9%
average	5.842,9	6.489,9	6.863,2	6.864,3	100,0%	100,0%	100,0%	100,0%	111,1%	117,5%	117,5%
<i>in % of Bund</i>	48,0%	48,1%	50,4%	50,4%							
<i>stddev/ave,</i>	88,63%	92,94%	97,33%	97,71%							
local governments											
BW	524,8	545,5	690,2	690,2	56,3%	57,9%	57,0%	56,3%	104,0%	131,5%	131,5%
By	1.034,7	1.052,3	1.193,7	1.193,7	111,1%	111,6%	98,7%	97,3%	101,7%	115,4%	115,4%
He	1.230,8	1.512,4	3.281,3	3.511,7	132,1%	160,4%	271,2%	286,2%	122,9%	266,6%	285,3%
Nds	893,3	933,3	1.122,7	1.122,7	95,9%	99,0%	92,8%	91,5%	104,5%	125,7%	125,7%
NW	1.292,4	1.265,3	1.450,9	1.450,9	138,7%	134,2%	119,9%	118,2%	97,9%	112,3%	112,3%
RP	1.174,6	1.248,6	1.663,7	1.663,7	126,1%	132,4%	137,5%	135,6%	106,3%	141,6%	141,6%
Saar	926,1	1.034,6	1.565,8	1.565,8	99,4%	109,7%	129,4%	127,6%	111,7%	169,1%	169,1%
SH	788,4	819,0	951,7	951,7	84,6%	86,9%	78,7%	77,6%	103,9%	120,7%	120,7%
Bb	631,8	584,7	702,6	702,6	67,8%	62,0%	58,1%	57,3%	92,6%	111,2%	111,2%
MV	947,2	860,7	902,2	902,2	101,7%	91,3%	74,6%	73,5%	90,9%	95,3%	95,3%
Sn	871,3	788,8	793,3	793,3	93,5%	83,7%	65,6%	64,7%	90,5%	91,0%	91,0%
SAT	1.198,8	890,8	899,5	899,5	128,7%	94,5%	74,3%	73,3%	74,3%	75,0%	75,0%
Th	1.067,6	991,6	998,6	998,6	114,6%	105,2%	82,5%	81,4%	92,9%	93,5%	93,5%
average	931,7	942,8	1.209,9	1.227,0	100,0%	100,0%	100,0%	100,0%	101,2%	129,9%	131,7%
<i>in % of Bund</i>	7,7%	7,0%	8,9%	9,0%							
<i>stddev/ave,</i>	23,88%	27,50%	54,60%	58,33%							

	2008	2010	2016	2020	2008	2010	2016	2020	2010	2016	2020
expenditures of the single year's budget per inhabitant in €					<i>in % of average</i>				<i>in % of 2008</i>		
Land + local governments aggregated											
BW	4.404,4	4.576,0	4.748,7	4.748,7	65,0%	61,6%	58,8%	58,7%	103,9%	107,8%	107,8%
By	2.801,2	3.389,5	3.584,9	3.584,9	41,3%	45,6%	44,4%	44,3%	121,0%	128,0%	128,0%
He	6.262,4	7.637,2	10.010,2	10.240,5	92,4%	102,8%	124,0%	126,6%	122,0%	159,8%	163,5%
Nds	7.191,7	7.744,7	7.989,2	7.989,2	106,2%	104,2%	99,0%	98,7%	107,7%	111,1%	111,1%
NW	7.604,7	8.418,7	9.270,7	9.270,7	112,3%	113,3%	114,8%	114,6%	110,7%	121,9%	121,9%
RP	7.532,6	8.425,1	9.578,9	9.578,9	111,2%	113,4%	118,7%	118,4%	111,8%	127,2%	127,2%
Saar	10.084,9	12.418,0	13.674,4	13.674,4	148,9%	167,1%	169,4%	169,0%	123,1%	135,6%	135,6%
SH	8.673,1	9.871,2	10.930,4	10.930,4	128,0%	132,8%	135,4%	135,1%	113,8%	126,0%	126,0%
HB	23.038,8	27.060,4	30.003,2	30.144,1	340,1%	364,1%	371,6%	372,5%	117,5%	130,2%	130,8%
HH	12.209,4	13.248,5	13.656,3	13.656,3	180,2%	178,2%	169,2%	168,8%	108,5%	111,9%	111,9%
Be	16.380,6	17.531,1	18.656,2	18.656,2	241,8%	235,9%	231,1%	230,6%	107,0%	113,9%	113,9%
Bb	7.388,9	7.811,0	7.831,8	7.831,8	109,1%	105,1%	97,0%	96,8%	105,7%	106,0%	106,0%
MV	6.850,6	6.816,2	6.857,8	6.857,8	101,1%	91,7%	84,9%	84,8%	99,5%	100,1%	100,1%
Sn	3.142,3	2.364,3	2.368,8	2.368,8	46,4%	31,8%	29,3%	29,3%	75,2%	75,4%	75,4%
SAT	9.409,3	9.651,9	9.847,9	9.847,9	138,9%	129,9%	122,0%	121,7%	102,6%	104,7%	104,7%
Th	7.759,5	8.262,8	8.489,2	8.489,2	114,5%	111,2%	105,2%	104,9%	106,5%	109,4%	109,4%
average	6.774,6	7.432,7	8.073,1	8.091,3	100,0%	100,0%	100,0%	100,0%	109,7%	119,2%	119,4%
<i>in % of Bund</i>	55,7%	55,1%	59,3%	59,4%							
<i>stddev/ave.</i>	71,95%	77,28%	78,82%	78,97%							

Tab. A2: Expenditures of the single year's budget per inhabitant in € 2008, 2010, 2016 and 2010

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008 und 2009; proper calculations

Relation of interest payments to tax revenues					<i>in % of average</i>				<i>in % of 2008</i>		
Bund	17,0%	12,8%	14,0%	12,4%	184,7%	138,8%	157,3%	156,5%	75,1%	82,0%	72,8%
Länder											
BW	7,25%	7,89%	6,03%	4,99%	73,0%	77,7%	64,3%	58,7%	108,8%	83,1%	68,8%
By	3,06%	3,76%	3,48%	2,74%	30,8%	37,1%	37,1%	32,2%	123,0%	113,7%	89,6%
He	9,28%	10,10%	9,92%	8,81%	93,5%	99,6%	105,8%	103,6%	108,8%	106,8%	94,9%
Nds	12,07%	10,90%	10,20%	9,07%	121,5%	107,4%	108,8%	106,6%	90,3%	84,6%	75,1%
NW	11,35%	11,58%	11,56%	10,27%	114,4%	114,1%	123,3%	120,8%	102,0%	101,8%	90,5%
RP	12,71%	11,98%	11,49%	10,21%	128,0%	118,1%	122,5%	120,0%	94,3%	90,4%	80,3%
Saar	16,97%	21,72%	15,88%	14,97%	170,9%	214,1%	169,4%	176,1%	128,0%	93,6%	88,2%
SH	13,65%	15,88%	14,66%	13,18%	137,5%	156,5%	156,4%	154,9%	116,3%	107,4%	96,5%
HB	19,68%	24,70%	21,27%	20,82%	198,2%	243,5%	226,9%	244,8%	125,5%	108,1%	105,8%
HH	11,56%	10,72%	9,57%	8,50%	116,5%	105,7%	102,0%	99,9%	92,7%	82,7%	73,5%
Be	13,70%	13,79%	13,76%	12,73%	138,0%	136,0%	146,8%	149,7%	100,6%	100,4%	92,9%
Bb	11,66%	10,27%	10,93%	9,82%	117,5%	101,3%	116,6%	115,5%	88,1%	93,7%	84,2%
MV	8,99%	9,06%	8,48%	7,66%	90,5%	89,3%	90,5%	90,1%	100,8%	94,4%	85,2%
Sn	3,48%	3,02%	1,96%	1,87%	35,0%	29,7%	20,9%	22,0%	86,7%	56,4%	53,7%
SAT	11,99%	10,87%	11,06%	10,77%	120,7%	107,2%	117,9%	126,6%	90,7%	92,2%	89,9%
Th	10,54%	11,39%	10,18%	9,29%	106,2%	112,3%	108,6%	109,2%	108,1%	96,6%	88,1%
average	9,93%	10,14%	9,37%	8,50%	100,0%	100,0%	100,0%	100,0%	102,2%	94,4%	85,7%
<i>in % of Bund</i>	58,3%	79,3%	67,1%	68,5%							
<i>stddev/ave</i>	41,52%	52,75%	47,93%	52,04%							
local governments											
BW	1,43%	1,40%	1,29%	1,15%	37,9%	43,7%	36,5%	35,7%	98,1%	90,2%	80,2%
By	3,10%	2,68%	2,40%	2,13%	82,3%	83,4%	67,9%	66,3%	86,2%	77,3%	68,7%
He	4,92%	4,62%	7,18%	7,02%	130,4%	144,0%	203,4%	218,4%	93,9%	146,1%	142,8%
Nds	4,31%	3,29%	3,61%	3,21%	114,4%	102,4%	102,3%	99,8%	76,2%	83,8%	74,4%
NW	5,19%	4,42%	4,85%	4,30%	137,7%	137,8%	137,2%	133,8%	85,1%	93,3%	82,9%
RP	6,61%	5,59%	6,67%	5,92%	175,2%	174,4%	188,8%	184,2%	84,7%	100,9%	89,7%
Saar	6,87%	5,86%	7,72%	6,86%	182,2%	182,7%	218,7%	213,3%	85,3%	112,4%	99,9%
SH	2,77%	2,60%	2,42%	2,15%	73,6%	81,1%	68,4%	66,7%	93,7%	87,1%	77,4%
Bb	2,08%	1,42%	1,89%	1,75%	55,2%	44,2%	53,4%	54,5%	68,1%	90,7%	84,3%
MV	3,40%	2,42%	2,43%	2,27%	90,2%	75,6%	68,8%	70,5%	71,3%	71,5%	66,7%
Sn	2,41%	1,77%	1,61%	1,50%	63,8%	55,1%	45,6%	46,6%	73,5%	67,0%	62,3%
SAT	4,30%	3,43%	2,67%	2,51%	114,2%	106,9%	75,6%	78,2%	79,6%	62,1%	58,4%
Th	3,11%	2,66%	2,31%	2,16%	82,4%	83,1%	65,5%	67,1%	85,7%	74,4%	69,4%
average	3,77%	3,21%	3,53%	3,22%	100,0%	100,0%	100,0%	100,0%	85,1%	93,7%	85,3%
<i>in % of Bund</i>	22,1%	25,1%	25,3%	25,9%							
<i>stddev/ave</i>	42,63%	44,37%	60,70%	61,22%							

Relation of interest payments to tax revenues					<i>in % of average</i>				<i>in % of 2008</i>			
Land + local governments aggregated												
BW	5,79%	6,32%	4,86%	4,11%	62,7%	68,5%	56,2%	53,3%	109,1%	83,9%	71,0%	
By	3,63%	3,97%	3,61%	2,95%	39,3%	43,0%	41,8%	38,3%	109,4%	99,5%	81,4%	
He	8,71%	9,26%	10,43%	8,83%	94,4%	100,5%	120,7%	114,6%	106,3%	119,7%	101,4%	
Nds	11,09%	9,83%	9,37%	8,46%	120,2%	106,7%	108,4%	109,7%	88,7%	84,5%	76,3%	
NW	10,64%	10,58%	10,65%	9,46%	115,3%	114,8%	123,3%	122,7%	99,5%	100,2%	88,9%	
RP	12,56%	11,62%	11,66%	10,80%	136,1%	126,1%	135,0%	140,1%	92,5%	92,9%	86,0%	
Saar	15,64%	19,35%	16,67%	15,80%	169,5%	210,0%	193,0%	205,0%	123,8%	106,6%	101,0%	
SH	11,75%	13,24%	12,17%	11,23%	127,3%	143,7%	140,8%	145,7%	112,7%	103,6%	95,6%	
HB	19,68%	24,70%	21,27%	20,82%	213,3%	268,0%	246,3%	270,1%	125,5%	108,1%	105,8%	
HH	11,56%	10,72%	9,57%	8,50%	125,3%	116,4%	110,7%	110,2%	92,7%	82,7%	73,5%	
Be	13,70%	13,79%	13,80%	12,76%	148,6%	149,7%	159,8%	165,6%	100,6%	100,7%	93,1%	
Bb	11,19%	9,37%	8,78%	8,85%	121,3%	101,7%	101,7%	114,8%	83,8%	78,5%	79,1%	
MV	10,03%	9,29%	7,79%	7,04%	108,7%	100,8%	90,2%	91,3%	92,7%	77,7%	70,2%	
Sn	4,83%	4,05%	2,56%	2,27%	52,3%	43,9%	29,6%	29,5%	83,8%	52,9%	47,0%	
SAT	15,13%	13,44%	11,19%	9,94%	164,0%	145,8%	129,6%	129,0%	88,8%	74,0%	65,7%	
Th	10,85%	11,54%	9,69%	8,61%	117,6%	125,2%	112,2%	111,7%	106,4%	89,3%	79,4%	
average	9,23%	9,22%	8,64%	7,71%	100,0%	100,0%	100,0%	100,0%	99,9%	93,6%	83,6%	
<i>in % of Bund</i>	54,1%	72,0%	61,8%	62,1%								
<i>stddev/ave,</i>	42,89%	54,60%	52,13%	57,77%								

Tab. A36: Relation of interest payments and tax revenues 2008, 2010, 2016 and 2010

Source: Statistisches Bundesamt: Fachserie 14 Reihe 2, 2008 und 2009; proper calculations.

ISSN 1868-971X (Print)
ISSN 1868-9728 (Internet)