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Working Paper

Tax projections in German states – manipulated by opportunistic incumbent parties?

Finanzwissenschaftliche Arbeitspapiere, No. 74

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**Tax projections in German states –
manipulated by opportunistic incumbent
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Abstract

This paper analyses the accuracy of the tax projections of West German states from a public choice perspective. It argues that state governments have the possibility and face incentives to manipulate tax projections. Evidence for the years 1992 – 2002 reveals a general upward bias in tax projections in election as well as non-election years. The degree of overestimation is higher, the less popular the incumbent party is. Partisanship and elections have no significant influence. To improve external control of state governments in the budget process, the process of tax projections must be made transparent.

Key words: tax projections, political parties, budget process, public expenditures

JEL: H 72, D 72

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1. Introduction

The fiscal discipline in democracies crucially depends on the public and parliamentary control over the budget and the institutional restrictions governments have to follow when putting up and executing the budget (e.g., von Hagen and Harden, 1994; Alesina and Perotti, 1996). Among other things, effective public and parliamentary control requires reliable projections for the expected tax revenues (e.g., Auerbach, 1996 and 1999). In Germany, the "Arbeitskreis Steuerschätzung" (AKS), a specially installed committee, is in charge of tax projections. Its projections are recognized to be fairly accurate and unbiased. The reliability of these projections originates in the line up of AKS as well as its far-reaching independence (e.g., von der Lippe, 1998; Gebhardt, 2001). The AKS estimates are published and represent a binding input for the budget process on the federal level. In this respect, the public as well as the parliament are given the necessary means to control the budget process (e.g., von Hagen and Harden, 1994). On the state level, however, governments are merely presented an unpublished and unbinding projection. They are free to adjust these projections according to their own information or beliefs (e.g., Bundesministerium der Finanzen, 2003). This lack of transparency gives state government the possibility to manipulate the expected sum of tax revenues used in the budget process according to their own preferences (e.g., Alesina and Perotti, 1996). This in turn raises the question whether state governments in Germany will make use of this possibility and if so, what are the results of these manipulations.

The current paper provides first empirical evidence on this question. Section 2 starts by outlining the degree of fiscal autonomy and the central role of tax projections in the budgetary process in German states. Next, it briefly sketches the procedure of tax projection in Germany. The illustrations will show that the state government has considerable influence on the tax projection used in the budget process. Based on literature on the political economy of public expenditures and debts, section 3 argues that state governments can be expected to overestimate tax revenues in election as well as non-election years. A higher degree of overestimation is expected when re-election is uncertain. These hypotheses are tested in section 4, using panel data from 10 West German states between 1992 and 2002. The results are discussed in section 5.

2. Institutional Background

2.1 Fiscal autonomy of German states

In Germany, each state has its own parliament and government elected every four or five years. A number of important tasks are decided upon and carried out on the level of the individual state. This includes material infrastructure like local and regional roads, and institutional infrastructure like public education, theatres and large parts of the juridical system and police. The states furthermore grant subsidies for numerous purposes, such as environmental protection, cultural issues etc. In sum, German states provide a large part of those public goods and services which are directly observed and felt by the state citizens in their every-day life.

Though the constitution defines minimum requirements for a number of the states' tasks, the individual state government has some autonomy to set different emphases within the range of these tasks.

At the same time, the individual states only have a very limited autonomy when it comes to collecting revenues. Next to the revenues from a number of fiscally minor taxes, they receive a fixed share of the overall income and turnover tax raised in their territory. Until 1996, the states furthermore collected the revenue from a property tax. However, both tax base and rate were not determined by the individual state but fixed nationwide. The individual state does not have the opportunity to change the tax base or rate of any significant tax. It can merely indirectly increase tax revenues by spurring the regional economy. However, these measures only affect revenues in the medium term perspective. In addition, the German states are part of a system of fiscal equalization which largely equalizes the differences in tax revenues among them. In the late 1990s, one additional Deutsche Mark of tax revenues collected within the borders of a state increased the same state's budget by less than 10 Pfennig (Scherf, 2000: 84-87). Consequently, even the indirect way by which a state government can influence tax revenues is very restricted. Other than taxes, public charges serve as the only other regular source of public funds, apart from debts. The freedom of disposition is low for both types of revenue. In sum, the individual state government faces a sum of revenues which, at least in the short-term perspective, is largely fixed exogenously.

2.2 Tax Projections in the German states

The AKS consists of independent workgroups from seven leading research institutes, the German Council of Economic Experts (Sachverständigenrat), the Federal Bureau of Statistics, the Bundesbank and experts from the ministries of finance on the federal and state level. Within the AKS, each workgroup carries out its own, independent projection for all taxes separately. When developing the economic scenario for their projections, they are, however, obliged to use a number of informational inputs delivered by the federal government. First, these inputs concern the overall expected economic development, expressed in key figures like the expected growth rate, the rate of unemployment etc. All projections have to be based on this input (e.g., Gebhardt, 2001). Second, the members of AKS are provided with binding estimates for the expected impact of the latest changes in tax legislation. Based on the different workgroups' projections, the AKS works out and publishes an official projection which has to be passed in a consensus among the scientific units and governmental experts. The official result states the expected tax revenues by type of tax and level of government (e.g., Gebhardt, 2001; Bundesministerium der Finanzen, 2003).

The AKS meets twice a year. In spring of each year, it publishes tax projections for the following five years as well as a revised estimate for the current year. In fall, the AKS provides projections for the current and the following year. The federal government is obliged to use the latest AKS projections in its budget process (e.g., von der Lippe, 1998). Based on the AKS results for all states, a sub-committee called "Unterausschuss Regionalisierung" and chaired by the ministry of finance of the state Baden-Württemberg calculates the tax revenues that the

individual states can expect. The state governments are informed about these so-called "regionalized tax projections". The "regionalized tax projections" are not binding for the states in their own budgetary planning process, but merely serve as a point of reference. Each state government can adjust the projections if it considers them inappropriate. Neither the public nor the members of state parliament have access to the results of the "regionalized projection" (e.g., Bundesministerium der Finanzen, 2003). Thus they have no possibility to judge whether adjustments are made and if so, whether they are grounded on convincing arguments.

3. Incentives for manipulating tax projections – a public choice approach

The previous section illustrated two fundamental facts about the situation of state governments in Germany. First, the individual state government has no possibility to change the tax burden of the citizens within its territory. With respect to the budget, its freedom of movement is primarily restricted to the expenditures' side. Second, the state government has the possibility to manipulate tax projections. The question to be addressed now is whether they make use of this possibility and if so, what the emerging pattern of manipulations is.

To the knowledge of the authors, the literature does not contain a public choice approach which explicitly deals with tax projections. On the other hand, there is a rich body of literature on the political economy of public expenditures (for instance van Dalen and Swank, 1996; Galli and Rossi, 2002) and of public debts (for instance Persson and Svensson, 1989; Roubini and Sachs, 1989; Tabellini and Alesina, 1990; Pettersson-Lidblom, 2001). This literature is relevant for a public choice approach to tax projections because overestimated tax projections are a substitute for explicit deficits. A government which reports overestimated tax revenues in its budget can include higher expenditures without openly having to increase public debt. Alternatively, it can reduce explicit deficits without cutting expenditures. Following the literature, this possibility can be valuable for an incumbent party in two ways. First, it can use overestimated tax projections to increase its chance of being re-elected. Second, if re-election seems uncertain or even unlikely, it can bring forward future expenditures which are favourable to its constituents or impose budgetary restrictions on future governments. These possibilities will be discussed in section 3.1 and 3.2 consecutively.

3.1 Tax projections and the struggle for re-election

The following passages argue that manipulated tax projections can help the incumbent party in its struggle for re-election. The course of argumentation proceeds in three steps. First, it is argued that the state government can increase its chance of being re-elected by stating higher expenditures in the election years. Second, biased tax projections are a suitable means to allow the state government to increase expenditures. And third, it does not have to fear legal punishment or a durable decline in popularity if its tax projections turn out not to be tenable.

Coming to the first step, the relationship between government expenditures and the probability for the incumbent party to become re-elected has to be analysed. In modern democracies, the electoral success of a party depends to a considerable extent on the support of interest groups (e.g., Potters and Sloof, 1996). Many interest groups press the government for additional ex-

penditures in their field of interest. On a state level, environmental groups demand more natural reservoirs, cultural groups may press for more subsidies for theatres and business groups will demand improved infrastructure. As the German states employ a large number of civil servants, labor unions can exert pressure on the state government to raise wages and/or improve working conditions. The higher the expenditures an interest group expects from the government, the higher will be the support that the corresponding party receives in the election race (e.g., Grossman and Helpman, 1996).

In addition to responding to political pressure by interest groups, the state government can try to increase its popularity by addressing different groups of voters directly. In this respect, state expenditures that improve the quality of living in the voters' living areas can be expected to increase the state government's popularity (e.g., Bischoff, 2005). Belt ways as well as additional police and teachers are typical examples of state expenditures that prove popular among many voters. The large number of civil servants represents an important group of voters (e.g., Frey and Pommerehne, 1982). By increasing their wages and/or improving their working conditions, the incumbent party can increase its popularity within this group of voters directly. On the other hand, cuts in expenditures are very unpopular among voters and interest groups, especially if they do not go along with a reduction in tax burden. As the parties on the state level cannot offer the latter, any reduction in expenditures will lead to uncompensated utility losses among the former beneficiaries. At the same time, the government cannot expect an increase in popularity among other voters who would benefit from the reduced tax burden. Therefore, cuts in expenditures can be expected to reduce the popularity of a state government.

The next question to be addressed is to what extent a manipulation of tax projections can help the state government to launch favourable expenditure programmes. For this purpose, it is necessary to look at the timing of tax projections, budget process, government spending and elections. Let t be the election year. The budget for period t is planned in t-1 and thus based on the tax projections made in t-1. By overestimating the tax revenues for t, the state government can promise higher expenditures in the election year t without having to plan for a higher deficit. Thereby, the state government can first circumvent constitutional restrictions on deficits. Second, the incumbent can justify higher expenditures without expelling those voters who are concerned about the sustainability of its policy. In times when the electorate has become increasingly aware of the growing public debts (e.g., Mueller, 2003: 466-469), this way of avoiding explicit deficits becomes increasingly important. As an important side-effect, the overestimated sum of tax revenues can by itself increase the popularity of the incumbents party because it indicates that the state government has been successful in fostering economic progress within the state's borders, e.g. by attracting new firms. Thus, in the phase of budgetary planning and parliamentary discussion in t-1, an overestimated tax projection will –

other things equal – improve the state government's popularity compared to a situation with a realistic projection.[1]

In the beginning of the election year t, the government can start to put through the overestimated budget. This will have a positive influence on its probability of being re-elected. In May of the year t, the new tax projections are published for the federal level and all states in total. As the regionalized estimates are not published, the bias in the tax projections from t-1 does not become obvious immediately. Consequently, this date does not affect the government popularity in a negative way. In most cases, the bias can be expected to be revealed no earlier than in the end of t or the beginning of t+1, i.e. after the elections are held. In t+1 or even later, the budgetary policy is subject to an ex post revision by the state auditing institution ("Landesrechnungshof"). Its legal power as well as its influence on public opinion is, however, very limited (e.g., Korthals, 2002). In sum, the incumbent party must not fear any negative consequences from publishing an upward biased tax projection for the election year. Thus, it can be expected to do so.

For non-election years overestimated tax projections cannot be expected because they do not serve the government's purpose. Especially if voters are myopic, the gains in popularity in these years will not help the government in the election year (e.g., Nannenstad and Paldam, 1994; van Dalen and Swank, 1996; Galli and Rossi, 2002). In addition, they reduce the government's freedom of movement with respect to the budget in the election year.

3.2 Tax projections in the face of defeat

The above passage assumed that the incumbent sees a fair chance of re-election and manipulates tax projections to increase this chance. The literature on the strategic use of deficits suggests that similar manipulations can be expected even if re-election is unlikely. Tabellini and Alesina (1990) argue that the median voter of the preceding election cannot be sure that he will be decisive in the next election. Therefore he cannot be sure that the bundle of public goods and services in the next term fits his preferences to the same extent the current bundle does. Consequently, he may prefer to bring forward certain crucial expenditures planned for the future while he still has influence on public expenditures. In order to finance these extra expenditures in the current term, the median voter may prefer public deficits even if in general, he favors balanced budgets. The incentive to run deficits is higher the smaller the probability that the current median voter is decisive again and the more polarized the distribution of preferences among voters is. In the context of this paper, this course of argumentation can be translated as follows: The incumbent party can serve its own constituents – represented by the

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[1] For central governments, the positive effects of high expenditures on the incumbent's popularity are argued to result from their impact on employment and output (e.g., Hibbs, 1977; Persson and Tabellini, 1997) or positive effects of signalling competence (e.g., Rogoff, 1990). German state governments cannot count on similar effects of notable size. Instead, the rise in popularity has to result from the direct positive effects of an increased supply in public goods and services respectively higher subsidies.

median voter of the preceding election – by bringing forward expenditures originally planned for future terms. By overstating expected tax revenues, they are given the opportunity to serve their constituents without violating constitutional restrictions on deficits or further reducing their chance of election through higher deficits (see section 3.1).

Persson and Svensson (1989) provide another argument why incumbents should overstate tax projections if re-election is unlikely. It applied to what they call "stubborn conservative governments" which want to prevent their left-wing successor from increasing public expenditures in fields which the conservatives consider unnecessary or even harmful. Persson and Svensson argue that the stubborn conservative government can do so by running high deficits while still in office. This will increase the future burden of interest payments and thereby reduce the successors' possibilities to increase expenditures (see also Pettersson-Lidbom, 2001; Sutter, 2003). Given constitutional restrictions on deficits and the fact that German state governments cannot lower taxes, manipulated tax projections seem an appropriate means to this end.

Just like the arguments put forth in section 3.1, the considerations in this section suggest that incumbents will overestimate tax projections in election years. The incentives to overestimate are higher the lower the incumbents popularity among the electorate and thus its chance of re-election. With respect to non-election years, this section leads to a different conclusion than section 3.1 does. As the median voter can never be sure to be decisive in the next election, the incentive to bring forward expenditures is existent in all years of government. Given the constitutional restrictions on deficits, the overestimation of tax projections seems an appropriate means to this end. On the other hand, overestimated tax projections in non-election years may have a negative influence on the incumbent's chance to be re-elected because voters can observe the manipulations before the election is held. Therefore, the incentives to overstate tax projections are lower for non-election years than they are for election years. Nevertheless, they may remain positive, especially if the incumbent is currently unpopular.

3.3 Rationality of voters

Many public choice approaches to public expenditures and deficits implicitly or explicitly assumed myopic and non-rational voters who suffered from fiscal illusion (e.g., Hibbs, 1977; Nannenstad and Paldam, 1994). Other models are based on a different conviction. Among others, Rogoff (1990) points out that it is not self-evident that voters should be naïve enough to be fooled by the same trick again and again. Instead, voters will learn to anticipate the incumbents' behavior. In this case, an increase in public expenditures and deficits in pre-election years will no longer help regional governments to attract additional votes.[2] In the context of this paper, however, the question whether voters are rational or not is of minor importance. To

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[2]
    Rogoff (1990) argues that deficits can serve as signals for the incumbent's competence and thereby still exert some influence on voters' behavior even if they are rational. His course of argumentation does, however, apply to national governments whose budgetary behavior influences overall output, unemployment and inflation. In the context of this paper, this argument is of minor importance and thus not followed further.

illustrate this, let us first turn to the course of argumentation which sees overestimated tax projections as an instrument to increase the chance of re-election (see section 3.1). If votes are myopic and non-rational, manipulated tax projections can help the incumbent to increase state expenditures and thereby attract additional votes. If, on the other hand, voters are rational, they will expect tax revenues to be overstated regardless of whether the actual projections are really overstated or not. In the given institutional framework, there is no way in which the government can convince them that its projections are not biased. Thus, when trying to estimate the true tax revenues, rational voters will correct the official figures downwards. If rational voters use these corrected tax projection as a measure of the incumbent's competence, the incumbent will reduce his chance of re-election if he publishes unbiased tax projections, because voters will correct them in the same way they would correct biased estimates. Thus, regardless of the degree of voters' rationality, the incentives for the incumbent to overstate tax projections for the election year remain. In non-election years, overestimated tax projections do not help the incumbent to increase its chance of winning if voters are non-rational and myopic. On the contrary, they may even be harmful (see section 3.1). If voters are rational and forward-looking, they do not account for expenditures in previous years when making their voting decision. Thus, the government cannot increase its chance of re-election by overestimating tax projections for non-election years either. The arguments put forth in section 3.2 work for both rational and non-rational voters because the intention to overestimate taxes is not to influence voters but to bring forward expenditures to serve the median voter of the preceding election. In sum, the conclusions drawn in sections 3.1 and 3.2 do not differ fundamentally regardless of whether voters are assumed to be rational or not.

Together with the institutional framework laid out in section 2 the considerations put forth in this section lead to the following hypotheses: State governments can be expected to overestimate tax revenues for the election year. In non-election years, the incentives to overestimate are smaller but may still remain positive. Thus no clear prediction can be made concerning the bias of tax projections in non-election years.

4. Empirical results

4.1 Variables

The hypotheses stated above are tested using data on the tax projections of all 10 West German states from 1992 to 2002.[3] Due to a number of features, this data set is highly suitable for this purpose. First, it is not necessary to account for differences in the political institutions and processes among the German states, as these are largely identical (e.g., Galli and Rossi, 2002). Second, the same tax legislation and thus the same change in tax legislation apply to all states. Finally, all states base their own tax projections on the same nationwide projection

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[3]   Berlin is excluded due to its special status. The starting point of the data set is chosen because the 1992 budget was the first budget which was based on tax projections made after the German unification.

made by the AKS. To capture the degree of over- respectively underestimation, the ratio of projected and actual tax revenues of state s in year t (RPA_{st}) is used as dependent variable. A value of $RPA_{st} > 1$ points at an upward bias, $RPA_{st} < 1$ at a downward bias in tax projections. The values for RPA_{st} ranged from 0.917 to 1.161. Of 110 tax projections included in the data set, 73 report an an $RPA_{st} > 1$ while in the remaining 37 cases, $RPA_{st} < 1$ (see figure 1). All states reach average values of RPA_{st} above 1 and the overall average across all states and years takes on a value of 1.027, with 1.037 for election years and 1.025 for non-election years. This result gives a first hint at a general upward bias in the tax projections of West German states.

Figure 1: Histogram of RPA_{st} and RPA_{AKSt}
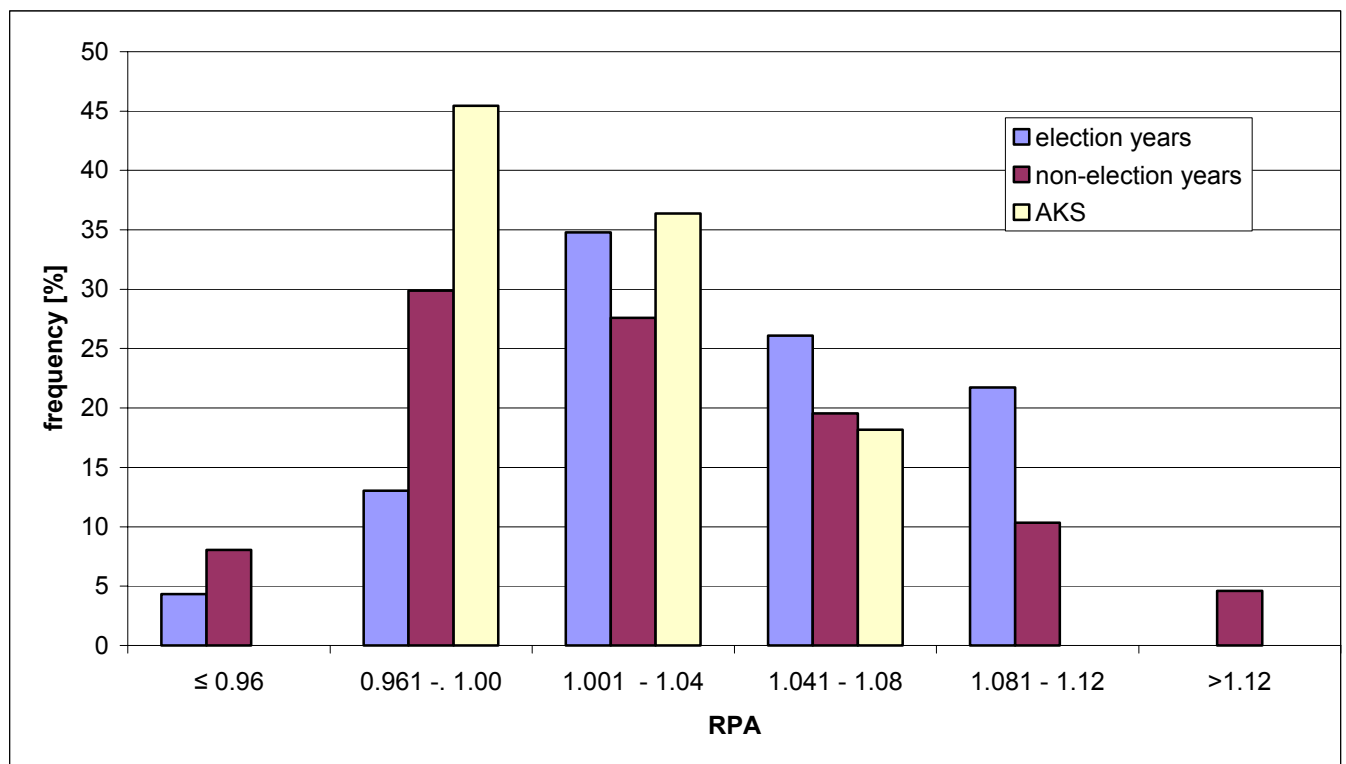
The AKS delivers estimates for the sum of state taxes across all states for each year. The corresponding ratio of projected and actual tax revenues in year t RPA_{AKSt} is the first explanatory variable (RPA_AKS).[4] The AKS estimates are underestimated in five years and overestimated in six of the eleven years between 1992 and 2002 (see figure 1). The average RPA_{AKSt} is only

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[4]
    Below, the estimates produced in fall of the previous year are used. In all relevant years, these were published before the state parliaments passed their official budget from which the projected taxes of the states were taken.

1.0139 with a minimum of 0.975 and a maximum of 1.057. Figure 2 traces the RPA_{AKSt} as well as the minimum, maximum and median RPA_{st} for each year between 1992 and 2002. The latter variables show fluctuations which are highly synchronous to the fluctuations in RPA_{AKSt}. This indicates that the AKS-estimates serve as the starting point for tax projections on the state level. The median RPA_{st} exceeds the RPA_{AKSt} in six out of eleven years but the distance between the two is generally larger for these six years than it is for those five years when the median state underestimated tax revenues. In addition, the difference between the maximum RPA_{st} and RPA_{AKSt} is substantially larger than the difference between the minimum RPA_{st} and RPA_{AKSt} (with exception of 1992). In sum, the comparison of the tax projections published by AKS and the tax projections published by the individual states further nourishes the notion of a general upward bias in tax projections on the state level.

Figure 2: RPA_{st} and RPA_{AKSt} 1992 - 2002
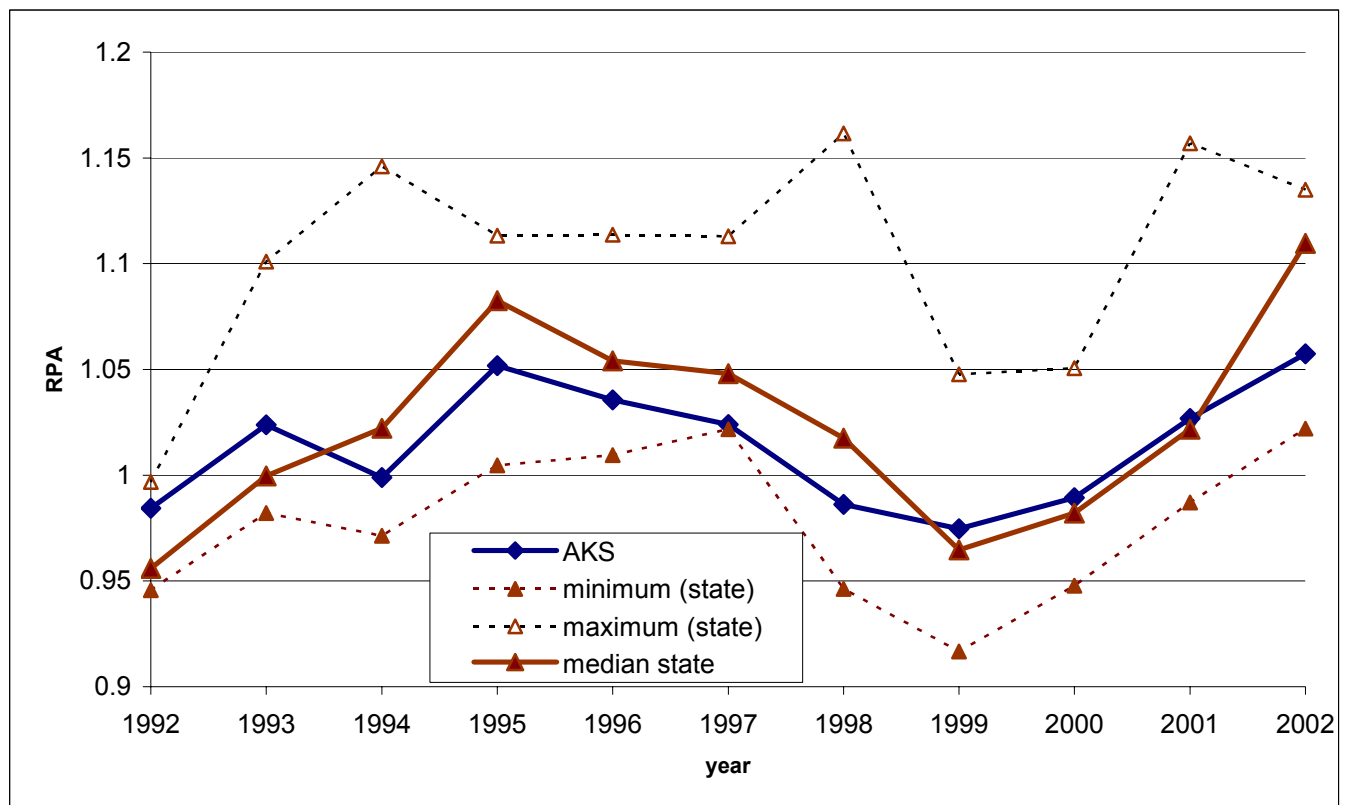
As postulated in section 3, the state government can be expected to overstate the projected tax revenues especially for the election year. An election year dummy (ELECTYR) is introduced to capture this effect and is expected to produce a positive coefficient. In the relevant period of observation, the state governments were either dominated by the Social Democratic Party (SPD) or the Christian Democrats (CDU; CSU in Bavaria). In order to account for the

impact of stubborn conservative governments and possible other partisan effects (e.g., Hibbs, 1977; Volkering and de Haan, 2001), a rightwing-dummy (CDU) is included. The fact that the Bavarian government is run by a purely regional party which is associated with the CDU on the federal level but pursues its own policies on the regional level led the authors to include a special dummy for this state (BAVARIA).

In those cases when SPD or CDU/CSU did not form a single-party government, they were the dominant partner in a coalition government with a smaller party (e.g. Liberal Democrats (FDP) or the Green Party). Coalitions between the two large parties are exceptions. The theoretical literature suggests that coalition governments make higher expenditures because they have more interest groups and groups of voters to satisfy (e.g., Roubini and Sachs, 1989; Volkering and de Haan, 2001) than single-party governments. Thus, coalition governments can be expected to make use of the possibility to overstate tax revenues more heavily. The regression approach below accounts for the impact of coalition governments by introducing a dummy (COAL). An FDP-dummy is included to account for possible impacts of the different small coalition partners.

Virtually all theoretical approaches introduced in section 3 suggest that the willingness to present an overestimated projection for the election year is higher the less popular the state government is. In addition, section 3.2 suggests that incumbents may overstate projected tax revenues even in non-election years if its popularity is low. Unfortunately, there are no regular opinion polls on the state level to capture the popularity of state governments. On the other hand, there is detailed information on the popularity of parties on the federal level. As the state government's probability of getting re-elected strongly depends on the popularity of the party on the federal level, the corresponding popularity figure will hereafter serve as an explanatory variable. More specifically, the "Skalometer"-scores of the two large parties are used. Therein, a representative sample of voters is asked to assign grades between +5 and -5 to the SPD and CDU. For each state government, the average grade scored by the incumbent party on the federal level is used as a proxy for its popularity (SKALGOV).[5] The higher this score, the more likely a government is to become re-elected and thus the smaller the incentives for manipulating tax projections. To capture the special importance of SKALGOV in election years, the regressions below will introduce the product of SKALGOV and ELECTYR as an independent variable. A negative coefficient is expected. The product of SKALGOV and CDU is introduced to capture the role of "stubborn conservative governments". Again, a negative sign is expected.

Hamburg and Bremen are so-called "Stadtstaaten", i.e. states with only one municipality. Their governments have to fulfil both state and municipal tasks simultaneously. The tax projections

[5]   In the case of coalition governments, the grade of the larger party is used. For grand coalitions between SPD and CDU, the average grade of the two large parties is used.

are more complex because they have to incorporate local as well as regional taxes. A special dummy (CITY) is introduced to control for the special status of Hamburg and Bremen. Some states pass what is called a "Doppelhaushalt", i.e. a state budget which is fixed for two rather than only one year. In this case, the tax projections for the second year are not made one but two years in advance. Other than the projections for the next year, the tax projections by the AKS for two years ahead are regularly upward biased because they are based on a deliberately optimistic development scenario (e.g., Schulze-Steikow, 1996 in connection to Auerbach, 1996). If the state government does not correct this bias, it will present an upward biased tax projection for the second year of the "Doppelhaushalt". A special dummy is introduced to account for this fact (DOPPELHH). It takes on the value 1 for the second year of a "Doppelhaushalt" and zero in all other cases.

Table 1 contains the correlation matrix for the variables described above. Except for the compound variable SKALGOV x ELECTYR, the correlation coefficients of explanatory variables and the dependent variable show the expected signs. The strong direct correlation between RPA_{st} and RPA_{AKSt} (0.607) stresses the importance of AKS-inputs for the states' tax projections, while the coefficients for CDU and ELECTYR point at a weak influence on the dependent variable. The compound variables (SKALGOV x ELECTYR and SKALGOV x CDU) are highly correlated with their dummy components. Apart from that, the correlation among explanatory variables is moderate.

Table 1: Matrix of correlation

	RPA$_{st}$	RPA_AKS	SKALGOV	ELEC-TYR	SKALGOV x ELEC-TYR	DOP-PELHH	COAL	CDU	FDP	BAY	CITY	SKALGOV x CDU
RPA$_{st}$	1.000	0.607	-0.226	0.101	0.076	0.118	0.079	-0.104	-0.039	-0.133	0.204	-0.166
RPA_AKS	0.607	1.000	-0.107	-0.073	-0.036	-0.048	-0.009	0.042	0.043	0.000	0.000	-0.025
SKALGOV	-0.226	-0.107	1.000	0.005	0.261	-0.249	0.041	-0.617	-0.090	-0.395	0.071	-0.169
ELECTYR	0.101	-0.073	0.005	1.000	0.862	0.148	-0.056	-0.065	-0.065	-0.022	0.022	-0.165
SKALGOV x ELECTYR	0.076	-0.036	0.261	0.862	1.000	-0.031	-0.024	-0.221	-0.066	-0.168	0.068	-0.130
DOPPELHH	0.118	-0.048	-0.249	0.148	-0.031	1.000	-0.094	0.233	0.123	0.301	-0.069	0.159
COAL	0.079	-0.009	0.041	-0.056	-0.024	-0.094	1.000	-0.244	0.426	-0.424	0.299	-0.187
CDU	-0.104	0.042	-0.617	-0.065	-0.221	0.233	-0.244	1.000	0.224	0.615	-0.217	0.721
FDP	-0.039	0.043	-0.090	-0.065	-0.066	0.123	0.426	0.224	1.000	-0.181	0.000	0.148
BAY	-0.133	0.000	-0.395	-0.022	-0.168	0.301	-0.424	0.615	-0.181	1.000	-0.167	0.416
CITY	0.204	0.000	0.071	0.022	0.068	-0.069	0.299	-0.217	0.000	-0.167	1.000	-0.157
SKALGOV x CDU	-0.166	-0.025	-0.169	-0.165	-0.130	0.159	-0.187	0.721	0.148	0.416	-0.157	1.000

4.2 Regression results

A linear balanced panel regression approach is chosen to explain the RPA_{st} across West German 10 states in the years 1992 to 2002. The results are reported in table 2. The variables COAL and FDP are omitted after proving insignificant in all tested set-ups. In all regressions, acceptable coefficients of determination, highly significant F-statistics and clearly insignificant values of Ramsey's RESET2 test indicate that the linear approach is adequate. The residuals appear to be normally distributed by Anderson-Darling (AD) test and far off from being serially correlated (see Durbin-Watson-statistics). The Chow tests (Chow Prob) point at individual effects and the results of Hausman's test (H Prob) clearly supports the random-effect model chosen here.

As suggested in the preliminary analyses in section 4.1, RPA_{AKS} is highly significant in each model. SKALGOV proves significant and produces the expected negative sign in all models. The ELECTYR-dummy has the expected positive sign but fails to be significant. The coefficients for the compound variable SKALGOV x ELECTYR have the wrong sign but remains insignificant. Both partisan variables CDU and SKALGOV x CDU are not significant. The BAVARIA-dummy shows the expected negative sign but fails to be significant in the majority of models. Finally, CITY and DOPPELHH on the other hand exert a significantly positive influence on the states' tax projections in all models.

Table 2: Regression results

Regression No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CONSTANT	-0.0780	-0.0711	-0.0719	-0.0902	-0.0649	-0.0649	-0.0724	-0.0704
	(-0.546)	(-0.505)	(-0.505)	(-0.626)	(-0.444)	(-0.461)	(-0.506)	(-0.499)
RPA_AKS	1.1078***	1.1011***	1.1005***	1.1032***	1.0841***	1.1096***	1.1052***	1.1010***
	(8.060)	(8.120)	(8.030)	(7.940)	(7.674)	(8.178)	(8.011)	(8.090)
SKALGOV	-0.0345**	-0.0361***	-0.0322**	-0.0302**	-0.0315**	-0.0413***	-0.0337**	-0.0349**
	(-3.126)	(-3.564)	(-3.224)	(-2.997)	(-3.074)	(-3.592)	(-3.086)	(-3.365)
ELECTYR	0.0074					0.0047	0.0040	
	(0.347)					(0.223)	(0.179)	
SKALGOV x ELECTYR	0.0082	0.0141				0.0090	0.0103	0.0136
	(0.432)	(1.738)				(0.482)	(0.534)	(1.663)
BAVARIA	-0.0934	-0.1028	-0.1053			-0.0583	-0.0728*	-0.0929
	(-1.984)	(-1.923)	(-1.929)			(-1.649)	(-2.020)	(-1.869)
CITY	0.0901*	0.1029*	0.1047*	0.1214**	0.1219**	0.0623*	0.0662*	0.0937*
	(2.582)	(2.590)	(2.579)	(2.893)	(2.804)	(2.483)	(2.552)	(2.566)
DOPPELHH	0.0233*	0.0242*	0.0255*	0.0240*		0.0234*	0.0240*	0.0243*
	(2.059)	(2.220)	(2.327)	(2.165)		(2.116)	(2.125)	(2.228)
CDU						-0.0256		
						(-1.793)		
SKALGOV x CDU							-0.0086	-0.0085
							(-0.506)	(-0.513)
$\overline{R^2}$	0.4353	0.4401	0.4282	0.4122	0.3900	0.4495	0.4318	0.4360
F value	12.77***	14.68***	16.27***	18.28***	20.89***	12.02***	11.33***	12.79***
RESET2	0.41	0.42	0.29	0.17	0.03	3.16	0.68	0.62
|C|	0.1565	0.8782	0.9307	0.9749	0.9816	0.1158	0.1326	0.8190
Cond No	8.2189	7.7867	7.0144	5.20079	5.2536	6.7348	6.7716	7.3977
AD	0.387	0.315	0.292	0.384	0.567	0.229	0.336	0.289
DW	2.044	2.034	2.053	2.154	2.137	1.751	2.042	2.041
Chow Prob	0.0087	0.0085	0.0130	0.0004	0.0014	0.0265	0.0149	0.0145
H Prob	0.9962	0.9949	0.9765	0.9717	0.9317	0.9858	0.9936	0.9983

5. Discussion

The previous section 4 provides an empirical test of a public choice approach to the accuracy of tax projection in German states between 1992 and 2002. The theoretical considerations in section 3 lead to two major hypotheses. The first hypothesis states that state governments will present an upward biased estimate for the election year in order to increase state expenditures and thereby improve their chance of re-election. According to the second hypothesis, the overestimation is not restricted to election years but can be expected throughout the entire government term. It is not driven by the desire to improve the chances of re-election. Instead the uncertainty of re-election leads state governments to bring forward crucial expenditures. As a consequence, they will run systematic deficits regardless of the proximity of elections.

The empirical results in section 4 first suggest that state governments take the AKS-estimates as a starting point for their own projections. If the AKS overestimates (underestimates) overall tax revenues, the individual states are more likely to overestimate (underestimate) their own tax revenues. With respect to the two hypotheses, the empirical results give no support to the first hypothesis. Neither the election year dummy nor the product of SKALGOV x ELECTYR proved to have any influence. At the same time, the empirical results are largely in line with the second hypothesis. The general tendency to overestimate tax projections revealed by the descriptive empirics in section 4.1 provides the first piece of evidence in this respect. Second, the positive estimate for "DOPPELHH" indicates that state governments who have to pass a two-year budget were content to receive overestimated tax projections from the AKS and saw no need to correct them. The most striking support is, however, provided by the negative and highly significant relationship between the incumbent party's popularity (SKALGOV) and the RPA which does not depend on the proximity of elections but applies to the full term. It clearly shows the upward bias in tax projections is higher the lower the incumbent party's popularity. The lower its popularity, the more important it is to bring forward important expenditures originally scheduled for future terms. To this end, overestimated tax projections are an adequate measure because they help to circumvent constitutional restrictions of public deficits. The poor performance of COAL, FDP and CDU-dummies suggest that this behavior applies to left- and right-wing parties alike, regardless of whether they are leading a coalition or running a single-party government. The special impact of stubborn conservative governments suggested by Persson and Svensson (1989) is not supported by the current evidence.

Though weak in its significance, the performance of the BAVARIA dummy supports the second hypothesis and rejects the impact of stubborn conservative government. Bavaria is the only German state which has been run by the same single-party government over the last 40 years. All other states have witnessed one or more changes in government. In addition, the majorities of the incumbent party are, on average, much more comfortable than those of other governments. Thus, Bavarian governments have much less need to overestimate tax projections regardless of which motivation may drive them. The exceptionally high popularity of the

CSU in Bavaria cannot be captured by the SKALGOV, because the latter represents the popularity of the CDU, the large "sister-party" of the Bavarian CSU.

6. Conclusion

This paper provides an empirical analysis of tax projections in West German states. An outline of the institutional background under which German state governments make their tax projections shows two features: First, state governments have virtually no influence on their actual tax revenues. Thus, expenditures are the only variable part of the regular state budget. Second, state governments have considerable influence on the projected sum of taxes used in the budget process. While there is no literature on the political economy of tax projections, the existing public choice literature on public expenditures and debts can be reinterpreted. The reinterpretation leads to a number of hypotheses which were tested using panel data for 10 West German states between 1992 and 2002. The results of this empirical analysis give strong support to the public choice approach to tax projections. They suggest that the tax projections published by state governments have a general upward bias. While neither elections nor partisanship affects the degree of overestimation, the incumbent's popularity is found to have a strong influence. The less popular the incumbent's party is and thus the less likely it is to become re-elected, the higher the degree of overestimation in tax revenues. This result supports the notion according to which the uncertainty of re-election leads governments to accept deficits in order to bring forward expenditures originally planned for future terms. The particular charm of manipulating tax projections for this purpose lies in the fact that – unlike open deficits – they are invisible ex ante. Thus, constitutional restrictions on public deficits do not apply to them. In addition, they are likely to be less harmful to the incumbent's perceived valence and thus popularity.

The empirical results discussed above prove that neither the parliament, nor the public, nor the state auditing institutions are able to effectively prevent the state government from manipulating tax projections. As the public and parliamentary debate on the budget process is based on unreliable inputs in the essential field of tax projections, the public and parliamentary control over the state budget is reduced significantly and constitutional restrictions on public deficits are weakened. In order to strengthen the position of public and parliament in the budget process and reinstall effective constitutional constraints, the transparency of the budget process has to be increased (e.g., Alesina and Perotti, 1996). For this purpose, it is necessary to publish the regionalized tax projections calculated by the "Unterausschuss Regionalisierung" of the AKS. As this committee is controlled by the state governments rather than independent officials, it is furthermore advisable to publish the share-out key by which the sum of state tax revenues estimated by the AKS is divided among states. Given this information, the public and especially the members of parliament can compare the AKS estimates and the projection made by the state government. The state government is forced to publicly justify any deviation, especially an increase with respect to the AKS estimates. Next to improving the democratic control of state governments, this reform will also increase the effectiveness of the ex post control by the state auditing institutions. In the current times of severe budgetary shortage,

high unemployment and fierce distributional struggles, the incentives to manipulate tax projections are stronger and thus the institutional reforms suggested above become even more important (e.g., von Hagen and Harden, 1994; Alesina and Perotti, 1996; Neck and Getzner, 2001). Unlike many other reforms which are currently discussed in Germany, the suggested changes are very easy to implement, in particular because they do not cause additional costs for the public.

Acknowledgements

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