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Will the German Debt Brake Succeed? Survey Evidence from State Politicians

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Abstract: This paper analyzes expectations of state politicians in Germany about the debt brake (*Schuldenbremse*), which became part of the German constitution in 2009. The fiscal rule requires the federal government and the German states to run a (cyclically adjusted) budget deficit of no more than 0.35% of GDP starting in 2016 and zero percent starting in 2020, respectively. We use unique survey data from more than 630 politicians at the state level to systematically study the subjective beliefs in the compliance and desirability of the debt brake. We find that i) state politicians who belong to the coalition parties of the current federal (state) government coalition believe more strongly in federal (state) compliance, ii) worse state fiscal conditions and stronger beliefs in lack of credible enforcement of the debt brake lower the perceived likelihood of compliance, iii) for only four states the majority of all state politicians believe in compliance, iv) out of state politicians are much more pessimistic than in state politicians. A theoretical model shows that the last result is consistent with overconfidence of in state politicians, and not with noisy information by out of state politicians.

JEL Classification Code: H6, H7

Keywords: Budget Deficits, Debt Brake, Credibility, Survey, Fiscal Rules

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1. Introduction

Balanced budget requirements and other institutional constraints on fiscal policy are used in Switzerland and the US states, among others, to limit deficits and debts. In the current Euro crisis limits on fiscal policy have become an important part of the European reform agenda. The Fiscal Compact, accepted by all EU countries (except for the UK and Czech Republic) in 2012, stipulates that countries must introduce national debt brakes which require governments to run structurally deficits of no more than 0.5% of GDP, and lower debt levels systematically when exceeding 60% of GDP (European Council, 2011). High and often rising debt or deficit levels in other countries such as Japan, USA and the UK have lead to calls for restraints on fiscal policy as well, even though implementation may be delayed due to the weak state of the current economies (for a survey of current fiscal rules see IMF, 2012).

Constitutional and legal limits on fiscal policy may or may not work (see Kirchgässner, 2002, and Voigt and Blume, 2011). The effectiveness is reduced when rules are not fully credible. This is particularly important in a federal context where governments at the same or higher level may come to the rescue. The success of the Swiss debt brake is often explained by the strict adherence to the no bailout clause, which forces Swiss cantons to behave fiscally conservative (Feld and Kirchgässner, 2008). In some situations fiscal policy rules are credible but may have unintended consequences by aggravating a crisis when the economy is in a recession. Fiscal rules therefore target increasingly the right balance between strictness and laxity.

The present paper analyzes the likely success of a particular fiscal rule, the German debt brake (*Schuldenbremse*), which became part of the German constitution in 2009 and requires the federal government to run a (cyclically adjusted) budget deficit of no more than 0.35% of GDP starting in 2016 (see Bundesministerium für Finanzen, 2009 for a detailed description). For German states (Länder) the new rule is tougher and requires them to run a zero (cyclically adjusted) budget deficit starting in 2020. The rule for the federal government is accompanied with a specific plan detailing how the structural deficit shall be reduced between 2011 and 2015 so that the new rule becomes "feasible" in 2016. A similar plan is suggested for the German Länder but the path toward this is not as specific. The longer time horizon and the weaker specification make it less likely that the states will be able and/or willing to comply with it. Some states have al-

ready introduced further constraints on fiscal policy into their state constitution or state budgetary procedures to reach the goal of the debt brake in due time.

Studying Germany's debt brake is interesting for at least two reasons: First, Germany has been a major driver behind the Fiscal Compact, and the provisions of this new treaty are in fact similar in many dimensions to that of Germany's debt brake. It is thus important to find out whether the set of rules is going to work in Germany itself, a country that is fiscally more stable than most of the Southern European countries, where the Fiscal Compact is hoped to work. Second, the delay in the debt brake's effectiveness (2016 and 2020, respectively) makes it harder to predict the success of the new rule. A delay in the introduction of a hard budget constraint may be economically motivated (when an economy is in a recession, see provisions in fiscal compact¹) or may be the result of political opportunism where current governments and voters try to shift the burden to future politicians and citizens (see Buchanan (1994) for a general discussion, and Heinemann (2010) in the context of Germany).

Predicting the success of a fiscal rule that will become effective only in the distant future is likely to be more difficult than predicting the solvency of a government. For the latter (market) expectations are reflected both in the price of government bonds in secondary markets and prices for credit default swaps, as well as bond ratings by credit rating agencies, which together give an approximation for government solvency. Ratings and bond prices, however, do not shed light on the likely compliance with fiscal rules. A government may be solvent but not willing to comply with fiscal rules. Moreover, the credibility of the German debt brake is not clear because arguably there is no large direct economic mechanism that would force all states to comply. The German Stability Council (*Stabilitätsrat*, representing federal finance and economics ministers as well as all state finance ministers) monitors government finances across federal and state levels and supervises fiscal consolidation efforts in currently five states (Berlin, Bremen, Saarland, Sachsen-Anhalt und Schleswig-Holstein), who obtain fiscal transfers until 2019 in the total sum of €800 million annually. These states are required to reduce their 2010 budget deficit in equal steps until 2020 to fulfill the debt brake. The Stability Council has no real power in enforcing this however. The withdrawal of fiscal transfers can be seen as the only threat.

¹ Art. 3(1) of the Fiscal Compact states in this respect: „The contracting parties shall ensure rapid convergence towards their respective medium-term objective. The time frame will be proposed by the European Commission taking into account country-specific sustainability risks.“ And furthermore: „The contracting parties may temporarily deviate from their medium-term objective or the adjustment path towards it only in exceptional circumstances.“

The present paper uses data from a unique survey to answer the likely success of the German debt brake. We approached German state policy makers, who currently set fiscal policy in their states, about their views on the debt brake. We are thus able to provide a direct assessment of the probability of success of the new constitutional rule. Germany consists of 16 states which are subject to the new fiscal rule as described above. The 1861 members of all state parliaments have been contacted between the spring of 2011 and summer of 2012 with a questionnaire relating to the new debt brake, asking in particular for the politicians' views on i) the *likelihood* of *federal* compliance with the debt brake in 2016, ii) the *desirability* of complying with the new rule in its *own state* in 2020, iii) the *likelihood* of the own state of doing so, iv) the *likelihood* of *other states* complying with the new rule, and v) the *likelihood* of sanctions or bailout if a state will violate the new rule in 2020. We obtained answers from 639 members of state parliaments, which represents more than a third of all contacted politicians. The questionnaire is not anonymous and hence individual characteristics (such as education, profession prior to becoming a politician, party membership, etc.) and state characteristics (such as current fiscal position and future need for fiscal consolidation) can be used to systematically study the determinants of likelihood and desirability of compliance.

We establish four main findings: *First*, we find evidence for the importance of party membership in relation to current government party/coalition. State politicians who belong to the coalition parties of the federal government coalition believe more strongly in federal government compliance. Since the current federal government is formed by a center-right coalition, one may suspect that it is the right wing ideology (i.e., belief in the benefit of fiscal rules) that drives the result. We show, however, that state politicians who belong to the party of their own state government (which is sometimes left leaning) believe more strongly in their own state's compliance, too. Our observation could be explained by a false consensus bias, known from psychology and experimental work (see Engelmann and Strobel, 2000), which means that a person overweighs their own decision relative to a random person when forming expectations regarding the decisions of other individuals. *Second*, as expected we verify that worse fiscal conditions and stronger beliefs in lack of credible enforcement of the debt brake lower the perceived likelihood of compliance. The latter clearly suggests that incentives matter.

Through our survey we document the expected likelihood of compliance in the eyes of politicians in the state under consideration and other, out of state politicians.

This cross evaluation provides the basis for our *third* result: For only four out of 16 states a majority of all German state politicians believe that compliance will occur with high probability. The result casts severe doubt on the success of the German debt brake, and perhaps also on the Fiscal Compact at the European level. Related to the third is our *fourth* result. We find a large discrepancy in the assessed probability of compliance between politicians from the own state and politicians from other states, when the average belief in compliance is low. We see two possible explanations for this: difference in information between in and out of state politicians and overconfidence by in state politicians. We use a simple theoretical model to shed light on these rival explanations and find that overconfidence of in state politicians and not noisy information by out of state politicians is consistent with our empirical finding.

The theoretical model is useful also for guiding and explaining the other empirical results. The key feature of the model is the existence of a fiscal rule (i.e., the debt brake) which kicks in only in the future (period 2). A fiscal shock in the near future (period 1) makes compliance with the fiscal rule uncertain when the fiscal rule is not credible. In period 1, politicians trade off the benefits and costs of adhering to the fiscal rule. Compliance is more likely when the initial deficit in period 0 is lower, the government's competence in smoothing the fiscal shock is higher, bailout expectations are lower, the tighter is a fiscal rule at the state level in period 1, and the higher the deficit reduction in period 0.

Our paper is related to various other literatures. A few recent papers analyze theoretically the role of fiscal rules in a political economy framework, such as Azzimonti, Battaglini and Coate (2008). Janeba (2012) considers the role of delay in making a German type debt brake binding when the fiscal rule itself is credible. The incentives of bailouts in federal context are considered by Goodspeed (2002). Kirchgässner (2002) and Voigt and Blume (2011) examine empirically the effects of fiscal constraints on fiscal outcomes. Fink and Stratmann (2010) show that overrepresented states (in the second chamber) in Germany obtain more funds in the fiscal equalization scheme than underrepresented states.

Surveys of politicians have been used in recent research by two of the present authors. Heinemann and Janeba (2011) use a survey of members of Germany's national parliament to study ideological bias in tax policy. Janeba and Osterloh (2012) use a survey of mayors in the German state of Baden-Württemberg to empirically motivate the spatial structure of local tax competition in a theoretical tax competition model. Heine-

mann and Osterloh (forthcoming) survey members of the European Parliament regarding the introduction of a minimum tax for companies in the EU in order to disentangle ideological and national preferences of politicians.

The rest of the paper is organized as follows. Section 2 provides the conceptual framework about how politicians may form beliefs about the desirability and likelihood of compliance with a debt rule. Section 3 describes our original survey and some summary statistics. Our main findings are presented and discussed in section 4. Finally, section 5 concludes.

2. Conceptual Framework

We model the dynamic fiscal decision of an incumbent government to reduce its deficit in order to meet the target of a fiscal rule becoming effective only in the distant future. Political costs of deficit reduction are modelled in a reduced form in order to focus on the likelihood of compliance with the fiscal rule. Lack of government commitment and deficit shocks make compliance non-trivial and uncertain. Specifically, we assume that the economy lasts for three periods, $t = 0, 1, 2$. The main variable of interest is the government deficit d_t . The initial deficit is given by $d_0 > 0$ and is exogenous from the viewpoint of the incumbent government in period 0. The national fiscal rule (i.e., the debt brake) requires the government to run a balanced budget in period 2. If this target is met (that is, $d_2 \leq 0$), the government obtains payoff u_c (c for compliance). Otherwise the government is noncompliant and obtains payoff u_{nc} . We define $u = u_c - u_{nc}$ as the gross gain from compliance.

The government can reduce the deficit in two steps toward the goal by reducing the deficit in periods 0 and 1 by the amounts $r_0 \geq 0$ and $r_1 \geq 0$, respectively. We model deficit reduction in a reduced form without specifying the nature of the fiscal adjustment (i.e., tax increases and/or expenditure cuts). Deficit reduction is costly for the government in the period when it takes place because approval ratings of the government or reelection chances are harmed. We focus on the concurrent cost even though the cost of permanent deficit reduction may spill over to future periods. We thus implicitly assume that voters and politicians care mostly about the *change* of the deficit, rather than its level. The cost function for permanently reducing the deficit is $c(r)$ in the period when the adjustment is made, and has the properties $c' > 0$, $c'' > 0$, $c(0) = 0$, and $c'(0) = 0$.

Strict convexity implies that spreading a given deficit reduction over time is efficient, all else being equal.

The deficit in period 1 is a function of the initial deficit d_0 minus the reduction r_0 undertaken in period 0. The deficit d_1 is stochastic due an unforeseen shock influencing the deficit in period 1. The strength of the effect depends on government competence. The shock is labeled s and is drawn from the uniform distribution with support $[0, S]$, where $S > 0$. The probability density function is thus $1/S$. The realized deficit shock is the product of s and an exogenous government competence measure $q > 0$, which reflects the ability of the government to moderate shocks. Lower levels of q reflect higher ability. Putting these elements together the actual deficit in period 1 is

$$d_1 = d_0 - r_0 + qs. \quad (1)$$

In period 1 the government reduces the deficit further by choosing r_1 so that

$$d_2 = d_1 - r_1. \quad (2)$$

By assumption no shock is assumed to take place in period 2. The government payoff is given by

$$U = -c(r_0) + \delta[v - c(r_1)], \quad (3)$$

where $v = u_c$ when the government is compliant in period 2, that is $d_2 \leq 0$, and $v = u_{nc}$ when not. Let $\delta \leq 1$ be the discount factor.²

2.1 Credible Fiscal Rule

We start with a benchmark situation in which the fiscal rule $d_2 \leq 0$ is credible and the government must comply with it regardless of the realization of the shock in period 1 (so that $r_1 = d_0 - r_0 + qs$). The expected utility from compliance is then

$$E[U] = -c(r_0) + \delta \left[u_c - \frac{1}{S} \int_0^S c(d_0 - r_0 + qs) ds \right], \quad (4)$$

where we made use of the assumption that shocks are uniformly distributed over the interval $[0, S]$. The costs of compliance come from the cost of deficit reduction in the first period plus the discounted, probability weighted cost in period 1, which depend on the initial deficit d_0 , period 0 deficit reduction r_0 , and the magnitude of the realized shock qs .

The government influences the expected utility by choosing r_0 , which affects the distribution of deficit reduction costs over time. The optimal first period deficit reduc-

² We could discount utility in period 2 by δ^2 instead of δ . Doing so would simply rescale the utility level v , without affecting results. We omit the complication in order to save on notation.

tion is found by maximizing (4) with respect to r_0 . The optimum \tilde{r}_0 is implicitly given by the condition

$$\frac{\delta[c(d_0 - \tilde{r}_0 + qS) - c(d_0 - \tilde{r}_0)]}{qS} = c'(\tilde{r}_0). \quad (5)$$

The second order condition holds. The right hand side of (5) represents the marginal cost of increasing deficit reduction in period 0. The left hand side captures the marginal benefit of doing so. An increase in period 0 deficit reduction shifts the range of feasible deficits to the left, which on net saves cost $c(d_0 - \tilde{r}_0 + qS) - c(d_0 - \tilde{r}_0)$ in period 1. Inserting the optimal value \tilde{r}_0 into (4) gives the maximal value of compliance with a credible deficit rule and is denoted $U^{cc}(\tilde{r}_0)$. Because the rule is credible, there is no guarantee that a government is better off compared to not complying with the fiscal rule. In the latter case the government obtains payoff $U^{nc} = \delta u_{nc}$. We can state that compliance is *desirable* under a credible rule if $U^{cc}(\tilde{r}_0) \geq U^{nc}$ or

$$\delta(u_c - u_{nc}) \geq c(\tilde{r}_0) + \frac{\delta}{S} \int_0^S c(d_0 - \tilde{r}_0 + qs) ds. \quad (6)$$

Condition (6) states that the discounted gross utility gain from compliance is larger than the present value of the deficit reduction costs under compliance. The desirability of compliance is a politician's individual assessment as the benefit and cost may vary. This will be confirmed in our empirical analysis.

2.2 Lack of commitment

In contrast to the previous section we now assume that the compliance decision is not forced by a credible rule. The cost of compliance may become high if the level of deficit reduction in period 0 is low and/or the realization of the budget shock in period 1 is bad. In such a situation a government may find it attractive to not comply. We analyze the conditions under which it is in the government's interest to (not) comply with the fiscal target, and if so, how the deficit reduction is distributed over time. The decision variables of the government are r_0 and r_1 . For the time being we focus on the political decision maker and her interest in compliance. Later we consider how other individuals (such as opposition politicians or observers from outside of state) assess the likelihood of compliance.

The stochastic nature of the government deficit in period 1 makes it uncertain whether compliance occurs. An important variable of our model is the probability of compliance p . We are interested in how the probability relates to exogenous parameters of the model, such as the initial deficit d_0 , the gross gain from compliance u , government

competence q , possible bailout expectations, as well as additional fiscal rules restricting the maximum deficit level in period 1 (prior to the existing fiscal rule in period 2). The lack of commitment requires that we solve the model by backward induction. Note that the gross gain u must be positive for compliance with the fiscal rule to take place with positive probability because deficit reduction is costly.

Period 1.

The binary payoff structure (u_c, u_{nc}) combined with costly deficit reduction implies that we can effectively reduce the government choice set to two options: Either not reaching the deficit goal in period 2 (and therefore not spending any effort, $r_1 = 0$) or reaching the goal (with the need to set $r_1 = d_1$). The latter dominates the former if

$$c(d_1) \leq u, \quad (7)$$

that is, the cost of reducing the deficit to zero is not higher than the gross gain from compliance. Since the cost of deficit reduction $c(r)$ is a monotone function of r , we can invert (7) when it holds with equality, and define a critical level of the period 1 deficit for compliance to occur, namely, $d_1^* = c^{-1}(u)$. For d_1 less than or equal to d_1^* , the government will choose to be compliant, otherwise not. Using (1), the threshold level defines implicitly a maximum level of the deficit shock s , called s^* , that is consistent with $d_2 = 0$. The critical level is given by

$$s^* = \frac{d_1^* + r_0 - d_0}{q} = \frac{c^{-1}(u) + r_0 - d_0}{q}. \quad (8)$$

Instead of stating government compliance in terms of period 1 deficit (d_1^*), we now restate the same decision in terms of the realized value of the shock s : For $s \leq s^*$ the government will be compliant, otherwise not. The threshold level s^* is a positive function of the additional gain from compliance and of the deficit reduction in period 0, but depends negatively on initial deficit d_0 and the inverse of government competence q (the latter only under appropriate assumptions made further below). We thus write $s^* = s(r_0; u, d_0, q)$. Note that r_0 is exogenous from the viewpoint of period 1, but endogenous ex ante (unlike the other three variables) and determined in period 0.

We make two further assumptions that allow us to provide an intuitive expression for the likelihood of compliance. First, we assume that $c^{-1}(u) \geq d_0$, which is sufficient to make s^* in (8) nonnegative (because we assume $r_0 \geq 0$). This assumption requires the initial deficit to be not too large relative to the gross gain of compliance. Second, we assume that the maximum possible shock S is sufficiently large so that $s^* \leq S$

always holds. This assumption requires the initial deficit to be large enough. With a uniform probability density function for s , the probability of compliance p can now be stated as

$$p = \frac{s^*}{S} = \frac{c^{-1}(u) + r_0 - d_0}{qS}, \quad (9)$$

and lies between 0 and 1 due to the two assumptions on the size of d_0 and S that we just made. The probability p is the key object for our further analysis and depends on $(r_0; u, d_0, q, S)$. Note in particular that

$$\frac{\partial p}{\partial r_0} = -\frac{\partial p}{\partial d_0} = \frac{1}{qS} > 0, \quad (10)$$

that is, p increases (decreases) with the level of period 0 deficit reduction (initial deficit) and the change is given by the competence weighted probability density of the variable s . More deficit reduction in period 0 makes compliance with the fiscal rule more likely.

Period 0.

We now turn to the analysis of period 0, in which the government chooses r_0 and therefore affects the probability of compliance via (10). From the incumbent government's view in period 0 the utility is uncertain due to the shock s . The expected payoff is

$$\begin{aligned} E[U] &= -c(r_0) + \frac{\delta}{S} \left[\int_0^{s^*} (u_c - c(d_0 - r_0 + qs)) ds + \int_{s^*}^S u_{nc} ds \right] \\ &= -c(r_0) + \delta \left[u_{nc} + pu - \frac{1}{S} \int_0^{s^*} c(d_0 - r_0 + qs) ds \right] \end{aligned} \quad (11)$$

The first line shows in square brackets utility (periods 1 and 2) under compliance and noncompliance, respectively, depending on the realization of the shock s . For low levels of s , $s \leq s^*$, the government complies in period 1 by deficit reduction leading to $d_2 = 0$ (the first integral). If s is higher than s^* , the government does not comply (the second integral).³ Rewriting terms, the second line in (11) shows in brackets the same expression as before, now as the sum of the guaranteed utility under non-compliance and the expected gross gain from compliance, minus the cost of deficit reduction in period 1 when s is sufficiently small ($s < s^*$).

First period deficit reduction r_0 affects (11) via the cost of effort in period 0 (the first term in (11)), the probability of realizing the gross gain of compliance p , and the cost of effort in period 2 in the latter case. Recall that the threshold level s^* is a function of r_0 via (8) and (10). The derivative of expected utility with respect to r_0 is

³ This assumes implicitly $d_1 > 0$, which holds if $r_0 < d_0$.

$$\begin{aligned}
\frac{dE[U]}{dr_0} &= -c'(r_0) + \delta \left[u \frac{dp}{dr_0} - \frac{1}{S} \int_0^{s^*} \frac{dc(d_0 - r_0 + qs)}{dr_0} ds - \frac{1}{S} c(d_0 - r_0 + qs^*) \frac{ds^*}{dr_0} \right] \\
&= -c'(r_0) + \delta \left[\frac{u - c(d_0 - r_0)}{qS} \right]
\end{aligned} \tag{12}$$

Derivative (12) has the following interpretation: An increase in r_0 increases marginal cost for the government in the current period. The marginal benefit of doing so is the discounted increase in the expected gross gain of compliance (due to the increase in probability of compliance) adjusted for the cost of reducing the deficit by $d_0 - r_0$. Recall that $(qS)^{-1}$ represents the increase in the probability of compliance when r_0 is raised marginally.

The difference between the optimal deficit reduction under credible and noncredible fiscal rules, that is conditions (5) and (12), is twofold. The utility gain from compliance u does appear in (12) but not in (5) because with a credible rule the government always obtains u_c . Secondly, the marginal benefit of extending r_0 does not contain the cost term $c(d_1)$ in (12) because an increase in r_0 reduces the cost of deficit reduction for given probability of compliance (p or s^* in (11)), but at the same time makes compliance more likely (s^* goes up). These two effects cancel each other out.

Evaluating (12) at two values of r_0 provides additional insight: On the one hand, at $r_0 = 0$ the marginal cost of deficit reduction in period 0 are zero by assumption, and hence the expected utility gain $dE[U]/dr_0$ is positive when the gross gain u is larger than the cost of reducing the original deficit d_0 ($u > c(d_0)$). We make that assumption. This insures that $r_0 \leq 0$ cannot be a solution to (12) when set equal to zero. At $r_0 = d_0$, on the other hand, the government faces high marginal cost initially, but gains by increasing the probability of compliance ($1/(qS)$) weighted by the gross gain u . We assume $c'(d_0) > \delta u/(qS)$, so that $dE[U]/dr_0 < 0$ at $r_0 = d_0$. Thus a local maximum must obtain in the interval between 0 and d_0 . The optimal level of first period deficit reduction \hat{r}_0 is found by setting (12) equal to zero, which gives

$$\frac{\delta[u - c(d_0 - \hat{r}_0)]}{qS} = c'(\hat{r}_0). \tag{13}$$

Given our assumptions just made the second order condition is fulfilled at $r_0 = \hat{r}_0$:

$$-c''(r_0) + \delta c'(d_0 - r_0)/(qS) < 0.$$

2.3 Results

We now study the effects of exogenous variables on the probability of compliance p . The probability depends on exogenous parameters such as u , q , S and d_0 both directly, as shown in (9), but also indirectly via the optimal level of initial deficit reduction r_0 , as implicitly defined in (13). The latter is the period 0 *anticipation effect*, whereas the former is the period 1 *compliance incentive effect*.

1. Initial deficit: Differentiation of (13) shows that an increase in initial debt d_0 leads to a lower government effort in initial deficit reduction, that is

$$\frac{\partial \hat{r}_0}{\partial d_0} = \frac{c'(d_0 - \hat{r}_0)}{[\delta c'(d_0 - \hat{r}_0) - qSc''(\hat{r}_0)]} < 0, \quad (14)$$

which is negative by the second order condition. The probability of compliance p is also lowered by the direct (compliance incentive) effect so that the total effect becomes

$$\frac{\partial p}{\partial d_0} = \frac{1}{qS} \left(\frac{\partial \hat{r}_0}{\partial d_0} - 1 \right) < 0. \quad (15)$$

States with a larger initial deficit are less likely to comply with the balanced budget requirement in period 2.

2. Bail out expectations: Up to now we did not explicitly address the role of a possible bailout in case of noncompliance with the fiscal rule. Rather we assigned a utility level for the case of noncompliance, assuming it to be lower than in case of compliance. Suppose now that a bailout is possible but less than certain (so noncompliance is worse than compliance in expected terms: $u_{nc} < u_c$), and consider that the probability of a bailout goes up. This affects the government effort in reaching the deficit target. Formally, we capture the bailout probability by interpreting the utility from non-compliance u_{nc} as expected utility, which comprises the utility when no bail out occurs and when it does occur. An increase in the bail out probability thus leads to a higher level of u_{nc} , and thus lower utility gain u . The comparative statics are

$$\frac{\partial \hat{r}_0}{\partial u} = \frac{-1}{[\delta c'(d_0 - \hat{r}_0) - qSc''(\hat{r}_0)]} > 0, \quad (16)$$

thus lowering the effort in initial deficit reduction. Moreover, a higher bailout utility reduces the probability of compliance because an increase in u raises p both directly and indirectly:

$$\frac{\partial p}{\partial u} = \frac{1}{qS} \left(c^{-1'}(u) + \frac{\partial \hat{r}_0}{\partial u} \right) > 0. \quad (17)$$

We conclude that higher bailout expectations make compliance with the balanced budget requirement less likely.

3. *Government competence*: Recall that the severity of the budget deficit shock depends on the competence of the government to moderate shocks. Higher values of q make a given value of s more problematic. The incentive effect from higher values of q is found by differentiation of (13):

$$\frac{\partial \hat{r}_0}{\partial q} = \frac{Sc'(\hat{r}_0)}{[\delta c'(d_0 - \hat{r}_0) - qSc''(\hat{r}_0)]} < 0, \quad (18)$$

which is negative by the second order condition. The probability of compliance p is positively related to the competence of the government taking action in period 0 (i.e., negatively related to q), as can be shown as follows:

$$\frac{\partial p}{\partial q} = \frac{1}{q} \left(\frac{\partial \hat{r}_0}{\partial q} \frac{1}{s} - p \right) < 0. \quad (19)$$

Governments with higher competence in managing fiscal shocks are more likely to comply with the fiscal rule.

4. *Fiscal rule in period 1*: The fiscal rule under consideration becomes effective in period 2. This corresponds to the year 2020 in the context of the German debt brake. Some states in Germany have introduced fiscal rules at the state level prior to that date, which are supposed to strengthen the effort and likelihood of compliance. In the present framework we capture this idea by allowing for an additional fiscal rule to be already effective in period 1. We assume that the additional fiscal rule is credible, perhaps because there is no one to bail out the government within the state. Yet we allow for the possibility that the fiscal rule maybe of different strictness. We express the strictness in terms of the maximum feasible deficit that can occur in period 1, $d_0 + qS$. The upper limit of the deficit in period 1 must obey

$$d_1 \leq \bar{d}_1 = \alpha(d_0 + qS). \quad (20)$$

The parameter α from $[0,1]$ represents the strength of the fiscal rule. The fiscal rule has no bite whatsoever when $\alpha=1$ because no deficit reduction is necessary in period 0 to be compliant with the new rule in period 1. By contrast, $\alpha=0$ means that government is not allowed to run a government deficit in period 1 regardless of s when the new fiscal rule is credible. This would mandate deficit reduction in period 0 of $d_0 + qS$, thus inducing

$d_1 \leq 0$. Lower values of α thus correspond to a tighter fiscal rule in period 1. Using (2) we can reformulate the requirement in (20) in terms of initial deficit reduction:

$$r_0 \geq (1 - \alpha)(d_0 + qS) =: \bar{r}_0. \quad (21)$$

Note that \bar{r}_0 is decreasing in α . A tighter fiscal rule in period 1 requires a higher deficit reduction effort in period 0. Whether the additional fiscal rule has bite depends on the magnitudes of \bar{r}_0 and \hat{r}_0 , where the latter is taken from (13) and represents the optimal choice of initial deficit reduction in the absence of the fiscal rule in period 1. When $\bar{r}_0 > \hat{r}_0$, the new fiscal rule is binding, otherwise it is not. This result has further ramifications for the probability of compliance with the original fiscal rule in period 2. Probability p depends positively on r_0 .

The likelihood of compliance (weakly) increases in the strength of a credible fiscal rule at state level which restricts the period 1 deficit.

5. *Individual Beliefs*: Consider now the beliefs in government compliance after the decision on period 0 deficit reduction has been taken but before the shock s realizes. We thus focus on the expectations at an interim stage for given level of r_0 . We wish to compare the beliefs in compliance of two types of politicians: incumbent government and in state legislatures on the one hand, and opposition politicians or out of state politicians on the other hand.

Overconfidence: The psychological literature (see Moore and Healy, 2008) suggests that a large number of individuals (more than half) believe to perform better than the average/median, which is impossible. This is termed overconfidence. In the present context this could mean that the incumbent government believes its competency to be higher than that what the opposition asserts, that is, the government believes to have a lower value of q than what the opposition thinks this value to be. This assumption does not require a statement about the true competence, only that the two beliefs differ. Equation (9) implies immediately that for given r_0 the incumbent's subjective probability of compliance is higher than that of the opposition. This effect is reinforced when period 0 deficit reduction is endogenized. The incumbent government is more optimistic about the likelihood of compliance in period 1 and thus undertakes more effort in period 0 (see (18)), which in turn makes compliance more likely.

Noisy information: Alternatively, we may assume that the incumbent government knows its competence exactly, denoted by q , but the opposition has only a noisy signal

about the government's competence. Specifically, we assume that the opposition believes that government competence is q_l with probability z and q_h with probability $1-z$ such that $E[q] = zq_l + (1-z)q_h = q$. The expected value of the opposition's subjective belief of government competence equals therefore the true government competence. We now compare the expected compliance of the government by comparing the beliefs of incumbent and opposition, again at an interim stage when r_0 has been set already. The incumbent's belief is simply

$$p^{inc} = \frac{c^{-1}(u)+r_0-d_0}{qS}. \quad (22)$$

By contrast, the opposition's expected likelihood of compliance by the government is

$$\begin{aligned} p^{opp} &= z \left[\frac{c^{-1}(u)+r_0-d_0}{q_l S} \right] + (1-z) \left[\frac{c^{-1}(u)+r_0-d_0}{q_h S} \right] \\ &= p^{inc} q \left[\frac{z}{q_l} + \frac{(1-z)}{q_h} \right]. \end{aligned} \quad (23)$$

Comparison of (22) and (23) shows that $p^{opp} > p^{inc}$. In other words, the opposition believes under noisy information that the government is more likely to comply than the incumbent government itself. The intuition comes from the observation that the probability q in (9) is a convex function of q .

Taking the previous insights together, we conclude that the opposition is more optimistic about compliance than the incumbent under noisy information about the incumbent government's competence but less optimistic under overconfidence.

We will refer to these results in the interpretation of our empirical analysis to which we now turn.

3. Survey

3.1 Description and Data

The survey was sent to all members of the 16 German state parliaments during a period of 14 months in 2011 and 2012. The survey was conducted in three waves in order to make sure that it did not collide with election times (surveys were conducted approximately at mid-term of an electoral cycle) and was logistically feasible. The politicians of Bavaria, Brandenburg, Lower Saxony, Saarland, Schleswig-Holstein and Thuringia were surveyed during the first round in March and April 2011. The second wave was carried out in Saxony, Saxony-Anhalt, North Rhine-Westphalia, Hesse and Hamburg in December 2011 and January 2012. Finally, the third wave in April and May 2012 completed the survey by considering the states of Baden-Württemberg, Rhineland Palatinate, Bremen, Berlin and Mecklenburg-West Pomerania.

The politicians were approached by written letter. During the first wave non-respondents received a follow-up email with the questionnaire attached. If still unsuccessful, we contacted them by phone. In the second and third waves the email to non-respondents included a link to an online platform which allowed them to answer the questionnaire online. Taken all three waves together 639 member of parliaments (MPs) finally participated in the survey which resulted in a response rate of 34%. Response rates differ along state and party affiliation. Table 1 provides an overview. Possible concerns about the effect of different response rates are dealt with in the econometric analysis below, in particular a unit non-response analysis.

A key aspect of the survey is to control for individual characteristics of politicians and state. For this reason we asked for the politician's name. Politicians were guaranteed confidentiality. Personal characteristics such as education, committee membership, etc. can be found on personal/parliamentary websites.

The questionnaire was kept short deliberately in order to increase the response rate, and consisted of eight questions. The first five questions are directly concerned with the debt brake, whereas the last three questions relate to i) the desirability of more tax autonomy at the state level, ii) the satisfaction with the degree of fiscal equalization in Germany, and iii) the individual preferences for the use of a permanent budget surplus (debt retirement, spending priorities). This paper focuses on the analysis of the debt brake and therefore only utilizes Questions 1-5.

Question 1 (Q1): In your view how probable is it that the federal government will comply with the constitutional debt brake as of 2016, that is, the federal budget deficit will not surpass 0.35% of GDP (cyclically adjusted)?

Answers are given on a discrete 9 point scale from -4 ("*impossible*") to +4 ("*certain*").

Question 2 (Q2): In your view how probable do you think is it that your state will comply with the constitutional debt brake as of 2020 and have balanced budget (cyclically adjusted)?

Answers are given on a discrete 9 point scale from -4 ("*impossible*") to +4 ("*certain*").

Question 3 (Q3): Which of the 16 German states will comply with the constitutional debt brake as of 2020 with high probability?

Each of the 16 states could be ticked individually or options "*all*" or "*none*" could be chosen.

Question 4 (Q4): What will happen if German states do not comply with the constitutional debt brake as of 2020? (multiple answers possible)

- Constitutional courts (on state and federal levels) will enforce budget consolidation
- The constitution will be changed so as to relax the debt brake
- Transfer payments to non-complying states are given, which help to lower the deficit
- There will be sanctions against non-complying states, e.g., lower transfers within the federal fiscal equalization scheme
- There will be ordinary legal or constitutional interventions in non-complying states' budget autonomy
- Fusions of states
- Nothing will happen
- Other:_____

Question 5 (Q5): Assume that x other federal states will not comply with the constitutional debt brake. In your view how desirable is it that your state complies with the constitutional debt brake?

Answers are given on a discrete 9 point scale from -4 ("*not at all desirable*") to +4 ("*very desirable*").

For Question 5 we randomized the number of non-complying states x . It can take the values 1,3,5,8,11,15 (out of 16).

Before we proceed to the results, we provide a brief introduction to Germany's electoral and political system (for a more detailed description of the German party and electoral system the reader is referred to Roberts (1988) and Poguntke (1994)). Germany is a parliamentary democracy with two chambers at the federal level: the lower chamber called *Bundestag*, which is elected by all citizens, and the upper chamber called *Bundesrat*, which represents the 16 states of Germany and members are delegates of state governments. At the state level, there is only one chamber like the lower chamber at the federal level. Our survey is based on members of these state parliaments (numbers by state given in *Table 1*).

The number of political parties has some regional variation. We cannot account here for all of them but rather describe the main parties: The Christian Democrats (CDU/CSU) are a centre-right party, which tends to be market oriented but socially conservative in some geographic areas and/or on some policy issues, while the Social Democrat Party (SPD) represents the centre-left (socially progressive and pro redistribution). The Free Democrats (FDP) favour a small government and low taxes, which makes them more market friendly than the Christian Democrats, who in turn are more market-

oriented than the Social Democrats. The Left Party unites former communists in East Germany and disappointed Social Democrats from the left wing in West Germany. The Green Party focuses on environmental and social policies with diverse views on economic issues, and is popular with relatively young, well educated people from the middle class.

3.2 Unit Non-Response

By conducting a unit non-response analysis we can identify variables at the individual and state level that might affect politicians' decisions to answer the questionnaire. Including systematic factors driving non-response in the regressions greatly reduces any potential estimation bias. Nevertheless, in case we do not identify all factors by conducting the non-response analysis our subsequent analysis leads only to biased parameter estimates if these factors have explanatory power for the answers to the survey questions, and in addition, are correlated with one of the explanatory variables included in the regression. Under specific circumstances, potential estimation biases can be minimized by weighting responses according to their inverse response probability. Little and Vartivarian (2005) state that weighing is "primarily viewed as a device for reducing bias from non-response" (p. 2). However, weighing cannot be seen as a general way out of the non-response problem because it implicitly assumes that the non-respondents of a specific group, i.e. of a party in a specific state, answer analogously to the respondents in this group. This assumption might not be fulfilled.

Nevertheless, in order to gain insight into the non-response patterns and to get hints for our robustness checks we conduct a non-response analysis. The analysis is a binary probit regression which explains responses/non-responses (see Table 3).

When looking at individual characteristics, we find that politicians who studied economics or business and/or are a member of the state parliament's budget committee exhibit a significantly higher inclination to answering our questionnaire. The reason might be that they are more interested in the issue at hand than politicians less concerned with economic and fiscal policies. Furthermore, members of the governing coalition parties are significantly less inclined to responding, perhaps due to lack of time. Female politicians have a lower probability to take part in our survey than their male colleagues. Compared to the base category of the Liberal Democrats (FDP), only members of the Christian Democratic or the Christian Social sister parties (CDU/CSU) re-

spond with a higher probability, whereas politicians from all other parties do not differ significantly in their inclination to respond.

Few of the state variables have a significant impact on the probability of responding, even though most coefficients are only significant at the 10% level. This tends to weaken concerns that non-response patterns bias our results. Only politicians from former Eastern German states have been significantly (at the 1% level) less inclined to take part in our survey. Consequently, we include a dummy for Eastern German states in the regressions and also conduct robustness checks by running regressions with weighted data along the dimension of state characteristics (and individual characteristics).

4. Results

We analyze the data for the five questions, first descriptively and then with controls in an ordered probit framework.

4.1 Likelihood of federal government compliance

We start with Question 1, which relates to the likelihood of the federal government complying with the debt brake. Even though our focus is on the compliance of states, the perceived likelihood of federal compliance is important for several reasons. First, the debt brake for the federal government comes earlier than the one for states. The shorter delay makes the assessment probably more accurate. Second, federal compliance is important as the central government takes an important role in Germany's fiscal equalization scheme and may fulfill a bailout function when states were to fail. On the one hand, federal non-compliance and therefore more constraint resources on the federal level may lead to lower bail-out expectations by the states. On the other hand, if the federal government is not likely to comply, the debt brake itself might lose credibility and compliance at the state level would be much less likely (Heinemann (2010)). Third, Question 1 serves as a reference point of politicians' expectation building under the assumption that a bailout is not likely to occur (but a delay or weakening of the rule is still possible).

We observe that respondents from the same parties as those in power at the federal level (currently a centre-right coalition formed by CDU/CSU and FDP) are confident with respect to federal compliance. Differences in expectations are significant across parties (see

Table 4 Table 4, Panel a). Members of the centre-right CDU/CSU party and the market-oriented FDP expect the federal government to adhere to the debt brake (mean 0.74 and 0.34). In comparison, members of the opposition parties at the federal level are less optimistic (in particular members of the Green Party have a mean of -0.31). The null hypothesis of equal means in a variance decomposition analysis (ANOVA) can be rejected at all conventional significance levels. When grouping politicians from different parties in terms of federal government coalition or opposition, means are significantly different (Panel b).

In an ordered probit regression we consider two slightly different specifications (see Table 5)⁴. The specification in column (1) includes party dummies to control for respondents' political preferences, whereas the specification in column (2) includes a dummy that indicates whether a respondent is affiliated to one of the government coalition parties at the federal level (CDU/CSU or FDP) or not. The regression suggests that affiliates to one of the federal level government coalition parties have a significantly stronger inclination to expect high probabilities of the federal level adhering to the debt brake than politicians from federal opposition parties. At this stage, it is not clear whether the effect occurs because there is a right government or whether it generally holds that affiliates to the government are more optimistic than politicians of the opposition. We come back to this issue later.

Interestingly, the variation in the answers to Question 1 can apparently neither be explained by individual characteristics nor by state-specific effects. The null hypothesis that the coefficients to the individual characteristics are jointly zero cannot be rejected at any conventional significant level. State dummies are also jointly insignificant.

4.2 Likelihood of Own State Compliance

Table 6 reports descriptive statistics for beliefs about compliance at the state level based on Question 2. Panel (a) provides means by state, which differ hugely between Mecklenburg-West Pomerania (2.76) and Saxony (2.80) on the one hand and North Rhine-Westphalia (-1.57) on the other hand. Similar to the case of federal compliance, members of government coalition parties in their respective states have higher confidence in compliance (1.38) than members of opposition parties (0.50), see Panel (b). We

⁴ Here, we only report results of unweighted ordered probit regressions. Results of weighted (according to party and state) ordered probit regressions yield approximately the same results.

also check for the role of public finances. As expected (Panel c), members of states with low needs of fiscal consolidation expect compliance with higher probability (1.64) than members from states with high needs (0.07). Results for the status within Germany's fiscal equalization scheme give similar results (Panel d).

The results of ordered probit regressions with the answer to Question 2 as the dependent variable are presented in Table 7. All regressions include personal characteristics such as educational background, proxies for the degree of information, and other personal characteristics such as gender and age. Furthermore, we include an index constructed from the answers to Question 4, where politicians were asked about the expected consequences when the debt brake is not met (see also section 4.5 for further information on the responses to question 4). We construct an indicator (Q4 indicator) which summarizes the answers of a politician by a weighted scheme.⁵ A higher value of the Q4 indicator implies a higher expectation of enforcement of the debt brake.

Additionally, we control for ideological effects by including party dummies or a right-left indicator variable as well as for state characteristics by including several economic and fiscal variables at state level. We include GDP per capita, total population, debt relative to GDP, the average of deficit relative to GDP over the last three years prior to the survey, and a state's net fiscal equalization transfers relative to GDP as variables capturing a state's objective economic and fiscal situation. Furthermore, we include dummies for former Eastern German states and city states (Berlin, Bremen, and Hamburg). To control for the degree of implementation of an additional state debt brake into the states' constitution or budgetary laws we include dummy variables indicating whether a state has implemented the debt brake into its state constitution or at least has passed a simple budget regulation law. Finally, the dummy indicating whether a state's government is right-leaning takes the value of one for a purely right-leaning government (coalition), a value of 0.5 for a mixed government coalition and a value of 0 for a purely left-leaning government (coalition). All regressions use clustered standard errors at the party-state level.

The baseline regression in column (1) of Table 7 does not suggest a very strong influence of individual characteristics. Nevertheless, all individual variables are jointly

⁵ The chosen weighting scheme for the index's construction takes on the following form: Ticking one of the answer options 1, 4, 5 or 6 makes the indicator increase from zero by 1 for each tick. By not ticking one of these numbers, the indicator is decreased by 1 for each non-ticked option. Options 1, 4, 5, and 6 are answers that imply an enforcement of the debt brake in case of noncompliance. Analogously, the indicator is decreased by 1 for each option which is ticked out of option 2, 3 or 7. For each non-ticked option, the indicator increases by 1. Options 2, 3, and 7 are answers that imply a relaxation of the debt brake's constraints.

significant at the 5% level. Only three variables seem to drive this result. Politicians from the state's government coalition parties are more inclined to expect their state to fulfill the debt brake requirement. Women are less optimistic than their male colleagues and older politicians seem to be somewhat more optimistic than younger ones, even though this last result is only significant at the 10%-level. The Q4 indicator, capturing each respondents expectation of whether or not the debt brake will be binding, is associated with a stronger believe that a state will comply with the debt brake.

Ideology does not seem to play a large role. The party dummies are neither significantly different from zero individually, nor jointly. Somewhat surprisingly, the signs of the coefficients even suggest that right wing parties are less likely to believe in compliance than left parties⁶. When including a dummy variable indicating whether a respondent comes from a right party instead of the single party dummies (see column (2) of Table 7), the result remains robust. The coefficient to this dummy is negative and insignificant. When including the Left-right index of Benoit-Laver instead of the simple right-party dummy, the coefficient is still negative and insignificant (result not reported here).

State characteristics, however, play an important role. Politicians from highly indebted states or states with high consolidation needs are significantly less confident than those from states with a lower debt-to-GDP ratio. The coefficient to the three year average of budget deficit to GDP does not show significance in the presented specification. However, this is likely due to the high correlation of the variable with total debt to GDP. Excluding total debt to GDP makes the "three year average of budget deficit to GDP" significantly negative.⁷

Finally, the coefficient to the dummy for the governing coalition consisting of right parties is positive and significant across all specifications. Since we control for respondents' ideological position in both specifications shown in Table 7 we can conclude that right leaning governments are generally viewed to be more likely to comply when it comes to adherence to the debt brake than left governments, both in the eyes of left and right politicians.

The above results are quite robust across a large variety of different specifications. For example, weighting the regressions with the inverse of the response rate along the dimensions party and state to account for over- and underrepresentation leaves the

⁶ Note that the base category is the market oriented liberal democratic party (FDP).

⁷ The same result holds when including the variable "need for consolidation" which comprehensively measures how far a state's budget is away from fulfilling the debt brake (Sachverständigenrat (2011)).

results mainly unchanged. For the above regressions we used state level data for the year 2010, if the respondent took part in the first two waves of the survey (taking place in 2011), and data from 2011, if the respondent took part in the third wave in 2012. Results are robust when taking data from 2010 or 2011.

4.3 Likelihood of Compliance: Across State Evaluation

In [Question 3](#) we ask politicians to state their expectations about each of the 16 states' likelihood of compliance. This in turn allows us to compare the likelihood of compliance from a within state perspective with an outsider's view. Figure 1 gives an overview by pooling all answers. The heterogeneity of beliefs across states' likelihood of compliance is remarkable. While Bavaria is very likely to comply in the view of all politicians (85% believe it is highly probable), this is not the case for many other states, in particular the city states of Bremen (3%) and Berlin (4%). The large discrepancy in beliefs of local politicians and outside politicians is somewhat surprising. Many respondents from fiscally weak states expect their respective state to comply to the debt brake, even though the overall mean of answers is much lower. Figures 2 and 3 document this point clearly for Mecklenburg West Pomerania and Schleswig Holstein. The graphs are typical for states with a low average probability of compliance. But even politicians from states who have good chances to comply with the debt brake in the eyes of other states' politicians always assess their state's probability on average to be higher than all others do. This picture is complemented by Question 2: all but three states exhibit positive mean answers in Question 2, implying that a large majority believes in the ability of their own state to meet the debt brake.

While our theoretical analysis suggests that overconfidence is driving this result, we intend to capture empirically informational differences by including geographic proximity between states. We hypothesize that politicians from neighboring states are better informed than politicians from distant states. If beliefs of politicians differ by distance, information is likely to play an important role. The dataset for the cross-state analysis has a spacial dimension because politicians from a particular state assess all other states as well as their own. Specifically, we estimate a spacial probit regression to explain the answer to Question 3. The explanatory variables that we include into this regression are essentially the same as those in the ordered probit regression in the previous section. In order to account for the spacial structure, we include three more variables, though. First, we add the distance between the own state's capital and that of the

state to be assessed as a proxy-variable for the degree of information of the respondent. The assumption is that the farther away a state from the politician's home state, the less informed she is about the economic and fiscal situation in that state. Furthermore, we control whether two states share a common border or not, since this might additionally increase the degree of information of a politician concerning the other state. We also include a dummy that is one if the politician assesses her own state, since the degree of information should be the largest here and it could possibly capture overconfidence. Additionally, we include a full set of state dummies for the respondent's home state since answers with respect to other states might differ systematically across states. We cluster standard errors for state pairs.

The results from the previous section are confirmed. This time, however, the personal level of information and political experience plays a more prominent role. As for Question 2, being a member of the party in power in the state to be assessed at the time of the survey, has a positive and significant coefficient, implying that these respondents view the probability of states in which their own party is in power to be higher. Females and politicians who already spent some time in the parliament are more skeptical. Interestingly, being a member of the budget committee seems to make politicians view adherence to the debt brake as being more difficult. This might be an indication for an informational advantage of these respondents. Furthermore, if respondents expect harsh consequences (as measured by the Q4 indicator), they are, as above, more optimistic with respect to compliance to the debt brake.

The impact of ideology on respondents' expectations is mixed. This time party dummies are jointly significant at the one percent level (column 1), but the underlying mechanism is not clear. When substituting party dummies by a right-left indicator variable, significance disappears, confirming the above finding of no significant impact of ideology on politicians' general assessment of the probability of compliance (column2).

State level controls for the state that is being evaluated are highly significant across specifications. Politicians believe that former Eastern states are less likely to adhere to the debt brake, probably because some of them are still lagging behind economically. Again, budget regulation laws or state level constitutional debt brakes make politicians significantly more optimistic in their assessment of the probability of adherence. Thus, politicians seem to value these laws highly and believe in their enforcement. GDP per capita is positive and statistically significant. Economically strong states are viewed to have a higher probability of compliance. Total debt to GDP has the expectedly nega-

tive and significant coefficient. A difficult fiscal situation thus leads to a decrease in the expected probability of adherence, as above. The coefficient to the three year average of budget deficit to GDP is again not significant which is like in Question 2, probably due to high correlation between this variable and total debt to GDP. Excluding total debt to GDP makes the “three year average of budget deficit to GDP” significantly negative.⁸ Respondents are more convinced of compliance of states which receive a high share of fiscal equalization transfers relative to their total spending than of states with rather low or even negative shares. This finding provides some evidence for positive bail-out expectations, which has not been present in the previous assessment of the own state.

Again we find that states with a right wing government have a higher chance of adherence. The coefficient is still positive and significant at the 5%-level.

Finally, distance as an informational proxy does not seem to play a large role in the assessment of other states. In both specifications, its coefficient is negative, as expected, but it is only significant at the 10%-level in column (2). However, a common border of the respondent’s home state with the state to be assessed does increase the belief in adherence. As already seen descriptively, politicians view their own states to have a higher probability of compliance than all the other states. In the light of theory this is an indication for overconfidence, since we control for ideological imprint and for potential informational differences by including the spacial variables distance and adjacency. When splitting the sample by excluding own and/or neighboring states, the coefficients on all other variables remain robust. Only the variable distance turns weakly significant in some specifications. This implies that respondents evaluate more distant states as having a lower probability of complying, which is in line with positive and significant coefficients to the own state and adjacency dummies in the baseline specification.

4.4 Consequences of Non-compliance

Question 4 deals with expectations about the consequences of states in case of non-compliance with the debt brake, which are quite heterogeneous (see Figure 4). On the one hand, 47% of the MPs think that constitutional courts will enforce consolidation. On the other hand, more than a quarter of all politicians think that the provisions of the debt brake are going to be relaxed as a consequence of non-adherence (recall that mul-

⁸ The same result holds when including the variable “need for consolidation” which comprehensively measures how far a state’s budget is away from fulfilling the debt brake (Sachverständigenrat (2011)).

multiple answers were possible). However, answering patterns vary across states. In Hesse and Rhineland-Palatinate, for example, which already implemented a state version of the debt brake into their constitutions, 70% and 58%, respectively, believe that a decision by a constitutional court will enforce compliance. Similarly, a majority of respondents from Bremen (61%), a small and relatively poor city state, believe that non-compliance will result in interventions in a state's budget autonomy. On the other hand, a relatively large fraction of the respondents from Saarland (55%), also a relatively poor state, believe that the debt brake will be relaxed in case of non-compliance. In addition, involvement with legal affairs influences results as well. Members of states' legal committees believe in constitutional enforcement more strongly (52%) than non-members (46%).

4.5 Desirability of Own State Compliance

Question 5 of the survey elicits a politician's view on the desirability of compliance with the debt brake in her state. In general, a balanced budget rule seems desirable (Table 9). There are no striking differences across parties. A first ANOVA analysis suggests that there are differences across states. Nevertheless, even respondents from fiscally weak states assess the compliance with the debt brake to be desirable, although somewhat less strongly. If this result continues to hold when state specific variables are controlled for (e.g. need of consolidation and GDP per capita), this could mean that the expectations of weak states to receive bailout funds from the federal government in case of fiscal distress are higher than the expectations of fiscally stronger states (Rodden (2005)). Notably, the randomization of the statement in Question 5 with respect to the assumed number of states which do not adhere to the debt brake appears to have no significant effect in this descriptive analysis. The null hypothesis of equal means in a variance decomposition analysis cannot be rejected at any conventional significance level.

Our analysis reveals that the desirability of a politician's state to comply with the debt brake is higher than the likelihood complying with it. The descriptive analysis conducted before has indicated that the politician's location in the political left-right spectrum does not make a difference in how desirable a politician thinks compliance to be. This result is confirmed in a multivariate econometric analysis. The F-Test for joint significance of the party dummies in the regression of Question 5 (see Table 10) is not significant at any conventional significance level.

Ordered probit regressions for Question 5 further show that several state specific factors, which play a role for the likelihood of compliance, are not relevant here. The

main factors identified to be driving the results are the following: (1) Politicians who studied economics or business administration view compliance to the debt brake to be significantly more desirable (no matter how many other states comply) than non-economists. (2) The assessment on how likely it is that the federal government adheres to the debt brake in 2016 (Question 1). The estimated coefficient is positive and highly significant, which confirms Heinemann's (2010) conclusion about the importance of the federal government's compliance to the debt brake in 2016. If a politician expects that the federal government does not adhere to the debt brake, the politician assesses the desirability for her own state lower than politicians who expect the central government to comply. (3) The coefficient of the indicator that summarizes answers to Question 4 is positive and highly significant. Thus, if a politician expects that non-adherence to the debt brake will lead to some form of sanctions (for example because constitutional courts enforce consolidation), it makes adherence to the debt brake more desirable. Incentives thus matter. (4) Both the dummy for an implemented budget regulation law and the dummy for a constitutional debt brake law at the state level have positive and significant effects. Politicians from states who implemented these laws already value compliance more than those who have not (yet) implemented such laws, probably because they do not want to fail on these laws and risk legal actions or punishment on the part of the voters. (5) The measure for the need for consolidation is highly significant and economically important. The higher the consolidation needs, the more costly is compliance with the debt brake. Consequently, the estimated coefficient for the "need for consolidation" is negative. The desirability to achieve compliance with the debt brake is lower for politicians from states with high consolidation needs. (6) We randomized the questionnaire by varying the number of states that are assumed to not adhere to the debt brake (six different versions). There are no apparent differences at the descriptive statistics level. We find a statistically weak but negative impact of the number of states not adhering on the desirability that the own state complies. That is, the more states would not comply, the lower the desirability that the own state has to comply.

The ordered probit analysis does not provide evidence for the role of the politician's party affiliation or ideological position within a left-right spectrum. All stated results are robust when taking account of the different response rates across states and parties through weighting of observations by party and state.

5. Conclusion

- to be added -

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Appendix A. Tables

Table 1: Response rates

	Number of mem- bers of parliament	Number of respon- ses	Response rate
Overall	1861	639	34.34%
Baden- Württemberg	138	77	55.80%
Bavaria	187	75	40.11%
Berlin	149	30	20.13%
Brandenburg	88	19	21.59%
Bremen	83	18	21.69%
Hamburg	124	39	31.45%
Hesse	114	50	43.86%
Mecklenburg-West Pomerania	71	17	23.94%
Lower Saxony	152	54	35.53%
North Rhine- Westphalia	181	51	28.18%
Rhineland- Palatinate	101	50	49.50%
Saarland	51	20	39.22%
Saxony	133	45	33.83%
Saxony-Anhalt	106	47	44.79%
Schleswig-Holstein	95	29	30.53%
Thuringia	88	36	40.91%

Table 2: Individual and State Variables

Variable	Unit	Explanations
<i>Education</i>		
College entrance qualifica- tion	Dummy	Secondary qualification for college entrance
Tertiary degree	Dummy	Degree from university or polytechnic
Economics/Business degree	Dummy	Tertiary education in business or economics
Law degree	Dummy	Tertiary education in law
<i>Degree of information and experience</i>		
Member of budget commit- tee	Dummy	Deals with state government budget
Member of legal committee	Dummy	Deals with state's legal issues
Number of years in parlia- ment	Discrete	Calculated as 2011/2012 minus year of parliament entry (interruptions taken into account)
Member of government coalition	Dummy	Member of one of the ruling parties
<i>Other individual characteristics</i>		
Female	Dummy	Member of parliament is female
Age in years	Discrete	Calculated as 2011/2012 minus year of birth

Individual variables computed from survey results

Answer to Question 1	Discrete	Scale from -4 (federal governments adherence to debt brake is impossible) to +4 (federal governments adherence to debt brake is certain)
Q4 indicator	Discrete	Measure ranging from -7 to +7, with higher values indicating a higher expectation of the debt brake being enforced in case of non-compliance.
Share of additional budget preferably used for debt service (Answer to Question 8)	Continuous	Share of a hypothetical additional budget preferably used for debt service, in %

Party affiliation

CDU/CSU	Dummy	Member of Christian Democratic or Christian Social Party
FDP	Dummy	Member of Free Democratic Party
Green Party	Dummy	Member of Green Party
Left Party	Dummy	Member of Left Party (not included into regressions since it serves as base category)
SPD	Dummy	Member of Social Democratic Party
Other	Dummy	Member of other Party
Federal level government coalition party	Dummy	Member of the CDU/CSU or the FDP, who were in power at the federal level at the time of the survey.

State characteristics

Eastern Germany	Dummy	State is a former Eastern German state
GDP per capita	Continuous	Gross domestic product per capita, in Euros, <i>source</i> : German Statistical Office
Total debt to GDP	Continuous	Total debt divided by gross domestic product, in %, <i>source</i> : German Statistical Office
Need for consolidation	Continuous	Measure ranging from -0.6 to 3.5, with higher values indicating stronger need for consolidation, <i>source</i> : Sachverständigenrat (2011)
Fiscal equalization transfers to total spending	Continuous	Total net intra-state transfer payments divided by total spending, in %, <i>sources</i> : Federal Ministry of Finance, German Statistical Office
Budget regulation law	Dummy	State has implemented the debt brake requirements in the form of ordinary law
Constitutional debt brake at state level	Dummy	State has implemented the debt brake into its constitution
Government coalition consists of right parties	Dummy	takes the value of one for a purely right-leaning government (coalition), a value of 0.5 for a mixed government coalition and a value of 0 for a purely left-leaning government (coalition)

Cross state information proxies

Distance	Continuous	Distance in 100 km between any two state capital cities
Adjacency	Dummy	Takes on the value of one if the home state of the respondent and the state to be evaluated share a common border (and if the state to be evaluated is the home state of the respondent)
Own state	Dummy	Takes on the value of one if the state to be evaluated is the home state of the respondent

Survey variant with respect to Question 5

Number of states not adhering (as assumed for Question 5)	Discrete	Can take the values 1,3,5,8,11,15 (see also Section 3)
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Table 3: Non-response Analysis

Probit regressions with response (=1) or non-response (=0) as dependent variable							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Education:</i>							
College entrance qualification	-0.138 [-0.975]	-0.158 [-1.131]	-0.162 [-1.153]		-0.186 [-1.339]		
Tertiary degree	0.150 [1.140]	0.151 [1.105]	0.140 [1.074]		0.138 [1.036]		
Economics/business degree	0.170* [1.834]	0.182* [1.831]	0.200** [2.236]		0.232** [2.528]		
Law degree	0.068 [0.744]	0.089 [0.963]	0.117 [1.270]		0.160* [1.745]		
<i>Information:</i>							
Member of budget committee	0.360*** [4.680]	0.333*** [4.384]	0.353*** [4.623]		0.322*** [4.280]		
Member of legal committee	0.046 [0.500]	0.029 [0.335]	0.032 [0.353]		0.008 [0.096]		
Number of years in parliament	-0.004 [-0.697]	-0.002 [-0.341]	0.000 [0.002]		0.002 [0.364]		
Member of government coalition	-0.169** [-2.328]	-0.204** [-2.185]	-0.106 [-1.502]		-0.124 [-1.257]		
<i>Other individual characteristics:</i>							
Female	-0.274*** [-4.122]	-0.280*** [-4.256]	-0.308*** [-4.583]		-0.320*** [-4.836]		
Age in years	0.003 [0.822]	0.005 [1.321]	0.003 [0.807]		0.005 [1.337]		
<i>Party affiliation^a:</i>							
CDU/CSU	0.283** [2.496]	0.250* [1.705]		0.242** [2.347]		0.221 [1.607]	
SPD	0.102 [0.810]	0.026 [0.152]		0.004 [0.036]		-0.067 [-0.409]	
Green Party	0.065 [0.506]	0.043 [0.232]		-0.033 [-0.254]		-0.054 [-0.340]	
Left Party	-0.118 [-0.739]	-0.259 [-1.404]		-0.148 [-1.044]		-0.292* [-1.780]	
Other parties	0.059 [0.240]	-0.094 [-0.291]		0.121 [0.485]		-0.031 [-0.094]	
<i>State^b:</i>							
Baden-Württemberg	0.468*** [4.331]		0.511*** [3.674]	0.551*** [6.582]			0.563*** [3.668]
Bavaria	0.107 [0.827]		0.141 [0.836]	0.118 [1.013]			0.166 [0.992]
Berlin	-0.408*** [-3.007]		-0.407** [-2.460]	-0.392*** [-3.073]			-0.420*** [-2.637]
Brandenburg	-0.283** [-2.093]		-0.326** [-2.292]	-0.301*** [-3.399]			-0.369*** [-2.747]
Bremen	-0.357** [-2.082]		-0.341 [-1.560]	-0.335** [-2.167]			-0.366* [-1.727]
Hamburg	-0.101 [-0.816]		-0.085 [-0.480]	-0.030 [-0.213]			-0.066 [-0.320]
Hesse	0.238 [1.478]		0.247 [1.391]	0.261* [1.840]			0.262 [1.557]
Mecklenburg-West Pomerania	-0.276* [-1.914]		-0.300* [-1.845]	-0.250* [-1.841]			-0.291* [-1.865]
Lower Saxony	0.015 [0.085]		0.046 [0.257]	0.030 [0.145]			0.046 [0.246]
North Rhine-Westphalia	-0.230 [-1.458]		-0.198 [-0.862]	-0.163 [-0.843]			-0.161 [-0.583]
Rhineland-Palatinate	0.398**		0.444***	0.395***			0.405***

	[2.262]		[2.760]	[2.856]			[2.580]
Saarland	0.095		0.079	0.167			0.143
	[0.332]		[0.241]	[0.588]			[0.449]
Saxony-Anhalt	-0.140		-0.148	-0.159			-0.185
	[-1.075]		[-0.862]	[-1.244]			[-1.159]
Schleswig-Holstein	-0.100		-0.085	-0.090			-0.092
	[-0.539]		[-0.387]	[-0.667]			[-0.484]
Thuringia	0.259**		0.234	0.232**			0.187
	[2.414]		[1.375]	[2.392]			[1.135]
<i>Regression diagnostics:</i>							
Observations	1,861	1,861	1,861	1,861	1,861	1,861	1,861
Pseudo-R ²	0.065	0.038	0.059	0.043	0.028	0.013	0.035
p-value joint significance of all variables	0.000	0.000	0.000	0.000	0.000	0.003	0.000
p-value joint significance of individual characteristics	0.000	0.000	0.000	n.a.	0.000	n.a.	n.a.
p-value joint significance of party dummies	0.007	0.010	n.a.	0.002	n.a.	0.003	n.a.
p-value joint significance of state dummies	0.000	n.a.	0.000	0.000	n.a.	n.a.	0.000

Notes: */**/** denote significance at the 10%/5%/1% level; Standard errors in brackets; ^a base category is the market oriented liberal democratic party "FDP"; ^b State characteristics are 2010 data for survey waves 1 and 2, which both took place in 2011, and 2011 data for survey wave 3, which took place in 2012; ^c base category is Baden-Württemberg

Table 4: Likelihood of Federal Compliance – Descriptive Results

Panel (a): Q1 by party					
	Observations	Mean	Standard deviation	Min	Max
Total	635	0.40	2.14	-4	4
CDU/CSU	282	0.74	2.12	-4	4
FDP	41	0.34	1.88	-3	4
Green Party	74	-0.31	2.25	-4	4
Left Party	48	0.17	2.17	-4	4
SPD	171	0.30	2.06	-4	4
Other	19	-0.42	2.29	-4	4
ANOVA, P-Value of F-Test		0.0016			
The Null hypothesis of the ANOVA is that groups have equal means.					
Panel (b): Q1 by government coalition					
	Observations	Mean	Standard deviation	Min	Max
Total	635	0.40	2.14	-4	4
Members of government coalition	323	.6934985	2.093065	-4	4
Members of opposition parties	312	.0929487	2.147536	-4	4
ANOVA, P-Value of F-Test		0.0004			
The Null hypothesis of the ANOVA is that groups have equal means.					

Table 5: Likelihood of Federal Government Compliance – Regression Results

Ordered probit regressions with answer to Question 1 as dependent variable				
Independent Variables	(1)	Average marginal effects	(2)	Average marginal effects
	Baseline 1		Baseline 2	
<i>Education:</i>				
Tertiary degree	-0.027 [0.101]	-0.003 [0.012]	-0.047 [0.102]	-0.006 [0.012]
Economic/Business degree	0.044 [0.110]	0.005 [0.013]	0.039 [0.108]	0.005 [0.013]
<i>Information:</i>				
Member of budget committee	-0.041 [0.117]	-0.005 [0.014]	-0.040 [0.117]	-0.005 [0.014]
Number of years in parliament	-0.001 [0.007]	-0.000 [0.001]	0.001 [0.007]	0.000 [0.001]
<i>Other individual characteristics:</i>				
Female	-0.060 [0.110]	-0.007 [0.013]	-0.055 [0.110]	-0.007 [0.013]
Age in years	0.008** [0.004]	0.001** [0.000]	0.009** [0.004]	0.001** [0.000]
<i>Party affiliation^a:</i>				
CDU/CSU	0.197 [0.162]	0.024 [0.019]		
SPD	-0.038 [0.168]	-0.005 [0.020]		
Green Party	-0.279 [0.222]	-0.033 [0.027]		
Left Party	-0.015 [0.209]	-0.002 [0.025]		
Other parties	-0.178 [0.398]	-0.021 [0.048]		
Federal level government coalition party			0.267*** [0.093]	0.032*** [0.011]
<i>State^b:</i>				
Bavaria	-0.187 [0.216]	-0.022 [0.026]	-0.181 [0.234]	-0.022 [0.028]
Berlin	0.077 [0.315]	0.009 [0.038]	0.086 [0.335]	0.010 [0.040]
Brandenburg	0.138 [0.272]	0.017 [0.033]	0.186 [0.297]	0.022 [0.036]
Bremen	0.566* [0.304]	0.068* [0.037]	0.557* [0.338]	0.067 [0.041]
Hamburg	0.331** [0.159]	0.040** [0.019]	0.358* [0.194]	0.043* [0.024]
Hesse	0.364** [0.173]	0.044** [0.021]	0.350* [0.203]	0.042* [0.025]
Mecklenburg-West Pomerania	-0.072 [0.448]	-0.009 [0.054]	0.002 [0.448]	0.000 [0.054]
Lower Saxony	-0.060 [0.200]	-0.007 [0.024]	-0.042 [0.211]	-0.005 [0.025]
North Rhine-Westphalia	0.238* [0.140]	0.028 [0.017]	0.270 [0.174]	0.032 [0.022]
Rhineland-Palatinate	0.391 [0.239]	0.047* [0.027]	0.425 [0.260]	0.051* [0.030]
Saarland	-0.001 [0.317]	-0.000 [0.038]	0.024 [0.342]	0.003 [0.041]
Saxony	0.130	0.016	0.156	0.019

	[0.165]	[0.020]	[0.197]	[0.024]
Saxony-Anhalt	0.020	0.002	0.053	0.006
	[0.174]	[0.021]	[0.196]	[0.024]
Schleswig-Holstein	0.159	0.019	0.159	0.019
	[0.218]	[0.026]	[0.242]	[0.029]
Thuringia	-0.091	-0.011	-0.067	-0.008
	[0.210]	[0.025]	[0.234]	[0.028]
<i>Regression diagnostics:</i>				
Observations	635		635	
Pseudo-R ²	0.016		0.015	
p-value joint significance of all variables	0.000		0.000	
p-value joint significance of education and information variables as well as other individual characteristics	0.261		0.102	
p-value joint significance of party-dummies	0.038		n.a.	
p-value joint significance of state-dummies	0.050		0.043	
Notes: Average marginal effects are computed for the modal answer (+2); */**/** denote significance at the 10%/5%/1% level; Standard errors in brackets; ^a base category is "Left party"; ^b base category is Baden-Württemberg				

Table 6: Likelihood of Own State Compliance – Descriptive Results

Panel (a): Q2 by state					
	Observations	Mean	Standard deviation	Min	Max
Total	635	0.98	2.53	-4	4
Baden-Württemberg	77	1.01	1.94	-4	4
Bavaria	75	2.56	1.95	-4	4
Berlin	30	0.40	2.42	-4	4
Brandenburg	18	0.61	1.72	-3	3
Bremen	18	-1.17	2.73	-4	3
Hamburg	39	1.38	2.43	-4	4
Hesse	49	1.53	2.34	-4	4
Mecklenburg-West Pomerania	17	2.76	1.48	-2	4
Lower Saxony	54	0.83	2.63	-4	4
North Rhine-Westphalia	51	-1.57	2.16	-4	4
Rhineland-Palatinate	48	0.52	2.66	-4	4
Saarland	20	-1.05	2.11	-4	4
Saxony	45	2.80	1.73	-3	4
Saxony-Anhalt	29	1.07	2.00	-3	4
Schleswig-Holstein	29	1.10	2.86	-4	4
Thuringia	36	0.39	2.31	-4	4
ANOVA, P-Value of F-Test		0.0000			
The Null hypothesis of the ANOVA is that groups have equal means.					

Panel (b): Q2 by government coalition					
	Observations	Mean	Standard deviation	Min	Max
Total	635	0.98	2.53	-4	4
Members of government coalition	340	1.382353	2.337519	-4	4
Members of opposition parties	295	.5084746	2.66096	-4	4
ANOVA, P-Value of F-Test		0.0000			
The Null hypothesis of the ANOVA is that groups have equal means.					

Panel (c): Q2 by need for fiscal consolidation ^a					
	Observations	Mean	Standard deviation	Min	Max
Total	635	0.98	2.53	-4	4
High	267	0.07	2.52	-4	4
Low	368	1.64	2.32	-4	4
ANOVA, P-Value of F-Test		0.0000			

The Null hypothesis of the ANOVA is that groups have equal means.

^aRange of need for consolidation goes from -0.6 to 3.5. We classify all states above 1.45 (which lies in the very middle of this range) to have high need for consolidation.

Panel (d): Q2 by status in inter-state fiscal equalization scheme					
	Observations	Mean	Standard de- viation	Min	Max
Total	635	0.98	2.53	-4	4
Recipient state	395	0.56	2.63	-4	4
Contributor state	240	1.66	2.20	-4	4
ANOVA, P-Value of F-Test		0.0000			
The Null hypothesis of the ANOVA is that groups have equal means.					

Table 7: Likelihood of Own State Compliance – Regression Results

Ordered probit regressions with answer to Question 2 as dependent variable				
Independent Variables	(1)		(2)	
	Baseline 1	Average mar- ginal effects	Baseline 2	Average marginal effects
<i>Education:</i>				
Tertiary degree	0.033 [0.089]	0.003 [0.009]	-0.027 [0.088]	-0.003 [0.010]
Economic/Business degree	-0.008 [0.097]	-0.001 [0.010]	-0.002 [0.099]	-0.000 [0.011]
<i>Information:</i>				
Member of budget committee	0.008 [0.088]	0.001 [0.009]	0.033 [0.088]	0.004 [0.010]
Number of years in parliament	-0.006 [0.008]	-0.001 [0.001]	-0.004 [0.008]	-0.000 [0.001]
Member of government coalition at state level	0.363*** [0.112]	0.037*** [0.011]	0.331*** [0.118]	0.037*** [0.012]
<i>Other individual characteristics:</i>				
Female	-0.179* [0.094]	-0.018* [0.010]	-0.185* [0.094]	-0.020* [0.011]
Age in years	0.006 [0.004]	0.001 [0.000]	0.004 [0.004]	0.000 [0.000]
<i>Expectations regarding consequences in case of non-compliance:</i>				
Q4 indicator	0.090*** [0.017]	0.009*** [0.002]	0.092*** [0.018]	0.010*** [0.002]
<i>Party affiliation^a:</i>				
CDU/CSU	-0.126 [0.197]	-0.013 [0.020]		
SPD	0.067 [0.210]	0.007 [0.021]		
Green Party	-0.110 [0.241]	-0.011 [0.025]		
Left Party	0.350 [0.285]	0.036 [0.029]		
Other parties	0.353 [0.501]	0.036 [0.051]		
Right party			-0.163 [0.120]	-0.018 [0.013]
<i>State characteristics^b:</i>				
GDP per capita	0.004 [0.014]	0.000 [0.001]	0.002 [0.014]	0.000 [0.002]
Need for consolidation	-0.478*** [0.099]	-0.049*** [0.011]	-0.464*** [0.100]	-0.051*** [0.012]
Debt rule index (current)	1.383 [1.133]	0.141 [0.116]	1.146 [1.143]	0.127 [0.127]
Dummy for consolidation assistance	-0.106 [0.286]	-0.011 [0.029]	-0.083 [0.296]	-0.009 [0.033]
Fiscal equalization transfers to GDP	0.304*** [0.091]	0.031*** [0.010]	0.330*** [0.095]	0.037*** [0.011]
Government coalition consists of right parties	0.601*** [0.123]	0.061*** [0.014]	0.598*** [0.126]	0.066*** [0.016]
<i>Regression diagnostics:</i>				
Observations	634		615	
Pseudo-R ²	0.076		0.067	
p-value joint significance of all variables				
p-value joint significance of education and information variables as well as other individual characteristics				
p-value joint significance of party-dummies				
p-value joint significance of state controls				

*Notes: Average marginal effects are computed for the modal answer (+3); */**/** denote significance at the 10%/5%/1% level; Standard errors in brackets; ^a base category is "Left Party"; ^b State characteristics are 2010 data for survey waves 1 and 2, which both took place in 2011, and 2011 data for survey wave 3, which took place in 2012.*

Table 8: Likelihood of Any State's Compliance – Regression Results

Probit regressions with answer to Question 3 as dependent variable				
	(1)		(2)	
Independent Variables	Baseline 1 ^c	Average mar- ginal effects	Baseline 2 ^d	Average marginal effects
<i>Education:</i>				
Tertiary degree	0.021 [0.035]	0.006 [0.009]		
Economic/Business degree	0.040 [0.039]	0.011 [0.011]		
<i>Information:</i>				
Member of budget committee	-0.151*** [0.039]	-0.040*** [0.011]		
Number of years in parliament	-0.006** [0.002]	-0.002** [0.001]		
Member of one of the governing parties in the respec- tive state	0.165*** [0.045]	0.044*** [0.012]		
<i>Other individual characteristics:</i>				
Female	-0.106*** [0.033]	-0.028*** [0.009]		
Age in years	0.002* [0.001]	0.001* [0.000]		
<i>Expectations regarding consequences in case of non- compliance:</i>				
Q4 indicator	0.063*** [0.005]	0.017*** [0.001]		
<i>Party affiliation^a:</i>				
CDU/CSU	-0.118* [0.069]	-0.032* [0.019]		
SPD	-0.188** [0.075]	-0.051** [0.020]		
Green Party	0.050 [0.088]	0.014 [0.024]		
Left Party	0.112 [0.085]	0.030 [0.023]		
Other Parties	-0.106 [0.127]	-0.028 [0.034]		
<i>State characteristics^b:</i>				
GDP per capita	16.885*** [4.300]	4.532*** [1.145]	20.321*** [6.338]	3.599*** [1.121]
Need for consolidation	-0.359*** [0.045]	-0.096*** [0.012]	-0.512*** [0.062]	-0.091*** [0.011]
Debt rule index (current)	3.092*** [0.310]	0.830*** [0.081]	4.442*** [0.448]	0.787*** [0.078]
Dummy for consolidation assistance	-1.036*** [0.113]	-0.278*** [0.029]	-1.587*** [0.158]	-0.281*** [0.028]
Fiscal equalization transfers to GDP	0.018 [0.043]	0.005 [0.012]	-0.010 [0.064]	-0.002 [0.011]
Government coalition consists of right parties	0.619*** [0.069]	0.166*** [0.018]	0.908*** [0.098]	0.161*** [0.017]
<i>Cross State Information Proxies:</i>				
Distance	0.117 [0.077]	0.031 [0.021]	0.199* [0.112]	0.035* [0.020]
Adjacency	-0.015 [0.025]	-0.004 [0.007]	-0.011 [0.036]	-0.002 [0.006]
Own state	0.615*** [0.127]	0.165*** [0.034]	0.949*** [0.195]	0.168*** [0.034]
<i>Regression diagnostics:</i>				
Observations	10,224		10,224	
Pseudo-R ²	0.252		0.502	
p-value joint significance of all variables				
p-value joint significance of education and information				

variables as well as other individual characteristics
p-value joint significance of party-dummies
p-value joint significance of state controls
p-value joint significance of cross state information
proxies

*Notes: Regressions include state dummies, where Baden-Württemberg is the base category of the state dummies; */**/** denote significance at the 10%/5%/1% level; Standard errors in brackets; ^a base category is "Left Party"; ^b State characteristics are 2010 data for survey waves 1 and 2, which both took place in 2011, and 2011 data for survey wave 3, which took place in 2012. ^c Regression includes personal characteristics and state fixed effects, ^d Regression includes person fixed effects.*

Table 9: Desirability of Own State Compliance – Descriptive Results

Panel (a): Q5 by state					
	Observations	Mean	Standard deviation	Min	Max
Total	639	2.56	2.12	-4	4
Baden-Württemberg	77	3.10	1.26	-2	4
Bavaria	75	3.00	1.67	-2	4
Berlin	30	1.87	2.71	-4	4
Brandenburg	19	2.32	1.89	-3	4
Bremen	18	2.17	2.04	-4	4
Hamburg	39	2.82	1.85	-4	4
Hesse	50	2.58	2.45	-4	4
Mecklenburg-West Pomerania	17	2.88	1.73	-2	4
Lower Saxony	54	1.81	2.22	-4	4
North Rhine-Westphalia	51	2.51	2.27	-4	4
Rhineland-Palatinate	50	3.06	1.52	-3	4
Saarland	20	1.35	2.94	-4	4
Saxony	45	2.82	2.2	-4	4
Saxony-Anhalt	29	2.41	1.97	-2	4
Schleswig-Holstein	29	2.28	2.81	-4	4
Thuringia	36	2.19	2.61	-4	4
ANOVA, P-Value of F-Test		0.0062			
The Null hypothesis of the ANOVA is that groups have equal means.					
Panel (b): Q5 by party					
	Observations	Mean	Standard deviation	Min	Max
Total	639	2.56	2.12	-4	4
CDU/CSU	284	2.60	2.16	-4	4
FDP	41	2.78	2.14	-4	4
Green Party	75	2.56	2.03	-4	4
Left Party	48	2.77	1.88	-4	4
SPD	172	2.37	2.15	-4	4
Other	19	2.84	2.17	-3	4
ANOVA, P-Value of F-Test		0.7325			
The Null hypothesis of the ANOVA is that groups have equal means.					
Panel (c): Q5 by randomization					
	Observations	Mean	Standard deviation	Min	Max
Total	639	2.56	2.12	-4	4

1 other state	116	2.63	2.05	-4	4
3 other state	95	2.45	2.25	-4	4
5 other state	97	2.62	2.23	-4	4
8 other state	105	2.67	1.72	-4	4
11 other state	108	2.44	2.33	-4	4
all other states	118	2.57	2.15	-4	4

ANOVA, P-Value of F-Test 0.9608

The Null hypothesis of the ANOVA is that groups have equal means.

Panel (d): Q5 by need for consolidation^a

	Observations	Mean	Standard de- viation	Min	Max
Total	639	2.56	2.12	-4	4
High	270	2.39	2.23	-4	4
Low	369	2.69	2.03	-4	4

ANOVA, P-Value of F-Test 0.0726

The Null hypothesis of the ANOVA is that groups have equal means.

^aRange of need for consolidation goes from -0.6 to 3.5. We classify all states above 1.45 (which lies in the very middle of this range) to have high need for consolidation.

Panel (e): Q5 by status in fiscal equalization scheme

	Observations	Mean	Standard de- viation	Min	Max
Total	639	2.56	2.12	-4	4
Recipient state	398	2.35	2.28	-4	4
Paying state	241	2.92	1.78	-4	4

ANOVA, P-Value of F-Test 0.0011

The Null hypothesis of the ANOVA is that groups have equal means.

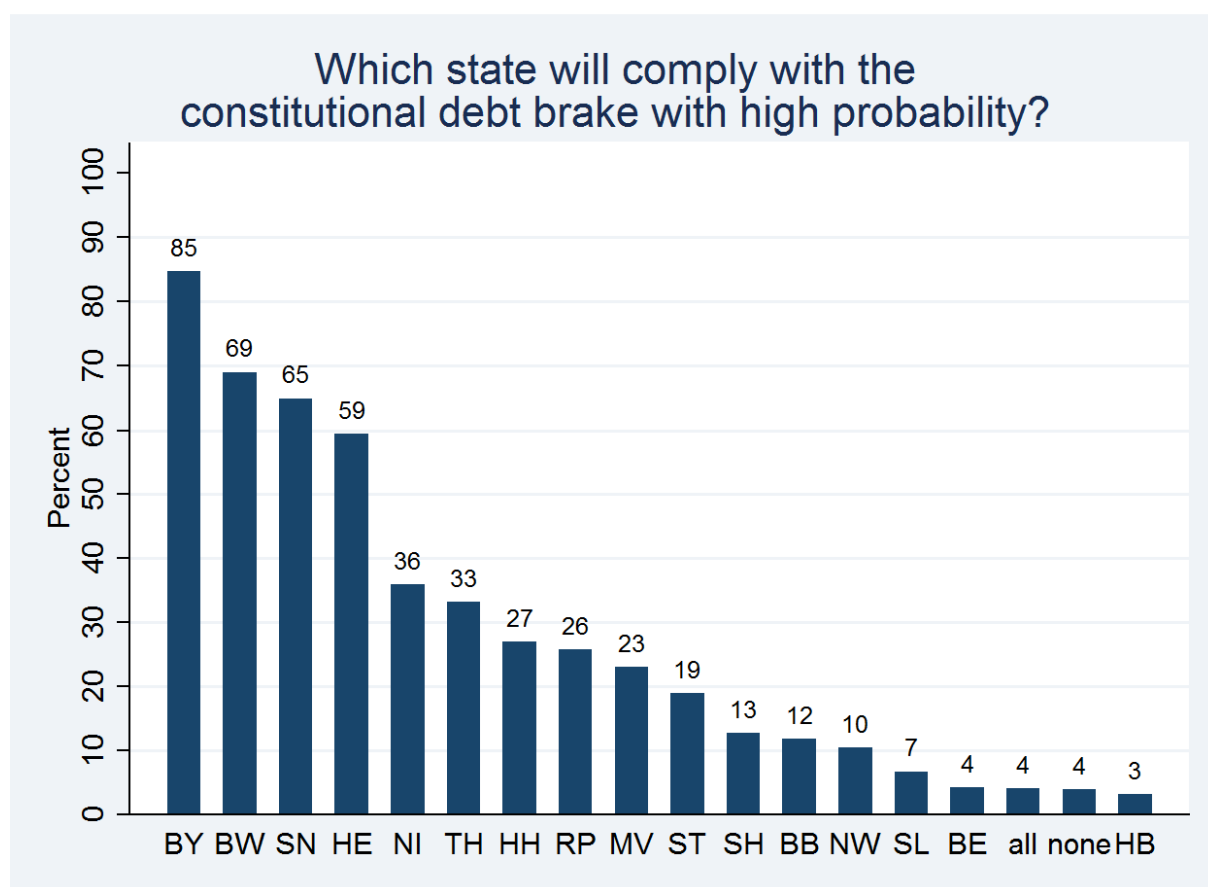
Table 10: Desirability of Own State Compliance – Regression Results

Ordered probit regressions with answer to Question 5 as dependent variable				
Independent Variables	(1)		(2)	
	Baseline 1	Average marginal effects	Baseline 2	Average marginal effects
<i>Education:</i>				
Tertiary degree	-0.118 [0.106]	-0.037 [0.033]	-0.119 [0.111]	-0.037 [0.035]
Economic/Business degree	0.268** [0.135]	0.084** [0.042]	0.251* [0.138]	0.079* [0.043]
<i>Information:</i>				
Member of budget committee	-0.072 [0.098]	-0.022 [0.030]	-0.042 [0.100]	-0.013 [0.031]
Number of years in parliament	-0.004 [0.007]	-0.001 [0.002]	-0.005 [0.007]	-0.001 [0.002]
Member of government coalition at state level	-0.033 [0.109]	-0.010 [0.034]	-0.060 [0.112]	-0.019 [0.035]
<i>Other individual characteristics:</i>				
Female	-0.017 [0.102]	-0.005 [0.032]	-0.025 [0.103]	-0.008 [0.032]
Age in years	-0.001 [0.006]	-0.000 [0.002]	-0.003 [0.006]	-0.001 [0.002]
<i>Fiscal and legal expectations and preferences:</i>				
Answer to Question 1 (expectations regarding adherence at federal level)	0.224*** [0.029]	0.070*** [0.008]	0.220*** [0.030]	0.069*** [0.008]
Q4 indicator (expected consequences in case of non-compliance)	0.073*** [0.018]	0.023*** [0.005]	0.072*** [0.018]	0.023*** [0.006]
Answer to Question 8 (share of additional budget preferably used for debt service)	0.013*** [0.002]	0.004*** [0.000]	0.013*** [0.002]	0.004*** [0.000]
<i>Party affiliation^a:</i>				
CDU/CSU	-0.223 [0.257]	-0.070 [0.081]		
SPD	-0.197 [0.272]	-0.062 [0.085]		
Green Party	-0.014 [0.280]	-0.004 [0.088]		
Left Party	-0.029 [0.314]	-0.009 [0.098]		
Other parties	0.112 [0.350]	0.035 [0.109]		
Right party			-0.055 [0.120]	-0.017 [0.038]
<i>State characteristics^b:</i>				
Eastern Germany	0.234 [0.356]	0.073 [0.111]	0.184 [0.338]	0.058 [0.106]
City state	0.817 [1.367]	0.255 [0.427]	0.775 [1.331]	0.243 [0.418]
State level budget regulation law	0.414*** [0.151]	0.129*** [0.047]	0.420*** [0.149]	0.132*** [0.047]
Debt brake in state constitution	0.457** [0.190]	0.143** [0.060]	0.468** [0.196]	0.147** [0.063]
GDP per capita	-0.016 [0.054]	-0.005 [0.017]	-0.015 [0.053]	-0.005 [0.016]
Population	0.037 [0.025]	0.011 [0.008]	0.034 [0.024]	0.011 [0.008]

Total debt to GDP	-0.020*	-0.006*	-0.019*	-0.006*
	[0.011]	[0.003]	[0.011]	[0.003]
3 year average of deficit to GDP	0.106	0.033	0.070	0.022
	[0.199]	[0.062]	[0.194]	[0.061]
Fiscal equalization transfers to GDP	0.021	0.006	0.044	0.014
	[0.370]	[0.116]	[0.365]	[0.115]
<i>Survey variant with respect to Question 5</i>				
Number of state not adhering (as assumed for Question 5)	-0.018*	-0.006*	-0.015	-0.005
	[0.010]	[0.003]	[0.011]	[0.003]
<i>Regression diagnostics:</i>				
Observations	634		615	
Pseudo-R ²	0.122		0.119	
p-value joint significance of all variables	0.000		0.000	
p-value joint significance of education and information variables as well as other individual characteristics	0.444		0.408	
p-value joint significance of party-dummies	0.560		n.a.	
p-value joint significance of state controls	0.000		0.000	

*Notes: Average marginal effects are computed for the modal answer (+4); */**/** denote significance at the 10%/5%/1% level; Standard errors in brackets; ^a base category is "Left Party"; ^b State characteristics are 2010 data for survey waves 1 and 2, which both took place in 2011, and 2011 data for survey wave 3, which took place in 2012.*

Figure 1



BB=Brandenburg, BE=Berlin, BW=Baden-Württemberg, BY=Bavaria, HB=Bremen, HE=Hesse, HH=Hamburg, MV=Mecklenburg-West Pomerania, NI=Lower Saxony, NW= North Rhine-Westphalia, RP=Rhineland-Palatinate, SH=Schleswig-Holstein, SL=Saarland, SN=Saxony, ST=Saxony-Anhalt, TH=Thuringia

Figure 2

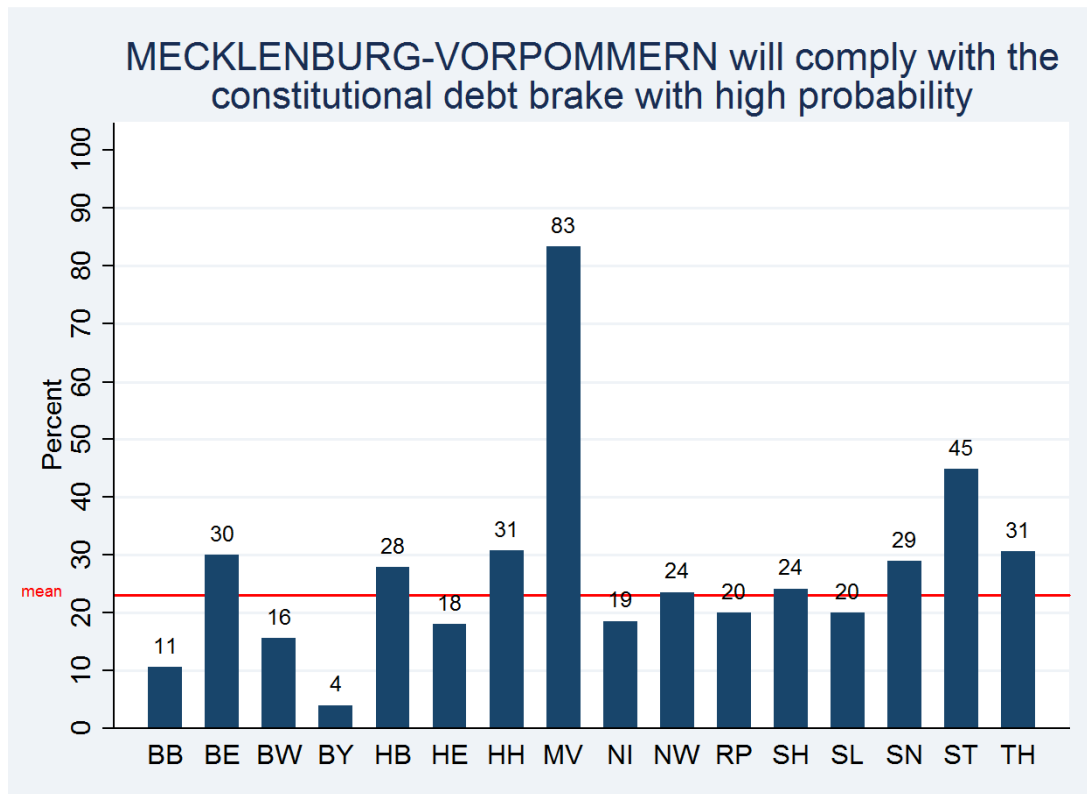
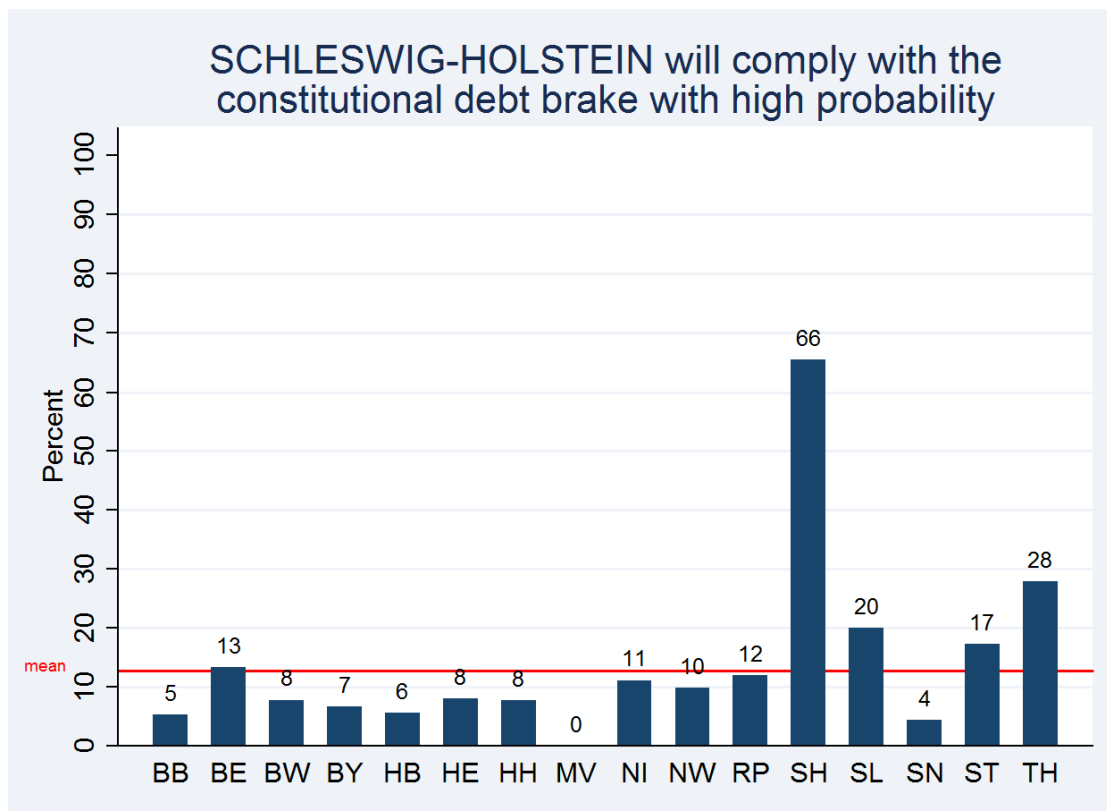


Figure 3



BB=Brandenburg, BE=Berlin, BW=Baden-Württemberg, BY=Bavaria, HB=Bremen, HE=Hesse, HH=Hamburg, MV=Mecklenburg-West Pomerania, NI=Lower Saxony, NW= North Rhine-Westphalia, RP=Rhineland-Palatinate, SH=Schleswig-Holstein, SL=Saarland, SN=Saxony, ST=Saxony-Anhalt, TH=Thuringia

Figure 4

