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### Authors

Torgler, Benno  
Schaltegger, Christoph A

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# **THE DETERMINANTS OF POLITICAL DISCUSSION: HOW IMPORTANT ARE AUDIT COURTS AND LOCAL AUTONOMY?\***

by

Benno Torgler

*UC Berkeley and CREMA, Center for Research in Economics, Management and the Arts*

and

Christoph A. Schaltegger

*Swiss Federal Tax Administration, University of St. Gallen and  
CREMA, Center for Research in Economics, Management and the Arts*

*Abstract: The intention of this paper is to analyse how audit courts and local autonomy affect political discussion, controlling in a multivariate analysis for a broad variety of potential factors focusing on Switzerland, due to its variety of audit court competences and its strong decentralised structure. With data from the World Values Survey 1995-1997 (Swiss data 1996) evidence has been found that a higher audit court competence and a lower level of centralization is correlated with a higher level of political discussion. Thus, the results in Switzerland suggest that such institutions help improve citizens' willingness to acquire information costs and discuss political matters.*

JEL Classification: D720, H410

*Keywords:* Political Discussion, Institutions, Audit Courts, Local Autonomy, Decentralisation, Switzerland

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\* Please address all correspondence to Benno Torgler, University of California, School of Law, Room 209 Boalt Hall, Berkeley, CA 94720-7200 (USA.; and CREMA, Center for Research in Economics, Management and the Arts (Switzerland), e-mail: [bennotorgler@berkeley.edu](mailto:bennotorgler@berkeley.edu)). For helpful comments thanks are due to participants of the 5<sup>th</sup> Erfurt Conference on Fiscal Sociology, October, Erfurt (Germany), 2005. Financial support from the Swiss National Science Foundation is gratefully acknowledged.

## *1 Introduction*

This paper investigates empirically the determinants of political discussion intensity. The aim of the paper is to explore to which extent citizens' level of discussion depends on institutions, focusing specifically on audit courts and local autonomy with Swiss data. On the whole there are not many studies systematically analyzing the influence of institutions on the frequency of discussion or citizens' political interest. One main exception is the work of Benz and Stutzer (2004), who found with survey data from European Union and Switzerland that citizens are politically better informed when they have more extended political participation rights. However, in line with several previous studies, the idea behind such a study is to investigate political institutions as independent variable and thus stressing that specific factors should be treated as endogenously determined by political institutions (see Bohnet and Frey 1994, Schaltegger and Feld 2001, Frey and Stutzer 2000, 2002, Torgler 2005a, 2005b).

First we focus on audit courts, an institution that exists in many countries (for example, Federal Audit Court in Germany (Bundesrechnungshof), local audit courts in Switzerland (Rechnungsprüfungsorgan), General Accounting Office (USA), National Audit Office (United Kingdom), Supreme Audit Court in France (Cours des Comptes), the Italian State Audit Court, the Office of the Auditor General (Canada), the Rigsrevisionen in Denmark or the Riksrevisionsverket in Sweden).<sup>1</sup> However, empirical evidence about the effects of audit courts is rare. Thus, we analyse if audit courts have an influence on level of political discussion, controlling for additional variables. Second, we investigate the relationship between centralisation and political discussion. In his seminal contribution, Oates (1972) shows that federalism has a systematic impact on many policy fields. Since then, several authors have validated and further developed the theory of federalism and the impact of local autonomy. In a more recent survey, Oates (1999) asserts that an important aspect of federalism deserves to be investigated more thoroughly: political innovation by laboratory federalism. We attempt to shed some light on the innovation aspect of federalism and local autonomy with a focus on political discussion. To the authors' knowledge, there is no systematic evidence on the impact of federalist institutions on political discussion up to now. Thus, our aim is to analyze the effect of decentralized government structures on the political culture, namely the process of public discussion.

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<sup>1</sup> For an overview on the degree of autonomy of some of these audit courts see Streim (1994).

It is essential to analyse under which institutional conditions citizens are more willing to discuss political matters. For this, the study analyses a cross-section of individuals throughout Switzerland using the World Values Survey data set 1995-1997 (Swiss data from 1996). Switzerland is chosen as it allows observing the influence of audit courts and local autonomy very well, due to a considerable variation in the degree of audit courts rights and the level of autonomy in the cantons.

In Section 2 and 3 theoretical considerations on audit courts and the local autonomy are provided. Section 4 introduces the data set, the model and the variables and presents the empirical findings. Section 5 finishes with some concluding remarks.

## *2 How Audit Courts Affect Political Discussion*

We observe many supreme audit courts at the national level. Interestingly, the few studies that exist have mostly been published in the *European Journal of Law and Economics* (see Frey 1994, Forte and Eusepi 1994, Streim 1994). Frey (1994) surveys the advantages and the systematic distortions audit courts are faced with. Regarding the advantages, Frey points out that: “The information made available by the supreme auditing institution is a necessary precondition for the control of the public administration ... the activity of the supreme auditing institution is of crucial importance for a well-functioning political and administrative system” (p. 169).

This information mechanism (collecting, processing, interpreting) helps - according to Frey - the members of parliament, the opposition parties and the media to better supervise the administration performances. However, the information function may also lead to stronger public awareness among citizens. They have the possibility to acquire information at lower costs increasing the incentive to be informed and to discuss issues. More transparency helps to improve citizens’ political interest. However, audit courts have been criticized that they are often driven by a “mini-maximizing strategy”. The cases presented are not sufficiently weighted. Important and highly political aspects are often disregarded (Frey 1994). Nevertheless, such a strategy may depend on the institutional structure of the audit courts and how they are embedded in the institutional structure of a country in general.

Surprisingly, empirical evidence about the impact of audit courts is still rare. Schelker and Eichenberger (2003) have filled a gap with their study on Switzerland, using audit courts as the independent variable. One of the key elements in their study is the development of an

index that measures the rights and competences of audit courts in the different cantons. This allows investigating the impact of audits in Switzerland *empirically* and in detail. As dependent variable they used tax burden and expenditures and find that a stronger audit court leads to a lower tax burden and lower expenditures. In a further step Schelker and Eichenberger (2004) work with a dataset covering 730 municipalities in a cross-sectional analysis from 1999, using tax rate as the dependent variable. The results indicate that stronger audit courts have negative impact on the tax rate. Local direct democracy had a statistically significant positive impact on the tax rate and cantonal direct democracy a negative effect (not statistically significant). On the other hand, more local autonomy leads to lower tax rates. In a next step, Torgler (2005b) focuses in an empirical study not on revenues and expenditures, but on the individuals' willingness to pay taxes. Using data from the ISSP 1998 (Swiss data 1999) he found evidence that a higher audit court competence has a statistically significant positive effect on tax morale. Thus, the results suggest that in cantons where audit courts are not knights without swords they help improve taxpayers' tax morale and thus citizens' intrinsic motivation to pay taxes.

## 2.2 Audit Courts in Switzerland

Switzerland offers a good case study as the audit court structures vary strongly among the 26 cantons. In some cantons the audit courts only have a small influence as they have similar competences as the supreme audit courts in other countries at the national level. In other cantons they can even be regarded as a shadow cabinet (Schelker and Eichenberger 2003).

Schelker and Eichenberger (2003, 2004) provide a good overview of the competences of audit courts (finance commissions, *Rechnungsprüfungskommissionen*) in Switzerland. These are strongly influenced by the direct democratic traditions in many cantons. In direct democratic communes without a parliament, citizens have the right to decide in a municipal assembly (*Gemeindeversammlung*). There, the audit courts have more competences than the national supreme courts. Additionally, they have the legal competence to control not only the public administration, but also the *executive*. They are more independent and are more actively integrated in the political process with ex ante verification competences (e.g., budget proposals, application right). There are even cases where the audit court members are chosen by elections in the *Gemeindeversammlung*. Thus, audit courts help to improve the competition among institutions. Ex ante provision of additional information by the audit courts reduced

the principal agent problem between the government and the citizens. Audit courts with proposal and amendment rights compete in the agenda setting process against the government reducing the discretionary leeway of a government. Both bodies compete with their proposals in the political process to win the majority of citizens' votes. As audit courts are independent (no executive power) and less integrated in the political network, their incentive to extract political rents is lower (contrary to an opposition party).

As mentioned previously, Schelker and Eichenberger (2003) have developed a useful index that measures the legal rights and competences of audit courts in the different cantons. In order to build the index, the authors first study the cantonal legislation on municipalities and second check whether the communities make use of this opportunity the cantonal law offers. The authors also conduct a survey among experts in the cantonal controlling institutions to collect missing information. The index catches the following four main differences among the cantons: 1) resource accounting (*Gesamtrechnung*) ex ante (budget proposals are evaluated based on accounting standards), 2) individual businesses (*Einzelgeschäfte*) ex ante<sup>2</sup>, 3) individual businesses (*Einzelgeschäfte*) ex post<sup>3</sup>, 4) amendments (*Änderungsanträge*)<sup>4</sup>. These values have all been added to a sub-index ranging from 0 to 4 (value 1 if the instrument is available, 0 if not). Ex post resource accounting and governmental proposition recommendations have not been included in this index, as these aspects are common to all audit courts. In a next step, the sub-index has been multiplied by a factor that measures the prevalence of municipal assemblies (*Gemeindeversammlung*) in a canton.<sup>5</sup> Communities with municipal assemblies have strong audit courts, which are taking the function of a competing political unit. Thus, the final index (V-RPK) measures two dimensions: the *strength* and the *diffusion* of audit courts aggregated at the cantonal level. We observe strong differences among the 26 Swiss cantons, which allows using this variable as the independent variable in our multivariate analysis.

### 2.3 The Effects on Political Discussion

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<sup>2</sup> Evaluation of the efficiency of individual investment projects before they are adopted and implemented.

<sup>3</sup> Evaluation of the implementation effectiveness and identification of misuse of public funds.

<sup>4</sup> Recommendation and amendment rights to bring the information in the political process, which reduced citizens' information costs and helps to reduce the asymmetric information between the citizens and the government.

<sup>5</sup> The values are between 0 and 1. Each cantonal value represents an aggregation from its communities.

How can audit courts affect individuals' level of political discussion? Discussions among individuals often take place at the local level. Local audit courts inform citizens about many aspects and thus act as important provider of politically relevant information. This reduces citizens' costs to get informed. Citizens' are calling for political information because they can use the information for the votes. Institutions that respect the preferences of the citizens will have more support by the electorate than a state that acts as a Leviathan. A government that pre-commits itself with specific rules such as a strong audit court imposes itself restraints on its own power and thus sends a signal that citizens are seen as responsible persons. Such opportunities increase the incentives to discuss political matters due to a higher potential involvement in the political process. Furthermore, if citizens can elect the members of the government and the audit court, the government can give the signal towards their citizens that they take their preferences seriously, that voters are not ignorant or uncomprehending, which might create or maintain a certain social capital stock. A stronger interaction between the state and the government leads to a stronger political awareness among citizens.

The more citizens are informed on political issues, the stronger the "government contract" is based on trust. Citizens' are in the position to better monitor and control politicians with the help of audit courts and thus induces higher incentives to discuss such political matters. An intensive every-day interaction between citizens, the audit court, and the local politicians and bureaucrats induces trust and thus enhances the willingness to acquire information and discuss political issues with other individuals. Thus, audit courts reports and suggestions become less complex as the ones prepared at the national level in different countries, and are thus more suitable to attract the citizens' interest and reduces the costs of discussion. Furthermore, elected audit court members have an incentive to take citizens' preferences into account and to provide information that is understandable and demand oriented. They have a strong incentive to control the executive and the public administration in line with citizens' preferences and therefore provide the citizens with a certain transparency that is required to discuss political matters or may even provoke citizens' to discuss issues that audit courts raise. Thus, we predict that the more extensive the competences of the audit courts are, the higher the individuals' level of political discussion.

### *3 How the Level of Local Autonomy Affects Political Discussion*

The impact of federalism and local autonomy on political discussion has many aspects. In the following, we are going to mention four aspects.

First, local autonomy is combined with a certain degree of fragmentation. In Switzerland, there is a high degree of geographical fragmentation with the result of small-scale jurisdictions. Small jurisdictions increase citizen's incentive to be informed and to participate in political discussions. One reason could be that the likelihood to be the decisive voter in a municipal assembly increases with the smallness of a jurisdiction. Kirchgässner and Pommerehne (1978) have shown for 66 municipal assemblies in the canton Basel-Country that the smaller the jurisdiction, the higher the participation rate in the local town meeting discussions. Second, federalism and local autonomy is combined with decentralized political competences. In this respect, the power to tax is probably the most important competence since it allows conducting policy programs autonomously. If local jurisdictions have considerable legal competences and if people can freely choose their residence, there will be some Tiebout (1956)-like sorting. People with similar preferences choose common locations so that there is low political polarization within a jurisdiction. If there is some common "political ground" for discussions in a small jurisdiction where identification with fellow-citizens and political agents is possible, we have a breeding ground of trust in a society creating social capital and a higher probability to come together and discuss political matters.

Third, federalism and local autonomy is combined with innovation. Federalism serves as a laboratory for policy inventions (Oates 1999). In the words of U.S. Supreme Court Justice, Louis Brandeis in 1932: "It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country" (Oates, 1999, p. 1132). Feld and Schnellenbach (2004) have analysed different policy fields at the Swiss local level, where this kind of laboratory federalism in fact worked as a breeding ground for innovations. If voters can compare the performance of their government with the performance of neighbouring governments with similar conditions, there is also some kind of yardstick for the public discussion <sup>6</sup>. This enriches the political discussion by different alternative policies that can be evaluated and adapted for own purposes.

Fourth, political discussion is stimulated in an environment where federalism and local autonomy is combined with competition. To be informed and to follow political discussion makes sense for the electorate as long as there is a possibility to influence political decisions

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<sup>6</sup> The seminal contribution on yardstick competition stems from Besley and Case (1995).



by votes or by migrating to jurisdictions that seem to better fit with own preferences. The second aspect can be described as the “exit”-mechanism (Hirschman 1970). For Brennan and Buchanan (1980) the exit possibility is one of the most important aspects to hold politicians accountable and thus prevent a hold-up by a Leviathan government. The possibility to react with exit also stimulates incentives to stay informed on some spheres of the political discussion. Otherwise, a true evaluation of alternative locations would not be possible.

## *4 Data Analysis*

### *4.1 Data Set*

The World Values Survey (WVS) allows us to analyse the level of political discussion as a dependent variable. The survey is a worldwide investigation of socio-cultural and political change that collects comparative data on values and belief systems among peoples around the world. It is based on representative national samples of at least 1000 individuals in a country, and has been conducted in more than 80 countries. All surveys are done via face-to-face interviews at the respondents’ homes and in their respective national languages. The sampling design consists of a multi-stage, random selection of sampling points with a number of individual observations drawn from all administrative regional units, after stratification by region and by degree of urbanization. The survey results can be weighted to represent national population parameters.<sup>7</sup> As already mentioned we are going to work with the 1996 Swiss data set<sup>8</sup>.

### *4.2 Dependent Variable: Political Discussion*

To assess the level of discussion intensity we use the following question:

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<sup>7</sup> For a comprehensive discussion of the WVS, see Inglehart et al. (2000).

<sup>8</sup> It should be noticed that the Swiss World Value Survey was not random-random but quota-random, based on a random sample of communes and then on quotas in terms of sex, age, etc. in the selected communes. Thus, the smallest cantons are not necessarily represented (not represented are: Appenzell a. Rh., Glarus, Jura, Nidwalden, Uri, and Zug).

*When you get together with your friends, would you say you discuss political matters frequently, occasionally or never? (3=frequently, 2=occasionally, 1=never).*

This measure has the advantage to ask individuals about their *behaviour* and not their attitudes or their political interest in general. Furthermore, it has a couple of advantages compared to previously used proxies. For example, Benz and Stutzer (2004, p. 35) construct an index of 10 questions about their EU knowledge to assess voter information. In a second step they also measure voters' objective information in Switzerland using three questions about fundamental characteristics of the Swiss political system. As the authors state, the questions do not directly measure the political information citizens have on other aspects. Furthermore, the questions evaluate factual knowledge that may not be important in the political process per se. Our question on the other hand, is neutral covering all different kind of political matters. Benz and Stutzer also work with a question that measures subjective political information level, asking people how well informed they feel about the EU, its policies and institutions. The question focuses only on the EU and not on political issues in general. Furthermore, the question measures subjective perceptions rather than citizens' devotion in the political discussion process. With a question that focuses on the frequency of discussion, we get closer to a variable that can be seen as an approximation of how intensive citizens' are involved in political discussions and in some way how much time individuals devote to study political matters. Certainly, also in this case, the available data is based on self-reports rather than observable measures of the frequency of political discussion and thus not free of biases. Matsusaka and Palda (1999), for example, report that self-reported turnout rates exceed actual turnout rates. Another technical aspect is that the World Values Survey has the advantage to be designed as a wide-ranging survey, which reduces the probability of respondents being suspicious and of creating framing effects by other similar questions. Furthermore, Benz and Stutzer (2004) stress that the discussion process is one important "transmission channel that leads from extended political participation rights to higher voter information" (p. 52). Thus, our paper allows to get further insights into what shapes the transmission channel, a question that the study of Benz and Stutzer (2004) also investigated working with the following question: "Did you discuss with other people which party or candidate to vote for?" Certainly it is a drawback that only individuals who actually voted in

the general election were asked the question in the survey. Thus, the problem is that the question only focuses on a specific election rather than on different kinds political issues and aspects. However, the authors have provided with their study important empirical evidence for this research area.

### 4.3 Model

In order to examine our hypothesis, the following estimation equation is postulated:

$$DF_i = \beta_0 + \beta_1 \cdot CTL_i + \beta_2 \cdot PPAR_i + \beta_3 \cdot INST_c + \varepsilon_i$$

where  $DF_i$  denotes the individual political discussion intensity,  $CTL_i$  a panel of control variables at the individual level covering age, gender, education, marital status, income and employment status,  $PPAR_i$  measures whether someone is a member of a political party.  $INST_c$  are the institutional factors at the cantonal level  $c$ . Our main independent variables are the following: The AUDIT COURT index developed by Schelker and Eichenberger (2003) and CENTRALISATION, measured as the share of cantonal public spending on cantonal and local spending.

To isolate the impact of institutions on the level of political discussion we need to consider several control factors. The literature on voting behaviour has strongly focused on socio-demographic and socio-economic factors (for an overview, see Wolfinger and Rosenstone 1980). It can be expected that such variables perform similar using political discussion intensity as dependent variable instead of voter turnout. Matsusaka (1995) summarizes the findings stating: “Married people are more likely to vote ... A person’s level of education is positively correlated with her probability of voting ... A person’s age is positively correlated with her probability of voting”. Thus, we are going to control for age (also allowing for non-linear effects with a quadratic term), education<sup>9</sup> and marital status. Furthermore, we also control for the economic status<sup>10</sup> as the literature indicates a positive

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<sup>9</sup> Scale from 1 to 9, 1= no formal education, 9= University-level education, with degree.

<sup>10</sup> Question: People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the: DUMMY: UPPER CLASS, UPPER MIDDLE CLASS, LOWER MIDDLE CLASS, the rest (lower middle class, working class and lower class) is the reference group.

correlation between income and voter turnout. Additionally, we investigate gender differences and the correlation between occupation and political discussion frequency. Wolfinger and Rosenstone (1980) report that people at the top of the occupational status ladder vote the most and show that lower turnout values among women obtained in previous studies are largely exaggerated. At the age of forty, men and women vote at virtually the same rate. After that the turnout of men and women begins to diverge reaching a maximum turnout gap of 4.5 percent. It will be interesting to see whether we observe a political discussion gap in Switzerland after controlling in a multivariate analysis for the variable age. It was a long way till women received the right to vote. Contrary to most of the European and North American nations who introduced women's right to vote in the first part of the 20<sup>th</sup> century, Switzerland introduced the right very late. In 1971, women's right to vote was accepted in Switzerland with a majority of 66% yes votes.<sup>11</sup> However, in central and eastern Switzerland there were still seven cantons with a no-majority. Thus, it may be possible that such a gap is more evident in Switzerland. Additionally, it is useful to investigate the membership in a POLITICAL PARTY as a variable. It can be expected that individuals who participate actively in political parties have stronger incentives and preference to discuss political matters, as one of the major aims in such an organization is to be actively involved in political matters.

We will estimate weighted ordered probit models and weighted least squares. Two different models allow checking the robustness of the results, although the ordered probit models seem to be more adequate due to the way the dependent variable has been coded. It helps to analyse the ranking information of the scaled dependent variable. As in the ordered probit estimation, the equation has a non-linear form; only the sign of the coefficient can be directly interpreted and not its size. Calculating the marginal effects is therefore a method to find the quantitative effect a variable has on discussion intensity. The marginal effect indicates the change in the share of citizens (or the probability of) belonging to a specific level, when the independent variable increases by one unit. In the weighted ordered probit estimation, the marginal effects for the highest value "frequently" and the lowest one "never" are shown. In general it could be criticised that including aggregated cantonal variables as audit court, local autonomy or direct democracy produce downward biased standard errors (see, e.g., Frey and Stutzer 2000). Thus, we present standard errors adjusted for clustering on cantons. This allows to take heteroscedasticity into account. Some groups might be over-

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<sup>11</sup> Stutzer and Kienast (2004) analyze the impact of the introduction of women's right to vote on public spending in Swiss cantons.

sampled. A weighted variable helps correct the samples and thus reflect national distribution.<sup>12</sup> Furthermore, it should be noticed that answers as “don’t know” and missing values have been eliminated in all estimations.

#### *4.4 Results*

Table 1 presents the results focusing on the relationship between audit courts and the frequency of political discussion and Table 2 shows the correlation between centralisation (share of cantonal public spending on cantonal and local spending) and political discussion. The first estimation in each table (Eq. 1 and 5) considers the basic variables without the economic class variable due to the higher number of observations (higher number of missing values for the economic situation). In a next step we add the economic variables in the regression. This allows checking the robustness of our main independent variables AUDIT COURT and CENTRALISATION. The results indicate that our hypotheses cannot be rejected. As we can see, the coefficients of our two main independent variables are highly statistically significant. Table 1 indicates in the first estimation that an increase in the audit court index by one unit raises the proportion of individuals with the highest level of political discussion by 2.2 percentage points. On the other hand, it reduces the probability of not discussing political matters by 2.6 percentage points. Table 2 shows that there is a negative correlation between centralisation and political discussion. Including the income variables in Table 1 reduces the marginal effects of the variable AUDIT COURT slightly, but the results remain robust. On the other hand the marginal effects for the variable CENTRALISATION even increase.

In general, it can be argued that weighted regressions are only efficient when the weights can be estimated precisely. As the heteroscedasticity is already accounted for by adjusting standard errors for clustering on cantons, it may be reasonable to alternatively run regressions treating the different data points equally. Thus, we also run a regression without a weighting variable. The results remain robust, showing a statistically significant coefficient for both independent variables that we focus on. Comparing also estimations with and without the institutional variables indicates that the Pseudo R2 increases after including them in the regression. We additionally checked whether further variables affect the significance of the variable due to an omitted-variable problem. We investigate whether the place of residence of

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<sup>12</sup> The weighting variable was provided by the World Values Survey.

individuals (level of urbanization<sup>13</sup>) affects the frequency of political discussion. It can be argued that the level of population affects the level of information. However, the direction is not clear. In small places information may be higher due to strong social interactions. On the other hand, individuals in larger places may benefit from economics of scale in information production (Benz and Stutzer 2004). The regressions indicate that the coefficient for urbanization is not statistically significant, but negative in sign. Using dummy variables instead of a continuous variable (highest value in the reference group) indicates that only the coefficient for a town size of 2'000-5'000 inhabitants was statistically significant with a positive sign. Most important to our analysis, the institutional variables remain statistically significant. Furthermore, the results also remain robust after using least squares models in Eq. 3 and 7 instead of ordered probit.

However, it is still possible to criticize our empirical analysis due to endogeneity problems. One could claim that institutions should be treated as endogenous in the long run. In Switzerland people can also vote on the institutional structure. It can be stated that citizens' political interests, which may partly differ across cantons, determine the extent of institutional structure in the long run. Thus, the effect of the institutions may partly reflect citizens' political involvement and interest (preferences). Or in other words, citizens with a higher discussion frequency choose stronger audit courts or local autonomy institutions? In general, such institutions have a long tradition in Switzerland and are quite stable over time, which might suggest that the causality runs from institutions to political discussion and not the other way around. However, to check for possible causality problems, we conduct a Hausman Chi-square test. The choice of adequate instruments for institutions is not extensively addressed in the literature (see, e.g., Kaufmann, Kraay and Zoido-Lobaton 1999, Bai and Wei 2000, Kaufmann, Mehrez and Gurgur 2002). More recent studies stress the relevance of considering historical and geographic features of the countries as instrumental variables as they influence the outcome through their impact on the institutional and political environment (see, e.g., Hall and Jones 1999, and Acemoglu, Johnson and Robinson, 2001). Recent studies such as the ones of Alesina et al. (2002) or La Porta et al. (1999) offer a broad data set to consider factors such as latitude, ethnic fractionalization, language, and religion. Thus, in line with such an approach we use language (German=1, non-German canton=0, mixed cantons (0.5) as an instrument for audit court and centralisation. This is possible due to the language differences

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<sup>13</sup> Number of inhabitants (1=UNDER 2,000; 2,000-5,000; 5,000-10,000; 10,000- 20,000; 20,000-50,000; 50,000-100,000; 7=100,000-500,000), mean= 3.459.

among Swiss cantons. Language seems also to be suitable instrument in our case, being highly correlated with institutions (with audit court  $r=0.51$ ; with centralisation  $r=-0.34$ ) and showing no correlation with the error term ( $r=0.08$  in the audit court estimation,  $r=-0.02$  in the centralisation regression). The Hausman Chi-square tests reject the hypothesis that CENTRALIZATION or AUDIT COURT are endogenous. Nevertheless, we run in both cases 2SLS regressions (see Eq. 4 and 8). The result is: the coefficients of AUDIT COURT and CENTRALISATION remain highly statistically significant.

Eq. 4 and 8 also consider an instrument for being a member of a political party, as there may be a potential *selection bias*. People with strong preferences to discuss political matters may choose to participate in a political party. This would imply a reverse causality. In this case, we use a dummy variable that measures the membership in other voluntary organizations. The variable is not correlated with the error term and but correlated with being a member of a political party. The 2SLS estimations indicate that the results are consistent with the other estimations. Not surprisingly being a member of a political party strongly affects discussion intensity, increasing the probability of discussing political matters “frequently” by not less than 33 percentage points.

What about the control variables? The results are in line with the findings in the literature on voting behaviour. Age is positively correlated with discussion frequency. Checking for non-linearity with the quadratic term we find support for diminishing returns. Education is a very important predictor of discussion intensity. An increase in the education level by one unit increases the share of subjects stating the highest level of discussion by around 3 percentage points. On other hand, it reduces also the probability of stating that someone never discusses political issues by around 3 percentage points. The coefficient is statistically significant at the 1% level. We also find statistically significant gender differences with high quantitative differences. Being a women rather than a men reduces the probability of reporting the highest discussion level by around 9 percentage points and increases the probability of never discussing political matters by around 10 percentage points. Thus, demographic factors play an important role to understand differences in the frequency of political discussions.

We also observe that the economic situation matters. The lowest income class has also *ceteris paribus* the lowest level of political discussion. However while the differences to the UPPER MIDDLE CLASS and the LOWER MIDDLE CLASS are statistically significant, there is no statistically significant difference to the UPPER CLASS. It may be possible that

higher opportunity costs of discussion for the group with the highest economic class status may lead to a decrease of political frequency compared to the middle class.

On the other hand, marital status and occupation seem not affect discussion intensity systematically. None of the coefficients that measure the marital status are statistically significant (compared to the reference singles) and only self-employed citizens' report a lower discussion frequency than full-time employed people, with marginal effects around 6 percentage points and a coefficient that is statistically significant at the 10% or 5% level.



Table 1: Audit Courts and Political Discussion

	<i>Eq. 1</i>				<i>Eq. 2</i>				<i>Eq. 3</i>		<i>Eq. 4</i>	
<i>Dependent Variable:</i> <i>Frequency of Political Discussion</i>	<i>ORDERED</i>				<i>ORDERED</i>				<i>OLS</i>		<i>2SLS</i>	
	<i>PROBIT</i>				<i>PROBIT</i>							
	<i>clustering on cantons</i>				<i>clustering on cantons</i>				<i>Clustering on cantons</i>			
<i>Independent Variables</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. (1)</i>	<i>Marg (3)</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. (1)</i>	<i>Marg. (3)</i>	<i>Coeff.</i>	<i>t-Stat.</i>	<i>Coeff.</i>	<i>t-Stat.</i>
<b>a) Demographic Factors</b>												
AGE	0.043***	2.70	-0.013	0.011	0.046***	2.81	-0.013	0.011	0.024**	2.64	0.011	0.86
AGE SQ	-0.4e-03***	-2.63	0.0001	-0.0001	-0.5e-03***	-2.93	0.0001	-0.0001	-0.0002**	-2.73	-0.0001	-1.20
WOMAN	-0.337***	-2.76	0.097	-0.082	-0.373***	-3.20	0.109	-0.090	-0.195***	-3.03	-0.165***	-2.87
EDUCATION	0.122***	9.08	-0.035	0.030	0.101***	5.98	-0.029	0.025	0.053***	5.26	0.045***	2.85
<b>b) Marital Status</b>												
MARRIED	-0.106	-1.01	0.030	-0.026	-0.107	-0.92	0.031	-0.026	-0.055	-0.90	-0.013	-0.15
LIVING TOGETHER	-0.253	-1.20	0.079	-0.056	-0.234	-1.15	0.073	-0.052	-0.119	-1.11	-0.008	-0.07
DIVORCED	-0.128	-0.68	0.038	-0.030	-0.133	-0.64	0.041	-0.031	-0.068	-0.63	0.003	0.02
SEPARATED	0.441	1.05	-0.105	0.130	0.495	1.13	-0.116	0.148	0.251	1.15	0.400**	1.97
WIDOWED	0.012	0.07	-0.003	0.003	0.091	0.50	-0.026	0.023	0.045	0.47	0.143	1.11
<b>c) Economic Variable</b>												
UPPER CLASS					0.310	1.54	-0.080	0.086	0.158	1.48	-0.022	-0.11
UPPER MIDDLE CLASS					0.267**	2.17	-0.076	0.067	0.140**	2.21	0.062	0.85
LOWER MIDDLE CLASS					0.210**	2.01	-0.060	0.052	0.108*	1.96	0.102	1.65
<b>d) Employment Status</b>												
PART TIME EMPLOYED	0.162	1.02	-0.044	0.042	0.193	1.29	-0.053	0.050	0.102	1.30	0.099	1.20
SELFEMPLOYED	0.212*	1.86	-0.057	0.057	0.223*	1.81	-0.060	0.060	0.118*	1.78	0.216**	2.27
UNEMPLOYED	-0.461	-1.63	0.154	-0.089	-0.374	-1.33	0.123	-0.075	-0.190	-1.32	-0.102	-0.74
AT HOME	0.249	1.48	-0.066	0.067	0.284	1.62	-0.075	0.077	0.148	1.55	0.173*	1.72
STUDENT	0.120	0.61	-0.033	0.031	0.157	0.75	-0.043	0.041	0.082	0.73	0.073	0.61
RETIRED	0.199	0.97	-0.054	0.052	0.210	0.96	-0.058	0.055	0.110	0.94	0.167	1.35
OTHER	0.312	0.87	-0.079	0.088	0.323	0.89	-0.082	0.091	0.166	0.85	0.151	0.74
<b>e) SOCIAL CAPITAL</b>												
POLITICAL PARTY	0.994***	4.87	-0.186	0.332	0.940***	4.57	-0.182	0.310	0.477***	5.39	1.923**	2.58
<b>f) Institutional Variable</b>												
AUDIT COURT	0.091***	2.68	-0.026	0.022	0.078**	2.31	-0.023	0.019	0.040**	2.23	0.179***	3.28
Observations	1152				1095				1095		1079	
Pseudo R-squared	0.068				0.07							
R-squared									0.125			

Notes: Robust standard errors (adjusted for clustering on cantons). Dependent variable: political discussion on a three-point scale. In the reference group are MALE, SINGLE, WORKING CLASS AND LOWEST CLASS, and FULL TIME EMPLOYED. Marginal effect = highest political discussion score (3), lowest (1). Instrumental variable for audit courts: language, instrumental variable for member of a political party: member in other voluntary organizations (church or religious organization, art, music or education organization, labour union, environmental organization, professional association, charitable organization). Significance levels: \* 0.05 < p < 0.10, \*\* 0.01 < p < 0.05, \*\*\* p < 0.01.

Table 2: Centralisation and Political Discussion (Spending)

	Eq. 5				Eq. 6				Eq. 7		Eq. 8	
<i>Dependent Variable:</i>	<i>ORDERED</i>				<i>ORDERED</i>				<i>OLS</i>		<i>2SLS</i>	
<i>Frequency of Political Discussion</i>	<i>PROBIT</i>				<i>PROBIT</i>							
	<i>clustering on cantons</i>				<i>clustering on cantons</i>				<i>Clustering on cantons</i>			
<i>Independent Variables</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. (1)</i>	<i>Marg. (3)</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. (1)</i>	<i>Marg. (3)</i>	<i>Coeff.</i>	<i>t-Stat.</i>	<i>Coeff.</i>	<i>t-Stat.</i>
<b>a) Demographic Factors</b>												
AGE	0.047***	2.95	-0.014	0.011	0.049***	3.07	-0.014	0.012	0.026***	2.87	0.020*	1.68
AGE SQ	-0.001***	-2.87	0.1e-03	-0.1e-03	-0.001***	-3.18	0.1e-03	-0.1e-04	-0.3e-03***	-2.94	-0.2e-03**	-2.17
WOMAN	-0.342***	-2.85	0.099	-0.084	-0.380***	-3.34	0.111	-0.092	-0.199***	-3.16	-0.187***	-3.24
EDUCATION	0.122***	8.69	-0.035	0.030	0.099***	5.69	-0.029	0.024	0.052***	5.07	0.041**	2.59
<b>b) Marital Status</b>												
MARRIED	-0.114	-1.13	0.033	-0.028	-0.114	-1.00	0.033	-0.028	-0.058	-0.98	-0.025	-0.30
LIVING TOGETHER	-0.262	-1.23	0.082	-0.057	-0.240	-1.16	0.075	-0.053	-0.122	-1.12	-0.024	-0.20
DIVORCED	-0.125	-0.66	0.038	-0.029	-0.127	-0.61	0.038	-0.029	-0.065	-0.60	0.021	0.17
SEPARATED	0.434	1.01	-0.103	0.128	0.495	1.10	-0.116	0.148	0.252	1.12	0.404	1.57
WIDOWED	0.031	0.18	-0.009	0.008	0.109	0.62	-0.030	0.028	0.055	0.59	0.181	1.37
<b>c) Economic Variable</b>												
UPPER CLASS					0.315	1.62	-0.081	0.088	0.160	1.56	-0.011	-0.06
UPPER MIDDLE CLASS					0.274**	2.23	-0.078	0.069	0.143**	2.26	0.080	1.11
LOWER MIDDLE CLASS					0.198*	1.94	-0.056	0.049	0.102*	1.89	0.070	1.08
<b>d) Employment Status</b>												
PART TIME EMPLOYED	0.143	0.88	-0.040	0.037	0.173	1.13	-0.048	0.045	0.092	1.14	0.041	0.47
SELFEMPLOYED	0.186	1.50	-0.050	0.049	0.195	1.46	-0.053	0.051	0.103	1.45	0.133	1.38
UNEMPLOYED	-0.504*	-1.76	0.171	-0.095	-0.415	-1.46	0.138	-0.082	-0.210	-1.44	-0.210	-1.56
AT HOME	0.247	1.51	-0.066	0.066	0.283*	1.67	-0.075	0.076	0.148	1.60	0.171*	1.76
STUDENT	0.116	0.59	-0.032	0.030	0.165	0.78	-0.045	0.043	0.086	0.76	0.105	0.85
RETIRED	0.201	0.97	-0.055	0.052	0.211	0.96	-0.058	0.055	0.110	0.94	0.161	1.31
OTHER	0.295	0.82	-0.075	0.082	0.313	0.87	-0.080	0.088	0.160	0.83	0.118	0.60
<b>e) SOCIAL CAPITAL</b>												
POLITICAL PARTY	0.952***	4.68	-0.181	0.316	0.896***	4.33	-0.177	0.293	0.456***	5.09	1.714**	2.34
<b>f) Institutional Variable</b>												
CENTRALISATION	-0.769**	-2.18	0.222	-0.189	-0.848**	-2.45	0.247	-0.206	-0.442**	-2.45	-2.415**	-3.28
Observations	1152				1095				1095		1079	
pseudo R-squared	0.067				0.070							
R-squared									0.126			

Notes: Robust standard errors (adjusted for clustering on cantons). Dependent variable: political discussion on a three-point scale. In the reference group are MALE, SINGLE, WORKING CLASS AND LOWEST CLASS, and FULL TIME EMPLOYED. Marginal effect = highest political discussion score (3), lowest (1). Instrumental variable for centralisation: language, instrumental variable for member of a political party: member in other voluntary organizations (church or religious organization, art, music or education organization, labour union, environmental organization, professional association, charitable organization). Significance levels: \* 0.05 < p < 0.10, \*\* 0.01 < p < 0.05, \*\*\* p < 0.01.

In Table 3 we check whether the findings regarding the variables AUDIT COURT and CENTRALISATION remain robust, including them *together* in the regression. We present estimations without and with the economic class variables. The results indicate that sign and significance of the variables AUDIT COURT and CENTRALISATION remain stable. Both coefficients are still highly statistically significant. The marginal effects decreases slightly but are still quite high. To check the robustness of the results we include a further institutional variable into the regression: an index for the degree of direct democratic participation. The index reflects the extent of direct democratic participation (1= lowest and 6 highest degree of participation) at the cantonal level and has been used in several previous studies on Switzerland (see, e.g., Frey and Stutzer 2000, 2002, Schaltegger and Feld 2001, Benz and Stutzer 2004, Torgler 2005a).<sup>14</sup> It should be noticed that a stronger audit court goes in line with higher direct democratic rights. In our data there is a high correlation between the index of direct democracy and the index of audit court ( $r=0.61***$ , significant at the 0.01 level). This makes it difficult to clearly separate the effects of the two variables in one estimate. Certainly, the high correlation cannot be interpreted as evidence for causality. However, it can be argued that direct democracy may foster a stronger audit court at the cantonal level. It can be supposed that the significance of the audit court variable decreases when adding direct democratic rights to the equation, as direct democratic participation rights are a stronger instrument for citizens' to express their preferences and might therefore have a stronger impact on the level of political discussion (see also results obtained by Benz and Stutzer 2004). Thus, not surprising, adding the proxy for direct democratic participation rights, the coefficient loses its significance and its size. On the other hand the coefficient of the variable DIRECT DEMOCRACY is statistically significant.<sup>15</sup> Interestingly, the coefficient for local autonomy remains statistically significant. Audit courts can be seen as a sort of "supplement" or "transmission mechanisms" of direct democracy. The joint role played by both institutions has been investigated using a Wald-test for coefficient restrictions (test for *joint* significance). The null hypothesis is rejected, meaning that both institutions as a group play a significant

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<sup>14</sup> The index includes the four legal instruments: the popular initiative to change the canton's constitution, the popular initiative to change the canton's law, the compulsory and the optional referendum to prevent new law or changing of a law and the compulsory and the optional referendum to prevent new state expenditure. The index is based on the degree of restrictions in form of the necessary signatures to use an instrument, the time span to collect the signatures and the level of new expenditure which allows to use the financial referendum (for a discussion see Stutzer 1999).

<sup>15</sup> Torgler (2005b) reports similar findings focusing on tax morale as dependent variable and working with the International Social Survey Programme data set.

role in the determination of individuals' political discussion intensity. The variables as a group are jointly significant at the 1% level, providing thus strong evidence of the importance of these institutions.

Table 3: Institutions and Political Discussion

<i>Dependent Variable: Frequency of Political Discussion</i>	<i>weighted</i>				<i>weighted</i>				<i>weighted</i>			
	<i>ordered probit</i>				<i>ordered probit</i>				<i>ordered probit</i>			
<i>Independent Variables</i>	<i>Coeff.</i>	<i>z- Stat.</i>	<i>Marg. (1)</i>	<i>Marg. (3)</i>	<i>Coeff.</i>	<i>z- Stat.</i>	<i>Marg. (1)</i>	<i>Marg. (3)</i>	<i>Coeff.</i>	<i>z- Stat.</i>	<i>Marg. (1)</i>	<i>Marg. (3)</i>
<b><i>all other variables included</i></b>												
<b><i>INSTITUTIONS</i></b>												
AUDIT COURT	0.081***	2.60	-0.023	0.020	0.068**	2.13	-0.020	0.017	0.012	0.30	-0.003	0.003
CENTRALISATION	-0.640**	-2.10	0.184	-0.156	-0.745**	-2.44	0.217	-0.181	-0.782***	-3.12	0.227	-0.190
DIRECT DEMOCRACY									0.076**	2.58	-0.022	0.018
Wald-Test: AUDIT COURT & CENTRALISATION	16.45***				16.95***							
Wald-Test: ALL INSTITUTIONS									29.56***			
Wald-Test: AUDIT COURTS & DIRECT D.									10.09***			
Pseudo R2	0.069				0.072				0.073			

Notes: Robust standard errors (adjusted for clustering on cantons). Dependent variable: political discussion on a three-point scale. In the reference group are MALE, SINGLE, WORKING CLASS AND LOWEST CLASS, and FULL TIME EMPLOYED. Marginal effect = highest political discussion score (3), lowest (1). Significance levels: \* 0.05 < p < 0.10, \*\* 0.01 < p < 0.05, \*\*\* p < 0.01.

#### *4 Conclusions*

The intention of this paper was to analyse how audit courts and local autonomy affect individuals' frequency of political discussion, controlling for a broad variety of potential factors. It is highly relevant to investigate political discussion intensity as dependent variable since discussion is supposed to be a major transmission mechanism to enhance individuals' information level and their strength to be political active. Switzerland with a big variety of audit court competences in its states/cantons has been analysed. This variety makes Switzerland a good case study to investigate. With data from the World Values Survey we provide evidence that a higher audit court and local autonomy competence have a significantly positive effect on individuals' discussion intensity. This effect tends to persist even after controlling for several factors. Thus, in line with the previous studies of Schelker and Eichenberger (2003, 2005) and Torgler (2005), the results in Switzerland suggest that in some cantons the audits courts are not at all knights without swords. Giving them a sword has an important impact on citizens' behaviour. It enhances citizens' discussion frequency and therefore contributes to the political process reducing the costs of discussion and providing a higher level of transparency. Very much the same can be concluded focusing on federalism and local autonomy. The stronger the legal competencies at the local level, the higher the intensity of political discussion. The effect seems to be important not only because of its significance but also because of its economic impact. These results also shed some light on the innovative power of federalism that has been stressed by Oates (1999). It is an important aspect since political discussion can be seen as a prerequisite for the working of government institutions. Thus, our empirical evidence indirectly supports the findings by Thiessen (2003) for a panel of 21 countries, Lin and Liu (2000) for Chinese provinces, Wallis (1999) for the United States or Feld, Kirchgässner and Schaltegger (2005) for Swiss cantons that fiscal decentralization fosters economic performance.

This paper contributes also to the literature on political participation, analysing political discussion as dependent variable and showing that variables that help to explain voter turnout also help to explain what shapes individuals discussion frequency. In line with the study of Benz and Stutzer (2004) we provide support that there are institutional alternatives besides information campaigns to increase voters' information and thus their political involvement. We argue that political discussion is endogenously determined by

political institutions. Our study shows that not only direct democracy affects citizens' discussion intensity, but also audit courts and the level of local autonomy.

Table A1: Descriptive Statistics (without the reference groups)

	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
<b>Dependent Variable:</b>				
POLITICAL DISCUSSION	1.926	0.638	1	3
<b>Independent Variables:</b>				
<i>a) Demographic Factors</i>				
AGE	45.055	17.259	18	91
WOMAN	0.497	0.500	0	1
EDUCATION	5.212	1.749	1	9
<i>b) Marital Status</i>				
MARRIED	0.562	0.496	0	1
LIVING TOGETHER	0.070	0.256	0	1
DIVORCED	0.071	0.257	0	1
SEPARATED	0.015	0.121	0	1
WIDOWED	0.080	0.271	0	1
<i>c) Economic Variable</i>				
UPPER CLASS	0.029	0.167	0	1
UPPER MIDDLE CLASS	0.385	0.487	0	1
LOWER MIDDLE CLASS	0.391	0.488	0	1
<i>d) Employment Status</i>				
PART TIME EMPLOYED	0.081	0.273	0	1
SELFEMPLOYED				
UNEMPLOYED	0.019	0.135	0	1
AT HOME	0.113	0.316	0	1
STUDENT	0.053	0.223	0	1
RETIRED	0.161	0.368	0	1
OTHER	0.014	0.119	0	1
<i>e) Social Capital</i>				
POLITICAL PARTY	0.068	0.251	0	1
<i>f) Institutional Variable</i>				
AUDIT COURT	0.682	0.890	0	3
CENTRALISATION	0.664	0.083	0.55	0.98
<i>INSTRUMENTS:</i>				
LANGUAGE	0.559	0.467	0	1
MEMBER IN OTHER				
VOLUNTARY ORGANIZATIONS	0.577	0.494	0	1



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