

Fiscal Institutions at the Cantonal Level in Switzerland

GEBHARD KIRCHGÄSSNER^a

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1. Introduction

The debt crises of most OECD countries which followed the financial and economic crises of recent years is today one of the most important political problems which still deserves a solution. This problem is particular pressing in the eurozone where several countries, in particular Greece, but also Spain, Ireland and Portugal, and, to a lesser extent, Italy and France, face severe financial problems. Originally, it was hoped that the Maastricht criteria which should limit the relation between public debt and public deficit on the one and gross domestic product (GDP) on the other side to 60 and 3 per cent, respectively, would ensure fiscal sustainability. These limits should be observed by those European Union members which wanted to become members of the European Monetary Union (EMU), or which were, after the introduction of the common currency, members of the eurozone, respectively. To provide incentives for the EMU member countries to respect these criteria, a ‘Stability and Growth Pact’ (SGP) was adopted in 1997. Nevertheless, already in the first half of the last decade France and Germany clearly violated the deficit criterion, but the sanctions this pact provided for such situations were not enacted against these two (large) countries. Thus, this institutional framework proved itself being rather toothless, even before the financial and economic crises.

Equipped with a toothless institutional framework and confronted with drastically increasing debt in all Euro-countries it became obvious that new instruments were necessary in order to re-gain financial sustainability in the eurozone.

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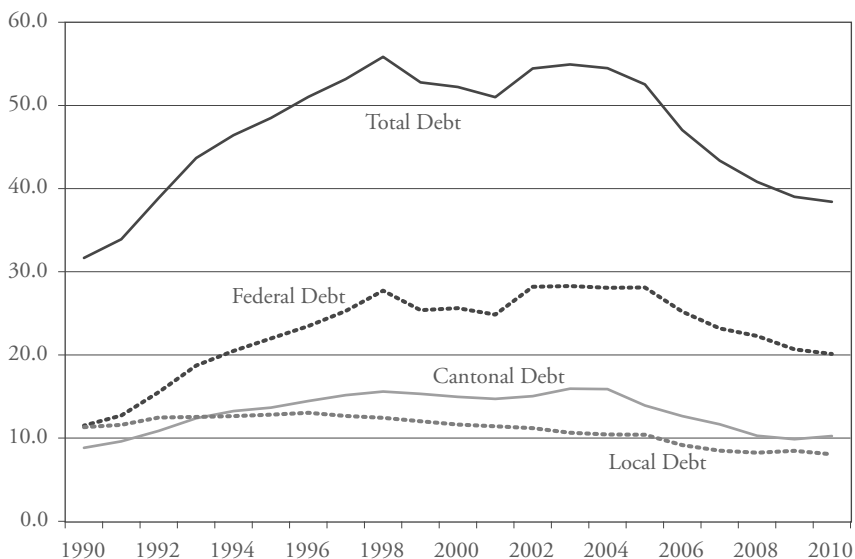
Thus, debt brakes came into the centre of the discussions. The Swiss debt brake at the federal level, which was approved by the people in a referendum in 2001, and has been effective since 2007, became the role model. That Swiss federal debt declined in recent years despite the fiscal burdens of the economic crisis supports the effectiveness of this institution. Germany introduced a similar system by a change of its constitution in 2009, which is intended to become effective at the federal level in 2016 and for the 'Länder' in 2020. Austria also decided to introduce such a system in 2011, though this is not yet really fixed. Most recently, the 'European Fiscal Compact', i.e. the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, signed on March 2, 2012, by all member states of the European Union except the Czech Republic and the United Kingdom, which is to replace the former Stability and Growth Pact, requires that all EU member countries introduce a similar debt brake.¹

In federal states like Switzerland, Germany, and Austria, for example, there is, however, the additional problem that there is no single actor who even rudimentarily has the possibility to restrict the total public deficit. In Germany, Austria and Spain, for example, the federal government is unable to do this as the regional authorities have (to some degree) fiscal autonomy which allows them to have deficits that cannot be controlled by the federal authorities. This problem became obvious in Germany in the spring of 2002: Despite the fact that the federal government had – at least in comparison with its predecessors – reduced the issuance of new debt, the Federal Republic of Germany nearly got a 'blue letter' from the European Union because the expected deficit of 2002 was 2.7 per cent compared to GDP and, therefore, far away from its former stabilisation objective, and quite close to the Maastricht limit of 3 per cent of GDP, which has actually been crossed in the following years. The reason for this was a considerable increase in the deficits of the Bundesländer and the local communities.

Thus, in federal countries a second order problem of sustainability exists: How can sub-national governments with fiscal autonomy be enforced to contribute to the overall fiscal objective of the country? In principle, there are two possibilities to cope with this problem.

- 1) A national stability pact might be concluded in analogy to the SGP of the European Union. Obviously, the well-functioning of such a pact presupposes at least some possibilities for the federal government to intervene with the finances of the lower governmental level whenever their financial decisions violate the prescriptions of the pact.

1 http://european-council.europa.eu/media/639235/st00tscg26_en12.pdf (30/10/12).

Figure 1: Swiss Public Debt in Relation to GDP, 1990 to 2010

2) An alternative is to introduce rules at the constitutional and/or statutory level which provide incentives for the sub-national governments to stick to a sustainable policy. This is the way which is followed in Switzerland where since the nineties most cantons introduced ‘debt-brakes’, i.e. rules which force the sub-national governments to strictly follow a sustainable policy without any intervention of the national government (or a supreme court). As will be shown below, these rules are quite different from the ones introduced at the Swiss federal level.

As Figure 1 shows, over the last two decades, Swiss public debt first grew considerable, but since about 2004 it has been drastically reduced again. In 1998 and 2003, with 55.8 per cent and 54.9 per cent in relation to GDP, respectively, it was not too far away from the Maastricht debt criterion. Today, total public debt is again below 40 per cent, as it had been at the beginning of the nineties. Cantonal and federal debt were responsible for the increase as well as the decrease of public debt in this period, while local debt, after a slight increase at the beginning of the nineties, was declining continuously. Thus, problems arose and had to be solved at the federal and cantonal levels. The decline of public debt in recent years went along with the introduction of debt brakes at these two levels mentioned above.

Swiss fiscal federalism is, however, not only characterised by the existence of debt brakes. Most important is also the large fiscal autonomy cantons and local communities have. All cantons have, for example, their own tax schedule for income and property taxes; income taxes are first of all cantonal and only at a second degree federal taxes. Second, citizens have – compared to other countries – extensive rights to influence political decisions directly. This also holds for decisions about public finances, and it holds in particular at the cantonal and local levels. However, debt brakes, the instrument to achieve fiscal sustainability at the cantonal level, are not imposed from above, as might be now the case in the member countries of the European Union. The rules which are fixed in the cantonal constitutions had to be approved in a mandatory referendum, and for those embedded in the cantonal budget laws there was at least the possibility for an optional referendum. Thus, in discussing the sustainability of cantonal finances, we always have to consider both sides, direct popular rights and debt brakes.

The main purpose of this paper is to discuss the effects of these two types of constitutional or statutory clauses, direct popular rights and formal fiscal restraints, on public finances of the 26 Swiss cantons. In Section 2, we describe the fiscal effects of direct popular rights, in particular of the fiscal (or expenditure) referendum. Section 3 gives an overview on debt brakes in the different cantons, with special reference to the oldest and strictest one, the debt brake of the canton St. Gallen. Then, we turn to the empirical evidence. Section 4 provides some descriptive evidence, whereas in Section 5 the results of econometric studies are presented. The bailout problem is discussed in Section 6. We conclude with some remarks on the preconditions for effective debt brakes (at the lower governmental levels) as well as on the question what other countries could learn from Switzerland (Section 7).

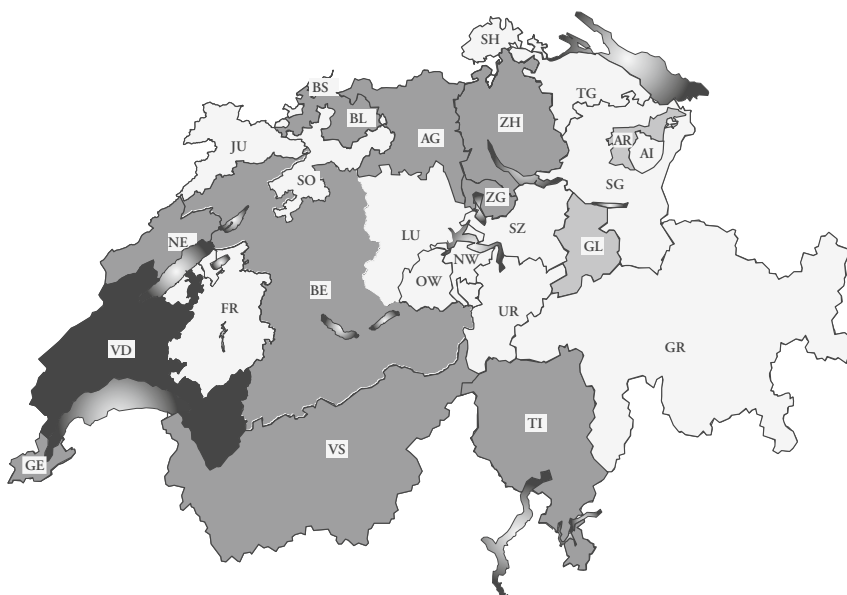
2. Fiscal Effects of Direct Popular Rights

With respect to fiscal policy, the most important direct popular right is the fiscal referendum (expenditure referendum): Above a certain limit expenditure that is not determined by a law have to get an approval by the citizens in a referendum. This largely relates to big investment projects. The limits are usually different, depending on whether this is current or non-recurring expenditure; in the latter case the limits are typically lower. The referendum might be mandatory or optional; in the latter case within a certain time period a certain number of signatures have to be collected. With the exception of Vaud, all cantons have

a fiscal referendum: thirteen cantons have a mandatory and an optional referendum, two only a mandatory and ten only an optional one.

Figure 2 provides a geographical summary of the fiscal referendum. The white-shaded cantons are those that have mandatory and optional fiscal referenda, the light-grey cantons are those with mandatory fiscal referenda only, while heavy-grey ones have only optional fiscal referenda.² The canton of Vaud (black) does not allow for any type of fiscal referendum. Thus in 1996, 17 cantons had a mandatory fiscal referendum and 20 cantons an optional fiscal referendum.

Figure 2: Fiscal Referenda in the Swiss Cantons

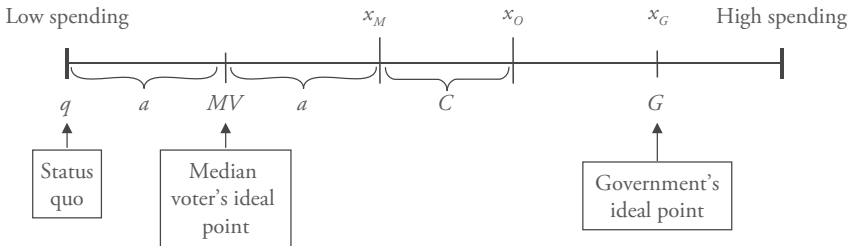


The effect of this instrument is asymmetric: it can only be used to cut expenditure, not to increase it. Thus, it reduces possible deficits and – in the long run – cantonal debt. Figure 3 illustrates a situation where the level of spending on a new

- 2 An optional and mandatory referendum have: AI, FR, GR, JU, LU, NW, OW, SG, SH, SO, SZ, TG and UR; only an optional referendum have: AG, BE, BL, BS, GE, NE, TI, VS, ZG and ZH; only a mandatory referendum have: AR and GL.

project must be decided on.³ Three points on the line are of particular importance. First, the current spending level, the *status quo*, is denoted by q ; this is the so-called *reversion point*, i.e. the level of spending that will occur if no decision is reached. Second, point G shows the government's preferred spending level. We assume that the government prefers a higher spending level than the median voter due to, for example, pork-barrel politics. Third, the point marked MV represents the ideal point of the 'median voter', i.e. we assume that citizens have a range of ideal points and MV marks the level of spending where the ideal points of half the citizens lie to the left and half lie to the right. This point can be thought of as representing something like the will of the people.

Figure 3: Budgetary Policy Making with a Fiscal Referendum



If no referendum is possible, the government is free to choose the spending level, so it would choose its preferred point G . Compare this to the outcome that would emerge when a referendum is mandatory. In this case, the government gets to decide the exact size of the project to be voted on, but voters will reject any spending proposal that is not preferred to the status quo. As it turns out, the government will propose a project with the spending level not above as x_M in Figure 3. The level x_M is constructed so that at this point, citizens are just indifferent between x_M and the status quo spending level, q ; they are indifferent since both x_M and q are equidistant, namely the distance ' a ', from MV . Knowing that spending levels higher than x_M would be rejected, the government proposes x_M since this is the level of spending closest to its own ideal point, G . The diagram is drawn such that G is higher than x_M ; if G were below x_M , the referendum would have no

3 The model of Figure 3 is adopted from ROMER and ROSENTHAL (1979), has been further developed in and is taken from FELD and KIRCHGÄSSNER (2001, p. 343).

effect since the government would propose its preferred point and voters would adopt it since they would prefer it to the status quo. Thus, an important point here is that the referendum results in lower government spending when voters' preferences on spending are sufficiently different from the government's preference. Moreover, referenda boost the power of citizens even when very few of all potential referenda take place; the power of a referendum lies mainly in inducing the government to propose policies that are close to the wishes of the majority.

The optional referendum only takes place if a certain number of citizens sign a petition that calls for the government to hold a referendum. Collecting such signatures is costly and to be concrete we suppose that ' C ' is the cost of collecting the necessary signatures. As it turns out, this tends to loosen voters' control over the government. In particular, the government will now be able to propose a spending level that is somewhat further from the median-voter point MV . This is because under these circumstances, the government must make the voters indifferent between its spending proposal and the utility they can derive from the realisation of the status quo minus the costs of collecting signatures. The maximum spending proposal at which this is achieved is x_0 ; note that this is higher than x_M by exactly the amount C . As before, the possibility of an optional referendum will only change the outcome if the government's preferences deviate sufficiently from that of the MV . For instance, if G is between x_0 and MV , then the government would choose G with or without the possibility of an optional referendum.

Thus, if the government wants to spend more money on a project than the majority of voters, the system of mandatory or optional referendum tends to force the government to propose a project that is closer to the preferences of the citizens, with the mandatory referendum being somewhat stricter than the optional one. Moreover, even in cases where referenda do not constrain the government, the outcome will not be farther away from the preferences of the median voter than it would be in a democracy without referenda. Similar conclusions can be drawn with respect to an under-spending problem.

For institutional details, take the canton St. Gallen as an example. The referendum is mandatory for non-current expenditure above 15 million CHF and for current expenditure above 1.5 million CHF. It is optional for expenditure above 3 million CHF or 300'000 CHF, respectively. Given the fact that, in 2011, the cantonal budget was 4.46 billion CHF, these are rather small sums. For an optional referendum one needs 4'000 signatures which have to be collected within 40 days. Given the size of the electorate of 312'600 voters, this is not a high hurdle.⁴

4 For a more detailed description of these institutions see, for example, SCHÖNENBERGER (1995) as well as KIRCHGÄSSNER (2009).

The second important instrument is the optional legislative referendum which exists in all cantons. New laws or revisions of existing laws have to be approved by the citizens if the necessary signatures have been collected. This instrument rather dampens instead of increases expenditure, whenever expenditure relevant laws are rejected in the referendum. Empirical investigations show that the probability of such a rejection increases – *ceteris paribus* – with the amount of money at stake.⁵ It is, however, also possible that laws which are to be revised in order to cut expenditure are rejected. Thus, a successful referendum sometimes impedes a sustainable fiscal policy.

For the mandatory constitutional referendum which also exists in all cantons the same arguments hold as for the optional legislative referendum. Constitutional changes have, however, often no direct expenditure effects because the details are fixed in the corresponding laws. Thus, they are less relevant in our context.

Different arguments hold for the initiative, which exists in all cantons at the constitutional as well as the legislative level. If a new project is initiated, expenditure might increase which endangers budgetary discipline. On the other hand initiatives might also be used to prevent expenditure. This is, however, nearly exclusively relevant at the federal level because the initiative is sometimes used as a substitute for the non-existing fiscal referendum.

But even if, as in nearly all cantons, a fiscal referendum exists, there is the problem that voters might vote for expenditure increases and, at the same time, for tax reductions or, having the same effect, not reject expenditure but tax increases. This might – at least in the long-run – lead to unsustainable policies. This can be prevented by an institutional connection between public expenditure and revenue. Today, most Swiss cantons have such connections, the so-called debt brakes. Their structure and function is to be discussed in the next section.

3. The Cantonal Debt Brakes

In 1981, the conference of the cantonal Ministers of Finance edited a *Handbook of Public Budgeting* (Vol. 1) which contains a role model law for the cantonal budgets. According to Art. 2, the principle of a balanced budget has to be observed. This is stated more concretely in Art. 4, according to which the current budget has to be balanced in the medium term, and in Art. 18 which demands that cantonal accumulated debt has to be cut back in the medium

5 See for this KIRCHGÄSSNER and SCHULZ (2005).

term, whereby 'medium term' means within about 10 years.⁶ Today, such rules can be found in nearly all cantonal constitutions and in the corresponding budget laws. The cantons are obliged to balance their budgets over the business cycle, and also to cut down accumulated debt. This could, however, not preclude cantonal debt from increasing considerably between 1990 and 2003, partly because of an unfavourable economic development. However, the development was quite different in different cantons. Figure 4 shows the development of cantonal public debt of four selected cantons, St. Gallen, Fribourg, Vaud and Geneva, over the period from 1980 to 2010. While two of them, St. Gallen and Fribourg, showed only modest nominal increases of their debt, in Vaud the cantonal debt increased considerably and in Geneva even dramatically, leading in 2010 to a public debt per capita of 29'964 CHF which is about 350 per cent above the national average.⁷

Thus, even the existence of the fiscal referendum was (in addition to regulations for a balanced budget) insufficient to prevent public debt from increasing as described above. Therefore, partly with a longer history, most cantons introduced new and/or revised old instruments to limit the debt within the past ten years: St. Gallen (1929, 1994), Fribourg (1960, 1994), Solothurn (1986, 1995, 2005), Appenzell Outer Rhodes (1995), Grisons (1998), Zürich (2001), Lucerne (2001), Nidwalden (2001), Bern (2002, 2009), Valais (2005), Aargau (2005), Neuchâtel (2005), Obwalden (2006), Vaud (2006), Geneva (2006), Basel (2006), Jura (2011), Glarus (2011) and Uri (2012).⁸ In addition to this, Basel Landschaft (2009) and Thurgau (2012) introduced rules to limit the deficit or the increase of expenditure. Thus, today only five cantons, Appenzell Inner Rhodes, Schaffhausen, Schwyz, Ticino and Zug do not employ such an instrument. While some cantons, in particular St. Gallen and Fribourg, introduced their debt brakes long ago, the majority of these rules were introduced more recently after the citizens accepted the debt brake at the federal level in the referendum of December 2, 2001.⁹

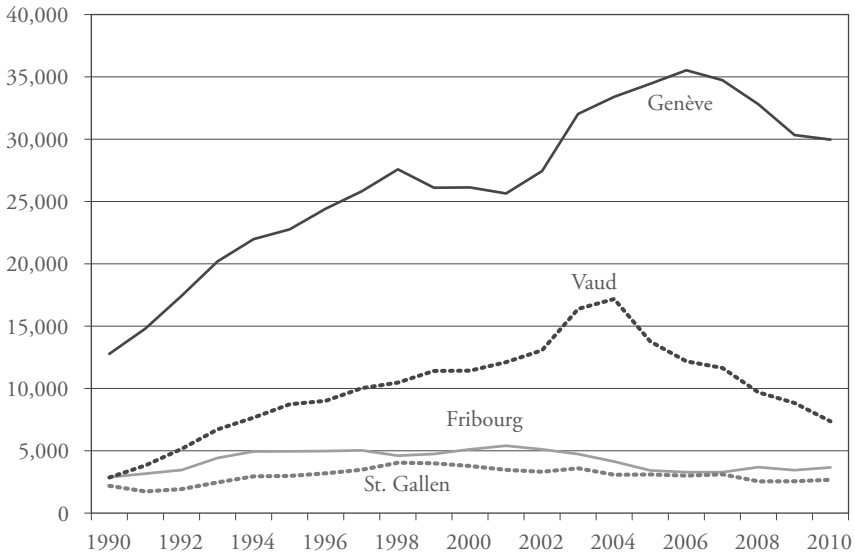
6 See for this more extensively STAUFFER (2001, pp. 83 ff.).

7 Source of the data: EFD FINANZSTATISTIK – BERICHTERSTATTUNG, *Sämtliche Tabellen 2010*, F10.7.13, Bruttoschulden pro Einwohner, nach Kanton, <http://www.efv.admin.ch/d/dokumentation/finanzstatistik/berichterstattung.php> (27/01/13).

8 If there are more dates given than one, the first one relates to the original introduction and the others to later revisions.

9 A detailed description of those rules introduced before 2000 is given in STAUFFER (2001). More recent overviews are given by KONFERENZ DER KANTONALEN FINANZDIREKTORINNEN UND FINANZDIREKTOREN (2009), FELD et al (2011, pp. 84 ff.), as well as BABUC and MÜLLER (2012).

Figure 4: Public Debt per Capita of Selected Cantons, 1990–2010



As mentioned above, to prevent such a development, a debt brake can be a useful instrument. Following SCHALTEGGER and FREY (2004), one can distinguish three elements of such an institution: (i) the basic rule, (ii) a steering rule, and (iii) a sanction rule. The basic rule states the general objective; it demands in most cases that the current budget should be balanced. The steering rules give the design of the debt brake and denote the instruments which are to be used in order to achieve the objective. They might, for example, limit the acceptable deficit of the current budget, prescribe how expenditure and revenues have to be adjusted if the expected deficit is above the acceptable limit, and describe the depreciation rule for investment expenditure. They also often contain how much savings have to be made should there be a surplus and how these savings can be used if an (expected) deficit occurs. Finally, the sanction rule determines what has to be done whenever an unexpected deficit occurs that cannot be covered by savings.

These regulations are partly fixed in the cantonal constitutions, mainly, however, in the cantonal budget laws. Due to the federal structure of Switzerland with its far reaching fiscal autonomy of the cantons, each canton can design its own debt brake. Thus, they vary with respect to their strictness. The strongest versions have the two cantons with the oldest debt brakes, St. Gallen and Fribourg. Geneva and Vaud have, on the other hand, rather weak versions.

The canton St. Gallen may be used as an example or a ‘case study’.¹⁰ The rules require that the current budget has to be balanced. The deficit may not be larger than 3 per cent of the ‘simple tax revenue’, which in 2012 was about 105 per cent of total tax revenue.¹¹ Whenever a deficit is to be expected, the tax rate has to be adjusted in order to stick to this limit. Moreover, if there are no savings available, the deficit is transferred to the budget of the year after the next year. Whenever there is a surplus, because of an economic upswing for example, this money has to be saved and/or used for additional depreciations. The tax rates cannot be reduced before these savings are not seven times the maximum allowed deficit, i.e. (in 2012) 22 per cent of total cantonal tax revenue.

Besides the current budget there is the capital budget, which is used to finance public investment. The rule is that investment projects up to 5 million CHF have to be included in the current budget, while projects between 5 and 10 million CHF have to be depreciated within five years and projects above 10 million within 10 years. The depreciations have to be included into the current budget. Thus, such projects cannot lead to a long-run debt increase. It is possible to raise debt in order to buy shares of enterprises, for example of the cantonal bank, but there have to be returns as compensation.

Thus, the citizens have – within the boundaries of the federal constitution – the competence competence with respect to the tasks the canton has to perform and the necessary expenditure. With respect to the revenue side they decide about all constitutional and statutory rules, in particular about the different taxes and the tariff schedules (including the progressivity of the direct taxes) but not about the exact tax rates. The competence with respect to the latter is with the cantonal parliament which, however, is very much restricted by the regulations described above. Fundamental (and particular) for these regulations is the fact that the canton is obliged to build up savings (up to a certain amount) before tax rates can be reduced. This implies that surpluses are built up in ‘good’ years which can be used to cover (up to a certain extent) deficits in the downswing. This institutionalises anti-cyclical fiscal policy at the cantonal level which, according to conventional wisdom, should not be possible,¹² and which, contrary to the

10 See for this Art 82 of the cantonal constitutions and in particular Art. 61 and 64 of the ‘Staatsverwaltungsgesetz’. A detailed description of these institutions in the canton St. Gallen is given in SCHÖNENBERGER (1995). See also STAUFFER (2001, pp. 86f).

11 The ‘simple tax revenue’ is the basis for the income and property tax revenue; actual revenue is given by the simple tax revenue times a multiplier in the sense of a surcharge (called ‘tax foot’). In 2012, the cantonal surcharge rate was 95 per cent, while the local surcharge rate varied between 92 and 154 per cent.

12 Usually, it is assumed that anti-cyclical fiscal policy can only be performed successfully at the federal level; the medium and lower levels are supposed to perform a pro-cyclical policy. See

experience which led to the proposals of BUCHANAN and WAGNER (1977, 1978), did not lead to an increase of public debt.

4. Fiscal Effects of Cantonal Debt Brakes I: Descriptive Evidence

In St. Gallen, the combination of direct democratic expenditure restrictions, quasi-automatic revenue adjustment and the building up of savings has proved to be successful. In 2010, for example, cantonal public debt per capita was 2'674 CHF in the canton St. Gallen; as shown in Figure 5, only the cantons Obwalden, Schwyz, and the two Appenzell had lower cantonal public debt per capita. Even more important is the fact that even in the recession year 2009 interest payments of 41 million CHF has been overcompensated by returns of 78 million CHF.¹³ The most important part is the revenue from shares of (semi-) public enterprises, especially of the St. Galler Kantonalbank. One might debate whether today it still makes sense for a government to engage in private markets in such a way; it is often demanded (and at least sometimes with good reason) that such enterprises should be privatised. This does not change the fact, however, that the canton St. Gallen has net financial assets.

It is also useful to compare this situation with the one in 1990, i.e. before the long lasting recession of the nineties. In that year cantonal debt was 2'524 CHF per capita which was 56.8 per cent of the national average. At that time, only three cantons had lower debt: Zug Grisons and Aargau.¹⁴ In 2010, public debt of the canton St. Gallen was only 39.9 per cent of the national average; it declined in real terms between 1990 and 2010 by about 25 per cent.

The rules in St. Gallen are the strongest ones of all Swiss cantons, but the ones in Fribourg come close. The same also holds for the results. Between 1990 and 2010, cantonal debt per capita rose in nominal terms from 2'871 CHF to 3'665 CHF, which is a real decline of 6 per cent. Compared to the national average of 6'700 CHF in 2010, public debt in the canton Fribourg was only 54.7 per cent. In Appenzell Outer Rhodes debt per capita even declined in

as a classical reference: "It remains to note that responsibility for stabilisation policy has to be at the national (central) level. Lower levels of government cannot successfully carry on stabilisation policy on their own for a number of reasons. This is obviously the case for the unitary state, where fiscal decentralisation is limited to the provision of local public goods. But it also holds for the federation" (MUSGRAVE and MUSGRAVE, 1984, p. 515).

13 Source of the data: See note 7 above.

14 Source of the data: EIDGENÖSSISCHE FINANZVERWALTUNG, *18 Öffentliche Finanzen der Schweiz* 1990, p. 52.

nominal terms from 1990 to 2010 from 3'060 CHF to 1'977 CHF i.e. by more than 50 per cent in real terms. However, a major reason for this was the sale of the cantonal bank in 1996 which made it possible to reduce the total cantonal debt considerably. In Grisons, public debt rose from 1990 to 1998, before the debt brake was introduced, by about 150 per cent from 2'306 CHF to 6'996 CHF; this large increase was a major incentive to introduce this institution. Since then it declined to 4'410 CHF in 2010, which is – over the whole 20 year period – a real increase of only 9 per cent. Finally, in Solothurn, between 1994, the year, before the debt brake was introduced, and 2010, the debt per capita declined from 5'826 CHF to 2'918 CHF, which is a real decline of 62 per cent. Thus, all those cantons which have debt brakes since more than ten years show a good performance in this respect; the increase of their public debt was either below the average real increase of 14 per cent, or public debt even declined.

Interesting is also the development in the canton Vaud which had for a long time the highest cantonal debt per capita besides the two 'city-cantons' Geneva and Basel. The people accepted the debt brake in April 2003; the revised constitution came into effect in 2004, and the debt brake became effective in 2006. Nevertheless, as Figure 4 shows, awareness that the debt brake would be binding in 2006 and supported by the positive economic development public debt was already reduced in 2005. In 2010 debt per capita was only 7'364 CHF compared to 17'178 CHF in 2004, i.e. it had been reduced within only 6 years by about 57 per cent, even in nominal terms.

This good performance of cantons with debt breaks can also be shown if we look at the situation of all cantons in 2010. Figure 5 shows public debt of all cantons in that year. Compared to the excessive debt of the two city-cantons Geneva and Basel-Town, but also in comparison to Neuchâtel and Vaud, those cantons that had or introduced debt breaks already in the nineties, St. Gallen, Fribourg, Solothurn, Grisons and Appenzell Outer Rhodes, have rather low debt. As a consequence, interest payments are also rather low, be it per capita (Figure 6) or in relation to all public expenditure (Figure 7).

Figure 5: Cantonal Debt per Capita, 2010

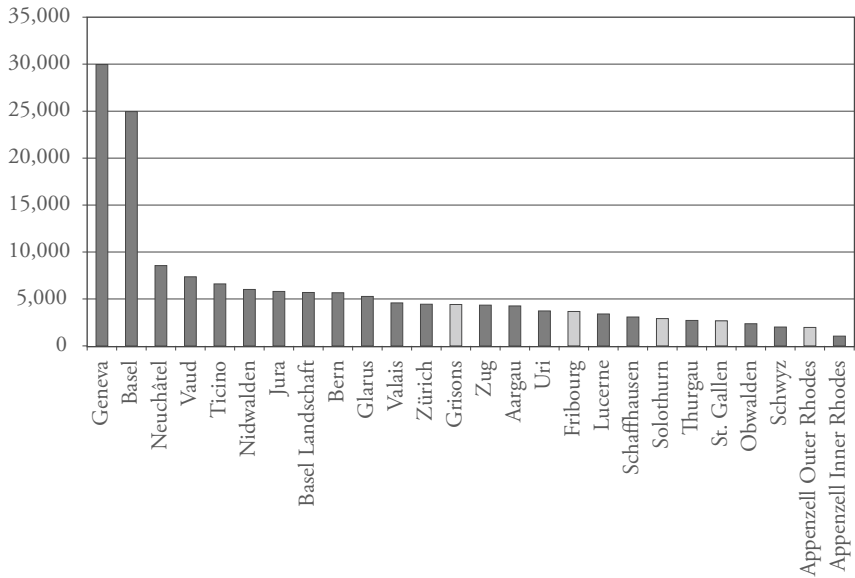


Figure 6: Interest Payments per Capita, 2010

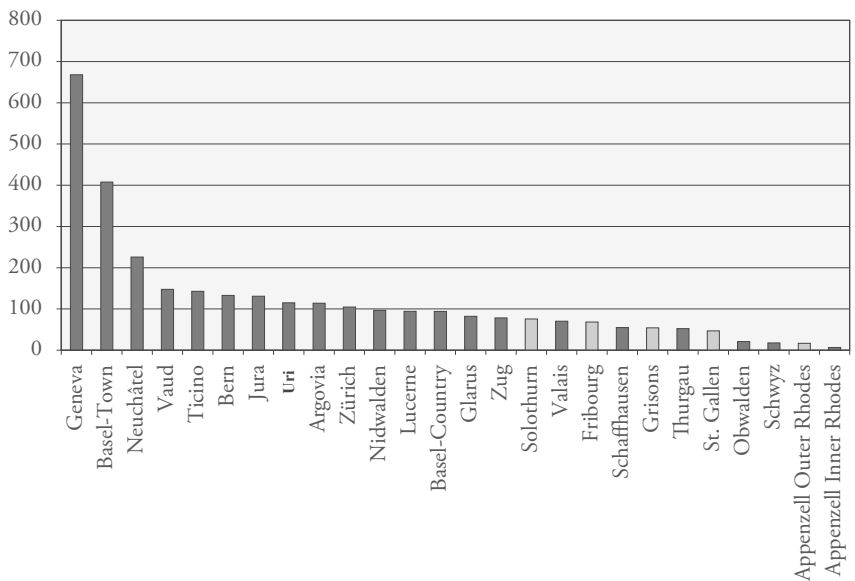
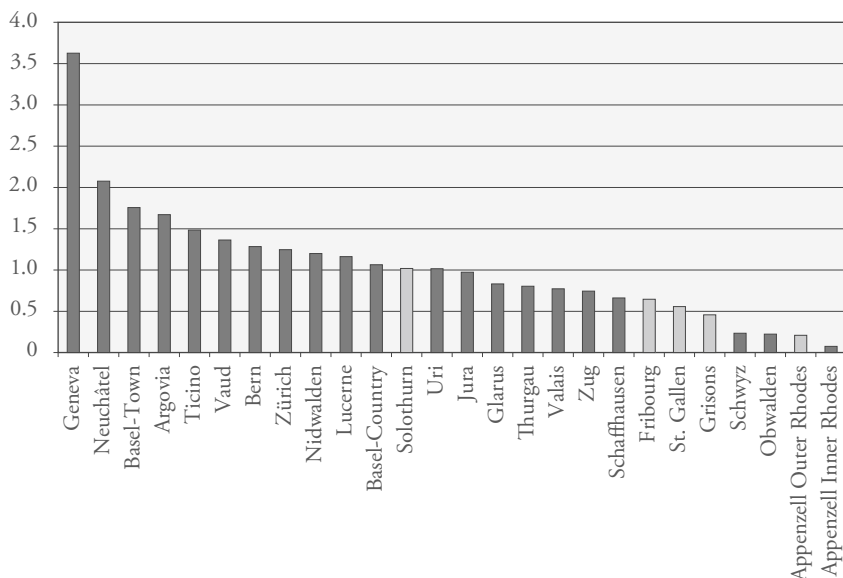


Figure 7: Interest Payments as Share of Public Expenditure, 2010



5. Fiscal Effects of Cantonal Debt Brakes II: Econometric Studies

An alternative to such casual evidence is provided by econometric studies which investigate whether cantons and local communities which use such instruments have – *ceteris paribus* – lower deficits and debts as other cantons and local communities. The first of these investigations has been performed by FELD and KIRCHGÄSSNER (2001). In a panel analysis for the Swiss cantons from 1986 to 1997, they estimated separate equations for cantonal expenditure, revenue, deficit and debt. The variables of interest were a dummy variable for the mandatory fiscal referendum and an indicator variable for the strength of the debt brake, ranging from zero for those cantons without such an institution to 3.0 for the cantons St. Gallen and Fribourg. Besides these, the usual economic, socio-demographic and political variables were included. Their main results are presented in Table 1. Cantons with a fiscal referendum have significantly lower expenditure and revenues than the other cantons. Because, however, the reduction is stronger for the revenue than for the expenditure, the deficit is significantly higher. Correspondingly, the public debt is also higher, though the corresponding coefficient is not significantly different from zero. The fiscal constraint, on the other

hand, leads to somewhat lower expenditure but higher revenue. This leads to a significantly lower deficit and also to a significantly lower debt. Thus, the combination of the fiscal referendum and the debt brake has a stabilising effect on the public finances. This does not necessarily lead to a lower tax burden, but in any case to a lower deficit and lower public debt. Insofar the 'St. Gallen Model' can be seen as an example of institutions which lead to sound public finances as it has been called by a former Finance Minister of this canton.¹⁵

Table 1: Fiscal Effects of the Fiscal Referendum and of Fiscal Constraints

	Expenditure	Revenue	Deficit	Debt
Effects of	<i>26 Cantons, 1986–1997, 312 Observations</i>			
Fiscal Referendum	−0.065* (2.14)	−0.113*** (3.87)	204.101** (2.95)	0.059 (0.61)
Debt Brake	−0.003 (0.23)	0.017 (1.24)	−92.945*** (5.02)	−0.848* ((2.15)

All variables are in real terms. The expenditure, revenue and debt variables are in logarithms, the deficit variable is in absolute values. The numbers in parentheses are the absolute values of the corresponding t-statistics. *, ** and *** indicate significance at the 5, 1, or 0.1 level, respectively.

A similar study has been performed by SCHALTEGGER (2002). Besides the somewhat longer time period the main difference is that he takes into account possible endogeneity of debt brakes and fiscal preferences of the population: If voters prefer a more conservative fiscal policy they might vote for the introduction of a debt brake but, even if there is no such institution, also vote for a stricter fiscal policy. Thus, the debt brake might not be fully exogenous to the fiscal outcome.¹⁶ To take account of this possibility, he uses an instrumental variable (IV) estimator. Table 2 shows these results. At the 5 per cent level, the fiscal referendum has a negative impact on expenditure and debt, and the debt brake also on the debt. All other effects are significant at best at the 10 per cent level. The deficit result for the fiscal referendum is astonishing: Despite the fact that the estimated impacts on both, expenditure and revenue, are negative, and the effect on revenue

15 Similar results are derived for the local communities in FELD and KIRCHGÄSSNER (2001, 2001a).

16 That a simultaneous relation between government spending and the existence or strictness of direct popular rights exists is argued in FUNK and GATHMANN (2006).

is larger in absolute terms than the one on expenditure, the estimated effect on the deficit is (not statistically significant but, nevertheless,) positive.¹⁷ The results for the debt brake are more in line of what is to be expected. The effect on revenue is slightly positive, the one on expenditure negative, and, as a consequence, the one on the deficit – as well as the one on the debt – negative.

Table 2: Fiscal Effects of the Fiscal Referendum and of Fiscal Constraints

Dependent Variable	Expenditure	Revenue	Deficit	Debt
Effects of	<i>26 Cantons, 1980–1998, 498 Observations</i>			
Fiscal Referendum	-0.169* (2.25)	-0.278(*) (1.63)	57.072 (1.12)	-0.416** (2.96)
Debt Brake	-0.300(*) (0.23)	0.017 (1.24)	-200.423(*) (1.92)	-0.797* (2.38)

See Table 1.

A further paper for the same time horizon has been published by FELD and KIRCHGÄSSNER (2007). There are two major differences to the earlier papers. First, the indicator for direct popular rights is not the existence of the (mandatory) fiscal referendum but the indicator of these rights developed by STUTZER (2003, pp. 211 ff.). Second, dependent variables are – as before – the cantonal deficit and debt, but also the cantonal and local deficit together. The reason for this is that the existence of debt breaks might trigger cantonal governments and parliaments to shift burdens to the local communities whenever they get into fiscal problems.

The results are given in Table 3. If we consider the two deficit equations, the index for direct democracy does not have a significant impact on the budget deficit. The signs indicate that direct democracy might have a negative impact on the cantonal deficit, but the *t*-statistics are far from indicating significance. On the other hand, fiscal constraints have a highly significant dampening effect on the cantonal deficit. Moreover, the fact that the two coefficients in the two deficit equations are nearly identical indicates that the deficit is not shifted to the local communities: there is no relevant impact on the local deficits.¹⁸

17 The OLS estimates show the expected negative sign, but the coefficient is also not significantly different from zero. Most other OLS estimates are quite in line with the IV estimates.

18 However, it might be the case that some of the burden is shifted to the local communities but that they compensate this by tax increases and/or expenditure reductions. There is at least some

Table 3: Effects on Cantonal and Local Deficits and Cantonal Debt

Dependent Variable	Cantonal Deficit	Cantonal and Local Deficit	Cantonal Debt
Effects of	<i>26 Cantons, 1980–1998, 498 Observations</i>		
Direct popular rights	–49.489 (0.82)	–23.493 (0.82)	–0.123* (2.05)
Debt brake	–106.768*** (3.67)	–109.545*** (2.96)	–0.048 (1.18)

See Table 1.

The results are somewhat different for the debt equation. Direct democracy has a significant negative impact, whereas the impact of the fiscal constraints is negative (as expected) but not significant. At first glance, differences between the debt and deficit equations are astonishing because public debt is nothing more than the temporally aggregated deficit. While the deficit equations rather capture the short-run, the debt equation captures the long-run effect of these institutions on the sustainability of the public finances. But this implies that those institutional variables which are almost constant over time, as the extent of direct democratic rights, might exhibit their impact more in the debt equation, while those which have a high variation rather in the deficit equations. The latter certainly holds for the impact of the fiscal constraints because in some cantons they have only been introduced during the second part of the observation period and can, therefore, not yet show their (long-run) impact on public debt.

The important question is, however, whether these impacts are not only statistically significant but also economically important. To address the economic significance, it was calculated how large the difference in cantonal and local deficits and debts is between those cantons where the corresponding variables take on their maximum value in the sample and those cantons where they have their minimum. The results are given in Table 4. It is shown that the debt breaks have strongly dampening effects on cantonal deficits with a maximum effect of more than five per cent or about three per cent, respectively, of total expenditure.¹⁹

casual evidence that this happens as, for example, at the moment in the canton St. Gallen. See, for example, A. KNEUBÜHLER, Sparpaket geht an die Substanz, Tagblatt Online, September 20, 2012 (<http://www.tagblatt.ch/ostschweiz/stgallen/stadtstgallen/tb-st/Spardiktat-geht-an-die-Substanz;art190,3143712> (31/10/12)).

19 When comparing the (maximal) quantitative impact of the different variables it should be taken into account, however, that the deficit variables are highly non-normal.

This is quantitatively well above the average deficit. Direct popular rights do also seem to have a considerable impact on the deficit, but it should be kept in mind that their estimated coefficients are not significantly different from zero. With respect to public debt, the situation is somewhat different. Comparing the two most extreme cantons in this respect, Geneva and Obwalden, direct democracy leads to a reduction of public debt by about 3'000 CHF. This is nearly 50 per cent of average debt.

Table 4: Maximal Quantitative Impacts

Dependent Variable	Cantonal Deficit	Cantonal and Local Deficit	Cantonal Debt
Effects of	<i>26 Cantons, 1980–1998, 498 Observations</i>		
Direct popular rights	–199 CHF (1.88)	–95 CHF (0.89)	–3'131 CHF (49.55)
Debt brake	–320 CHF (3.03)	–329 CHF (3.11)	–907 CHF (14.34)
Mean (standard deviation) of the dependent variable	156 CHF (488 CHF)	237 CHF (600 CHF)	6'411 CHF (4533 CHF)

For public debt, the numbers in parentheses are in per cent of the mean. In the case of budget deficits, it is in per cent of expenditure. The amount in Swiss Francs is in prices of the year 2000.

The latest paper in this direction is by KROGSTRUP and WÄLTI (2008). They use a cantonal panel from 1955 to 1999 to explain real budget balance per capita and take up the idea already presented in SCHALTEGGER (2002) that there might be an endogeneity problem because (conservative) fiscal preferences might influence both, the amount of government expenditure and the readiness to introduce and/or accept a debt brake. Following FUNK and GATHMAN (2010), they use cantonal voting outcomes in federal ballots to estimate fiscal preferences of the cantonal electorate and include these estimates as explanatory variables in their equations. Moreover, they also estimate equations with and without fixed effects. The results for the fully specified models are given in Table 5. Estimates without fixed effects show in all specifications a highly significant effect of the debt brake. If (besides time fixed effects) only two variables are included into the model, the debt brake and fiscal preferences, fiscal preferences also have a highly significant impact. In the fully specified model this impact is, however, only significant at the 10 per cent level. In the traditional fixed effects model,

the debt brakes do not show a significant impact. This is not astonishing because there is hardly any time variation in the variables for the debt brakes. If, on the other hand, the fixed effects vector decomposition approach of PLÜMPER and TROEGER (2007) is applied, depending on the specification, the debt brake has a significant impact at the 10 or even at the 1 per cent level. Thus, debt breaks seem to have a significantly dampening effect on cantonal deficits even if fiscal preferences are taken into account.²⁰

Table 5: Fiscal Effects of Debt Brakes and Fiscal Preferences

Dependent Variable	Budget Balance per Capita		
	<i>26 Cantons, 1980–1998, 498 Observations</i>		
Effects of		Without cantonal fixed effects	With cantonal fixed effects
Debt Brake	90.67*** (3.34)	83.05** (3.01)	97.75** (2.96)
Fiscal Preferences		-71.08(*) (1.93)	

See Table 1.

The last paper to be discussed is by FELD et al. (2011b).²¹ They use financial market data from 308 tradable cantonal bonds in the period from 1981 to 2007 in order to study the effect of fiscal rules on the spreads between cantonal and federal bonds. To represent the effect of fiscal rules they use first a dummy variable for the existence of a fiscal rule and, second, an update of the index originally used by FELD and KIRCHGÄSSNER (2007). Besides the extended sample and the different dependent variable, the new element of their study is the inclusion of a dummy variable for the existence of a credible no-bailout rule. They define it as a dummy variable for the time after July 3, 2003, when the Swiss Supreme Court in Lausanne decided that the canton Valais was not responsible for the

20 This estimation approach is, however, debated because it might underestimate the variances of the estimated parameters and, therefore, overestimate their significance. See for this the discussion in *Political Analysis* 19 (2011), issue 2.

21 See also FELD et al. (2011a), a report for the German government with similar results for the fiscal rule. In this report, a somewhat larger sample is used, but the no-bailout rule is not taken into account.

bankruptcy of its local community Leukerbad and, therefore, did not have to bailout it.²² Even if this was only a decision for this canton which, due to the very different cantonal constitutions, does not directly apply to other cantons, this was a strong signal to the local communities of all cantons, and in particular to the banks giving credits, that they cannot necessarily rely on a bailout by the canton whenever local communities have severe financial problems.

The results are given in Table 6. The coefficient of the debt brake has always the expected negative sign and is in nearly all specifications significantly different from zero.²³ The existence of a debt brake reduces the spread by about 10 to 20 basis points. If the strength of the rule is taken into account, it might even be reduced by 30 basis points. The more interesting result is, however, the high value of the no-bailout rule dummy and its high significance. Despite the fact that, as explained above, the decision of the Supreme Court was formally only relating to the canton Valais, it reduced the bond yield spread on average for all cantons by about 25 basis points. These results remain quite stable if fiscal preferences are taken into account. Thus, institutions that favour fiscal sustainability of the Swiss cantons do not only reduce their deficits but also lead to positive reactions from financial markets.

Table 6: The Effects of Debt Brakes on Bond Yield Spreads

Dependent Variable	Bond Yield Spreads	
Effects of	<i>308 tradable cantonal bonds 1981–2007, 7919 observations</i>	
Dummy for the Debt Brake	–0.170*** (4.00)	
Debt Brake Index	–0.101*** (3.94)	–0.052* (2.03)
No Bailout Rule		–0.255*** (–6.81)

See Table 1.

22 Decisions 2C.1/2001, 2C.4/1999, 2C.4/2000 and 2C.5/1999 of July 3, 2003. – See also BLANKART and KLEIBER (2004).

23 This effect is not significant if and only if besides the fiscal rule variable an interaction term with cantonal debt is included.

6. The Bailout Problem

What, however, happens, if cantonal jurisdictions, despite of all these institutional precautions, do not follow a sustainable fiscal policy but instead violate fiscal discipline and raise excessive debt? How far can they hope that there will be a bailout by the federal level or, to state it differently, how credible is the statement that such a bailout will not take place? For many citizens it is difficult to believe that a canton can actually go bankrupt. Moreover, Switzerland, as all other countries too, does not have explicit bankruptcy rules or laws for such situations.

The Swiss Federal Constitution provides the cantons with a sufficient financial basis; they have, in particular, tax autonomy with respect to personal as well as corporate income and property taxes. Thus, there is no reason that the federal government would have to intervene if a canton gets into a financial crisis. After all, the cantons can increase tax revenue, should this be necessary. Actually, there was no situation up to now in which the federal government has been asked to intervene and to financially support a canton or in which the federal government has done this on its own initiative. This does not preclude that the possibilities to raise tax revenue and – in addition – that the expectations about what they have to contribute to national tasks are quite different in the different cantons. However, the problems which arise from this situation have to be solved with the fiscal equalisation system; the new, largely revised system is in effect since January 2008.²⁴ It provides every canton with a fiscal endowment of at least 85 per cent of the national average, and also compensates – at least to a certain extent – special socio-economic and topographical burdens: Cantons with large agglomerations and the mountain cantons receive additional funds from the federal government. So far, i.e. with the experience of the first four year period, the system functions quite well.²⁵

A reasonable fiscal equation system should prevent a separation of the country in rich and poor communities but at the same time sustain the incentives that the cantons take care of their own tax base. If this objective can (at least approximately) be met there is no reason why the cantons should not take on their own fiscal responsibility. According to their preferences they will have different debt burdens, and their different indebtedness will, as it is actually the case in Switzerland, be reflected in different ratings on the capital market.

The picture is somewhat different at the level of the local communities. In principle, they also have a sufficient tax base to perform their tasks. If a local

24 See for this, for example, FREY and SCHALTEGGER (2003) and KIRCHGÄSSNER (2006).

25 See for this KIRCHGÄSSNER (2012).

community is highly indebted and actually goes bankrupt, as was the case in the community of Leukerbad mentioned above, first of all the private banks (and those individuals who hold the corresponding bonds) have to depreciate their credits at least partially. On the other hand, there is a supervision duty of the canton. In the case of Leukerbad the banks blamed the canton Valais to have violated this duty and went to court. However, as mentioned above, the Supreme Court in Lausanne decided that the canton Valais was not responsible. Thus, there was no bailout.

Actually, however, at least if a financial crisis is foreseeable, cantons intervene long before attempts to reach a settlement become necessary. If, for example, the financial situation of a local community in the canton St. Gallen strongly deteriorates and it has, therefore, to be included into the cantonal fiscal equalisation system, it is partly losing its sovereignty. This allows the canton to prevent the local community from going bankrupt. As, on the other hand, the local communities have a strong interest in their sovereignty, they try to avoid such a situation as far as possible.

Of course, it can never be totally excluded that a situation occurs in a federal country where a lower level community performs an ‘irresponsible’ fiscal policy and hopes for a bailout by the upper level community. The Swiss example shows, however, that with appropriate institutional rules the bailout problem can be solved in a federal country in a satisfactory way; it does not have to lead to irresponsible behaviour of the lower level communities. Possible objections that a federal country should not be able to perform a sustainable fiscal policy for this reason are, therefore, unfounded.

7. Summary and Concluding Remarks

In this paper, institutions have been described which are designed to reach sustainability of public finances in the Swiss cantons. There are on the one hand direct popular rights, the fiscal referendum in particular, which allow the citizens to express their fiscal preferences. There are on the other hand debt breaks, i.e. institutions, which prevent expenditure and revenue to drift apart too much in order to limit possible deficits. Both together, fiscal referenda and debt breaks, allow cantons to perform a sustainable fiscal policy. This also holds – and is particularly important – for those cantons that are financially weak, as, for example, the two cantons with the longest tradition of a debt brake, St. Gallen and Fribourg. That these institutions are successful cannot only be demonstrated by descriptive analysis but is also supported by econometric analyses. Moreover,

debt breaks also reduce interest payments cantons have to bear for their (debt financed) investment expenditure.

An important precondition for using such instruments is that the subnational units possess their own tax authority, i.e. that they have their own broad tax base and that they have sufficient leeway in determining their tax rates. A second precondition is the existence of direct popular rights with respect to the budgetary process. Because in other countries these preconditions are not realised to the same extent, the Swiss results cannot directly be transferred to other federal countries like, for example, Germany or Austria. This does, however, not speak against the institutions which have proven to be effective in Switzerland, but rather implies that in those other countries reforms should be performed which lead in this direction.

In some of the literature, in particular in Law, but also in Economics, it is mentioned that, in order to become effective, fiscal restriction should be written into the constitution. It might be the case that in the United States constitutional rules are actually more effective than statutory ones.²⁶ The Swiss experience shows, however, that a statutory rule can be as effective as a constitutional one. It is not that relevant where the rules are fixed, as long as the population supports these rules. That Swiss citizens strongly support them is demonstrated by the results of the corresponding referenda; there have always been large majorities in favour of introducing these rules. There is, however one argument, why this might be different in other countries. Whenever the government and the parliament of a Swiss canton intend to change the rules of the debt break or even to abolish it, people can object by using the optional referendum. In Germany and other countries, on the other hand, voters do not have this possibility. Thus, in these countries government and parliament are more bound if fiscal rules are fixed in the constitutions and not only in the budget law.

26 See for example BOHN and INMAN (1996).

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SUMMARY

In this paper, institutions are described which are designed to reach sustainability of public finances in the Swiss cantons. These are on the one hand direct popular rights, the fiscal referendum in particular, which allow citizens to express their fiscal preferences. These are on the other hand debt breaks, i.e. institutions, which prevent expenditure and revenue from drifting apart too much in order to limit possible deficits. Both together, fiscal referenda and debt breaks, allow cantons to perform a sustainable fiscal policy. This also holds – and is particularly important – for those cantons that are financially weak. That these institutions are successful is not only demonstrated by descriptive analysis but also supported by econometric analyses. Moreover, they also reduce interest payments cantons have to bear for investment expenditure. Thus, with well-designed institutions federal states might even be able to better follow a sustainable fiscal policy than unitary ones.