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# The Debt brake – the Swiss fiscal rule at the federal level

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# Summary

The Swiss fiscal rule at federal level modifies the budget process in a way that is compatible with the principles of debt stabilization and output stabilization. The structurally balanced budget rule provides a fairly stable ceiling for expenditures, but the calculation of cyclical components remains based on necessarily uncertain assumptions. The rule requires budgetary surpluses while the economy is booming, largely removing the need for large adjustments during a consecutive downturn and mitigating the problem of pro-cyclical policy. The rule is also flexible enough to handle exceptional situations. It has modified incentives within the budget process towards a better implementation of deficit and debt objectives. Budget quality remains a challenge, if increasing entitlement spending, especially related to demographic change, creates pressure to displace other types of expenditures.

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# 1 Introduction

The Swiss “debt brake” or “debt containment rule” is an interesting illustration of a fiscal rule. The mechanism of the fiscal rule is aimed at financing expenditures through current revenues instead of new debt. This budget rule is applied in concert with a constitutional upper limit on the main tax rates. This makes it difficult to adjust tax rates in order to micro-manage the budget. The rule has been designed as a structurally balanced budget rule. It combines the stabilizing properties of an expenditure rule (because of the cyclical adjustment) with the effective debt-controlling properties of a balanced budget rule.

The debt brake was first applied in the federal budget of 2003, and the principle of an expenditure ceiling has been applied ever since. The fiscal rule requires a balanced budget in cyclically adjusted terms and uses a transparent adjustment procedure for that purpose. The rule includes investment spending and offers an escape clause for unexpected

situations and uncontrollable developments. Record of deviations from the rule is kept in a notional compensation account. Deficits in that account must subsequently be eliminated. The rule is anchored in the Federal Constitution, which can not be changed without a popular vote, and was accepted by a majority of 85 % of voters.

This paper aims to fill a void in English-language documentation about recent developments of the fiscal rule. In doing so, the paper is aimed at complementing existing English-language works such as Danninger (2002) or Bodmer (2006).

The next chapter introduces the rationale for a fiscal rule in the Swiss context. Chapter three presents the basic features of the rule, while chapter four gives an overview of the consequences and remaining challenges for fiscal policy. A concluding summary is to be found in chapter five.

## 2. The reasons for a fiscal rule

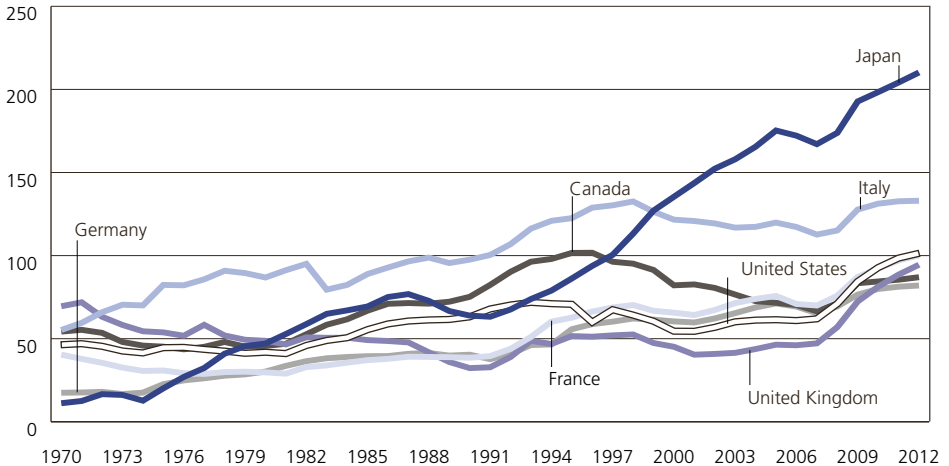
### 2.1 The emergence of a deficit bias

Increasing debt ratios have occurred throughout history, without always resulting in default, but episodes of high debt were often restricted to exceptional situations such as wars. This is clearly visible in the case of the USA and the UK (see Appendix 2).

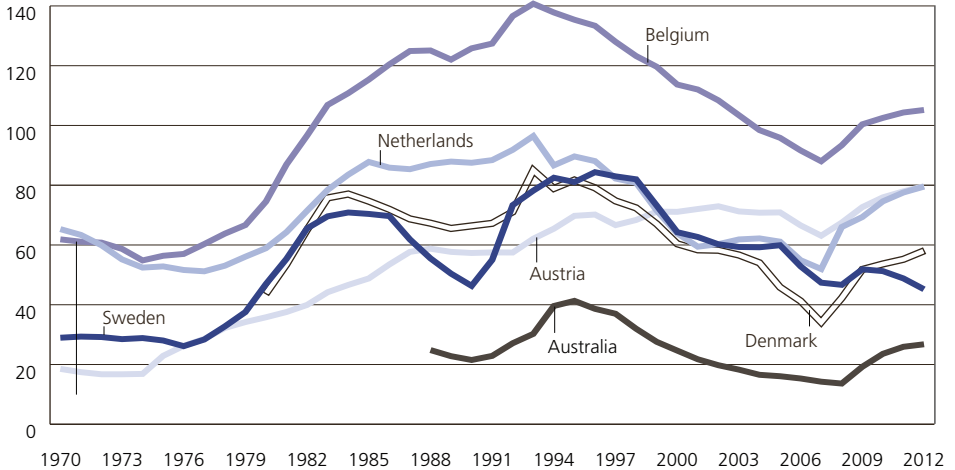
After the 1970s, however, an increasing number of industrialized

countries experienced increasing debt ratios for no apparent external reason. The origin of these increases must be explained by factors relating to political economy or economic policy, as far as it cannot be explained by business cycles. Different countries experienced such a rise in debt at different points in time (see Fig. 1). Some countries have engaged in a policy of debt reduction e.g. by introducing fiscal rules. While the process started in the 1980s for the USA, it occurred only mildly in the UK until the crisis of 2008–2009.

Figure 1: Selected debt-to-GDP ratios since 1970







There is an abundance of literature on the possible reasons for persistent fiscal deficits and increases in public debt. There are various explanations such as bargaining issues between political groups or local authorities or biased incentives of policy makers<sup>1</sup>. Over the long term, a continuously increasing debt-to-GDP ratio is not sustainable. It will cause either a default on debt or increase pressure towards higher inflation – resulting in a drop in the real value of debt (at the expense of creditors).

## 2.2 A rule for Switzerland

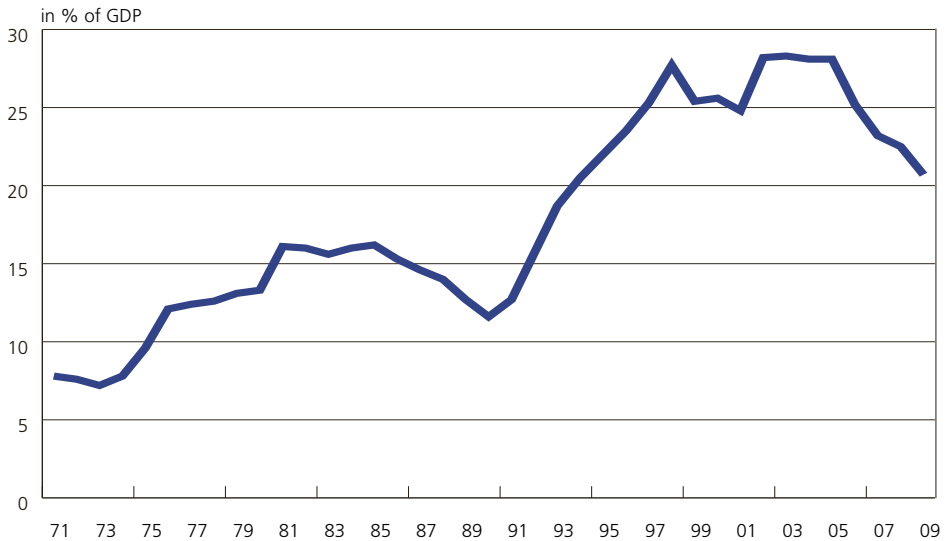
Switzerland experienced a steep rise in the debt ratio during the 1990s (see fig. 2). This expansion of federal debt was perceived to reflect flaws in the budget process. First, there was a spending bias coupled with a pro-cyclical fiscal policy: economic upturns were not used as an opportunity for fiscal consolidation. This resulted in consecutive large deficits during economic downturns. Second, in order to raise revenues, a

1 A discussion can be found in Alesina, Alberto and Roberto Perotti (1995), *The Political Economy of Budget Deficits*, IMF Staff Papers, 42, pp. 1–31.

constitutional amendment is usually required, since maximum tax rates of main revenue components are determined by the Constitution. Spending increases, on the other hand, require only a simple majority vote in parliament. The incentives of lawmakers were shaped by these

asymmetries, which were rooted in the institutional set-up of the budget process. As demographic prospects are likely to further increase fiscal pressures, it seems all the more important to find new ways to ensure sound public finances and keep debt at a manageable level.

Figure 2: Swiss gross federal debt as a % of GDP



Source: Federal Council (Schuldenbericht, 2006), Federal Finance Administration

## 2. The reasons for a fiscal rule

Fiscal rules are a possible answer to a perceived deficit bias<sup>2</sup> as they are aimed at correcting incentives in order to make policy more sustainable. The fiscal rule at the federal level in Switzerland is a constitutional rule that corrects aspects of the budget process that are perceived to be flawed. This rule can be understood in the sense that has been outlined notably by Brennan and Buchanan in 195<sup>3</sup>: it follows a constitutional principle regarding debt and deficits. The rule was accepted by 85 % of voters in 2001; therefore, the constitutional amendment represents a broad

consensus regarding the abstract goals of budget policy. At the same time, the discussion about the measures that are needed to meet the requirements of the rule is left to daily political business. The budget process no longer needs to address the question of the overall deficit and can focus on the politically debated question allocating available resources at current tax rates. The rule is, therefore, more likely to eliminate previously observed incentives of decision makers to accept large deficits in order to increase individual spending items.

2 Pro-cyclicality of fiscal policy is investigated and found by Lampart (2005).

3 Brennan and Buchanan (1985).

## 3. Debt brake mechanism

### 3.1 Objective and principles of the rule

The debt brake is outlined in the Federal Council's (2000) dispatch. Its objective is a sustainable fiscal policy over the long term, while avoiding a pro-cyclical fiscal stance. The details of the rule are defined by the Financial Budget Act and have been set out in the Federal Council dispatches,<sup>4</sup> whenever amendments of this law were made.

The guiding principles for the choice of a specific mechanism have been the following:

Simplicity and transparency: the principle of the mechanism should be comprehensible and calculations be made in a transparent and reproducible way.

Comprehensive scope of application: possibilities of circumventing the rule should be avoided. Investment spending is generally subject to the rule.

Flexibility in case of exceptional circumstances: the rule should allow

for an escape clause under exceptional circumstances, so that its enforcement can be guaranteed over time.

Tracking the application: deviations from the objective must be documented, which is the role of the "compensation account".

Enforcement: the rule must include a credible enforcement mechanism in case of deviations, and a loss of reputation as a sanction in the case of a violation.

### 3.2 General Mechanism

The debt brake is a structural deficit rule that limits expenditures to the amount of structural (or cyclically adjusted) revenues. The amount of annual federal government expenditures has a cap, which is calculated as a function of revenues and the position of the economy in the business cycle. It is thus aimed at keeping total federal government expenditures relatively independent of cyclical variations, whereas tax revenues are supposed to act as automatic stabilizers<sup>5</sup>.

4 Federal Council (2000; 2001) and Federal Council (2003; 2008).

5 Significant expenditure-side automatic stabilizers, such as unemployment insurance as well as other social insurances have accounts that are kept separately from federal accounts and are therefore not subject to the debt brake rule.

The basic debt brake formula (equation 1) states that in any calculation period ( $t$ ), the maximum level of expenditures ( $\bar{G}$ ) must equal revenues ( $T$ ), after multiplication by the business cycle adjustment factor ( $k$ ). This business cycle adjustment factor is aimed at stabilizing expenditures around the level of cyclically

adjusted revenues, and consists of the ratio of trend (real) output ( $y^*$ ) and actual (real) output ( $y$ ). Therefore, if the factor  $k$  is larger than one, a deficit is allowed (cyclical deficit), and if the factor  $k$  is smaller than one, a (cyclical) budgetary surplus is required.

$$\bar{G}_t = k_t R_t \text{ with } k_t = \frac{Y_t^*}{Y_t}$$

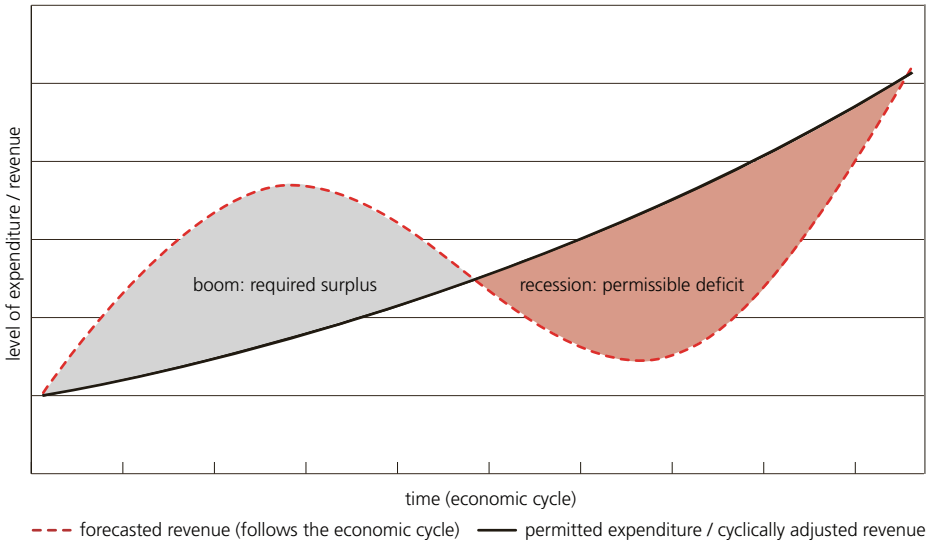
Actual deviations from the limit set by the rule result in a credit or debit to a notional "compensation account".<sup>6</sup> It should be noted that the rule is applied twice: first to budget forecasts, then to effective outcomes. It is the second calculation that determines the deviations that must be credited or debited in the compensation account. Deficits in this account must be considered when setting the new expenditure ceilings for the following years. If the deficit exceeds 6 % of expenditure, the excessive amount must be eliminated within the next three annual budgets by lowering the expenditure ceilings.

The formula represents a simple cyclical adjustment where (1) expenditure is set to be broadly independent of fluctuations in the economic cycle and (2) where annual receipts are supposed to fluctuate proportionally to real GDP. The first assumption is reasonable, as unemployment benefit spending – which fluctuates with economic cycles – is excluded from the rule (unemployment insurance represents a separate account with its own budgetary requirements). The second assumption is valid on average<sup>7</sup>, although this value fluctuates significantly from year to year.

<sup>6</sup> See Appendix 1.

<sup>7</sup> Measures of the annual revenue elasticity with respect to GDP indicate a bandwidth where a unitary elasticity is included, see e.g. Colomier (2003).

Figure 3: Ideal representation of the rule



Source: Federal Finance Administration

Figure 3 shows visually how the rule works. During times of economic expansion, permitted expenditure must remain lower than revenue. In a subsequent downturn, expenditures will not be reduced to an unsustainable level and are allowed to exceed actual revenue. In reality, revenue outcomes do not fluctuate as smoothly as in the above chart. It is important to note, however, that the

cyclical adjustment is applied to forecasted values which tend to fluctuate much less than effective revenue outcomes and are closely related to GDP forecasts. Ex post fluctuations, which could not be appropriately adjusted by the business cycle adjustment factor ( $k$ ), result in a credit or debit in the compensation account.

### 3.2.1 The cyclical adjustment

As is implied by the debt brake equation (1), the cyclical adjustment is used to determine the level of structural revenues. The adjustment factor ( $k$ ) is derived from the output gap of the economy (real GDP). A calculation of trend GDP is necessary to calculate the output gap. A modified HP filter is used for that purpose. This method has advantages with respect to alternative measures (e.g. production functions) in terms of transparency and symmetry. In addition, it requires only a small number of hypotheses about the future development of output or production factors. The filter method has the advantage of yielding a symmetrical value of the output gap over time<sup>8</sup>.

This property of symmetry is extremely desirable, as the objective is not to estimate a potential output as such, but a revenue trend that is as stable as possible and therefore also keeps expenditures on a stable trend. It might be argued that the

adjustment should allow a higher (or sometimes lower) deficit in order to maintain aggregate demand at a level that is compatible with full employment. Although the rule is less ambitious in that respect, it arguably does better than the previously conducted discretionary policy – as it is less pro-cyclical. A recent study<sup>9</sup> confirms that view and finds that federal fiscal policy has become less pro-cyclical since the implementation of the debt brake.

The HP filter is known to suffer from a lack of smoothing properties at the end of a series that is to be smoothed. This problem can be handled either by using forecasts, so that the trend-calculation does not occur at the end of the series or by a modification of weights within the filter. The latter approach was preferred, as the use of forecasts actually magnified the problem<sup>10</sup>. The modified HP filter<sup>11</sup> interprets a (forecasted) change in GDP during the budget year to be around 80 % cyclical and 20 % structural.

8 This symmetry applies almost nearly as well for an application in real time, cf. chapt. 4.4.4.

9 Schaltegger and Weder (2010).

10 Using forecasts adds to the weight of uncertainty regarding recent and future developments.

11 Established by Bruchez (2003)

Asset price cycles represent a challenging issue for the debt brake. The cyclical adjustment factor ( $k$ ) is based on real output, which is hardly proportional to asset price cycles. On the other hand, financial cycles are important determinants for major federal revenue items such as stamp duties (on capital issues and transactions) and withholding tax (levied on dividends and interest). Defining a specific financial cycle is not practicable, particularly if the task is to determine the position of financial markets within a cycle. A complicating factor is the erratic behavior of withholding tax receipts, which can hardly be forecasted in a satisfactory manner<sup>12</sup>. Consequently, a forecast of withholding tax fluctuations is not attempted, both because of practical problems and in order to minimize resulting fluctuations of the expenditure ceiling. The forecast of this component is aimed more at determining the correct structural level (trend) of this revenue item,

which is desirable regarding the general objective of the debt brake, which consists of forecasting the correct structural level of revenues<sup>13</sup>.

### 3.2.2 Revenue and expenditure estimates

The way in which budgetary forecasts are set up is essential for the implementation of the fiscal rule. As stated above, the calculation of the expenditure ceiling is based on forecasted values. Both revenue forecasts and the cyclical adjustment factor are based on GDP forecasts. A crucial implication of this is that – at least in the short run – the forecasting error regarding the output gap will translate into corresponding errors in both revenue and forecasts of the cyclical adjustment factor ( $k$ ). However, these errors will have opposite signs and generally cancel each other out within the debt brake equation (1).<sup>14</sup> Thanks to this property, it is very unlikely that

12 Switzerland is unusual in that fluctuations in withholding tax revenues contribute considerably more to deviations between fiscal outcomes and budget forecasts than do short-term economic forecasts.

13 A more general justification for the fact that a cyclical adjustment might not be crucial to determine structural revenue levels can be found in Bodmer and Geier (2004). Braconier and Forsfält (2004) also point to the relevance of asset price cycles for the determination of a structural budget balance.

14 Exceptions include fluctuations in inflation, which will affect revenue forecasts but not necessarily the output gap, since this is based on real GDP.



changes in GDP forecasts and output gap forecasts will have a significant influence on the expenditure ceiling, during budget preparation, while a budget is being elaborated. This is less true with respect to medium term budgetary planning, as changes in GDP also imply a revision to some extent in the trends for GDP and revenues. The output gap tends to close and the cycle adjustment factor  $k$  tends toward 1 after a period of around 3 to 4 years.

The debt brake formula is simple and understandable, and generally yields results that are in line with more elaborate calculations of the cyclically adjusted budget balance (CAB). The fact that the debt brake formula is a simplification should be kept in mind, though. These simplifications mainly concern some cyclically fluctuating spending items such as debt service or earmarked revenues (around 8–9 % of revenues, which relate to both revenues and spending items). The consequence of cyclically fluctuating spending items is that – as a rule of thumb – they increase the sensitivity of the budgeted surplus to GDP forecasts by an amount that just about cancels

out the effects of forecast variations on GDP trend (the above-mentioned 20 %).

### 3.3 Scope of the rule

A fiscal rule should be as comprehensive as possible in order to minimize the possibilities of avoiding the rule. If a rule applies only to certain types of spending, this will create pressure to move expenditure items into spending categories that are not subject to the rule.

In order to have a comprehensive rule, investment spending is explicitly subject to the expenditure ceiling. It might be argued that some debt financing of investment spending is desirable, but it should be borne in mind that the accounting concept of “investment” used in public finance might differ from a more intuitive economic definition. The accounting definition includes any kind of infrastructure spending, regardless of estimated future benefits, and excludes items such as the pay of university professors and researchers.<sup>15</sup> In addition, at the federal level in Switzerland, investment spending is a rather steady compo-

15 A discussion on the inclusion of investments in a fiscal rule can be found in Fatás (2005) and Blanchard and Giavazzi (2004).

ment of total spending. The operational fallacies of a golden rule have been considered to outweigh possible benefits.

Several parts of Swiss public finances are not a part of the federal financial account. Most importantly, sub-national governments have their own budget policies and accounts. In many cases, sub-national governments have fiscal rules of their own.<sup>16</sup> In addition, a system of fiscal equalization compensates fiscal inequalities to some extent. The independence of local governments ensures that it is difficult to get around the federal fiscal rule by using local governments to increase (debt-financed) government expenditure. Moreover, in a context of direct democracy, citizens can hinder excessive spending at a local level.

Social security insurances, such as the public old age pension insurance or the disability insurance, are also excluded from federal accounts, with the exception of federal transfer

payments to these bodies. As mentioned above, unemployment insurance, and unemployment benefits in particular, are also excluded from the federal account and therefore from the rule, but subject to a specific rule<sup>17</sup>.

### **3.4 Flexibility for unforeseen events**

The effectiveness of a fiscal rule depends on how credible its application over a long period of time is. This means that even in times of crisis or other exceptional events, the political cost of abandoning the rule must be higher than the cost of sticking to it. As a mechanical rule can hardly be designed to fit any possible situation, provisions for exceptional circumstances are an essential aspect.

The calculation of the ceiling for expenditure is clearly specified, but in some situations, the ceiling can be increased. The Financial Budget Act makes allowances for an increase due to exceptional and uncontrol-

<sup>16</sup> See Feld and Kirchgässner (2008) for an assessment of sub-national rules.

<sup>17</sup> If the debt level of the insurance increases above a defined threshold, contribution rates are raised as a default measure.

### 3. Debt brake mechanism

lable developments and changes in accounting practices<sup>18</sup>. An example of an uncontrollable development would be a deep recession during which an overly restrictive policy could result in an appreciable loss of output and welfare or could otherwise require some kind of intervention.

The debt-financed increase in the expenditure ceiling in exceptional cases constitutes an extraordinary

expenditure. Apart from legal restrictions, extraordinary expenditures must be accepted as such by a qualified majority in both houses of parliament and therefore require a larger consensus than ordinary expenditure items. Such expenditures are debited to a special "amortization account" (not to be confused with the compensation account) and generally have to be compensated for during the following six years.<sup>19</sup>

18 An example of the latter would be the change of a lagged subsidy payment to a contemporaneous payment. This would imply that in one year two payments become necessary even though expenditure has not increased.

19 Cf. Federal Council (2008).

## 4. Implications of the debt containment rule

### 4.1 Impact on public debt and deficits

The debt-to-GDP ratio of the Swiss federal Government has decreased since the implementation of the debt brake in 2003. Although favorable economic conditions play an important role in this development, the fiscal rule has also played its part. In the past, economic booms tended to contribute to an increase in spending. As a result, fiscal policy tended to be rather pro-cyclical and biased towards deficits. This has not been the case since the implementation of the fiscal rule, and budget surpluses have become commonplace. The fiscal situation at the onset of the financial and economic crisis of 2008–2009 was excellent in comparison with other industrialized nations, probably also because there was no build-up in deficits during the boom years before 2009.<sup>20</sup>

The debt brake objective is a nominally balanced budget over the medium term. In economic terms, this is an ambitious goal, as it implies

a decreasing debt-to-GDP ratio over time. In practice, however, the outcome for debt may turn out to be less restrictive, because of the fact that the rule applies to only a part of general government finances. In addition, the ambitious goal of a lower debt burden has been considered to be desirable<sup>21</sup> given the foreseeable demographic challenges and their impact on public finances<sup>22</sup>.

Given the presence of various uncertainties that are inherent to any budget process, and the fact that planned revenues and expenditures change throughout the fiscal year, it seems plausible to imagine that the fiscal rule can only approximately balance a budget over the cycle. Hence, the relevant question should be whether a balanced budget can be attained within an acceptable range or if there are some systematic biases toward either deficits or surpluses. To answer this question, the compensation account, which is an important feature of the debt brake that allows ex post corrections,

20 Another aspect explaining the decrease in the debt ratio is that the effects of the global recession have been mild in Switzerland so far, and better than economic expectations underlying recent budgets.

21 e.g. Danninger (2002).

22 Federal Finance Administration (2008).

should be given due attention. Deviations from a structurally balanced budget are eliminated in this way.

#### **4.2 Budget process**

One main outcome of the debt brake is its impact on the budget process. If indeed fiscal institutions are the cause of a deficit bias, it is interesting to see in which way these institutions have changed as a result of the fiscal rule.<sup>23</sup>

The Swiss political system is a permanent coalition of mainstream political forces. Therefore, the political composition of the executive branch (the “Federal Council”) changes only slowly over time. Before the introduction of the debt brake, the budget and the resulting bias towards budget deficit was the result of bargaining within the coalition government, which often resulted in a majority of “spending ministers” voting against the finance minister and a bottom-up process, in which budgetary requirements were first submitted by ministries. The result of the aggregation of all requirements was then difficult to

change. As in other coalition governments, this can increase the difficulties for a finance minister to enforce a responsible fiscal policy even if there is a general agreement on its principles. The introduction of the debt brake has changed the budget process in such a way that the target for expenditures is defined at the beginning of the process, which must not exceed the ceiling provided by the fiscal rule. It has thus become a top-down process. This aggregate level of expenditures is then broken down into individual ceilings for each ministry. These are agreed upon in an inter-ministerial conference (a new institution of the debt brake). In the budget preparation, the finance ministry ensures that each ministry submits budget proposals for individual items that are in line with the aggregate targets.

#### **4.3 Stable expenditure policy**

The debt brake is fundamentally a structural deficit rule. This means that expenditures are closely linked to revenues. In the case of revenue fluctuations, this will, therefore, create a necessity to adapt the level

<sup>23</sup> see Kraan and Ruffner (2005) for a detailed presentation of the budget process in Switzerland.

of spending accordingly. Although the aim of the fiscal rule is to stabilize debt, not expenditure, it is desirable that the latter does not exhibit excessive fluctuations. Constant need to adapt the level of expenditure upwards and downwards is difficult to implement and might erode confidence in government policy and the viability of the fiscal rule. Stable expenditure growth is also a crucial requirement in terms of stabilization policy. On the other hand, an expenditure rule<sup>24</sup> that explicitly stabilizes expenditure over time might sooner or later result in large deficits or surpluses, if revenue dynamics are not appropriately taken into account. Hence, there is a conflict of interest between different objectives of fiscal policy<sup>25</sup>. The debt brake establishes a connection between spending and revenue, while keeping the volatility of expenditures low. Low expenditure volatility depends on both an effective mechanism to determine structural revenue levels and enough flexibility to adapt to revenue

dynamics<sup>26</sup>. If constant adaptations of the level of spending can be kept within modest boundaries, this seems more desirable than a very stable expenditure policy that is periodically interrupted by large budget consolidations<sup>27</sup>.

#### 4.4 Challenges

The debt brake is not a fiscal panacea. Many challenges remain to be addressed by the fiscal authorities. As discussed above, many features of the rule are a pragmatic response to problems, for which alternative solutions are envisageable. The following sections mainly summarize aspects that have been discussed above or are subject to public debate.

##### 4.4.1 Comprehensiveness and extensions

The fiscal rule is not totally comprehensive at the federal level, although the issue of extraordinary expenditure resulted in a modification of the

24 A discussion of the advantages of an expenditure rule can be found in Dabán et al. (2003) with a focus on stabilization policy.

25 see also Debrun et al., 2008, p. 16ss.

26 Colombier (2006) discusses the performance in terms of reaching both objectives.

27 Debrun et al. (2008) present the alternative approach of an expenditure rule with an «error correction mechanism».

rule in 2008<sup>28</sup>. Social insurance in particular faces challenges of its own, sometimes related to demographic change. Institutional constraints to ensure sustainability are being discussed in the case of public old age insurance (AHV/AVS), invalidity insurance (IV/AI) and unemployment insurance<sup>29</sup>. The sustainability requirement for individual social insurances could be addressed by specific institutional frameworks. Regarding public old age insurance, such frameworks are likely to differ significantly from the debt brake, as its current deficits or surpluses are not an adequate indicator of financial viability, which depends largely on long-term dynamics, and demographic changes in particular. Other social insurances might in turn have their own specific requirements for sustainability.

#### 4.4.2 Budget quality

The overall levels of expenditure and revenue are useful controlling indicators for debt and deficits. However, fiscal policy also pursues other policy objectives. A fiscal rule might improve incentives to reduce deficits, but it has no effect on

incentives to spend more effectively. Fiscal consolidation often occurs by cutting expenditure items that are the least costly in political terms, thereby “crowding out” more effective categories of spending. This is true for any consolidation effort, not only those triggered by a fiscal rule. Nevertheless, it remains important to make sure that consolidations are set up in a way that is conducive to achieving long-term objectives, such as higher growth and welfare.

#### 4.4.3 Asymmetric budget estimates

Due to the functioning of the fiscal rule, fiscal authorities have no incentive to either over- or underestimate revenues and deficits. Systematically overestimated revenues will result in a deficit in the compensation account, as actual spending will turn out to be higher than the permitted ceiling. These deficits would trigger a fiscal consolidation. Systematically underestimating revenues, on the other hand, would generate surpluses in the compensation account. These surpluses – if unwarranted – would not create an immediate need for action, and are

28 Swiss Federal Council (2008).

29 e.g. Bruchez and Matter (2011) and Economiesuisse (2008)

probably easier to handle than deficits, but might still undermine confidence in fiscal policy.

The actual implementation of the debt brake to date has led to higher-than-expected structural surpluses. The result has not been just a stabilization of gross federal public debt, but a nominal reduction. This was – to a large extent – the consequence of economic (and financial market) conditions that were either very favorable or at least better than expected. However, it is also the result of persistent expenditure underruns<sup>30</sup>. Both factors have led to a growing surplus in the compensation account. The over-estimation of spending is due to the fact that the budget consists of spending appropriations, which are not designed to be unbiased estimates for effective spending. Since appropriations are ceilings for specific budget items, effective spending generally remains below target.

#### 4.4.4 Non-stationary economic series

Irregularities in output fluctuations might affect revenue estimates in unwarranted ways, in particular the fact that GDP might not or only partly be mean-reverting and also the fact that revenue cycles do not solely depend on GDP-cycles (cf. 3.2.1.). The concept of a cyclical adjustment is closely linked to the idea that economic output fluctuates around a long-term trend or – in a more Keynesian perspective – can be made to follow a path with production factors approaching full employment. These assumptions exclude the fact that changes in GDP that are linked to short-term developments can become permanent and, therefore, can be questioned.<sup>31</sup> Under the alternative assumption that GDP shocks are generally permanent (GDP behaving more like a random walk), the main justification for the cyclical adjustment would not be a compensation of transitory deviations from a trend, but rather the stabilization of expenditure growth over time in order to keep expenditure policy reliable and avoid pro-cyclical stances.

31 Campbell and Mankiw (1987), Nelson and Plosser (1982)

30 Even after taking into account supplemental credits that occur during budget execution.



#### 4. Implications of the debt containment rule

A theoretical problem is the fact that fluctuations of economic cycles tend to increase in magnitude over time. A result of this would be that an economic upturn (or downturn)

would be greater than the previous downturn (or upturn), and surpluses and deficits would not cancel out perfectly.<sup>32</sup> However, the magnitude of this phenomenon is low.<sup>33</sup>

<sup>32</sup> Müller (2003)

<sup>33</sup> Bruchez (2003a), Geier (2004)

## 5. Conclusions

The Swiss fiscal rule at the federal level, the “debt brake”, effectively corrects the budget process in a way that is compatible with the principles of debt stabilization and economic stabilization that are outlined in the Constitution. The mechanism of cyclical adjustment, which lies at the heart of this structurally balanced budget rule, offers enough flexibility to minimize unwarranted effects of asset cycle variations. It therefore yields a fairly stable expenditure growth. It is both flexible to handle exceptional situations and well defined in operational terms to make its violation difficult and costly under normal circumstances.

Nevertheless, the rule is no panacea and various challenges remain either as a result of the framework itself or because it is not designed to solve all fiscal policy problems. The calculation of the required cyclical adjustment or revenue estimates is based on assumptions regarding economic conditions and tax bases that might turn out to be wrong. This is not specific to a rules-based policy and is likely to be an even bigger problem in the case of a rigid expenditure rule. On the one hand, large

overestimates of structural revenue might trigger a consolidation while the economy is still in a recession, for instance. On the other hand, the rule helps keep expenditure growth in line with trend growth while the economy is booming, therefore producing budgetary surpluses and avoiding fiscal adjustments during downturns. Switzerland benefited strongly from this feature during the recent economic downturn. The accumulation of surpluses in previous years allowed it to enter the recession in good fiscal shape, thereby not constraining the functioning of automatic stabilizing.

Budget quality remains a challenge for fiscal policy in spite of the debt brake, because the rule does not guarantee that the composition of expenditure items (as well as the tax system) reflects the best mix in terms of growth and welfare policies. Increasing entitlement expenditures, especially those related to demographic change, will create pressure to squeeze other types of expenditure. Therefore, it is crucial to keep entitlement spending in check by implementing the necessary structural reforms.

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# Appendix 1: Credit of the compensation account

The compensation account ( $AK$ ) reflects past deviations of fiscal outcomes from the requirements of the fiscal rule. Each year it is credited ( $\Delta AK_t$ ) by the difference of the expenditure ceiling of the budget year  $t$  ( $\bar{G}_t$ ) and the actual spending in year  $t$  ( $G_t$ ) as is shown in equation A1.

$$A1 \quad \Delta AK_t = \bar{G}_t - G_t$$

The deviation between budget and effective outcome can be broken down into two components:

1. the forecast errors leading to a revision of the expenditure ceiling from budget ( $\bar{G}_t^B$ ) to financial account ( $\bar{G}_t$ ) and

2. the difference between initially authorized expenditure ( $\bar{G}_t^B$ ) and actual spending ( $G_t$ ).

This is represented by equation A2.

$$A2 \quad \Delta AK_t = (\bar{G}_t - \bar{G}_t^B) + (\bar{G}_t^B - G_t)$$

The difference between initially authorized expenditure ( $\bar{G}_t^B$ ) and actual spending ( $G_t$ ) can in turn be

further broken down into a planned component of expenditure below the ceiling ( $\bar{G}_t^B - G_t^B$ ) and the difference between budgeted and actual spending ( $G_t^B - G_t$ : the unplanned component).

The three components are named  $F$  (forecasting errors),  $S$  (planned savings) and  $R$  (unplanned savings) in equation A3. The sum of the forecasting errors ( $F$ ) is thought to fluctuate around a mean of zero, notably due to asset-cycles or other non-regular cycles (not related to measured real GDP) if estimates are unbiased. The planned savings reflect policy choices or a "buffer" that corresponds to the leeway of a fiscal policy still respecting the fiscal rule. The unplanned savings ( $R$ ) reflect basically the difference of unused budget credits and supplemental credits that have been added after the adoption of the budget. The former regularly outweighs the latter. This component ( $R$ ) also reflects some forecasting errors, which can occur mainly with respect to debt service expenditure or earmarked revenue items.

$$A3 \quad \Delta AK = (\bar{G}_t - \bar{G}_t^B) + (\bar{G}_t^B - G_t^B) + (G_t^B - G_t) = F_t + S_t + R_t$$

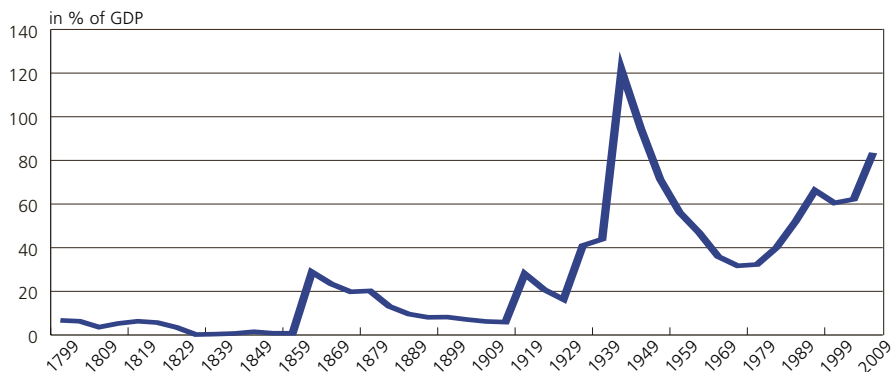
# Appendix 2: Historic debt ratios of the USA and the UK

Increasing debt ratios have always occurred throughout history, without always resulting in default, but episodes of high debt were often restricted to exceptional situations such as wars. This is clearly visible in

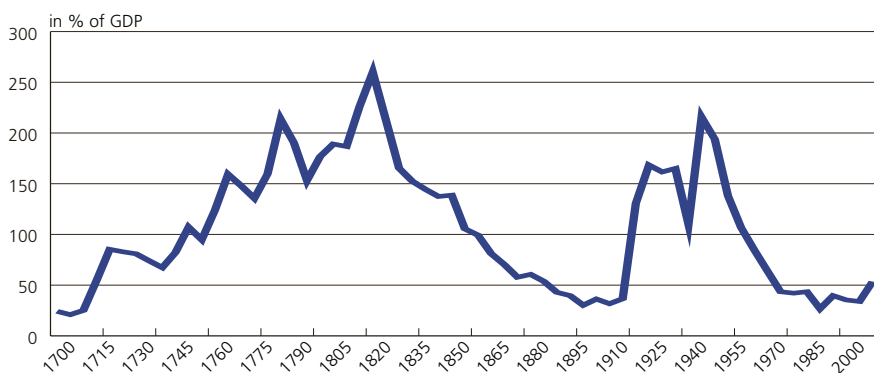
the case of the USA regarding the American Civil War and the two World Wars, (fig. A2.1, upper panel), and a series of episodes of conflict involving the UK, culminating with the Napoleonic wars (lower panel).

Figure A2.1: Debt ratios in the USA and UK over time

USA: Gross federal debt (% of GDP) 1799 to 2009:



UK: net public debt (% of GDP) 1700 to 2009:



Sources: US debt: Treasury (<http://www.treasurydirect.gov/>), US GDP: US Census, interpolations of missing data. UK: 1800–2009: [www.ukpublicspending.co.uk](http://www.ukpublicspending.co.uk/); 1700–1800: wikipedia/C.Goodhart.

