IV. FISCAL CONSOLIDATION: LESSONS FROM PAST EXPERIENCE

Introduction and main results

Fiscal consolidation remains a challenge in many OECD countries

Fiscal consolidation is required in most OECD countries. This is especially so in view of medium and long-term spending pressures on public finances related, *inter alia,* to ageing. Countries that are successful in consolidating will then face the challenge of locking in the gains achieved. Against that background, this chapter presents evidence on the factors that in the past were associated with successful consolidation and with the preservation of those gains.

This chapter identifies factors that helped start and sustain consolidation

Based on a dataset covering a large number of OECD fiscal consolidation episodes starting in the late 1970s, the chapter first presents descriptive evidence on the features of these experiences and factors that may have affected the way they unfolded. Subsequently, regression analysis is used to identify the policy set-ups and institutional features that have proven to be effective in starting and sustaining these efforts.[1] Particular attention is given to the role of fiscal rules and their effective design is discussed in the final section. The main findings are.

Consolidations were larger when the initial situation was difficult

- Large initial deficits and high interest rates have been important in prompting fiscal adjustment and boosting the overall size of consolidation. These results may reflect that public awareness of fiscal problems and needs can help in overcoming resistance to consolidation, a hypothesis which is also supported by the observation that qualification for euro area membership significantly increased the probability of starting consolidation. The policy implication would be that consolidation may be helped by the provision of transparent information and analysis of the fiscal situation.

Expenditure based consolidations tended to be larger and last longer

- An emphasis on cutting current expenditures has been associated with overall larger consolidation and a large weight on social spending cuts increased the chances of stabilising the debt-to-GDP ratio. This could be because expenditure cuts, as opposed to revenue increases, are more likely to trigger lower interest rates and a sympathetic response of private saving, helping to bolster activity. But it could also reflect that governments more determined to consolidate are more willing to cut current expenditures, including social spending, possibly thereby also

1 . The analysis underlying the current chapter is described in greater detail in Guichard *et al.* (2007).

demonstrating a commitment that makes substantial consolidation more feasible.

Countries with fiscal rules achieved better results

- Fiscal rules with embedded expenditure targets tended to be associated with larger and longer adjustments, and higher success rates. This could in principle reflect that well designed fiscal rules are effective or, alternatively, that governments committed to prudent fiscal management are more likely to institute a rule.

Designing effective rules raises several issues

- Fiscal rules need to be adapted to country specific institutions and political systems, but, based on experience across countries, certain common design features seem important for their effectiveness. These include the need to combine transparency with sufficient flexibility to face cyclical (and other) shocks, a wide coverage across various budget items and effective enforcement mechanisms.

Box IV.1. **Defining consolidation episodes**

The sample comprises all episodes of fiscal consolidation -- as defined below -- among 24 OECD member countries since 1978 for which reliable data on key fiscal variables are available.[1] To identify episodes the same definitions were applied as in Ahrend *et al.* (2006). According to this definition, a fiscal consolidation episode:

- *Starts* if the cyclically adjusted primary balance (CAPB) improves by at least one percentage point of potential GDP in one year or in two consecutive years with at least ½ percentage point improvement occurring in the first of the two years.[2]

- *Continues* as long as the CAPB improves. An interruption is allowed without terminating the episode as long at the deterioration of the CAPB does not exceed 0.3% of GDP and is more than offset in the following year (by an improvement of at least 0.5 % of GDP).

- *Terminates* if the CAPB stops increasing or if the CAPB improves by less than 0.2% of GDP in one year and then deteriorates.

The results of this mechanical definition were checked with OECD country experts and minor adjustments were made. Eleven episodes that commenced in 2003 or later were excluded from the sample because they were not completed in 2005. Overall, the sample covers 85 consolidation episodes.

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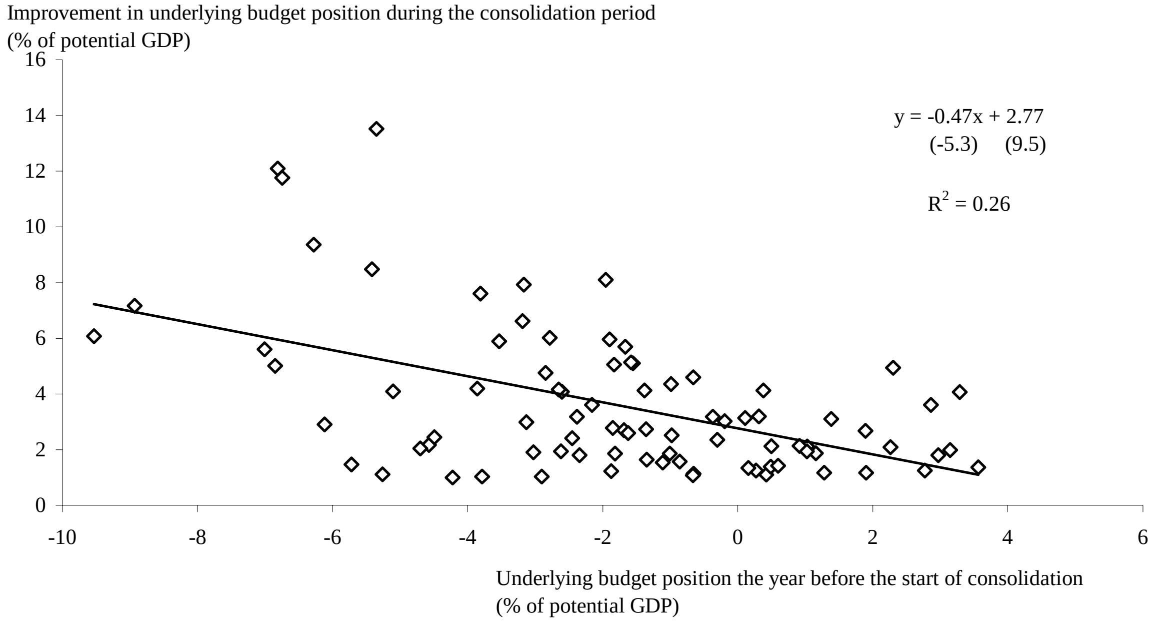
1. Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.
2. The cyclically adjusted primary balance is an imperfect measure of discretionary policy actions. It can be affected for instance by asset price cycles (Girouard and Price, 2004) and one-off measures (Koen and van den Noord, 2005) that do not reflect the policy stance. It is also affected by the measurement issues surrounding the output gap. However, given that only large changes qualify as consolidation spells, this problem is reduced. Debt-interest payments (as well as interest incomes) are excluded as they are largely outside the control of the fiscal authorities and thereby do not reflect directly the policy stance.

Stylised features of fiscal consolidation episodes

Descriptive evidence on consolidation episodes shows that…

Using the definition presented in Box IV.1, since 1978, there were 85 fiscal consolidation episodes in the 24 countries under review. These episodes include only those that, once started, resulted in a noticeable improvement in the measure used of the underlying budget position, the cyclically adjusted primary balance (CAPB). A number of stylised patterns emerge from these episodes, as discussed below.

Figure IV.1. Initial fiscal positions and subsequent adjustment



Note: The budget concept referred to is the cyclically-adjusted primary budget balance. The total change during the episode is defined as the value in the last year of the episode minus the value in the year before the start of the episode.

Source: OECD calculations.

Initial conditions for consolidation

… large imbalances were associated with large subsequent adjustments

In line with findings from earlier analysis,[2] fiscal conditions prevailing just before the beginning of a consolidation episode seem to have had an impact on the size of subsequent efforts (Figure IV.1). The more negative was the underlying budget position, the larger was the size of ensuing fiscal consolidation. This may reflect that large deficits made it more necessary to consolidate and, at the same time, raised public awareness of the extent of the problem, making it easier to act.

2 . Ahrend *et al.* (2006) and references cited therein.

Size and length of fiscal adjustment

Most episodes were short and of limited magnitude

Most of the consolidation episodes were of short duration and involved only modest gains (Figure IV.2). The median improvement of the underlying budget position was 2.8% of GDP and the median duration was two years. There were, however, a number of large efforts, amounting to more than 8% of GDP, as well as a few episodes lasting from six to eight years.[3]

It takes time to achieve large gains

In general, sizeable consolidation episodes also lasted for long periods, and vice versa (Figure IV.3, upper panel). On the other hand, long consolidation episodes tended to involve a lower "intensity" of effort, measured as total size of the consolidation per year (Figure IV.3, lower panel). Intense efforts are likely difficult to maintain over time either because of adjustment fatigue or because large, easy-to-implement measures ("the low hanging fruit") tend to be done first. At the same time, large improvements obviously reduce the need for continued consolidation.

Quality of the adjustment

While spending restraint seems more effective…

A number of arguments and empirical studies suggest that spending restraint (notably with respect to government consumption and transfers) is more likely to generate lasting fiscal consolidation and better economic performance.[4] Indeed, both policy and long-term interest rates are more likely to fall when consolidation relies on current expenditure cuts rather than on tax increases, possibly reflecting the effects of the latter on costs and prices.[5] Moreover, there is evidence that the composition of fiscal consolidation is important for saving and growth, with spending based consolidation resulting in lower household saving and higher GDP growth.[6]

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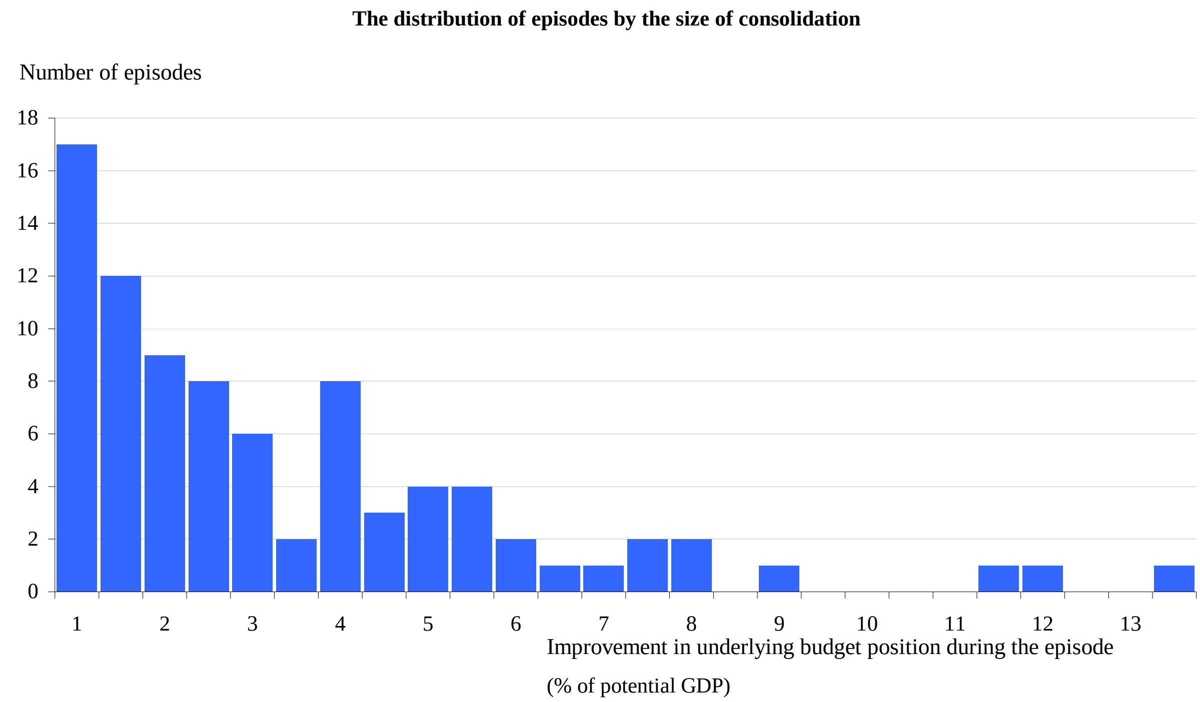
3 . Among large consolidation efforts in terms of per cent of GDP were: Canada in the 1990s (8.1%); Portugal in the 1980s (8.5%); Sweden in the 1980s (9.4%) and in the 1990s (11.7%); Greece in the 1990s (12.1%); and Denmark in the 1990s (13.5%). As to duration, fiscal consolidation was sustained for six years in Australia in the second half of the 1990s as well as in Belgium in the 1980s and 1990s, and in the United Kingdom and the United States in the 1990s. Consolidation lasted for seven years in Sweden in the 1980s and 1990s and for eight years in Japan in the 1980s.

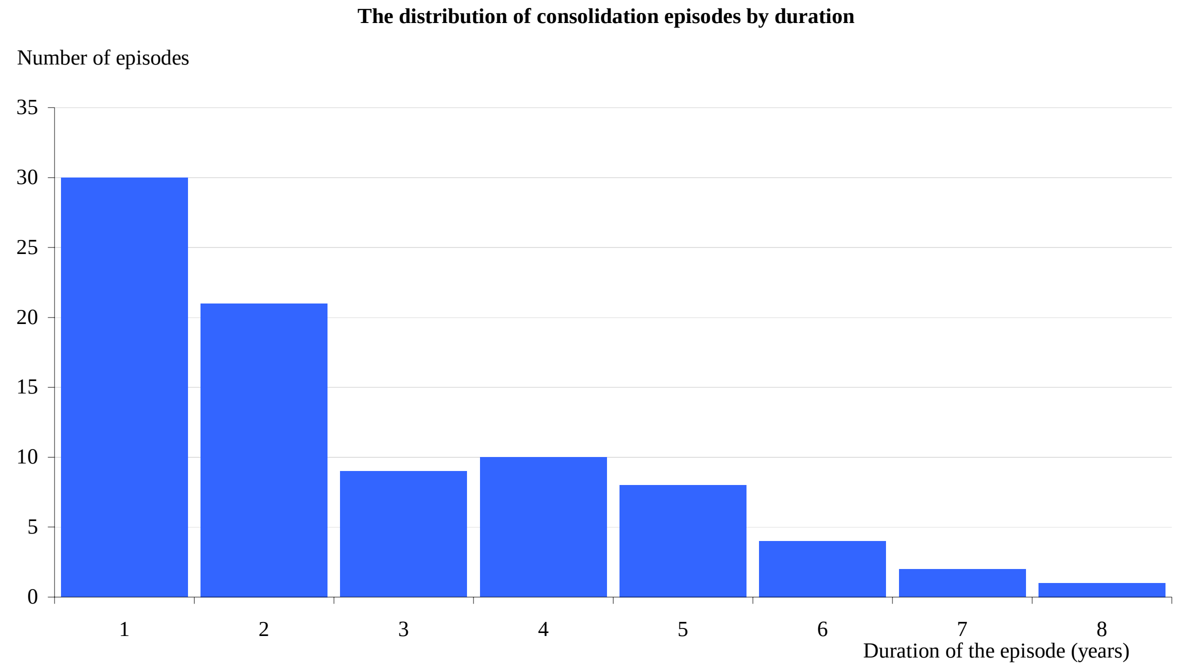
4 . Alesina and Perotti (1996); Alesina and Ardagna (1998); and Alesina and Bayoumi (1996). Von Hagen *et al.* (2002) also find that the likelihood of sustaining consolidation efforts seems to rise when governments tackle politically sensitive items on the budget such as transfers, subsidies and government wages.

5 . Ahrend *et al*. (2006).

6 . Bassanini *et al*. (2001), Ardagna (2004) and de Mello *et al.* (2004). Cournède and Gonand (2006), in the context of a dynamic general equilibrium model with overlapping generations, argue that tax increases are a much more costly way of achieving fiscal sustainability compared with spending restraint.

Figure IV.2. Strength and duration of consolidation episodes

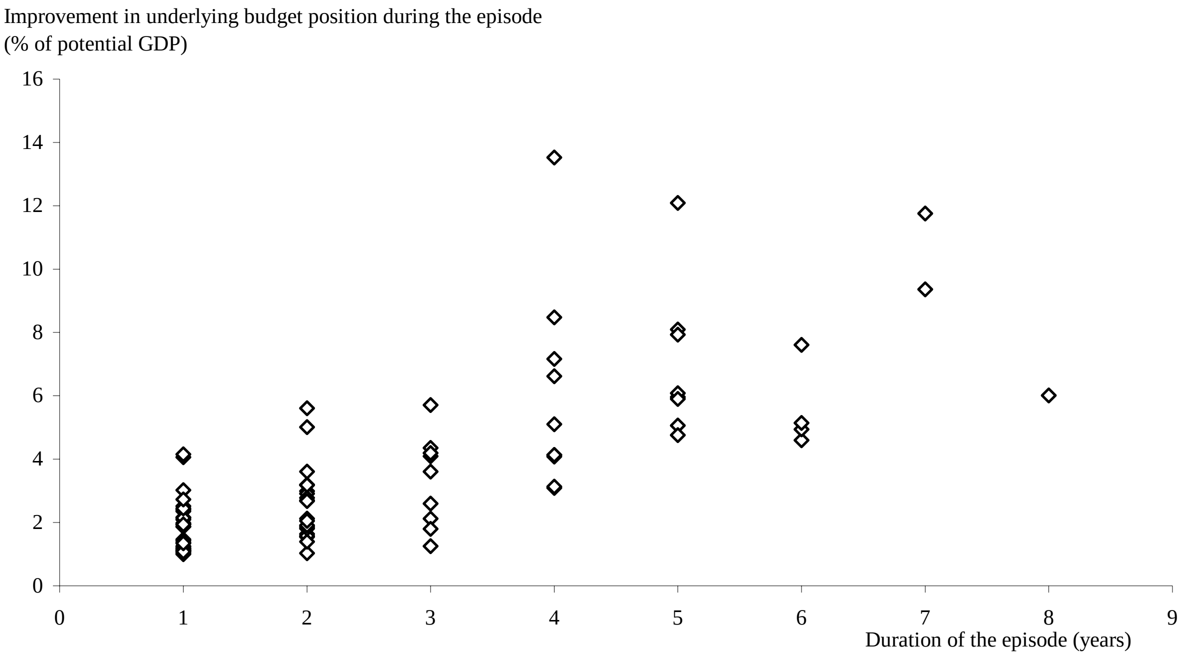




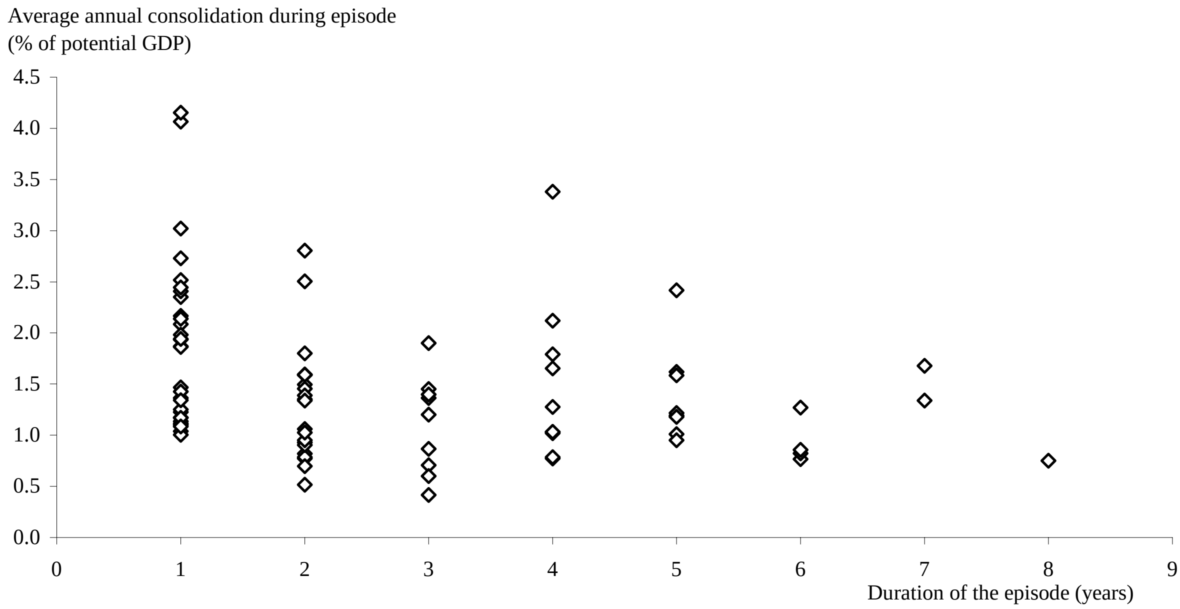
Note: The budget concept referred to is the cyclically-adjusted primary budget balance.
Source: OECD calculations.

Figure IV.3. The relationship between duration, size and intensity of consolidation

Duration and size of consolidation



Duration and intensity of consolidation



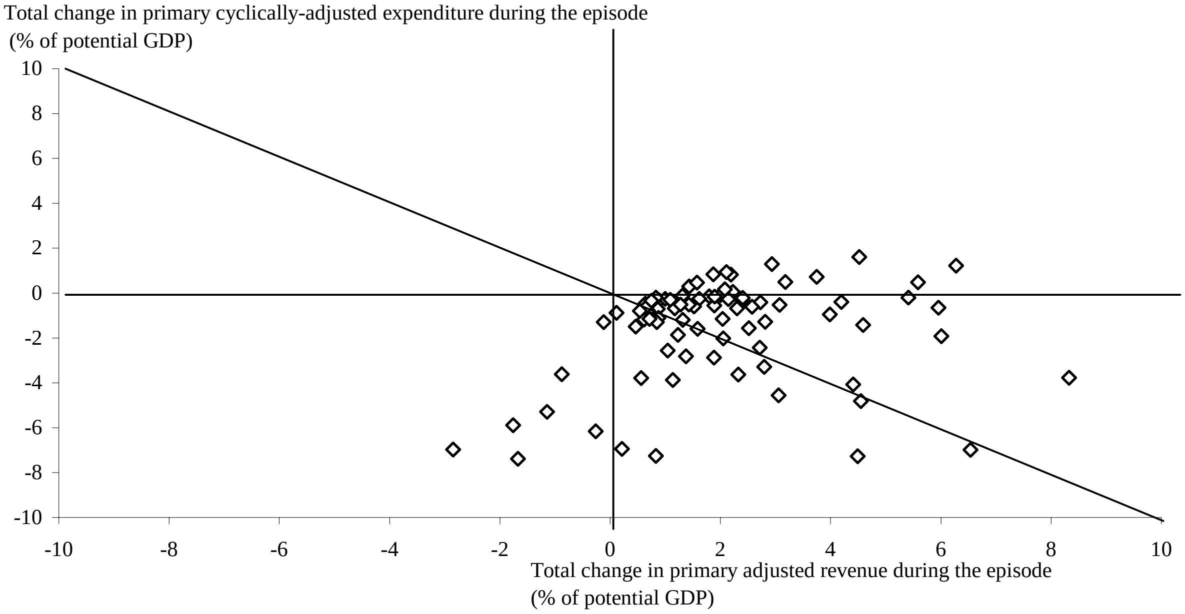
Note: The budget concept referred to is the cyclically-adjusted primary budget balance.

Source: OECD calculations.

… countries have largely relied on revenue increases

Despite the case in favour of spending-based efforts, on average across the consolidation episodes studied here, revenue increases accounted for a larger fraction of the total reduction in the underlying budget position. About three quarters of the episodes under review involved both expenditure cuts and revenue increases and almost two thirds of the episodes involved larger contributions from revenue increases than from expenditure cuts (Figure IV.4). Reductions in capital expenditures usually played a smaller role in the total spending adjustment but in a few cases they compensated for increases in current spending.

Figure IV.4. The role of spending and revenue in consolidation episodes



Source: OECD calculations.

Successful consolidation

Success in reaching debt sustainability has been uneven

As noted above, the success of consolidation policies might be judged according to whether fiscal adjustment is large enough to stabilise the debt-to-GDP ratio.[7] According to this criterion, slightly more than half of the consolidation episodes were successful. Moreover, in some 80% of these cases the sustainable position was maintained for at least two years. These successful episodes involved larger improvements in the underlying budget position (by almost ¾ percentage point of potential GDP compared with the

7 . Looking directly at the debt-to-GDP ratio has the disadvantage of including stock-flow adjustments that affect the level of debt but might be unrelated to discretionary consolidation policies and even reflect fiscal gimmickry designed to reduce debt levels in the short-term without improving the underlying government balance sheet. Considering the gap between the actual primary balance and what is necessary to stabilise the debt-to-GDP ratio during the episode and its immediate aftermath (typically in the following two years), as is done here, avoids this difficulty. This approach has been followed by Baldacci *et al.* (2004).

median episode size) and lasted for longer (about twice as long as the median episode length of two years) than in the other cases.

Backtracking usually is brought about by spending increases

On the other hand, half of the episodes under review were not successful in the sense that one third or more of the total reduction in the underlying budget position achieved during the consolidation phase was unwound in the two following years. For one-fifth of all episodes, the underlying budget position deteriorated by more (as a per cent of potential GDP) than it improved during the consolidation phase. Perhaps not surprisingly, backtracking -- defined as the loss of a third in the consolidation gains or more within two years -- is more likely to occur when improvements in the underlying budget position during the preceding consolidation episode were small (Figure IV.5). [8] In addition, backtracking is almost always associated with spending increases (Figure IV.5, lower panel).

The role of fiscal rules

The role of fiscal rules is not obvious at first sight

Over the past decade and a half, a large number of countries have introduced fiscal rules with the aim of containing the political mechanisms leading to excessive spending and deficits (often referred to as "deficit bias").[9] Rules can focus on spending, deficits or revenues and may, in part, be seen as tool to better communicate to the public fiscal objectives and outcomes. Using simple bivariate analysis, however, there is no clear relationship across consolidation episodes between the existence of a fiscal rule and a number of fiscal indicators (the total change in the underlying fiscal position, the change in revenues or the amount of backtracking). This suggests that the relationship may be weak or that it can only be detected by controlling for the other aspects of the consolidation process already mentioned.

Identifying factors that support fiscal consolidation

Econometric analysis can identify factors that have influenced consolidation

The econometric evidence presented in this section is aimed at identifying the influence of various factors (notably macroeconomic and fiscal conditions, the composition of the fiscal adjustments and the existence of fiscal rules) on several dimensions of the consolidation process.[10] These include: the initiation of a consolidation spell; the size of consolidation; the duration of consolidation; and success in reaching debt

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8 . Consolidation episodes relying on tax increases that were partially offset by higher spending during the episode were on average characterised by smaller improvements in the underlying budget position, shorter duration and more backtracking.

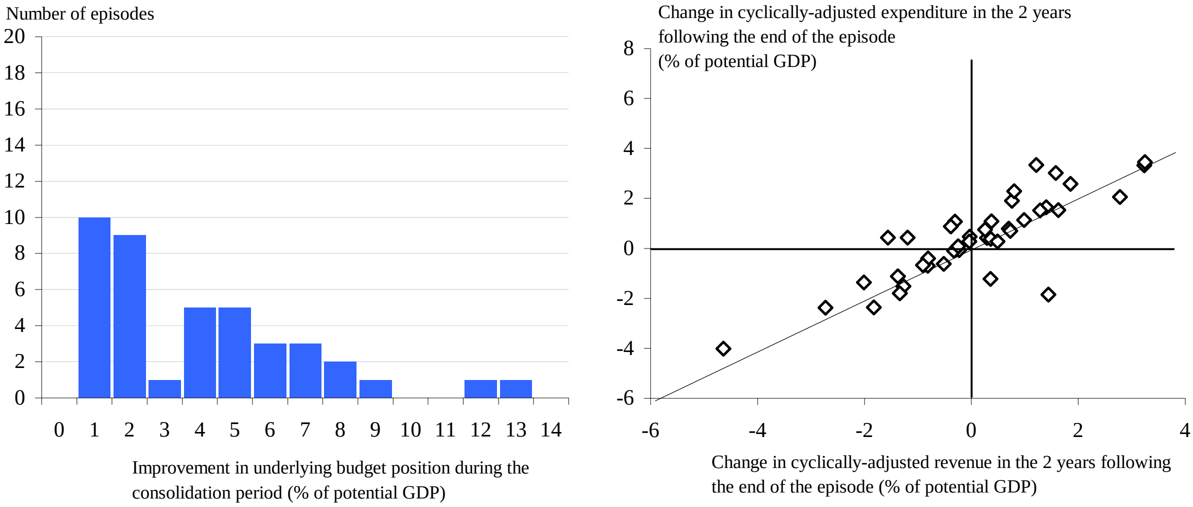
9 . For an overview on the sources of "deficit bias" see von Hagen (2002). Also relevant are Rogoff and Silbert (1988); Persson and Tabellini (2000); Shi and Svensson (2002); and Alesina and Tabellini (2005).

10 . Guichard *et al.* (2007) provide details on the econometric techniques used.

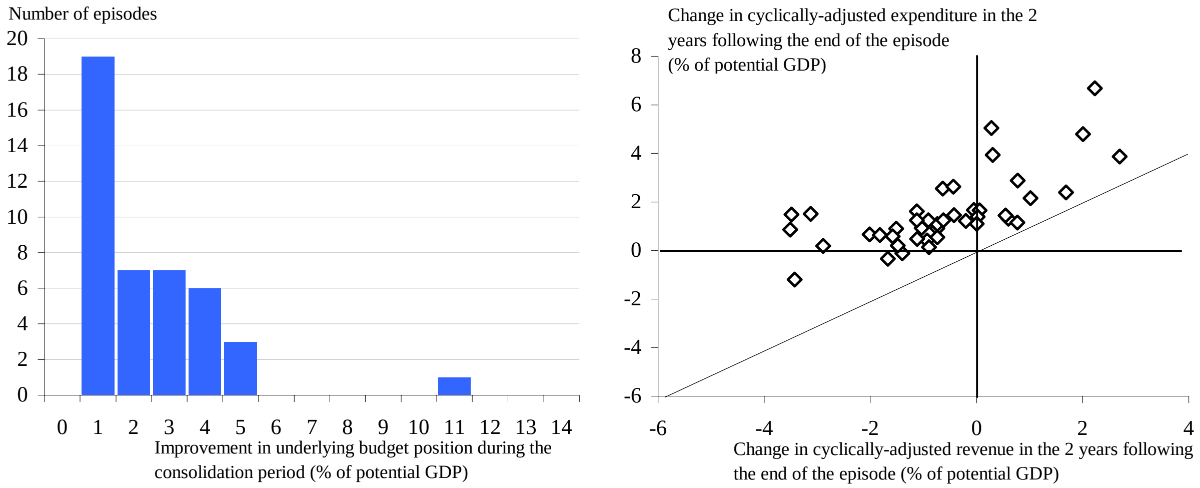
Figure IV.5. Comparison of consolidation episodes with and without backtracking

Distribution of episodes by the size of consolidation | **Expenditure and revenue changes subsequent to consolidation**

Episodes followed by little or no backtracking



Episodes followed by backtracking



Note: The budget concept referred to is the cyclically-adjusted primary budget balance. An episode is followed by backtracking if more than 30% of the improvement in the cyclically-adjusted primary budget balance during the episode is lost in the two years following the end of the episode.

Source: OECD calculations.

sustainability. Fiscal rules have made a contribution to these various dimensions of consolidation.[11] The following sub-sections cover each of these four aspects in turn and Table 1, where the econometric results are synthesized, will be used as a guide to the discussion. [12]

Factors that prompt and influence the size of consolidations

Consolidation was more likely to start when deficits were large…

Econometric analysis confirms that the initial budget balance has played a significant role in kicking off consolidation (Table IV.1, column marked "probability to start"). For example, a cyclically adjusted primary deficit of 2% of (potential) GDP is associated with a 13 percentage point higher probability of initiating consolidation than a balanced primary budget (Figure IV.6).[13]

… and when interest rate spreads were high and after general elections

There is weak econometric evidence that this effect can be compounded by higher long-term interest rates (relative to an international reference level). Indeed, the fall in interest spreads through the 1990s in a number of cases appears to have led to a more relaxed primary budget stance.[14] Elections, on the other hand, have played a significant role: the probability of undertaking consolidation rose just after a general election suggesting that governments are more ready to start consolidation once a full legislative term lies ahead.

Adjustments were larger when started in difficult times…

Turning to the size of fiscal consolidation (column labelled "size of adjustment" in Table IV.1) the analysis confirms again the significant role of initial budgetary conditions. The higher the initial primary deficit, the larger was the overall consolidation that was achieved over an episode. Similarly, the size of fiscal consolidation was also larger when interest rates were relatively high to begin with. There is some suggestive evidence that this was also the case when initial activity was weak.

… and when relying heavily on spending cuts

More relevant for policy design are the respective roles played by expenditure-- as against revenue-based consolidation. The size of the fiscal adjustment increased when episodes were driven by cuts in primary current expenditures. In alternative specifications (not shown here), a heavy weight on individual current expenditure items (public consumption and social transfers) was also found to have a significant positive impact on the

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11 . In the estimated equations, fiscal rules are accounted for by three dummy variables, representing the existence of a budget rule supplemented by an expenditure rule; euro area countries during the qualification phase to the euro; and euro area countries under the Stability and Growth Pact.

12 . The results presented in Table IV.1 represent the final specifications following a general-to-specific procedure to identify the relevant explanatory variables.

13 . All other variables are evaluated at their mean.

14 . More details are given in the Appendix 2 in Guichard *et al.* (2007).

Table IV.1. **Summary of the main results: parameter estimates**

	Probability to start	Size of the adjustment	Intensity of the adjustment	Probability to stop the episode	Probability to reach a primary balance that stabilises debt
Year before the episode started					
Cyclically adjusted primary balance	-0.046**** (-6.54)	-0.567**** (-4.92)	-0.594** (-1.78)	0.187**** (4.14)	
Gap to primary balance sufficient to stabilise debt (actual-target)					0.195**** (3.47)
Long term interest rates (domestic rate - foreign reference)	0.010* (1.88)	0.199** (2.43)	0.078*** (3.41)		
Output gap (actual-potential)		-0.113* (-1.66)	0.061** (2.54)	0.079* (1.89)	-0.127** (-2.37)
Elections (dummy taking the value 1 on election years)	0.140*** (3.12)				
Composition of the adjustment[1]					
Share of primary current expenditure cuts		2.289**** (4.42)			
Share of social spending cuts					1.191*** (3.09)
Share of public investment cuts			-0.919** (-2.23)	-0.758** (-2.56)	
Share of direct tax increases				-0.180** (-2.27)	
Other					
Duration of the episode[2]				1.952**** (8.13)	0.261**** (3.47)
Policy rules					
Expenditure rule and budget balance rule		1.493** (2.07)		-1.001**** (-3.35)	0.586** (2.08)
Euro countries 1992-97	0.2556**** (3.57)				
Euro countries 1998-2005			0.979* (1.84)		
Observations	372	73	73	225	64
R2	0.192	0.487	0.267	..	0.560

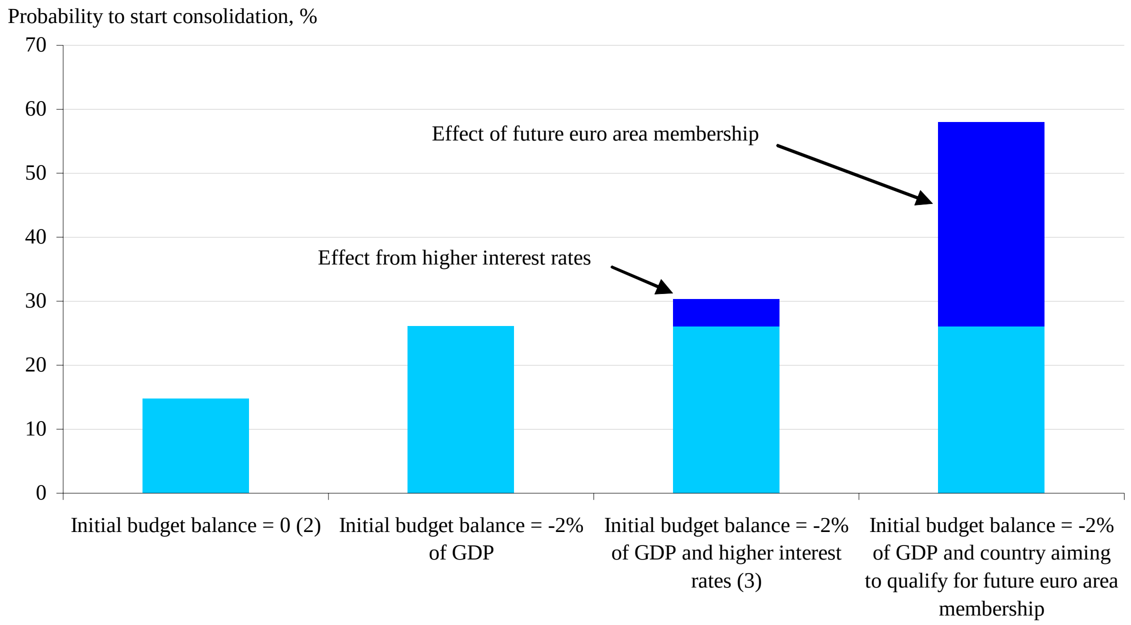
Note: Pseudo R2 for probit; adjusted R2 for pooled regressions.
Reported coefficients for the probit equations (col 1 and 5) are the marginal effects (*i.e* ., impact of the change of the explanatoty variable by one unit).
Numbers in brackets are the t-statistics. Significance levels: * 10%, ** 5%, *** 1%, **** 0.1%.
Constants are not reported. Coefficients of the inverse Mills ratio (used to account for the sample selection bias in the size and intensity regressions) are not reported.
1. Share of each budget item in the improvement of the primary balance over the entire episode or time-varying with duration in the probability-to-stop regression.
2. Elapsed time of consolidation in the probability-to-stop regression (a parameter value exceeding one indicates that the likelihood that the episode ends increases with its duration). Total length of the episode in the probability-to-reach regression.

Source: OECD calculations.

magnitude of the consolidation achieved. The analysis presented here cannot distinguish freezes or cuts across the board from spending restraint resulting from public spending reform.

Figure IV.6. Factors affecting the probability of starting fiscal consolidation[1]

Probability of starting fiscal consolidation in different past circumstances



1. Based on pooled probit analysis across 24 OECD countries and over the period 1978-2003 (equation shown in the first column of Table IV.1). Probabilities are evaluated at sample means for all other variables entering the estimated equation.

2. Measured by the cyclically-adjusted primary balance.

3. Interest rate gap to international reference is 300 basis point higher.

Source: OECD calculations.

Consolidations were less intense when activity was weak

The "intensity of the adjustment" (consolidation *per* year) was affected by various macroeconomic developments. A larger initial deficit and higher long-term interest rates were associated with an increased intensity of adjustment. A weak activity at the outset, while increasing the size of consolidation, seems to reduce the intensity of effort: intense efforts are difficult when the economy is weak, making the adjustment more drawn out. Consolidation efforts based on public investment cuts have also tended to be less intense.

Factors that affect the length of consolidation episodes

Initial conditions also affected the duration of consolidation

A larger initial deficit was associated with a longer consolidation period (column labelled "probability to stop the episode" in Table IV.1). As suggested above, the probability of ending a consolidation period was also lower if it was initiated at time of a large negative output gap. Not surprisingly, the longer a period of consolidation had been underway, the more likely it was to come to an end. Long efforts are likely to lead to adjustment fatigue. Perhaps another interpretation is that the longer an episode lasts the larger the likely cumulated adjustment and accordingly the chance that successful consolidation will have been achieved.

Tax increases and public investment cuts played a role

As concerns the instruments of consolidation, a large share of direct tax increases and public investment cuts raised the likelihood that a consolidation period would *continue*. These results are open to different interpretations. One such, suggested in previous research, is that it may reflect that some countries relied on "switching strategies",[15] meaning that the government starts fiscal consolidation by raising taxes and/or cutting investment and then, subsequently, moves on to a broader strategy which would involve reducing current spending (which is more politically sensitive and takes more time to implement).

Factors that contribute to success in reaching debt sustainability

Initial conditions also influence the chances of success…

An episode of consolidation begun under weak economic activity had a higher probability of success in the sense of reaching debt sustainability (Table IV.1, last column). This may reflect the effect of weak initial conditions in terms of boosting the overall size of consolidation, as discussed above.

… as do cuts to social transfers…

Turning to the composition of consolidation, a greater weight on cuts in social spending tended to increase the chances of success. A reason for this could be that governments more committed to achieving fiscal sustainability may also be more likely to reform politically sensitive areas. As a by-product of doing so, they may at the same time bolster the credibility of the consolidation strategy, thereby improving its chances of success.

… and the length of time consolidation lasts

The longer an episode lasted the higher was the probability that it would achieve success. Taken together with the previously discussed positive relationship between stopping consolidation and duration this is consistent with the interpretation that long episodes are frequently terminated because they have achieved success.

Quantifying the effect of fiscal rules

Expenditures rules can play an important role…

Fiscal rules, in particular those that include a focus on expenditures (Table IV.2), are estimated to have affected several dimensions of fiscal consolidation. Differentiating budget balance rules according to whether they are combined with expenditure rules or not, it appears that the combined rules have a favourable effect on consolidation outcomes. The size of fiscal consolidation was significantly larger and the consolidation efforts sustained for longer when such rules were present. The results also indicate that combined spending and budget balance rules helped achieving and maintaining a primary balance that was sufficient to stabilise the debt-to-GDP ratio.

15 . Von Hagen *et al.* (2002), among others, make this argument.

Table IV.2. **Main fiscal rules currently applied in OECD countries**

Country	Date and name	Budget target	Expenditure target	Rule to deal with windfall revenues	Golden rule
		Characteristics of the set of rules			
Australia	Charter of Budget Honesty (1998)	yes	no	no	no
Austria	Stability and Growth Pact (1997) Domestic Stability Pact (2000)	yes	no	no	no
Belgium	Stability and Growth Pact (1997) National budget rule (2000)	yes	no	yes	no
Canada	Debt repayment plan (1998)	yes	no	yes	no
Czech republic	Stability and Growth Pact (2004) Law on budgetary rules (2004)	yes	yes	no	no
Denmark	Medium term fiscal strategy (1998)	yes	yes	no	no
Finland	Stability and Growth Pact (1997) Spending limits (1991, revised in 1995 and 1999)	yes	yes	no	no
France	Stability and Growth Pact (1997) Central government expenditure ceiling (1998)	yes	yes	Since 2006	no
Germany	Stability and Growth Pact (1997) Domestic Stability Pact (2002)	yes	yes	no	yes
Greece	Stability and Growth Pact (1997)	yes	no	no	no
Hungary	Stability and Growth Pact (2004)	yes	no	no	no
Ireland	Stability and Growth Pact (1997)	yes	no	no	no
Italy	Stability and Growth Pact (1997) Nominal ceiling on expenditure growth (2002)	yes	yes	no	no
Japan	Cabinet decision on the Medium term fiscal perspective (2002)	yes	yes	no	no
Luxembourg	Stability and Growth Pact (1997) Coalition agreement on expenditure ceiling (1999, 2004)	yes	no	no	no
Mexico	Budget and fiscal responsibility law (2006)	yes	no	yes	no
Netherlands	Stability and Growth Pact (1997) Coalition agreement on multiyear expenditure targets (1994, revised in 2003)	yes	yes	yes	no
New Zealand	Fiscal responsibility act (1994)	yes	yes	no	no
Norway	Fiscal Stability guidelines (2001)	yes	no	yes	no
Poland	Stability and Growth Pact (2004) Act on Public Finance (1999)	yes	no	no	no
Portugal	Stability and Growth Pact (1997)	yes	no	no	no
Slovak Republic	Stability and Growth Pact (2004)	yes	no	no	no
Spain	Stability and Growth Pact (1997) Fiscal Stability Law (2001, revised in 2006)	yes	no	no	no
Sweden	Fiscal budget act (1996, revised in 1999)	yes	yes	no	no
Switzerland	Debt containment rule (2001, but in force since 2003)	yes	yes	yes	no
United Kingdom	Code for fiscal stability (1998)	yes	no	no	yes

Source: OECD calculations.

… although the causality is not clear

The finding that expenditure rules were an important ingredient in the success of a consolidation episode has intuitive appeal given the fact that most backtrackings in the sample studied here occurred on the spending side. The estimates may, however, also just reflect that countries supplementing the objective to achieve fiscal balance with expenditure rules are in general more committed to pursuing fiscal consolidation, and in particular to addressing issues regarding spending control.

The euro area provides some helpful lessons on the role of rules

Developments in the euro area illustrate a couple of important points about the rules and their relationship to the consolidation process. During the run up to the introduction of the euro (1992 to 1997), countries were found to have been much more likely to initiate consolidation. Indeed, the probability of consolidating appears to have more than doubled with the prospect of membership (see Figure IV.6 above). The Maastricht Treaty's well-publicised requirements made very clear the need for fiscal consolidation at the same time as the benefits of adopting the euro were perceived to be very significant, both by policymakers and the public, as were the disadvantages in the case of failure. In the period since the introduction of the single currency, membership in the euro area appears to have had a weakly significant positive effect on intensity.

Experience regarding the design and implementation of fiscal rules

A number of issues are important to make rules effective

To pursue further the discussion of the extent to which key features of fiscal rules influence their effectiveness, this section reviews specific cases in which fiscal rules did – or did not – work. Particular attention is paid to issues of design, implementation, and the degree of flexibility to deal with shocks or changing macroeconomic conditions.

Issues in designing fiscal rules

Combining budget and spending rules is effective…

On design, it is useful to start the discussion with a simple comparison between budget balance rules that are combined with expenditure rules and those which are not. Historical observation is consistent with the regression results in suggesting that in general budget-balance rules that are not combined with expenditure rules are less effective. A striking example of this is the United States experience: neither the Gramm-Rudman-Hollings (GRH) Act of 1985 nor its revised version in 1987 succeeded in significantly reducing the fiscal deficit.[16] A further example is the Stability and Growth Pact (SGP), which has not so far led to sustainable positions being attained, notably in large EU countries. On the other hand, when the United States turned to an expenditure-based rule, the Budget Enforcement

16. The GRH act was a budget balance rule (which targeted a balanced budget within six years). A key feature of GRH was that, in the absence of an agreement on how to reach the deficit targets, the rule was to be enforced by sequestration in spending programmes. It was abandoned in 1990 when the combination of the absence of *ex ante* consensus on spending cuts and overly optimistic budgetary projection resulted in sequestrations that were very large and politically not feasible.

Act (1990-2002),[17] a surplus was achieved and maintained for a time. Some EU countries (*e.g.* Netherlands, Spain, Sweden, Finland and Czech Republic) supplemented the SGP by national rules (in most cases including some expenditure ceilings) and also enjoyed success. There were, however, some failures. For instance, after France introduced multi-year objectives for real government expenditure in 1998, its structural fiscal position deteriorated continuously until 2003, at which time it came under the European excessive deficit procedure.[18]

… provided they are clear, transparent and take account of the cycle

There is no one-size-fits-all rule applicable to every country but there seems to be a consensus that, to be effective, rules should have several features. In particular, they should be simple to manage, understand and monitor, while flexible enough to respond to the cycle. Against this background, there are several features of expenditure rules that can explain why they have often been associated with success: not only do they exclude cyclically volatile revenues but they can be (and often are) designed to let economic stabilisers work in a downturn and to save windfall gains during an upturn; [19] they are typically more transparent than all but the simplest budget balance rule; they allow spending ministers/ministries to be held accountable;[20] and they make the availability of financial resources predictable for policymakers and programme managers.

The items covered by the rule…

An important issue in designing fiscal rules is their possible impact on the quality of public expenditure. Both expenditure rules covering total spending and budget balance rules can potentially cause allocative inefficiencies by biasing spending towards items that are politically sensitive and difficult to cut.[21] Typically governments have responded by excluding some capital items from overall spending (as done notably by Golden rules in the United Kingdom and Germany), but this may make the rule more difficult to monitor as well as easier to circumvent. Moreover, there is an element of arbitrariness in excluding physical investment from the rule but not current spending with investment attributes, such as spending on education.

… and the time horizon affect its effectiveness

The time period over which the target is to be met is also important, not least in providing flexibility to deal with cyclical fluctuations. Although enforcing the rule on a year-by-year basis appears strict, many countries do just that, with varying degrees of success. Switzerland is an example of a

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17. The Budget Enforcement Act consisted of caps on discretionary spending (in nominal terms) and pay-as-you-go rules stating that new discretionary spending, excluding social security or revenue laws had to be budget neutral.

18. Most of the slippage came from the social security and government sectors (Moulin , 2004). France was subsequently able to reduce its deficit to below 3% in 2005 and the excessive deficit procedure against France was abrogated in January 2007.

19. Anderson and Minarik (2006).

20. Atkinson and van den Noord (2001).

21. Sutherland, *et al.* (2005).

country combining year-by-year enforcement with cyclical flexibility by targeting a balanced budget in cyclically adjusted terms. The United Kingdom pursues another approach: its budget-balance rule[22] holds over the business cycle. Such a procedure, however, provides less accurate short-term guidance. As well, rules defined over the cycle or embodying some kind of cyclical adjustment require a subjective[23] assessment to be made about the cycle's start and end dates and/or the size of the output gap, which (together with data revisions) creates a degree of uncertainty about whether or not the rule was (or will be) met. The same objections apply to rules such as the SGP that allow normal procedures to be waived in conditions of pronounced cyclical weakness.

Sub-national rules can complement national ones

National fiscal rules are, in most countries, complemented by a wide variety of rules at sub-national levels. Such rules have a long history in several countries. With the trend to greater decentralisation of fiscal responsibilities in most OECD countries, rules for sub-national government have been seen as an important mechanism to reap the efficiency gains accruing from local autonomy while maintaining or establishing fiscal rectitude. As a result, rules have been set or strengthened at sub-national levels in most countries.[24] In particular, several European countries have aligned domestic fiscal rules for sub-national governments with their supra-national commitments by setting up domestic stability pacts.

Implementing rules

Observance of rules has been uneven

To be effective rules must be enforced, but experience gives conflicting examples of the rigour with which rules should be implemented.[25] The Stability and Growth Pact, the 1997 fiscal consolidation programme in Japan, and the Gramm-Rudman-Hollings Act in the United States all reached a stage where the economic and political costs of following the rule rigidly were perceived as too high. However, Sweden, the Netherlands as well the United States (under the Budget

22. There are two rules, one stating that government borrowing will fund only net fixed investment, not current expenditures; and one that requires that the ratio of net debt to GDP be held stable at a prudent level.

23. While it would be possible to put in place an objective rule for dating the cycle, the method that the UK Treasury uses is a subjective "broad assessment of the available information". At present there is no requirement for the Treasury's assumptions about the timing of the economic cycle to be audited.

24 . Sutherland *et al.* (2005) provide a description of these rules and a discussion of the issues related to their design.

25. The European Commission has built some indicators of rules characteristics that focus on their "strength"; see European Commission (2006) and Ayuso-i-Casals *et al.* (2006). The strongest rules have a constitutional base with no margin for adjusting the objectives, are monitored and enforced by independent authorities, include automatic correction and sanction mechanisms in case of non compliance and are closely monitored by the media. This work shows that, in Europe at least, strong national rules are usually associated with better fiscal outcomes and the characteristics that seem to matter most are the statutory base of the rule, the body in charge of enforcement (independent authority, government, *etc*.) and the enforcement mechanism (including the role of sanctions).

Enforcement Act 1990-2002)[26] are cases where rigid rules were quite effective in supporting consolidation and without negative economic consequences. New Zealand, Canada and Australia, on the other hand, provide examples where governments achieved fiscal consolidations under quite flexible rules.[27]

There should be costs to breaching rules

In many successful cases, rules were reinforced by establishing a framework which had a strong reporting system and mechanisms that increased the political cost of breaching the rules (New Zealand, Australia and the United Kingdom, in particular). *Ex post* assessment is very important in the United Kingdom, Belgium,[28] the Netherlands, Sweden, Australia and New Zealand. Most successful frameworks also stress the need to rely on prudent budget assumptions. As well, there are several cases in which successful rules followed the setup of new budgeting frameworks and changes to public-sector management that fostered increased accountability and efficiency (New Zealand, Australia, Sweden and the United Kingdom). More generally, and more difficult to influence, there seems to be differences across countries in the weight electorates give to the respect of rules and the extent of private-sector monitoring and discussion of fiscal performances.

Adapting rules to changing circumstances

Rules also have to be adapted to changing circumstances

Allowing rules to evolve in the light of progress in consolidation or a changing macroeconomic environment is often a necessary but tricky condition of success. For instance, in Canada (the only country among the major seven to have been able to keep net debt on a sustained downward trend), fiscal consolidation started in 1993 under legislation capping programme spending (self-financing programmes were excluded). As spending always remained below the ceilings, the rule was abandoned in 1995 and replaced by a contingency reserve within a prudent budget that could be used for debt reduction if not needed; this framework was replaced in 1998 by the "balanced or better budget policy" combined with a debt repayment plan: surpluses are used to pay down debt and associated reductions in interest payments to lower taxes. Switzerland was successful in improving its fiscal position from 1999 to 2001, using a budget balance rule. Later on, however, the framework was modified to include expenditure targets. In attempting to make the SGP more effective, the

26. It included escape clauses, however, which were used extensively at the turn of the century.

27. In New Zealand, for instance, principles of responsible fiscal management are legislated but not the targets; the government is required to set its short-term targets (usually revised from one year to the next) as well as its long-term intentions for a range of fiscal variables. In this country there are no legislated mechanisms of sanction and correction in case of non compliance.

28. The Federal Planning Bureau in Belgium has played a key role in fiscal consolidation by producing independent, politically neutral short-term macroeconomic projections (Bogaert *et al.* 2006).

European Commission and the Council have focused on cyclically adjusted balances in order to permit more flexibility in the enforcement mechanisms;[29] the jury is still out on the outcomes. Spain has also recently reformed its Fiscal Stability Law to take into account the cyclical position of the economy.

Mechanism to deal with revenue windfalls play a supporting role

Countries whose revenues are sensitive to terms-of-trade changes (not least oil producers like Mexico and Norway) have found it useful to establish stabilisation funds to deal with the windfall gains. These funds serve a number of purposes, including transmitting resource wealth to future generations, stabilising the exchange rate and shielding the economy from overheating due to excessive spending. Even countries that are less endowed with natural resources have found it helpful to set up similar mechanisms to deal with revenue windfalls such as “rainy day funds” or *ex-ante* rules establishing the share of revenue windfall to be used to reduce debt or saved (Belgium or more recently France).[30] Such mechanisms can usefully complement fiscal rules by securing surpluses that arise during good times.[31]

Transparency is critical to the process

Transparency is a crucial feature of any successful rule. If the public understands why an action is being taken (and is convinced of its necessity), that greatly increases the likelihood of the associated rule being successful and sustained. As well, temporary departures from a rule need not be damaging if they can be explained convincingly.[32] This could be reinforced where rules are subject to independent verification.

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29. This provides flexibility to the excessive deficit procedure if the excess of the budget deficit over the threshold of 3% of GDP appears small and temporary. Account will then be taken of any factor deemed relevant, including cyclical conditions, debt sustainability and implementation of structural policies that enhance growth potential and long-term sustainability of public finance.

30 . In Belgium unexpected tax revenues or surplus from lower than expected spending have been used to pay down national debt. In France, since 2006, the government has been required to define how possible differences between actual and predicted revenues would be allocated in the annual budget law.

31 . Mills and Quinet (2001).

32. Hemming and Kell (2001).

APPENDIX IV.1
DEFINITION OF THE MAIN VARIABLES

Macroeconomic and fiscal variables

Macroeconomic and fiscal variables all come from the *Economic Outlook 80* database (see OECD *Economic Outlook Database Inventory* http://www.oecd.org/dataoecd/47/9/36462096.pdf). For the purpose of this project the following variables were calculated.

- The primary balance that stabilises the debt to GDP ratio (PBO) is defined as:

  PBO(t)/GDP(t) = -Debt(t-1)/GDP(t-1)*[1-(1+i)/(1+g)];

  where g =GDPt/GDP(t-1)-1 and *i* is defined as a moving average of the implicit interest rates on debt, in particular

  i = (1/3)*[*ggintp*[t-1]/*ggfl*[t-2]+*ggintp*[t]/*ggfl*[t-1]

  +*ggintp*[t+1]/*ggfl*[t]];

  with *ggfl* the general government gross financial liabilities and *ggintp* the gross government interest payments.

- In defining the spread between the long-term interest rates and those in the reference country, Germany is used for European countries and the United States for the other countries.

- The share of a budget expenditure item in the fiscal adjustment is defined as minus the difference of the relevant item as a percentage of GDP between the last year of the episode and the first year before the start of the episode divided by the difference in the primary balance as a percentage of GDP over the same period. For the duration analysis (the probability of stopping consolidation), a time series of the cumulative contribution over the duration of the episode was constructed.

- The share of a budget revenue item in the fiscal adjustment is defined as the difference of the relevant item as a percentage of GDP between the last year of the episode and the year before the start of the episode, all divided by the difference in the primary balance as a percentage of GDP over the same period. For the duration analysis, a time series of the cumulative contribution over the duration of the episode was built.

- For total and current primary expenditures and revenues, and for direct and indirect taxes, cyclically adjusted variables as a percentage of potential GDP (for both the numerator and the denominator) were used; for expenditure items where cyclically adjusted variables are not available the non-adjusted ones (both for the numerator and the denominator) were used.

Dummy variables to capture fiscal rules

Two dummy variables reflect the existence, at least for some significant part of the general government sector, of *(i)* a budget balance rule defined as rules and targets for the fiscal deficit (cyclically adjusted or not) and *(ii)* a budget balance rule supplemented by an expenditure rule, defined as a rule and/or target that binds and controls expenditures in annual budgeting, such as expenditure ceilings and caps, and pay-as-you-go principles. These variables are rudimentary indicators as possible changes in the definition of the rule, obedience to the rule, or any characteristic of the rule (such as its legal base, sanctions implied, *etc.*) are not taken into account. Hence, the fact that the modalities of rules vary from one country to the other and change over time is not accounted for. The dummies are based on the cross-checking of several sources,[33] as well as on OECD country analysts' expertise. When working on episodes, the dummies take the value 1 if the rule exists when the episode starts or is introduced very soon thereafter. There is no dummy reflecting debt rules or revenue rules (*i.e.* rules that establish *ex ante* the share of revenue windfalls to be saved or rainy-day funds or rules that set a cap on tax rates). Finally, two dummies are used to account for respectively the euro qualification contest (1992-97)[34] and the SGP period.

The electoral cycle dummy takes a value 1 when there is an election (early elections are also in the sample). The information comes from *wikipedia.org*; the International Institute for Democracy and Electoral Assistance (IDEA); and national sites on elections results.

33. Deroose *et al.* (2006); European Commission (2003 and 2006) ; Fischer (2005); Gruen and Sayegh (2005); von Hagen (2006); IMF (2005); Janssen (2001); Joumard *et al.* (2004); Kennedy *et al.* (2001); Moulin (2004); Poterba (1997); and Tanaka (2005).

34. For Greece since 1999.

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