Fiscal stability

Overview

The concept of fiscal sustainability is often used in discussing fiscal policy but it is absence is not directly observable. Fiscal instability, on the other hand, can be observed from the conduct of the CDS and bond markets. It is possible, moreover, that a fiscal stance which might otherwise be considered to be sustainable, may develop fiscal instability because of the development of debt intolerance toward the government in question that had arisen from herding behaviour in the bond market. Thus the avoidance of fiscal instability would appear to be the more pressing - and possibly more demanding - policy objective.

Sustainability and stability

Sustainability

If the annual interest payable on a government's debt rise faster than the national income, the point will eventually be reached at which they could would exceed the revenue that could be raised by taxation. The debt trap identity establishes that, for a government that has a budget deficit, the fiscal correction needed to avoid that outcome increases with the level of debt as a fraction of GDP at the time that the action is taken, and with the difference between the interest rate payable on the debt and the growth rate of GDP at the time.

"Structural" deficits

In discussions of the sustainability of the budget deficit during a recession, an arbitrary distinction is often drawn between what are termed its "cyclical" and "structural" components. The cyclical component is defined for that purpose as that part of the budget deficit that is attributable to a temporary departure of national output from its trend, and which ceases when trend output growth resumes - and the structural component is defined as the remainder. The distinction has the merit of isolating that part of the budget deficit that is relevant to the question of sustainability. However, a reliable estimate of the size of a structural deficit is not possible until some time after the recession in question is over. Its isolation during a recession depends upon forecasts of unknowns, including the future trends of output and prices. Determination of the future trend of output depends, in turn upon estimates of the success of the investments corresponding to that part the deficit that complies with the Golden Rule.

Fiscal instability

An increase in the risk premium that the bond market applies to a government's borrowing may increase the cost of its borrowing to an extent that increases the market's perception of its

riskiness, as a result of which the bond market may apply a further increase in its risk premium. Repetition of that sequence could eventually force the government to default by placing the cost of a roll-over of maturing debt beyond its capacity to raise the necessary funds. The market's awareness of that possibilty may add to the destabilising effect of its actions. Unlike sustainability, fiscal instability is an observable phenomenon.

The fiscal dilemma

Fiscal policy usually involves a choice between the objective of achieving economic growth and the need to avoid fiscal instability. That choice arises, in particular, concerning the conduct of fiscal policy during a recession. The operation of automatic stabilisers during a recession necessarily increases a country's budget deficit - sometimes to the extent of raising fears of fiscal instability. The choice has to be made between increasing the deficit further in order to mitigate the severity of the recession, and reducing it in order to maintain investor confidence. That choice is complicated by the fact that, in the absence of effective action to counter the recession, its increasing severity might in any case raise the budget deficit to an extent that would cause a loss of confidence. The consensus policy choice before 2008 had been to refrain from fiscal expansion and to counter the recession solely by an expansionary monetary policy. But in face of the threat posed by the international crash of 2008, most of the G20 governments considered it necessary to use discretionary fiscal policy to augment the diminishing effects of monetary expansion. The recession came to to an end in 2009, but in view of the perceived fragility of the recovery, the dilemma remained: whether to implement immediate tax increases or public expenditure cuts, or to postpone such action pending signs of a sufficiently robust recovery (without which the economy's [automatic stabilisers] could ensure a continuing increase in the budget deficit.

A fiscal dilemma also arises at times of economic stability. A structural deficit that is devoted entirely to self-financing government investment is, by definition, sustainable. The use for that purpose of voluntary borrowing rather than compulsory taxation must be presumed to increase growth in view of the growth-reducing effects of taxation. The dilemma is whether - and how far - to sacrifice some growth prospects by limiting deficit-financed investment in order to maintain sufficient unused capacity to borrow in order to mitigate the effects of a recession or other emergencies. Perceptions of the prospects and severity of such emergencies may be expected to influence the judgement that is made, and an upward revision of those perceptions may be expected to follow a severe recession.

The debt trap identity

According to the debt trap identity (proved below), the increase, Δd, in national debt in any given year, as a percentage of GDP is given by:

$$\Delta d = f + d(r - g)$$

where d is the amount of the accumulated debt as a percentage of GDP at the beginning of the year,
and f is the [primary budget deficit (or surplus)](#) for the year (shown with a negative negative sign if a surplus) as a percentage of GDP,
r is the interest rate payable on the debt,
and g is the then current nominal GDP growth rate.

So that if $\Delta d = 0$

$$f = -d(r - g)$$

- which is to say that to avoid an increase in public debt in the course of any year, the budget balance during that year must not be greater than the opening level of debt multiplied by the difference between the interest rate on the debt and the GDP growth rate in that year (and that means a budget surplus if the interest rate is greater than the growth rate).

If, for example, r were 5% and g were 2% then a debt of 50% of gdp would require a surplus of 1.5% of GDP, a debt of 100% of GDP would require a surplus of 3% of gdp, and so forth.

(Proof:- Let D and Y be the levels of public debt and GDP at the beginning of a year; and,
let F be the primary, or discretionary budget deficit (the total deficit excluding interest payments) and,
let r be the annual rate of interest payable on the public debt;
and assume that F, r, and g are all mutually independent.

- then the public debt at the end of the year is $D_1 = D + F + Dr$; the GDP at the end of the year is $Y_1 = Y(1 + g)$; and the ratio of public debt to GDP has risen from D/Y to $(D + F + Dr)/\{Y(1 + g)$;

- thus the increase in the ratio of public debt to GDP in the course of a year is:

$$\Delta(D/Y) = (D + F + Dr)/\{Y(1 + g)\} - D/Y$$

Let $1/\{Y(1;+ g)\} = A$ andso that $AY = 1/(1 + g)$,and $1/AY = 1 + g$
- then:

$$\Delta(D/Y) = A(D + F + Dr) - D/Y$$

$$= A(D + F + Dr - D/AY)$$

- and substituting $1 + g$ for $1/AY$:

$$= A(D + F + Dr - D - Dg)$$

substituting for A:

$$\Delta(D/Y) = \{F + D(r - g)\}/\{Y(1 + g)\}$$

or, approximately:-

$$\Delta(D/Y) = \{F + D(r - g)\}/Y$$

$$= F/Y + (r - g)D/Y$$

Let $f = F/Y$, and $d = D/Y$

- then $\qquad \Delta d = f + d(r - g)$

where f is the primary budget deficit as a percentage of GDP, and d is public debt as a percentage of GDP)