C000452

crowding out

'Crowding out' refers to all the things which can go wrong when debt-financed fiscal policy is used to affect output. While the initial focus was on the slope of the LM curve, 'crowding out' now refers to a multiplicity of channels through which expansionary fiscal policy may in the end have little, no or even negative effects on output.

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A first line of argument questions whether fiscal policy has any effect at all on spending. Changes in the pattern of taxation which keep the pattern of spending unaffected do not affect the intertemporal budget constraint of the private economy and thus may have little effect on private spending. This argument, known as the 'Ricardian equivalence' of debt and taxation, holds only if taxes are lump sum (Barro, 1974). Some taxes which induce strong intertemporal substitution, such as an investment tax credit for firms, will have stronger effects if they are temporary; for most others, such as income taxes, changes in the intertemporal pattern may have only a small effect on the pattern of spending.

The Ricardian equivalence argument is not settled empirically and its validity surely depends on the circumstances. A change in the intertemporal taxation of assets such as land or housing, leaving the present value of taxes the same, will have little effect on their market value, thus on private spending. An explicitly temporary income tax increase may have little effect on spending while the anticipation of prolonged deficits may lead taxpayers to ignore the eventual increase in tax liabilities. Evidence from specific episodes, such as the 1968 temporary tax surcharge in the United States, suggests partial offset at best.

Changes in the pattern of government spending obviously have real effects. But here again, various forms of direct crowding out may be at work. Public spending may substitute perfectly or imperfectly for private spending, so that changes in public spending may be directly offset, fully or partially, by consumers or firms. Even if public spending is on public goods, the effect will depend on whether the change in spending is thought to be permanent or transitory. Permanent changes, financed by a permanent increase in taxes, will, as a first approximation, lead to a proportional decrease in private spending, with no effect on total spending. Temporary changes in spending, associated with a temporary increase in taxes, lead to a smaller reduction in private spending and thus to an increase in total spending.

In summary, one should not expect any change in taxation or government spending to have a one-for-one effect on aggregate demand. An eclectic reading of the discussion above may be that only sustained decreases in income taxation, or the use of taxes that induce strong intertemporal substitution, or temporary increases in spending, can reliably be used to boost aggregate demand. The focus in what follows will be on these forms of fiscal expansion.

Crowding out at full employment

Not every increase in aggregate demand translates into an increase in output.

This is clearly the case if the economy is already at full employment (I use 'full employment' to mean employment when unemployment is equal to its

natural rate). While tracing the effects of fiscal expansion at full employment is of limited empirical interest, except perhaps as a description of war efforts, it is useful for what follows. If labour supply is inelastic, output is fixed and any increase in aggregate demand must be offset by an increase in interest rates, leaving output unchanged. In the case of an increase in public spending, private spending will decrease; in the case of a decrease in income taxation, private spending will in the end be the same, but its composition will change as the share of interest sensitive components decreases. (If labour supply can vary, the story is more complicated. See, for example, Baxter and King, 1993, for an analysis of changes in government spending in an otherwise standard RBC model.)

This is just the beginning of the story, however. Over time, changes in capital and debt lead to further effects on output. The decrease in investment in response to higher interest rates leads to a decline in capital accumulation and output, reducing the supply of goods. If fiscal expansion is associated with sustained deficits, the increase in debt further increases private wealth and private spending at given interest rates, further increasing interest rates and accelerating the decline in capital accumulation (see, for example, Blanchard, 1985, for a characterization of these dynamic effects in an economy with finite horizon consumers). How strong is this negative effect of debt on capital accumulation likely to be? One of the crucial links in this mechanism is the effect of government debt on interest rates; empirical evidence, both across countries and from the last two centuries, shows surprisingly little relation between the two. This probably reflects, however, more the difficulty of identifying and controlling for other factors than the absence of an effect of debt and deficits on interest rates.

Worse can happen. It may be that the fiscal programme becomes unsustainable. There is no reason to worry about a fiscal programme in which debt grows temporarily faster than the interest rate. But there is reason to worry when there is a positive probability that, even under the most optimistic assumptions, debt will have to grow for ever faster than the interest rate. When this is the case, it implies that the government can meet its interest payments on existing debt only by borrowing more and more. What happens then may depend on the circumstances. Bond holders may start anticipating repudiation of government debt and require a risk premium on the debt, further accelerating deficits and the growth of the debt. If they instead anticipate repudiation through inflation, they will require a higher nominal rate and compensation for inflation risk in the form of a premium on all nominal debt, private and public. What is sure is that there will be increased uncertainty in financial markets and that this will further contribute to decreases in output and in welfare. The historical record suggests that it takes very large deficits and debt levels before the market perceives them as potentially unsustainable. England was able in the 19th century to build debt-to-GDP ratios close to 200 per cent without apparent trouble. Some European countries are currently running high deficits while already having debt-to-GDP ratios in excess of 100 per cent, without any evidence of a risk premium on government debt. The threshold seems lower for Latin American economies. But even if one excludes this worst-case scenario, fiscal expansion can clearly have adverse effects on output at full employment. The relevant issue, however, is whether the same dangers are present when fiscal expansion is implemented to reduce unemployment, which is presumably when it is most likely to be used.

Crowding out at less than full employment

The historical starting point of the crowding out discussion is the fixed price IS–LM model. In that model, a fiscal expansion raises aggregate demand and output. The pressure on interest rates does not come from the full employment constraint as before but from the increased demand for money from increased output. Thus the fiscal multiplier is smaller the lower the elasticity of money demand to interest rates, or the larger the elasticity of private spending to interest rates. Fiscal expansion crowds out the interest-sensitive components of private spending, but the multiplier effect on output is positive. As output and interest rates increase, it is quite possible for both investment and consumption to increase. But what happens when the model is extended to take into account dynamics, expectations and so on? Can one overturn the initial result and get full crowding out or even negative multipliers?

Even within the static IS–LM, one can in fact get zero or negative multipliers. This is the case, for example, if money demand from agents is higher than that from the government and the change in policy redistributes income from the government to agents. While this case is rather exotic, a much stronger case can be made if the economy is small, open, and with capital mobility and flexible exchange rates, as in the 'Mundell–Fleming' model. In this case, with the interest rate given from outside, and fixed money supply, money demand determines output; fiscal policy leads only to exchange rate appreciation. Exchange rate-sensitive components are now crowded out by fiscal expansion. The multiplier is equal to zero.

When dynamic effects are taken into account, other channels arise for crowding out. The analysis of these dynamic effects, with the dynamics of debt accumulation taken into account, was initially conducted under the maintained assumption of fixed prices and demand determination of output (Tobin and Buiter, 1976). Then, as debt was accumulating, private wealth and spending increased, leading to even larger effects of fiscal policy on output in the long run than in the short run. But the assumption of fixed prices, while debt and capital accumulation are allowed to proceed, is surely misleading; when prices are also allowed to adjust, the effects of fiscal policy become more complex, and crowding out more likely. This is because some of the full employment effects come back into prominence: if fiscal expansion is maintained even after the economy has reached full employment, then the perverse effects of higher interest rates on capital accumulation and full employment output come again into play. This is true even if deficits disappear before the economy returns to full employment; the economy inherits a larger level of debt, and thus must have higher interest rates and lower capital accumulation than it would otherwise have had. The fiscal expansion trades off a faster return to full employment for lower full-employment output.

Anticipations of these full employment effects are likely to feed back and modify the effects of fiscal policy at the start, when the economy is still at less than full employment. Anticipations of higher interest rates, perhaps also of higher distortions due to the higher taxes needed to service the debt, may dominate the direct effects of higher government spending on demand, and lead to an initial decrease rather than an initial increase in demand and output. Symmetrically, fiscal consolidation, to the extent that it implies lower interest rates and lower distortions in the future, may be expansionary. This is even more likely to be the case if fiscal consolidation decreases the risk of default on government debt, and thus decreases the risk of major economic disruptions. There is indeed some evidence that, when initial fiscal conditions

are very bad, and the fiscal consolidation is large and credible, the net effect of consolidation may be expansionary (Giavazzi and Pagano, 1990).

Crowding out: an assessment

Should one conclude from this that fiscal policy is an unreliable macroeconomic tool, with small and sometimes negative effects on output? The answer is 'no'. Fiscal Policy is likely to partly crowd out some components of private spending, even in the best circumstances, but there is little reason to doubt that it can help the economy return to full employment. Ricardian equivalence and direct crowding out warn us that not any tax cut or spending increase will increase aggregate demand. But there is little question that temporary spending or sustained income tax cuts will do so. Results of full crowding out at less than full employment, such as the Mundell–Fleming result, are simply a reminder that the monetary-fiscal policy mix is important.

In all cases, monetary accommodation of the increased demand for money removes the negative or the zero multipliers. That fiscal expansion affects capital accumulation, and output adversely at full employment, and that unsustainable fiscal programmes may lead to crises of confidence, is a reminder that fiscal expansion should not be synonymous with steady increases in the debt-to-GDP ratio even after the economy has returned to full employment. This shows one of the difficulties associated with fiscal expansion: if done through tax cuts, it has to be expected to last long enough to affect private spending, but not so long as to lead to expectations of runaway deficits in the long run. The room for manoeuvre is, however, substantial. Some taxes, such as the investment tax credit, work best when temporary. These can be used, as they work in the short run and have few adverse implications for the long run.

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See also

< xref = xyyyyyy > budget deficits;
< xref = R000047 > real business cycles;
< xref = xyyyyyy > Ricardian equivalence theorem;
< xref = T000069 > Tobin, James.

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Index terms

accumulation of capital
aggregate demand
budget deficits
crowding out
fiscal consolidation
fiscal expansion
fiscal policy
flexible exchange rates
full employment
inflation
interest rates
intertemporal taxation
investment tax credit
IS–LM model
labour supply
lump sum taxes
multiplier analysis
Mundell–Fleming model
natural rate of unemployment
private spending
public debt
public expenditure
Ricardian equivalence theorem
risk premium
taxation of income

Index terms not found:

accumulation of capital
budget deficits
lump sum taxes
multiplier analysis
natural rate of unemployment
public debt
public expenditure
Ricardian equivalence theorem
taxation of income