2. Fiscal Policy I: concepts, measurement and short run stabilization

1 What do we mean by fiscal policy?

Fiscal policy is obviously concerned with government expenditure and its financing and with redistribution. In our simple, aggregate framework there is little that can be said about redistribution. Furthermore, we will abstract from the public finance argument for using distortionary (Pigouvian) taxes as a way to alter the allocation of resources in the presence of market failures. Taxes in most of this course will be just a necessary evil to finance a given programme of government expenditure.

This bring us immediately to the rationale for government expenditure. One could just argue for a hands-off approach to fiscal policy with zero expenditure and taxes in all periods.

To clarify things consider the extreme case of **totally wasteful government expenditure** (e.g. government buys goods and services and shoots them to the moon!).

Costs of wasteful expenditure:

1. In so far as it is financed through present or future taxes it reduces (present or future) private disposable income. Furthermore, if taxes are not lump sum they also distort the allocation of resources.
2. If factors are fully employed in the economy, government expenditure diverts resources from private use (crowding out).

Benefits of wasteful expenditure:

3. It increases aggregate demand and production if the economy is at less than full employment (temporary stabilization). This begs another question: why not using instead transfers (negative taxes) to stabilize the economy? We will try to answer this question below.

In practice, most government expenditure in **not totally wasteful.** The most obvious argument for its public provision is market failure in the private provision of public goods because of their non-rival and non-escludable nature. Another rationale is if the government is able to borrow at better rates than private agents. Any public project for which the social rate of return exceeds the social opportunity cost (including the distortions associated with taxes and crowding out if any) is worth undertaking. Note that non-wasteful public expenditure may even crowd-in private expenditure (e.g. if it increases the productivity of labour it may increase equilibrium employment, production and private demand).

Clearly, one cannot separate the decision to carry out a certain government expenditure from the financing decision. A project that may be socially desirable under a certain form of financing may be not desirable any more under an alternative financing option. The correct way to proceed would be to study the change in taxes and expenditure over time using a dynamic, general equilibrium, microeconomic model. One can get much useful insight, though, by taking the path[1] of government expenditure as given and concentrating just on alternative ways to finance it. This is what we will do in what follows.

To this purpose let us now define the government budget identity:

$$\Delta B + \Delta M = G - T + iB \ (+adj) \qquad (1)$$

where B and M stand for the stocks of government bonds and money, i is the nominal interest rate and adj is a general term which stands for other sources of government revenue (e.g. privatization revenues).

Once expenditure is positive it has to be financed in some way: either through taxes, debt or money printing. Leaving out money creation for the moment, the next question is should it be financed through current

[1] For path we mean the values that government expenditure takes at all present and future times.

taxes (i.e. by balancing the budget at all time) or through debt (i.e. by running deficits).

Some people support a balanced-budget rule (e.g. Maastricht treaty prescribes that deficits should never exceed 3% of GDP). Two possible reasons for such a view are:

1. the fear that governments may run excessive deficits and end up with excessive debt (and possibly default);
2. the possibility that expansionary, debt-financed, fiscal policy may crowd out private investment, if the latter is interest elastic (e.g. the protracted deficits of the Reagan administration and surpluses of Clinton have been associated with a fall/increase in investment respectively).

We have little to say about the first point (why should a rational, forward-looking government have a deficit bias). The validity of the second point depends on how we answer the following questions:

- Is the budget deficit a meaningful measure of fiscal stance?
- Is there any justification for running budget deficits and if yes when?

2 The budget deficit and fiscal stance

Take a linear version of our IS-LM model (with $\pi = 0$).

$$Y = \bar{C} + c(Y - T) + \bar{I} + a\,(Y - T) - br + \overline{G} \tag{2}$$

$$M/P = kY - hr \tag{3}$$

1. **Balanced budget theorem**: an increase in government expenditure fully financed through an increase in taxes ($\Delta G = \Delta T$) is expansionary.
   G has more "bang for the buck" than T.

   This provides a rationale for using government expenditure rather than transfers as a tool for discretionary stabilization. Tax cuts were not very effective in the last Japanese recession.

2. If taxes, transfers and government expenditure are a function of income the budget deficit is an endogenous variable. It sheds little light on discretionary fiscal stance.

Suppose, for simplicity, that only taxes are a function of income

$$T = \bar{T} + t(PY)Y \tag{4}$$

where $t(PY)$ indicates that taxes are progressive - the marginal tax rate t may increase with nominal income.

The primary deficit $PD = G - T$ is endogenous as it depends both on the exogenous discretionary components G and $\bar{T}$ and the endogenous variables Y and P. One possibility would be to measure PD at constant P and Y (e.g. full employment deficit). This does not address the issue of the relative effectiveness of taxes versus expenditure (point 1 above).

The only correct measure of fiscal policy impact is the overall policy multiplier. That is the change in output associated with a given, exogenous change in fiscal policy. This depends though on the model one reckons is a correct description of the economy.

Morale: the budget deficit, even if does not provide a correct measure of fiscal stance.

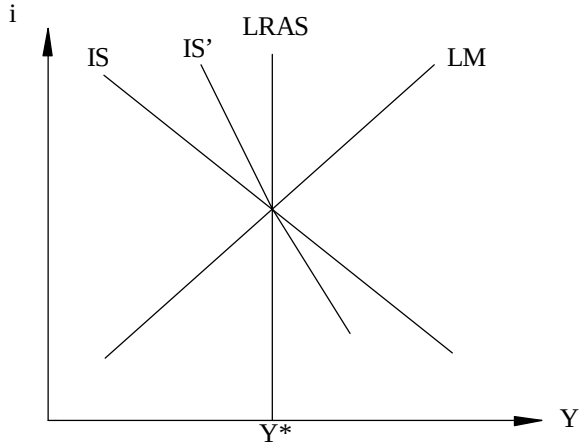
As far as crowding out is concerned, it is true that even a balanced-budget fiscal expansion (measured at constant prices and output) amounts (under certain conditions) to an increase aggregate demand at constant prices. Yet, whether investment is crowded out or not depends on the nature of the expenditure.

3 A Keynesian justification for budget deficits: automatic stabilization

Taxes/transfers (and the budget deficit) automatically increase in recessions. This makes current disposable income fluctuate less than gross income and, provided private demand depends on current disposable income, has a stabilizing effect on output in the presence of nominal rigidities.

Assume that menu costs are quite large and all firms are identical and have just set prices optimally. So, in response to a non-huge unexpected shock they will all keep prices unchanged.

Suppose two cases: total taxes T at full employment are the same, but taxes are lump-sum in one case ($T = \bar{T}$) and have a proportional component in the other ($T = \bar{T} + tY$). The IS is steeper in the second case.



Progressive taxation further increases automatic stabilization (fiscal drag=taxes grow faster than income).

Balancing the budget continuously increases short-run fluctuations (the dangers of the Maastricht treaty!).

How much stabilization can automatic stabilizers buy? It depends among other things about the size of the marginal propensity to spend out of current income (consumption plus investment). Assume that the central bank sets the nominal (and real) interest rate. So it $r = \bar{r}$. Then we just need to look at the IS to determine output as a function of shocks to exogenous variables.

$$Y = \frac{1}{1-(c+a)(1-t)}\left(\bar{C} - (c+a)\bar{T} + \bar{I} - b\bar{r} + \bar{G}\right) \tag{5}$$

Confront the Keynesian multiplier in the balanced-budget case ($t = 0$) and in the proportional income tax case with $t = 0.3$ (reasonable amount).

If $c+a$ is very close to zero the multiplier is very close in the two cases, if $c+a$ is large the difference between the two cases is significant.

So how much stabilization do automatic stabilizers

buy? For the US, Blanchard[2] reports a value of $a+c = 0.26$ which implies a Keynesian multiplier of 1.35 and 1.23 respectively. Not much of a difference.

In the next lecture we will try to understand what determines the low marginal propensity to spend out of current income.

[2]http://www.ny.frb.org/rmaghome/econ_pol/100blan.pdf
This is required reading and is very short.