Fiscal spending multiplier calculations based on
Input-Output tables – with an application to EU members

Discussion

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The Keynesian Cross

- The model we all love

$$Y = C + I + G + X - M$$
$$Y - T = C + S$$
$$S = I + (G - T) + (X - M)$$

The Keynesian Cross

- The model is closed by some behavioural assumptions
- In particular, consumption is stubbornly tied to income

$$C = c \times (Y - T)$$

- So if households increase their savings, they don't decrease their consumption
- But part of their consumption goes to foreign goods

$$M = m \times Y$$

The Keynesian Cross

- With stubborn consumption, any increase in demand for savings (say $X \uparrow$), does not reduce consumption
  - The only variable that is free to adjust is output, which must increase for the budget to balance.
- This gives us the famous expression

$$Y = \frac{1}{1 - c + m} [I + G + X]$$

- With fiscal multiplier

$$\frac{\partial Y}{\partial G} = \frac{1}{1 - c + m}$$

The contribution of this paper

- This paper starts from an interesting observation
  - A lot of imports is simply intermediate goods to be used for the purpose of exports!
  - And as exports are largely driven by world demand, so should the demand for these imports.
- Thus a more realistic import function would be

$$M = m \times Y + a$$

where m is the propensity to import for "domestic absorption" ($C + I + G$), and a is the imports for the purpose of exports.

The contribution of this paper

- So if we would try to measure the propensity to import as

$$m = \frac{M}{Y}$$

  we will get biased estimates as

$$\frac{M}{Y} = m + \frac{a}{Y}$$

- Thus Pusch attempts to correct for this by calculating m as

$$m = \frac{M}{Y} - \frac{a}{Y}$$

The contribution of this paper

- How do you do this?
- The parameter a is the measure of imports that are used for the purpose of exports
- $M - a$ is the imports used for domestic absorption.
- So essentially, Pusch calculates $M - a$ using Leontief style input-output matrices, and then corrects for the bias.

Comments

- This seems like a very sensible thing to do
- By correcting for the bias, the propensity to import shrinks, and the fiscal multiplier expands
- I have only two (small) remarks
  - The first concerns the model itself, and what the data can really identify
  - The second concerns how well the paper reaches the stipulated objectives

Comments

- Going back to the Keynesian Cross.

$$Y = C + I + G + X - M$$
$$Y - T = C + S$$
$$S = I + (G - T) + (X - M)$$

- $G \uparrow$ means that $S \uparrow$
- Some people would argue that that implies $C \downarrow$

Comments

- For instance, savings may depend on the interest rate
- Then a rise in government spending must raise the real interest rate and suppress consumption
- The behavioural assumptions are imposed, and not informed by the data
- Resembles a Kydland/Prescott exercise

Comments

- Second, the author states that "Our own method of multiplier calculation is robust to this critique as it does not force the data into a symmetric framework"

- I'm not sure about this. The model is linear, so everything is symmetric

- But more importantly, this is a "crisis model" that, I would say, only provides reasonable guidance in a recession

- The multiplier is calculated to be lower in the crisis year of 2007, than in the boom years of 2002-2006!
  - This is not the data speaking, but instead modelling assumptions.

Comments

- Lastly, all behavioural assumptions is of the type

$$C_t = c_t Y_t$$

- Thus, behaviour is permitted to change over time, but not with respect to policy
- I would argue that the reverse is more likely: Behaviour changes because of policy, and not (purely) because of time