ECO 156, Fall 2025, Required Assignment #4: Key

Current U.S. Policy Options in the AS/AD Model

I have two objectives with this assignment. The first is to have students work towards a deeper understanding of the AS/AD model. The second is to apply it to some current and recent policy issues.

Instructions Answer each of the following questions. Most questions can be effectively answered in a few concise sentences. Submit your assignment via this Google form. You will need to be logged into your Bates account to access the link.

The official due date is Monday, November 17 at 5 PM. I plan to post a key immediately after this deadline and thus late assignments will not be accepted. Note that this is two days before the second midterm. I suggest that students aim to complete it by the prior Friday.

In 2025, U.S. investment (I) is around \$5.4 trillion, government spending (G) is around \$5.2 trillion, and net exports (X-M) are -\$0.9 trillion. Taxes (T) are about \$8.2 trillion. For the sake of this exercise, treat these values as fixed (exogenous) unless otherwise told.

Now, assume that consumption behaves as follows: $C = a + b(Y - T)$. b is known as the *marginal propensity to consume*. For each additional dollar of after-tax income, households increase their consumption by b, which is a fraction between zero and one. Assume that a is \$0.7 trillion.

1. The following article estimates that b equals about 0.1.

Fisher, Jonathan D., David S. Johnson, Timothy M. Smeeding, and Jeffrey P. Thompson. "Estimating the marginal propensity to consume using the distributions of income, consumption, and wealth." *Journal of Macroeconomics* 65 (2020): 103218.

2. $Y = C + I + G + X - M$

$Y = a + bY - bT + I + G + X - M$

$(1 - b)Y = a - bT + I + G + X - M$

$Y = \frac{a - bT + I + G + X - M}{1 - b}$

Note that if b=0.1, then $Y = \frac{a - .1T + I + G + X - M}{0.9}$

3. From above, a $1 trillion increase in G increases Y by $1T/.9=$1.11T.

4. The government spending multiplier is $\frac{1}{.9} = 1.11$. This is within the range discussed in class.

Bonus. The tax multiplier is $-\frac{b}{1-b} = -0.11$, for $b = 0.1$

Raising taxes by $1.8 trillion would thus lower output by $1.8 trillion multiplied by -0.11, which equals -$200 billion.

The model above is like the AS/AD model from class, but with a flat AS curve (instead of its usual upward slope) so that inflation cannot change.

5. CARES is expansionary fiscal policy. It shifts AD to the right raising output and inflation.

6. #3. The change in output is bigger when the AS curve is flat.

7. AD shifts left. Output and inflation fall.

8. This is expansionary fiscal policy. It shifts AD to the right raising output and inflation.

9. High productivity shifts the AS curve to the right. Output falls and inflation falls.

10. If both AD and AS shift to the left, output falls and the effect on inflation is ambiguous.

Notes:

1.**AI use** Do not use AI to 1) find the data for questions #1 and #3, 2) analyze changes to supply and demand, or 3) craft your answers. You may use AI to suggest sources. You may not use AI itself as a source.