

10.14: The Spending Multiplier and Changes in Government Spending

Learning Objectives

- Determine how government spending should change to reach equilibrium, or full employment (using the income-expenditure model)

Suppose the economy is suffering from a recessionary gap due to insufficient aggregate demand. We can use the algebra of the spending multiplier to determine how much government spending should be increased to return the economy to potential GDP where full employment occurs.

Recall that macro equilibrium in the income-expenditure model is found at the point where the level of GDP, or national income, equals aggregate expenditure. The formula for the aggregate expenditure is

$$\text{Aggregate Expenditure} = C + I + G + (X - M).$$

Finally, note that this example includes income taxes; thus, people consume out of disposable income (or take-home pay). This is shown in the consumption equation below, which deducts taxes before spending.

Exercise: Expansionary Fiscal policy

Suppose the model is given by:

Y = National income

T = Taxes = $0.3Y$

C = Consumption = $200 + 0.9(Y - T)$

I = Investment = 600

G = Government spending = 1,000

X = Exports = 600

Y = Imports = $0.1(Y - T)$

Step 1. Calculate the initial equilibrium for this economy (where $Y = AE$).

Y	=	$200 + 0.9(Y - 0.3Y) + 600 + 1000 + 600 - 0.1(Y - 0.3Y)$
$Y - 0.63Y + 0.07Y$	=	2400
$0.44Y$	=	2400
Y	=	5454

Step 2. Assume that the full employment level of output is 6,000. What level of government spending would be necessary to reach that level? Since initial output is 5,454, GDP needs to be increased by $6,000 - 5,454 = 556$. What increase in government spending (while incorporating the spending multiplier) will achieve this?

To answer this question, plug in 6,000 as equal to Y , but leave G as a variable, and solve for G . Thus:

$$6000 = 200 + 0.9(6000 - 0.3(6000)) + 600 + G + 600 - 0.1(6000 - 0.3(6000))$$

Step 3. Solve this problem arithmetically. The answer is: $G = 1,240$. In other words, increasing government spending by 240, from its original level of 1,000, to 1,240, would raise output to the full employment level of GDP.

Thus a Keynesian expansionary fiscal policy, increasing government spending by 240, would correct the recessionary gap in this example.

Watch It

Watch the following video for a similar example.

An interactive or media element has been excluded from this version of the text. You can view it online here:
<http://pb.libretexts.org/mlum/?p=459>

Try It

<https://assessments.lumenlearning.co...sessments/7579>

CC licensed content, Original

- Modification, adaptation, and original content. **Provided by:** Lumen Learning. **License:** [CC BY: Attribution](#)

CC licensed content, Shared previously

- The Expenditure-Output Model. **Authored by:** OpenStax College. **Located at:**
<https://cnx.org/contents/QGHIMgmO@11.12:LJYhl4AE@11/The-Expenditure-Output-Model>. **License:** [CC BY: Attribution](#).
License Terms: Download for free at <http://cnx.org/contents/bc498e1f-efe...569ad09a82@4.4>

All rights reserved content

- Macro 3.11- Multiplier and Spending Practice- AP Macro. **Provided by:** ACDC Leadership. **Located at:**
<https://www.youtube.com/watch?v=pOQWm4hS5uI>. **License:** *Other*. **License Terms:** Standard YouTube License

10.14: The Spending Multiplier and Changes in Government Spending is shared under a [not declared](#) license and was authored, remixed, and/or curated by LibreTexts.

