Robert Ackerman

- rkackerm@live.unc.edu
- Office Hours: 2:00-3:00PM T/Th
- Office: PA202
- November 18, 2013
Today

• Writing Assignment #2
• Practice Final
• Questions from last time?
• Multiplier review
• Government spending vs tax example from last time
• Money
Writing Assignment #2

- Due tomorrow
- 2 sections- summary/key message, and analysis and connection to concepts from class
- The second is more important, but make sure you mention all the main points in your summary
- Pick and define more than one concept to analyze
- Really focus on one, and relate it to the article in as many ways as you can
Practice Final

• Now on Sakai in the archives
• Use it wisely
• Use it to measure your progress
• Attempt it before recitation/review sessions
Questions from last time?
Multiplier quick review

Multiplier: the increase in equilibrium output when autonomous expenditure rises by one unit.
Circular Flow: a simplified example

Households ➔ Firms

Firms ➔ Households
Circular Flow

- Households
  - Wages (profits, dividends)
  - Imports (0.1)
- Firms
  - (Domestic) Consumer Expenditures (0.9)
- Rest of World
  - (0.1) Imports

Economics 101
Circular Flow

Multiplier: \[ \frac{1}{1 - c} \]

In our specific example:

\[ \frac{1}{1 - c} = \frac{1}{1 - 0.9} = 10 \]

\[ $100 \times 10 = $1,000 \]
A More Realistic Circular Flow

Households
+$100

(0.1) Imports

(0.9) Savings

Banks

Gov't

Firms

Rest of World

Wages (profits, dividends)

Taxes

Investment

Gov't Spending

(Domestic) Consumer Expenditures

$100

Aggregate demand = Y = C + I + G + EX-IM
Now we're not looking at just consumption.
Income Determination: Example from 11/7

Diagram showing the relationship between Expenditures and National Income, with autonomous expenditures and induced expenditures indicated.
Income Determination: Example from 11/7

Expenditures

National Income

Actual Expenditures

Planned Expenditures
Economics 101

Fiscal Policy: Example from 11/7

Actual Expenditures

$450 + 0.7 \times GDP$

Planned Expenditures

$420 + 0.7 \times GDP$

National Income

Expenditures

$1500$

$1500$
Fiscal Policy: Example from 11/7

What is the multiplier?

\[
\frac{1}{1 - 0.7} = \frac{1}{0.3} \approx 3.33 = \frac{100}{30}
\]
Fiscal Policy: Example from 11/7
What about lowering taxes?

How much would the government need to lower taxes to achieve the same result?

Remember, consumers are only spending a portion of their disposable income on domestic consumption. So, in order to get an autonomous increase of $30 we need to cut taxes by more than $30.
Fiscal Policy: Example from 11/7

What about lowering taxes?

30 is “70 percent of something”. What is that something…

\[
\frac{30}{\text{MPC-MPM}} = \frac{30}{0.7} \approx 42.86
\]
Fiscal Policy: Example from 11/7
Does this give us the desired level of output?

\[ Y = 560 + 0.8(Y - (200 - 42.86)) - 0.1(Y - (200 - 42.86)) \]
\[ Y = 560 + 0.7Y - 0.7 \times 157.14 \]
\[ Y = 560 - 110 + 0.7Y \]
\[ Y = 450 + 0.7Y \]
\[ Y = \frac{450}{0.3} = 1500 \]
Fiscal Policy: Example from 11/7

Now what is the (tax) multiplier?

\[ 0.7 \times 3.33 \approx 2.33 \approx \frac{100}{42.86} \]
Multiplier key points

Multiplier: **the increase in equilibrium output when autonomous expenditure rises by one unit.**

How much is going back into the circular flow on each loop?
Multiplier on Aplia

\[
\frac{1}{MPS + MPM} = \frac{1}{0.4 + 0.1} = \frac{1}{0.5} =
\]

\[
\frac{1}{1 - (MPC - MPM)} = \frac{1}{1 - (0.6 - 0.1)} = \frac{1}{1 - 0.5} = \frac{1}{0.5}
\]
Supply-side

Until this point, we were ignoring the supply side in our analysis. Chapter 27 introduced supply side, and I thought Aplia provided a nice example for how this changes things and why we care.
## Supply-side

<table>
<thead>
<tr>
<th>Real Output Demanded</th>
<th>Price Level</th>
<th>Real Output Supplied</th>
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<tbody>
<tr>
<td>10</td>
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Supply-side

Equilibrium:
Price: $30
Output $35
Supply-side

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Oversimplified multiplier is 6

Consider the effect of a 5 billion dollar increase in government spending.
### Supply-side

<table>
<thead>
<tr>
<th>Real Output Demanded</th>
<th>Price Level</th>
<th>Real Output Supplied</th>
<th>New Real Output Demanded</th>
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<td>20</td>
<td>10</td>
<td>100</td>
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</tbody>
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$6 \times 5 = 30$
Supply-side

New Equilibrium: Price: $40
Output $55
Supply-side

What is the multiplier now?

Autonomous increase: $5 billion

Change in output? $20 billion

Multiplier = $20 billion ÷ $5 = 4
Money

It is a unit of account: the standard unit for quoting prices.

It is a medium of exchange: an object used to buy or sell other items such as goods, services or other assets.

It is a store of value: an item used to store wealth from one point in time to another.