

OUTLINE — October 25, 2017

- Consumption Spending & Its Determinants
 - Saving
 - Consumption Spending Depends upon . . .
- Multiplier
- Closing an Output Gap

Midterm 2 [next week](#): Wed., Nov 1, 7-8:30 pm
Rooms & Review Sessions posted on Piazza

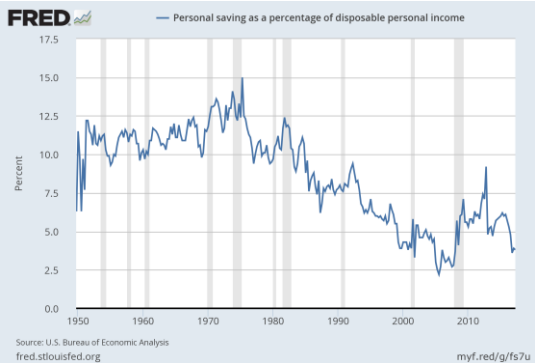
Definitions: Consumption & Saving

- **Consumption**
 - Household (and nonprofit organizations) spending for final goods and services
- **Saving**
 - Any use of disposable income other than consumption

- **Saving rate**

Unemployment Inflation Macro Equilibrium **Consumption**

Personal Saving Rate, 1950-2017



Consumption Spending

- C depends upon
 - YD
 - wealth
 - interest rates (i)
 - credit availability
 - expectations

Unemployment Inflation Macro Equilibrium **Consumption**

Marginal Propensity to Consume

- $mpc =$
- For the economy as a whole, $mpc < 1$
- $\Delta C =$

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Equilibrium



Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Changes in Equilibrium

What happens to equilibrium output (Y_E) if planned spending increases initially by 100?

Any initial Δ spending results in a much larger ΔY_E because

- 1) Δ spending $\rightarrow \Delta$ output
- 2) Δ output $\rightarrow \Delta Y$
- 3) $\Delta Y \rightarrow \Delta YD \rightarrow \Delta C$

Definition of size of multiplier:

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Change of Equilibrium



Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Multiplier

- Definition

- Process

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Closing an Output Gap

- Suppose
 - $Y_{FE} = \$15$ trillion / year
 - $Y_E = \$14$ trillion / year

How big is the output gap?
- Closing an output gap requires an increase in AD

To close the gap, how big must the initial increase in AD be?

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Multiplier Process

- On your B&G sheet
 - Your occupation & industry
 - Monthly Disposable Income ($Y+TR-TA$) & Consumption

Step 1: Calculate your monthly Saving

Step 2: Allocate your monthly Consumption across spending categories

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Step 2: Allocate your monthly C

	Category	Spending
1	Housing (rent or mortgage)	
2	Food (prepared/eaten at home)	
3	Eating out & travel	
4	Car / bus / Bart (including gas & insurance)	
5	Other durable goods (electronics, appliances)	
6	Shopping! (big box stores, department stores, etc)	
7	Health care (including health insurance premium)	
8	Education	
9	Bank fees, brokerage fees, lawyers, fees, etc	
	Total = \$ for consumption spending on your B&G	

Which items are likely to be imports?
Put an asterisk next to or circle those amounts

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

When someone is unemployed...

- Their income (Y) drops to 0
- They *may* receive unemployment benefits (part of TR)
 - Construction workers – probably not
 - Religious workers – almost surely not
 - Self-employed workers – definitely not
- Unemployment benefits replace < ½ of income
 - Max weekly benefit varies by state (\$450 in CA, \$240 in AZ, etc)
 - Number of weeks varies by state (26 in CA & AZ, 12 in FL)
- Therefore, to keep C constant requires dis-saving
 - Drawing down savings (how much were you saving per month?)
 - Going into debt (but remember . . . you have to pay that back)
- Alternative: cut C when lose your job

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Unemployment Insurance (a TR)

- Replacement rate (benefits as % of usual wage)
 - U.S. average: 46% replacement rate
 - Most generous (52-57% replacement): HI, PA, ND, KS, NJ
 - California: right at national average
 - Least generous (31-42% replacement): AK, LA, IL, TN, MO
- Length:
 - Standard = 26 weeks
 - Some states fewer weeks
 - Federal extensions to 99 weeks post-2009 but that bill has expired
- Data: calendar year 2016
- Original source: https://ows.doleta.gov/unemploy/repl_ratio/repl_ratio_rpt.asp

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Step 3: An event!

- Listen for the event
 - Does the event affect you?
 - What's your occupation & industry?
 - How will you react?
 - Is your income rising or falling?
 - Will you increase your C? Decrease C? Keep it the same?
 - Which components of spending will you change?
 - Be ready with your answer!

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Example (Imports constant: $mpm=0$)

$$C = 100 + 0.9 \cdot YD \quad \rightarrow \quad m.p.c. = \underline{\hspace{2cm}}$$

Suppose $\Delta I = +100$

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Open Economy with $IM=f(Y)$

- Suppose IM depend upon income (Y)
 - Marginal propensity to import (mpm)
 - mpm =
- so $\Delta IM =$
- Suppose $mpm = 0.1$ and $\Delta Y = 1,000$
 - $\Delta IM =$

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

“Open Economy” Multiplier Process

Any initial Δ spending results in a much larger ΔY_E because

- 1) Δ spending $\rightarrow \Delta$ output
- 2) Δ output $\rightarrow \Delta Y$
- 3) $\Delta Y \rightarrow \Delta YD \rightarrow \Delta C$
and $\Delta Y \rightarrow \Delta IM$

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Example (open economy: $mpm > 0$)

$C = 100 + 0.9 \cdot YD$ \rightarrow $mpc =$ _____
 $IM = 50 + 0.1Y$ \rightarrow $mpm =$ _____
 Suppose $\Delta I = +100$

Consumption Spending Multiplier Process Closing an Output Gap Multiplier Formula

Multiplier definition & formula

Definition of multiplier?

Closed economy multiplier

Open economy multiplier

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