OUTLINE — October 22, 2018

- Measuring Unemployment and Inflation, continued
- Concept of Macroeconomic Equilibrium
  - Keynesian Cross
  - "Unemployment Equilibrium"
  - Effect of being a service economy
- Consumption Spending & Its Determinants
  - Saving
  - Consumption Spending Depends upon . . .

PS 3 due 10/31-11/1 in section

bCourses quiz due Tues 10/23 11:59 pm

Midterm 2 on Tues., Nov 6, 8-9:30 pm

Sept '18 unemployment rate = 3.7%

If policy goal is "unemployment rate ~4 %," are these differences between groups consistent with that goal?

White	3.3%
African-American	6.0%
Hispanic	4.5%
Asian	3.5%

16-19 yrs old	12.8%
20+ years old	3.5%
HS grads, no college	3.7%
BA or more	2.0%

The Unemployment Problem

- Discouraged workers
  - 160,000 in Sept 2018
- Underemployed workers
  - Part-time (<35 hrs/week) & want full-time: 4.6 million in Sept 2018
- Neither group included in unemployment rate
  - "U-6 unemployment rate" in Sept 2018 was 7.5%

Measuring Prices

- Measures average price of a mix of goods and services
  - No units . . . Just a number
- CPI -- Consumer Price Index
  - Uses "typical urban market basket" from base period
    - *Base period is 1982-84*

Item in "typical market basket"	% of total
Food	14 %
Energy	7 %
Goods other than food & energy	19 %
Shelter	34 %
Medical care	7 %
Transportation services	6 %
Other services	14 %

Inflation Rate with CPI

$CPI_{Sept\ 2017} = 246.8$

$CPI_{Sept\ 2018} = 252.4$

Inflation rate =

Core CPI = CPI Excluding food & energy:

Core CPI in Sept 2017 = 252.9

Core CPI in Sept 2018 = 258.4

What determines unemployment?

- Output (GDP) → Employment → Unemployment
- So key question: what determines how much output firms produce?

- **Key assumption** of Keynesian Model:
  - *Businesses change how much output they are producing only when they experience or anticipate changes in demand*
    - That is, businesses respond to aggregate demand
      - Aggregate demand = C + I + G + EX - IM
    - Businesses maximize profit, not employment

Macroeconomic Equilibrium

- We say:

  The economy is in “macroeconomic equilibrium” when total output (GDP) equals aggregate demand (C+I+G+EX-IM)
- Equilibrium isn’t a policy goal; it’s where the economy takes itself
- If AD is not changing, then firms have no incentive to change output between one period and the next

Moving to A New Equilibrium

- Why would businesses change how much output they are producing?
  - Because there’s an actual or anticipated change in demand for their goods and services
    - **Increase** in aggregate demand? Produce **more** output
    - **Decrease** in aggregate demand? Produce **less** output

Macroeconomic Equilibrium

- The macroeconomy is in equilibrium when

Output = Aggregate Demand

GDP = AD

Y = AD

Y = C + I + G + (EX – IM)

Keynesian Cross Diagram

Algebra of Equilibrium

Suppose AD = 400 + 0.8Y What's equilibrium Y?

Units? AD = $400 billion/year + 0.8Y

Movement along vs Shift

Equilibrium?

C = 100 + 0.9·YD

TR = 50, TA = 150

YD =

C =

I = 100

G = EX = IM = 0

Y = C + I + G + EX - IM

Unemployment Equilibrium

Before Keynes, "unemployment means economy out of equilibrium"

Keynes: nope. Not so.

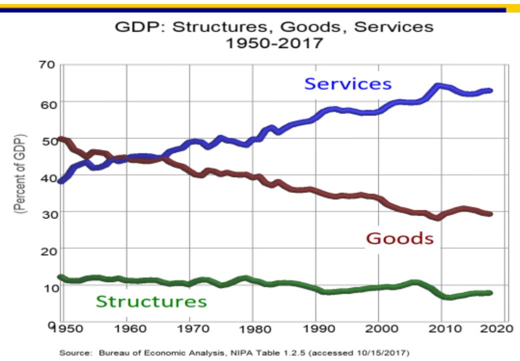
Y_E (equilibrium output)

Y_{FE} (full employment output)

Unemployment Equilibrium = When the economy is in equilibrium ($Y = Y_E$) but there is an unemployment problem ($Y_E < Y_{FE}$)

Output Gap = $Y_{FE} - Y_E$

Services dominate Goods



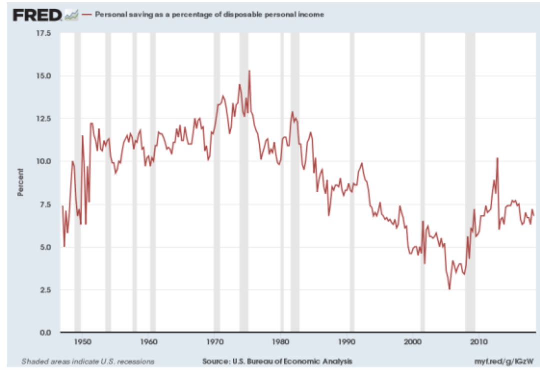
Effect of Being a Service Economy

- Only goods can be produced ahead of demand
  - Think about economy at the trough of business cycle
  - Optimistic that economy will recover soon?
    - → Produce more goods now, in anticipation of demand
    - *BUT can't produce services ahead of demand*
  - More services?
    - → more need to wait for <u>actual</u> increase in demand → slower recovery
- Thus: More services? Slower recovery

Definitions: Consumption & Saving

- Consumption
  - Household (and nonprofit organizations) spending for final goods and services
- Saving
  - Any use of disposable income <u>other than</u> consumption
- Saving rate

Personal Saving Rate, 1950-2018



Consumption Spending

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

Consumption

Shift of Consumption

Marginal Propensity to Consume

- mpc =
  - For the economy as a whole, mpc < 1
- ΔC =