Economics 1: Introduction to Economics

J. Bradford DeLong <delong@econ.berkeley.edu>

Administrivia

April 6, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

Meta-Announcement

- We are moving announcements and administrivia out of lecture time and onto the "announcements" bCourses page…
- That is all…

For the Rest of the Course…

- 2016-03-28 Mo - 2016-04-06 We: Measurement, Growth, and the Circular Flow (FBAH chs. 15-21)
- 2016-04-11 Mo - 2016-04-20 We: The Keynesian Approach (FBHA chs. 22-25)
- 2016-04-25 We - 2016-05-09 Mo: Yet More Issues, Final Review, and Exam (FBHA ch. 26)

For the Rest of the Course…

- Measurement, Growth, and the Circular Flow:
  - 2016-03-28 Mo Lecture: Measuring the Macroeconomy (Read Frank et al. chs 15-17)
  - 2016-03-30 We Lecture: Economic Growth in the Very Long Run (Read Frank et al. ch 18)
  - 2016-04-04 Mo Lecture: Saving, Investment, Finance, Money, Prices, and Banking (Read Frank et al. chs. 19-20)
  - 2016-04-06 We Lecture: Business Cycles (Read Frank et al. ch 21)
    - 2016-04-06 Wu/-07 Th Assignment: Problem Set 5 (growth and the circular flow)

For the Rest of the Course…

- The Keynesian Approach:
  - 2016-04-11 Mo Lecture: Income and Spending (Read Frank et al. ch 22) (2016-04-11 Mo)
  - 2016-04-13 We Lecture: The Federal Reserve and Monetary Policy (Read Frank et al. ch 23) (2016-04-13 We)
    - 2016-04-13 We/-14 Th Assignment: Problem Set 6 (the Keynesian model) due
  - 2016-04-18 Mo Lecture: Aggregate Demand and Aggregate Supply (Read Frank et al. ch 24)
  - 2016-04-20 We Lecture: Macroeconomic Policy (Read Frank et al. ch 25)
    - 2016-04-20 We/-21 Th Assignment: Problem Set 7 (macroeconomic policy)

For the Rest of the Course…

- Yet More Issues:
  - 2016-04-25 We Lecture: The International Economy (Read Frank et al. ch 26)
- The Wrap-Up
  - 2016-04-27 FINAL REVIEW
    - 2016-04-27 We/-28 Th Assignment: Problem Set 8 (international and other issues)
  - 2016-05-04 We/-05 Th Section Review Meetings
    - 2016-05-04 We/-05 Th Assignment: Problem Set 9 (final review) due
  - 2016-05-09 Mo: FINAL EXAM

For the Rest of the Course…

- Measurement, Growth, and the Circular Flow:
    - 2016-03-28 Mo Lecture: Measuring the Macroeconomy (Read Frank et al. chs 15-17)
    - 2016-03-30 We Lecture: Economic Growth in the Very Long Run (Read Frank et al. ch 18)
    - 2016-04-04 Mo Lecture: Saving, Investment, Finance, Money, Prices, and Banking (Read Frank et al. chs. 19-20)
    - 2016-04-06 We Lecture: Business Cycles (Read Frank et al. ch 21)
        - 2016-04-06 Wu/-07 Th Assignment: Problem Set 5 (growth and the circular flow)
- The Keynesian Approach:
    - 2016-04-11 Mo Lecture: Income and Spending (Read Frank et al. ch 22) (2016-04-11 Mo)
    - 2016-04-13 We Lecture: The Federal Reserve and Monetary Policy (Read Frank et al. ch 23) (2016-04-13 We)
        - 2016-04-13 We/-14 Th Assignment: Problem Set 6 (the Keynesian model) due
    - 2016-04-18 Mo Lecture: Aggregate Demand and Aggregate Supply (Read Frank et al. ch 24)
    - 2016-04-20 We Lecture: Macroeconomic Policy (Read Frank et al. ch 25)
    - (2016-04-20 We/-21 Th Assignment: Problem Set 7 (macroeconomic policy)
- Yet More Issues:
    - 2016-04-25 We Lecture: The International Economy (Read Frank et al. ch 26)
    - 2016-04-27 FINAL REVIEW
        - 2016-04-27 We/-28 Th Assignment: Problem Set 8 (international and other issues)
    - 2016-05-04 We/-05 Th Section Review Meetings
        - 2016-05-04 We/-05 Th Assignment: Problem Set 9 (final review) due ()
- 2016-05-09 Mo: FINAL EXAM

Review: GDP

April 6, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- Google sells ads to pharmaceutical companies
  A. Definitely in GDP
  B. Definitely not in GDP
  C. It could go either way—there is a hole in the classification system here
  D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- Google sells ads to pharmaceutical companies

A. Definitely in GDP

B. Definitely not in GDP <<

C. It could go either way—there is a hole in the classification system here

D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I rent out my garage on AirBNB

  A. Definitely in GDP
  B. Definitely not in GDP
  C. It could go either way—there is a hole in the classification system here
  D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I rent out my garage on AirBNB

  A. **Definitely in GDP <<**

  B. Definitely not in GDP

  C. It could go either way—there is a hole in the classification system here

  D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- Intel spends $6B to build a 14nm Fab 42 Manufacturing Facility
    A. Definitely in GDP
    B. Definitely not in GDP
    C. It could go either way—there is a hole in the classification system here
    D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- Intel spends $6B to build a 14nm Fab 42 Manufacturing Facility

    A. **Definitely in GDP <<**

    B. Definitely not in GDP

    C. It could go either way—there is a hole in the classification system here

    D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I pay $130/month to ComCast XFinity
    A. Definitely in GDP
    B. Definitely not in GDP
    C. It could go either way—there is a hole in the classification system here
    D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I pay $130/month to ComCast XFinity

  A. **Definitely in GDP <<**

  B. Definitely not in GDP

  C. It could go either way—there is a hole in the classification system here

  D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I buy a 1920s telephone table from an antique store in Wichita, KS

  A. Definitely in GDP

  B. Definitely not in GDP

  C. It could go either way—there is a hole in the classification system here

  D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I buy a 1920s telephone table from an antique store in Wichita, KS
  A. Definitely in GDP
  B. Definitely not in GDP <<
  C. It could go either way—there is a hole in the classification system here
  D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I pay $100 to a consultant to find me a store in Wichita, KS at which I can buy an antique telephone table
    A. Definitely in GDP
    B. Definitely not in GDP
    C. It could go either way—there is a hole in the classification system here
    D. Not sure

To Your i>Clickers…

- More time is needed on what is counted as GDP…
- I pay $100 to a consultant to find me a store in Wichita, KS at which I can buy an antique telephone table

  A. **Definitely in GDP <<**
  B. Definitely not in GDP
  C. It could go either way—there is a hole in the classification system here
  D. Not sure

Review: Supply and Demand

April 6, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

To Your i>Clickers…

- The fall in oil prices from 2007-2009 is most likely due to…
  A. A downward shift in the demand curve in the context of a steeply-sloped supply curve
  B. A downward shift in the demand curve in the context of a relatively-flat supply curve
  C. An upward shift in the supply curve in the context of a relatively-flat demand curve
  D. An upward shift in the supply curve in the context of a steeply-sloped demand curve
  E. I cannot tell

	Oil Consumption (Million Barrels/ Day)	Oil Price (Dollars/ Barrel)
2008	86082	$100
2009	85021	$62
2010	88216	$79
2011	89127	$95
2012	90392	$94
2013	91253	$98
2014	92273	$93
2015	93721	$49
2016	94800	$38

To Your i>Clickers…

- The fall in oil prices from 2007-2009 is most likely due to…
  A. **A downward shift in the demand curve in the context of a steeply-sloped supply curve <<**
  B. A downward shift in the demand curve in the context of a relatively-flat supply curve
  C. An upward shift in the supply curve in the context of a relatively-flat demand curve
  D. An upward shift in the supply curve in the context of a steeply-sloped demand curve
  E. I cannot tell

	Oil Consumption (Million Barrels/ Day)	Oil Price (Dollars/ Barrel)
2008	86082	$100
2009	85021	$62
2010	88216	$79
2011	89127	$95
2012	90392	$94
2013	91253	$98
2014	92273	$93
2015	93721	$49
2016	94800	$38

To Your i>Clickers…

- The fall in oil prices from 2014-2016 is most likely due to…
  A. A downward shift in the demand curve in the context of a steeply-sloped supply curve
  B. A downward shift in the demand curve in the context of a relatively-flat supply curve
  C. An upward shift in the supply curve in the context of a relatively-flat demand curve
  D. An downward shift in the supply curve in the context of a steeply-sloped demand curve
  E. I cannot tell

	Oil Consumption (Million Barrels/ Day)	Oil Price (Dollars/ Barrel)
2008	86082	$100
2009	85021	$62
2010	88216	$79
2011	89127	$95
2012	90392	$94
2013	91253	$98
2014	92273	$93
2015	93721	$49
2016	94800	$38

To Your i>Clickers…

- The fall in oil prices from 2014-2016 is most likely due to…
  A. A downward shift in the demand curve in the context of a steeply-sloped supply curve
  B. A downward shift in the demand curve in the context of a relatively-flat supply curve
  C. An upward shift in the supply curve in the context of a relatively-flat demand curve
  D. A downward shift in the supply curve in the context of a steeply-sloped demand curve <<
  E. I cannot tell

	Oil Consumption (Million Barrels/ Day)	Oil Price (Dollars/ Barrel)
2008	86082	$100
2009	85021	$62
2010	88216	$79
2011	89127	$95
2012	90392	$94
2013	91253	$98
2014	92273	$93
2015	93721	$49
2016	94800	$38

Finance

April 6, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

What If Your Income Outruns Your Desired Consumption Today?

- “Storage”
    - Store goods—but will they last?
    - Store durable goods—but are they salable?
    - Store durable, salable goods—but can you protect them, and will they hold their value?
    - Spend money turning your garage into an apartment and rent it out on AirB&B
    - Educate yourself so you can get a higher-paying job.
- Give it to the financial markets

Equity and Debt

- Equity
  - You get a share in the business
  - You gotta keep very close track of the accounting yourself
  - You gotta play a role in choosing managers—somehow
- Debt
  - They pay you back—with fixed interest
  - Only if they don't pay you back—with interest—do you need to take action
    - And then you have powerful legal tools

Types of Bonds

- Discount bonds
  - You buy it for \$B
  - It pays you \$1 when it matures in T years
  - Interest rate: $(1/B)^{(1/T)}-1$
- Consol bond
  - You buy it for \$B
  - It pays you a coupon of \$c each year
  - Permanent interest rate c/B

National Savings and Investment

- S = I + NX
  - What we have saved and invested here at home (I)
  - What we have loaned to foreigners (hopefully they will pay it back with interest someday) (NX)
- National savings a powerful driver of economic growth

NATIONAL SAVING AND ITS COMPONENTS

Thus far we have examined saving and wealth from the individual's perspective. But macroeconomists are interested primarily in saving and wealth for the country as a whole. In this section we will study *national saving*, or the aggregate saving of the economy. National saving includes the saving of business firms and the government as well as that of households. Later in the chapter we will examine the close link between national saving and the rate of capital formation in an economy.

THE MEASUREMENT OF NATIONAL SAVING

To define the saving rate of a country as a whole, we will start with a basic accounting identity introduced in the chapter *Spending, Income, and GDP*. According to this identity, for the economy as a whole, production (or income) must equal total expenditure. In symbols, the identity is

$$Y = C + I + G + NX,$$

where Y stands for either production or aggregate income (which must be equal), C equals consumption expenditure, I equals investment spending, G equals government purchases of goods and services, and NX equals net exports.

For now, let's assume that net exports (NX) are equal to zero, which would be the case if a country did not trade at all with other countries or if its exports and imports were always balanced. (We discuss the foreign sector in the chapter *Exchange Rates, International Trade, and Capital Flows*.) With net exports set at zero, the condition that output equals expenditure becomes

$$Y = C + I + G.$$

To determine how much saving is done by the nation as a whole, we can apply the general definition of saving. As for any other economic unit, a nation's saving equals its *current income* less its *spending on current needs*. The current income of the country as a whole is its GDP, or Y, that is, the value of the final goods and services produced within the country's borders during the year.

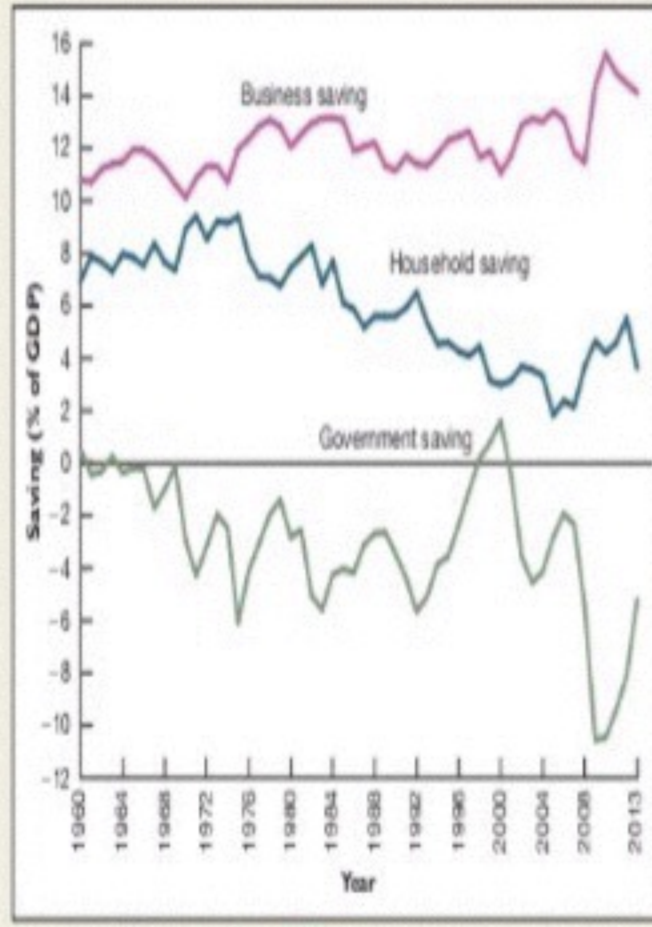
Components of National Savings

- Businesses retain some of their profits rather than paying them out to shareholders (and then use them to add to productive capacity)
- Some households save, others dissave
- The government can either spend more than it taxes and so reduce national savings, or tax more than it spends…
- We want financial markets—the interest rate, the value of stocks, etc—to function well
    - It is a key market for economic growth
    - It is a key market for macroeconomic stability

FIGURE 19.3

The Three Components of National Saving, 1960–2013.

Of the three components of national saving, business saving is the most important. Household saving was steadily declining until the beginning of 2007. Government saving has generally been negative, except in the 1960s and for a brief period in the late 1990s.



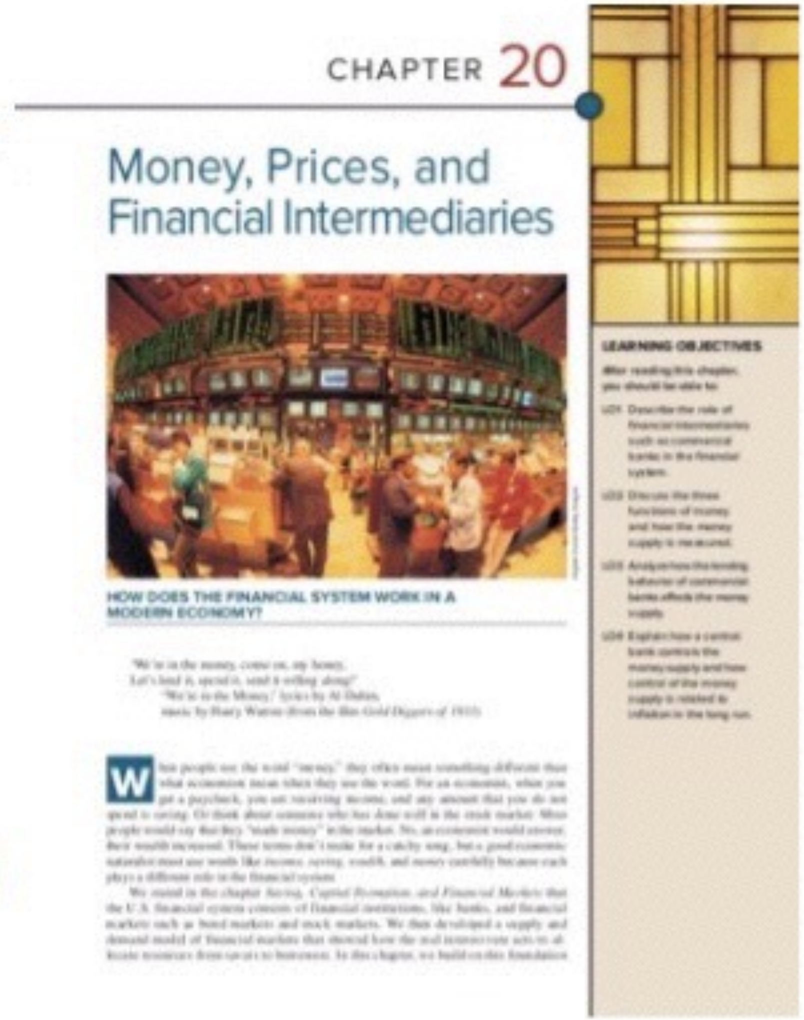
Source: Bureau of Economic Analysis, www.bea.gov

Money

April 6, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

"Money" and the "Money Market"

- I. People want to hold financial assets because it is an effective and (usually) profitable way to save
- II. People want to hold particular financial assets as a way of gaining some safety and dealing with uncertainty
- We call assets that fall into (II) "money"


CHAPTER 20

Money, Prices, and Financial Intermediaries

HOW DOES THE FINANCIAL SYSTEM WORK IN A MODERN ECONOMY?

LEARNING OBJECTIVES

Types of “Money”

- Immediate liabilities of the government (M0)
- That, plus things you can spend immediately—checking deposits, say (M1)
- That, plus things that can be immediately and routinely turned into M1 and M0—savings deposits and money-market mutual funds, say (M2)
- That, plus things that you can pledge—like long-term Treasury bonds—in order to immediately get your hands on more M0
- That, plus things that are regarded as just about as good as long-term Treasury bonds
- And there is the potential problem…

TABLE 20.1

Components of M1 and M2, July 2014

M1		**2,856.5**
Currency	1,218.4	
Demand deposits	1,148.1	
Other checkable deposits	486.8	
Travelers' checks	3.2	
M2		**11,422.4**
M1	2,856.5	
Savings deposits	7,405.3	
Small-denomination time deposits	529.8	
Money market mutual funds	630.7	

NOTES: Billions of dollars, adjusted for seasonal variations. In M1, currency refers to cash and coin. Demand deposits are noninterest-bearing checking accounts, and "other checkable deposits" includes checking accounts that bear interest. M2 includes all the components of M1, balances in savings accounts, "small-denomination" (under $100,000) deposits held at banks for a fixed term, and money market mutual funds (MMMFs). MMMFs are organizations that sell shares, use the proceeds to buy safe assets (like government bonds), and often allow their shareholders some check-writing privileges.

SOURCE: Federal Reserve, release www.federalreserve.gov/releases/h6/current.

The Money Stock Needs to Be Just Right

- Too much money and you get inflation
- Too little money and you get unemployment
- What counts as "money" can fluctuate rapidly and substantially
- What is "too much" or "too little" money can also fluctuate rapidly and substantially
- Everybody has a central bank
- Every central bank is engaged in a delicate dance…

TABLE 20.1

Components of M1 and M2, July 2014

M1		**2,856.5**
Currency	1,218.4	
Demand deposits	1,148.1	
Other checkable deposits	486.8	
Travelers' checks	3.2	
M2		**11,422.4**
M1	2,856.5	
Savings deposits	7,405.3	
Small-denomination time deposits	529.8	
Money market mutual funds	630.7	

NOTES: Billions of dollars, adjusted for seasonal variations. In M1, currency refers to cash and coin. Demand deposits are noninterest-bearing checking accounts, and "other checkable deposits" includes checking accounts that bear interest. M2 includes all the components of M1, balances in savings accounts, "small-denomination" (under $100,000) deposits held at banks for a fixed term, and money market mutual funds (MMMFs). MMMFs are organizations that sell shares, use the proceeds to buy safe assets (like government bonds), and often allow their shareholders some check-writing privileges.

SOURCE: Federal Reserve, release www.federalreserve.gov/releases/h6/current.

Explaining the Business Cycle

April 6, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

Why the Business Cycle?

- A “Great Forgetting”? (Edward Prescott)
- A “Great Vacation”? (Casey Mulligan)
- A “Great Rusting”? (Ambler and Paquet)
- A “Great Exhaustion” (of Resources, That Is)?
- A “Great Cautioning”?
- A “Great Overtaxing”?
- A “Great Unionizing”?

Strong Business-Cycle Theories: Some Examples

- **Casey Mulligan:**
  - "Are Employers Unwilling to Hire, or Are Some Workers Unwilling to Work?" *New York Times*: "Employment has been falling over the past year.... [Today s]ome employees face financial incentives that encourage them not to work.... [T]he decreased employment is explained more by reductions in the supply of labor (the willingness of people to work) and less by the demand for labor (the number of workers that employers need to hire)…"
- **John Cochrane:**
  - "We should have a recession. People who spend their lives pounding nails in Nevada need something else to do…"
  - John Lippert: "John Cochrane was steaming as word of U.S. Treasury Secretary Henry Paulson's plan to buy $700 billion in troubled mortgage assets rippled across the University of Chicago in September…. 'We all wandered the hallway thinking, How could this possibly make sense?' says Cochrane, 51, recalling his incredulity at Paulson's attempt to prop up the mortgage industry and the banks that had precipitated the housing market's boom and bust…"
- **Chari, Christiano, and Kehoe:**
  - "One view of the current situation that might justify intervention is that projects that are well understood not to be risky cannot get funding… because the weak balance sheets of the bank force them to pass on what otherwise would be very profitable loans…. [D]ocumenting this view will be an uphill battle because many versions of this view would imply large profit opportunities for the subset of banks with relatively healthy balance sheets…"
- All of these people are very clever, but not wise…

Say’s Law

- Jean-Baptiste Say:
    - “I shall not attempt… [to point] out the just and ingenious observations in your book[, Mr. Malthus]; the undertaking would be too laborious.... I should be sorry to annoy either you or the public with dull and unprofitable disputes. But, I regret to say, that I find in your doctrines some fundamental principles which... would occasion a retrograde movement in a science of which your extensive information and great talents are so well calculated to assist the progress.... If certain goods remain unsold, it is because other goods are not produced; and that it is production alone which opens markets to produce.... Whenever there is a glut, a superabundance, [an excess supply] of several sorts of merchandize, it is because other articles [in excess demand] are not produced in sufficient quantities…"

The Say-Ricardo-Malthus Debate

- Thomas Malthus:
  - “We hear of glutted markets, falling prices, and cotton goods selling at Kamschatka lower than the costs of production. It may be said, perhaps, that the cotton trade happens to be glutted; and it is a tenet of the new doctrine on profits and demand, that if one trade be overstocked with capital, it is a certain sign that some other trade is understocked. But where, I would ask, is there any considerable trade that is confessedly under-stocked, and where high profits have been long pleading in vain for additional capital? The [Napoleonic] war has now been at an end above four years; and though the removal of capital generally occasions some partial loss, yet it is seldom long in taking place, if it be tempted to remove by great demand and high profits…"

Jean-Baptiste Say Abandons "Say's Law"

- Jean-Baptiste Say:
  - "The Bank [of England]... forced the return of its banknotes, and ceased to put new notes into circulation…. Commerce found itself deprived at a stroke of the advances on which it had counted, be it to create new businesses, or to give a lease of life to the old. As the bills that businessmen had discounted came to maturity, they were obliged to meet them…. They sold goods for half what they had cost. Business assets could not be sold at any price. As every type of merchandise had sunk below its costs of production, a multitude of workers were without work. Many bankruptcies were declared among merchants and among bankers…"

John Stuart Mill’s 1829 Insight

- John Stuart Mill:
    - “In order to render the argument for the impossibility of an excess of all commodities applicable... money must itself be considered as a commodity…. Those who have... affirmed that there was an excess of all commodities, never pretended that money was one of these commodities.... What it amounted to was, that persons in general, at that particular time, from a general expectation of being called upon to meet sudden demands, liked better to possess money than any other commodity. Money, consequently, was in request, and all other commodities were in comparative disrepute…. The result is, that all [non-money] commodities fall in price, or become unsaleable.... [A]s there may be a temporary excess of any one article considered separately, so may there of commodities generally, not in consequence of over-production, but of a want of commercial confidence…"

What Can You Do After You Sell?

- You can buy a useful commodity
    - In this case, Say's Law would apply—supply does create its own demand
- You can be happy with the extra cash money you have
- You can lend the cash to somebody else (or pay down your debts)—deleverage
    - And hold on to your cash until you find a counterparty
- In these last two cases, Say's Law does not necessarily apply…

Rules for "General Gluts"

- Excess demand for money is excess supply of currently-produced commodities
- Excess demand for savings--excess desire to deleverage--is excess supply of currently-produced commodities
- Excess supply of money is excess demand for commodities, etc.
- Aside from those...
    - Supply creates its own demand
    - Lack of supply creates its own lack of demand

How About Flexible Prices?

- Wages are not terribly flexible downward
  - So prices cannot be
- And wage flexibility would not help us
  - Debt
  - Zero Lower Bound

What Is “Money”?

- What indeed…