Keynes and the Classics

models of the macroeconomy

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Block 3
Economics for Everyone

Lecture 10

Motivation

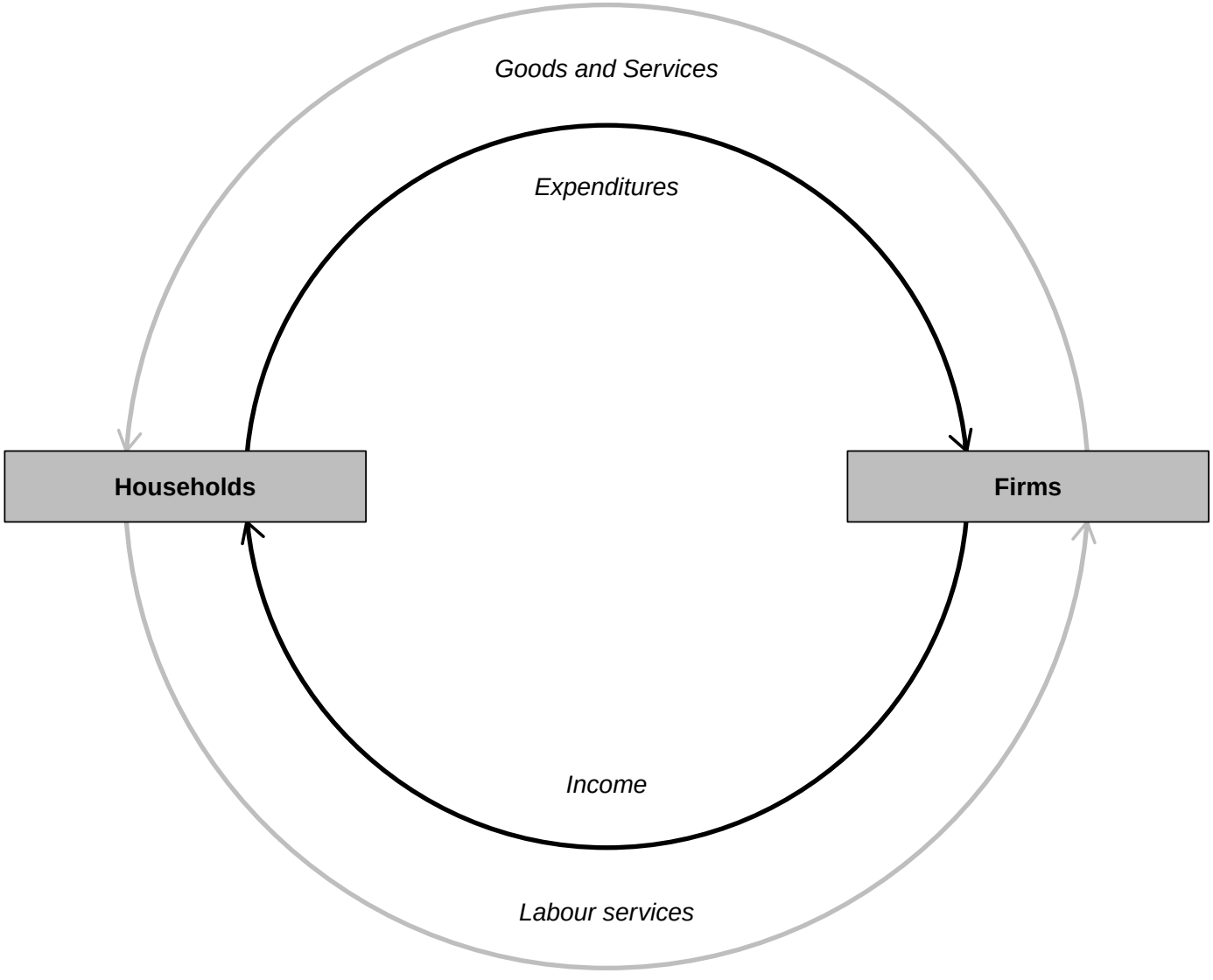
Objectives for this block of classes

1. The measurement of macro-economic indicators
   - Gross Domestic Product
   - Unemployment, Inflation
2. A model of macro-economic activity
   - The Keynesian short run model
   - The "classical" model
3. Macro-economic public policy
   - fiscal policy
   - monetary policy

GDP and the circular flow

my income is your expenditure is my income

1. **an accounting identity**
   - GDP is the sum of all final purchases
     - $C + I + G + (X - M)$ or simply $C + I$ for now
   - GDP is the sum of all incomes
     - wages and salaries + profits + other incomes
   - $Y = C + I$ implies $Y - C = I$, or $S = I$
     - savings equals investment
2. **an equilibrium condition**
   - Investment expectations are realized, and savings is in the desired relationship to income
     - income adjusts to bring savings into equality with investment
   - aggregate demand determines the equilibrium level of income, output, and employment
     - the investment multiplier and the consumption function
     - the marginal propensity to consume


Goods and Services
Expenditures
Households
Firms
Income
Labour services

The Classical model

Some notation

1. **The real sector**: employment, output
   - W is the nominal wage, P the price level
   - so $\frac{W}{P}$ is the real wage rate
   - L is the level of employment
   - Q is real output
   - so $Y = P \times Q$ is the value of GDP
2. **The financial sector**: money, prices, savings, investment
   - P is the price level
   - M^s is the money supply, given exogenously as $\bar{M}$
   - M^d is money demand
   - V is the velocity of money
   - I is investment, S savings, and r the real interest rate

Solving the Classical Model

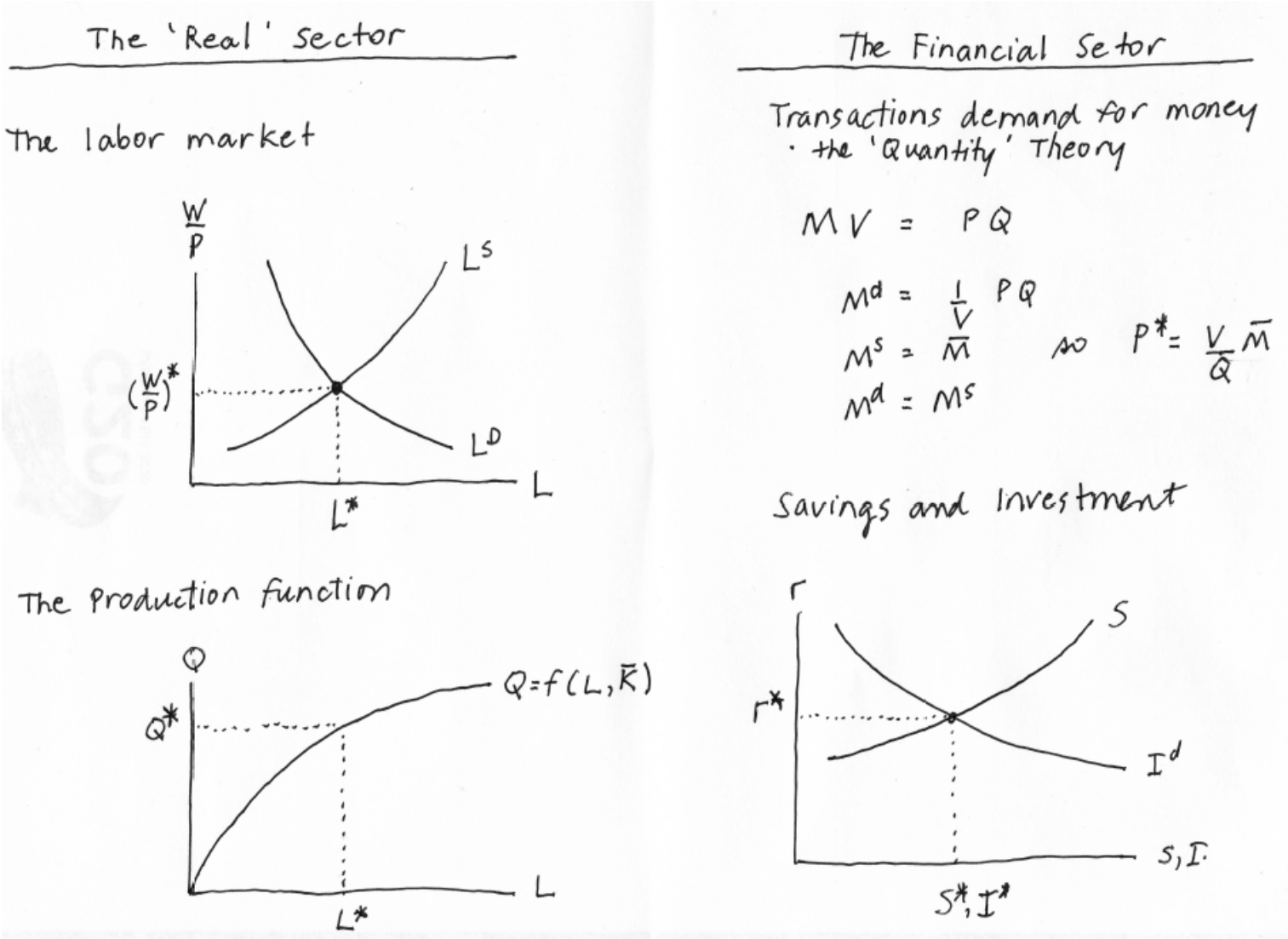


Figure 1:

A digression on the nature of money

money is an asset that can be used as a means of payment for purchases and for settling debts

1. Commodity money
   - commodities that have intrinsic value (and that are storable, easy transported, and difficult to counterfeit) have been used as "money"
2. Fiat money
   - no, or very little, intrinsic value
   - valuable because of a social consensus that makes it accepted as a means of payment
   - "money's destiny is to be digital" reflects something called "Gresham's Law"

A digression on the nature of money

money is used because it serves three inter-related economic functions

1. A medium of exchange
   - avoids barter and the "coincidence of wants", thereby allowing specialization in production
   - this is one motive for holding money (even if no interest is paid)

A digression on the nature of money

money is used because it serves three inter-related economic functions

1. A medium of exchange
2. A unit of account
   - a measuring rod for economic values
   - a common unit of account permits comparisons between commodities

A digression on the nature of money

money is used because it serves three inter-related economic functions

1. A medium of exchange
2. A unit of account
3. A store of value
   - a way to hold wealth
   - there are other ways, but money must also do this if it is to be a "medium of exchange"
   - money bridges the temporal gap between expenditures and payments

Solving the Classical Model

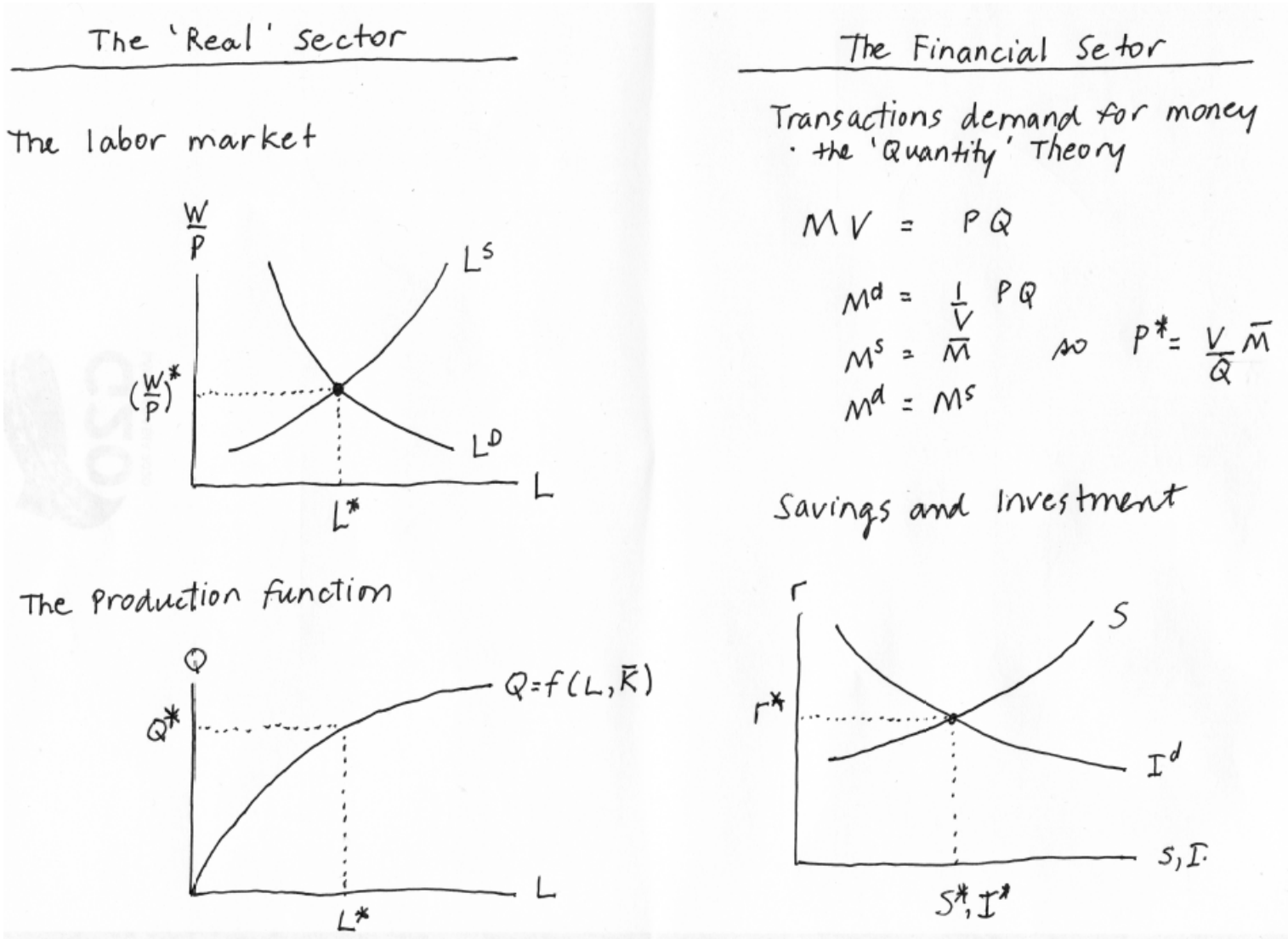


Figure 2:

Keynes's critique

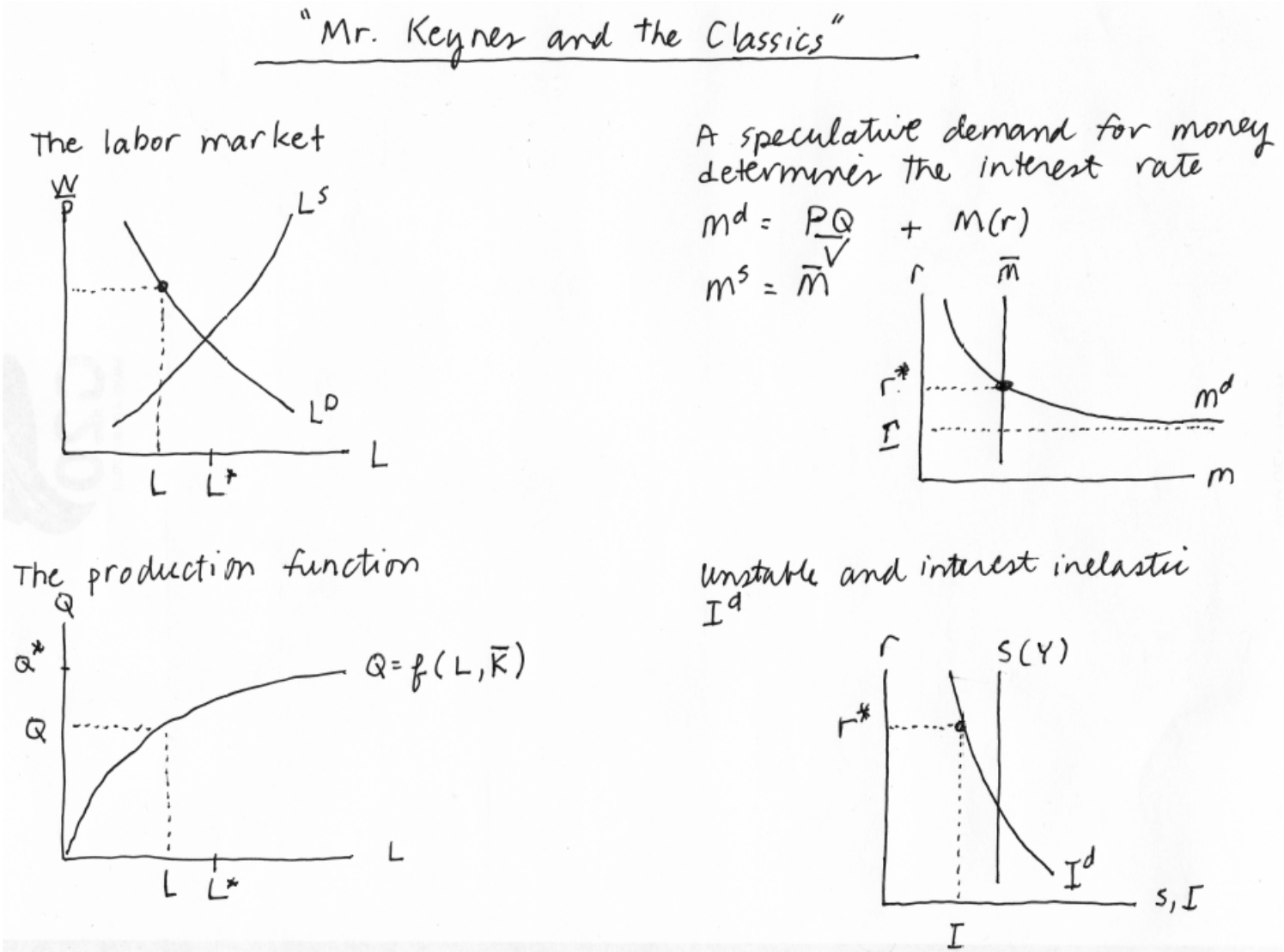


Figure 3:

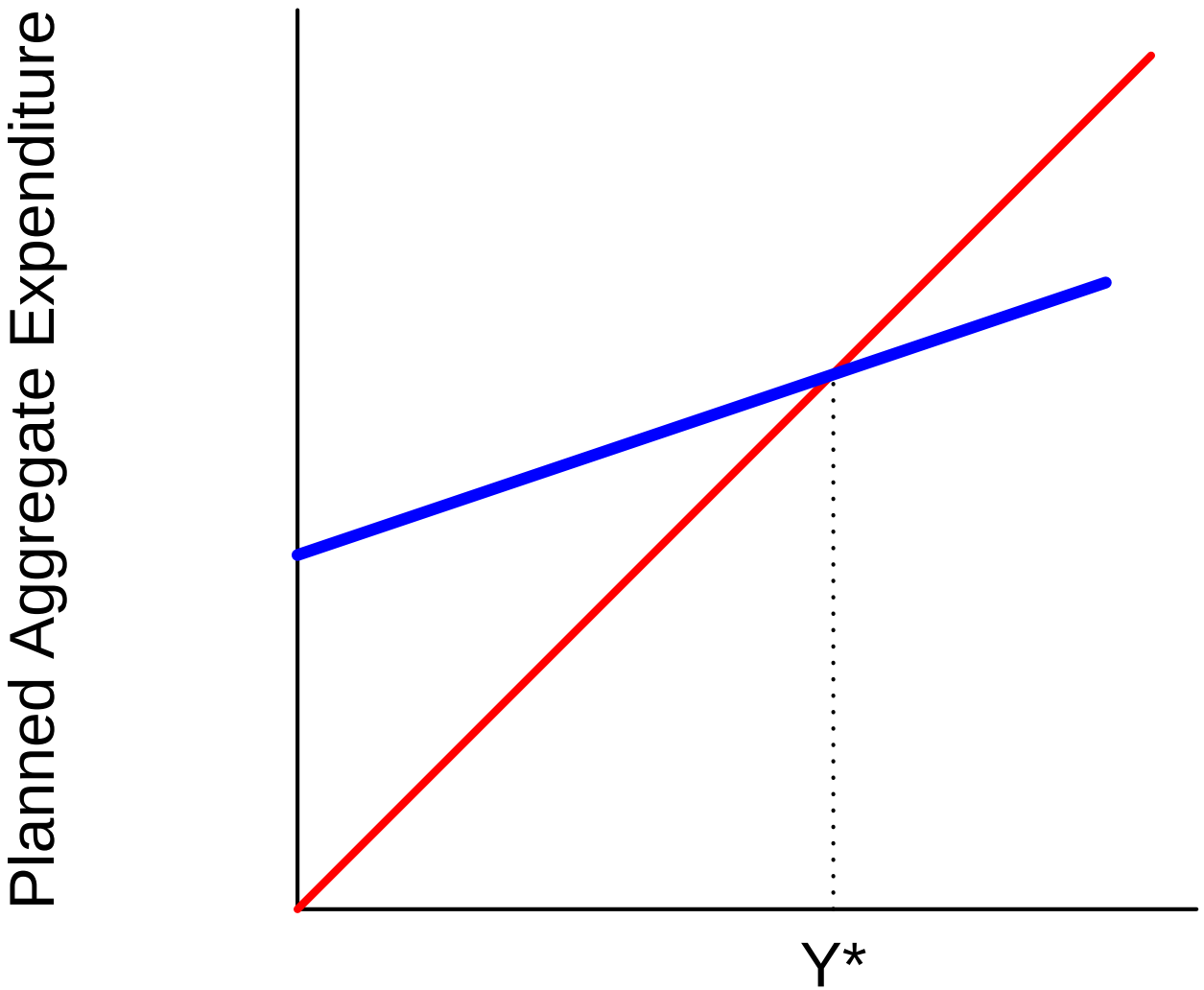
Keynes's critique

Keynes on Investment as the source of instability

"Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as a result of animal spirits—of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities. ... Only a little more than an expedition to the South Pole, is [enterprise] based on an exact calculation of benefits to come. Thus if the animal spirits are dimmed and the spontaneous optimism falters, leaving us to depend on nothing but a mathematical expectation, enterprise will fade and die ..." [Keynes (1936), pp. 161-62.]

The Keynesian model

Full employment equilibrium



Solving a very simple model

$$Expenditure = C + I \tag{1}$$

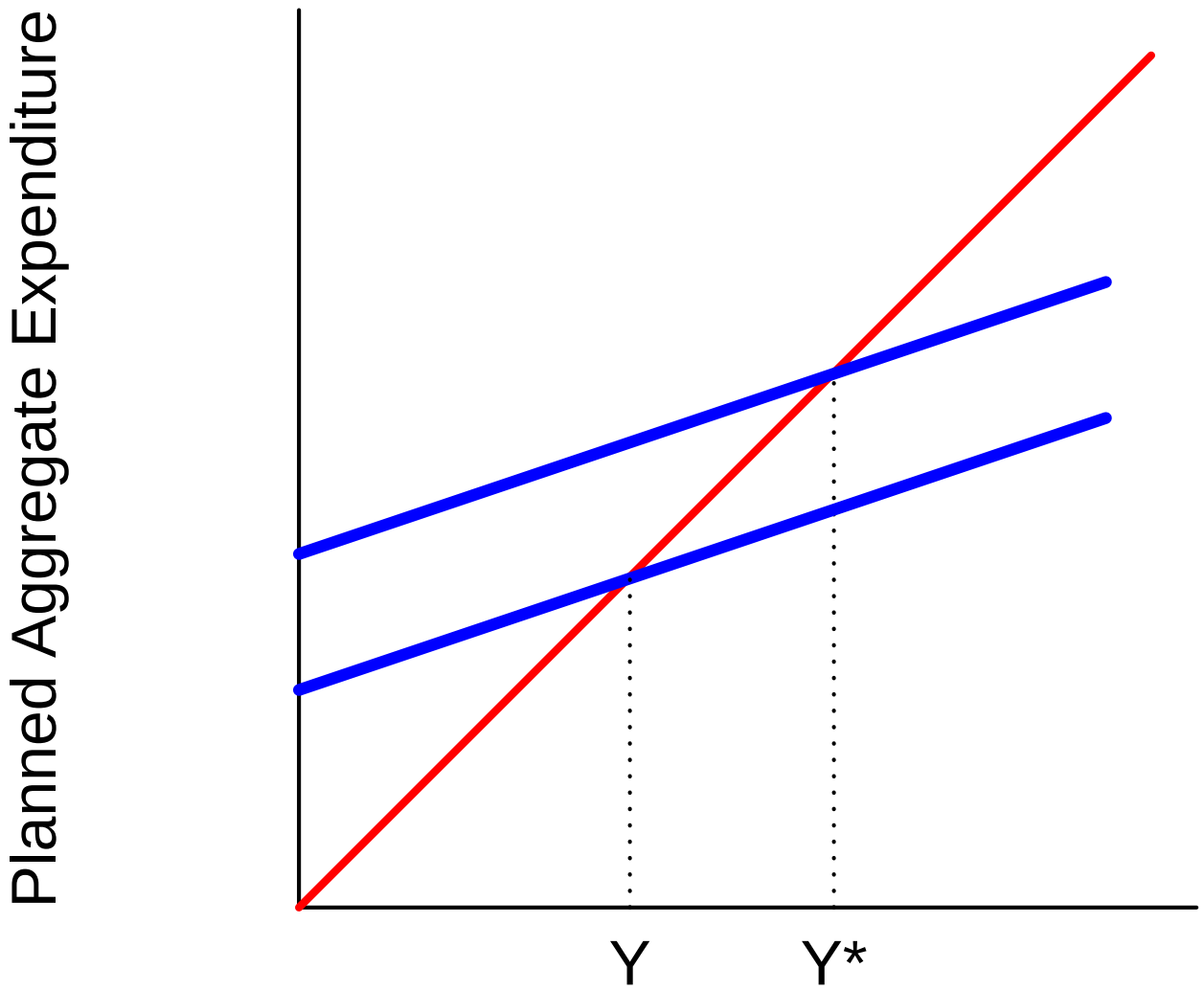
$$I = \bar{I} + I(r) \tag{2}$$

$$C = \bar{C} + \beta Y \tag{3}$$

$$Expenditure = Y \tag{4}$$

- so $Y = \bar{I} + I(r) + \bar{C} + \beta Y$
- and therefore $Y = \frac{1}{1-\beta} \times [\bar{C} + \bar{I} + I(r)]$
- where $\frac{1}{1-\beta}$ is the multiplier
  - β being the marginal propensity to consume and $1 - \beta$ the marginal propensity to save

Deficient aggregate demand



Public policy

What to do when in a depression? Increase aggregate demand!

1. Monetary policy
   - interest rates in the short term
   - liquidity trap
2. Fiscal policy
   - deficit spending versus tax cuts
   - temporary versus permanent
3. Inequality and the Great Recession
4. COVID crisis

If you would like to continue learning about macroeconomics try reading: Tim Harford (2014), *The Undercover Economist Strikes Back: How to Run—or Ruin—an Economy*, New York: Riverhead Books.

Next class

Class on May 13th completes the course

1. Last lecture
   - special lecture on inequality
   - nothing for you to do but listen and participate
   - complete course evaluation
2. Class assignment
   - book review due on May 12th
   - final take-home assignment to be "handed" out by email
3. Thank you for engaging