Macro 4.7

Loanable Funds

Presenter

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2021 Georgia Council for Economic Education Teacher of the Year

AP Macroeconomics reader

AP Expectations:

ENDURING UNDERSTANDING

MKT-4

The interaction of borrowers, who demand loanable funds, and savers, who supply loanable funds, determines the equilibrium real interest rate.

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
MKT-4.A a. Define (using graphs as appropriate) the loanable funds market, demand for loanable funds, and supply of loanable funds. b. Explain (using graphs as appropriate) the relationship between the real interest rate and the quantity of loanable funds demanded (supplied).	**MKT-4.A.1** The loanable funds market describes the behavior of savers and borrowers. **MKT-4.A.2** The demand for loanable funds shows the inverse relationship between real interest rates and the quantity demanded of loanable funds. **MKT-4.A.3** The supply of loanable funds shows the positive relationship between real interest rates and the quantity supplied of loanable funds.
MKT-4.B Define national savings in both a closed and an open economy.	**MKT-4.B.1** In the absence of international borrowing and lending, national savings is the sum of public savings and private savings. **MKT-4.B.2** For an open economy, investment equals national savings plus net capital inflow.

AP Expectations

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
MKT-4.C Define (using graphs as appropriate) equilibrium in the loanable funds market.	**MKT-4.C.1** In the loanable funds market, equilibrium is achieved when the real interest rate is such that the quantities demanded and supplied of loanable funds are equal.
MKT-4.D Explain (using graphs as appropriate) how real interest rates adjust to restore equilibrium in the loanable funds market.	**MKT-4.D.1** Disequilibrium real interest rates create surpluses and shortages in the loanable funds market. Market forces drive real interest rates toward equilibrium.
MKT-4.E a. Explain (using graphs as appropriate) the **determinants of demand** and supply in the loanable funds market. b. Explain (using graphs as appropriate) how changes in demand and supply in the loanable funds market affect the equilibrium **real interest rate and** equilibrium quantity of loanable funds.	**MKT-4.E.1** The loanable funds market can be used to show the effects of government spending, taxes, and borrowing on interest rates. **MKT-4.E.2** Factors that shift the demand (such as an investment tax credit) and supply (such as changes in saving behavior) of loanable funds change the equilibrium interest rate and the equilibrium quantity of funds.

Loanable Funds Market

The loanable funds market exists to connect investors who wish to borrow with suppliers who wish to lend. Banks facilitate this market.

Who are investors in relation to GDP?

How do you get money if you want to go get fast food?

How do you get money if you want to buy a car? A house? A college education?

Loanable Funds Market

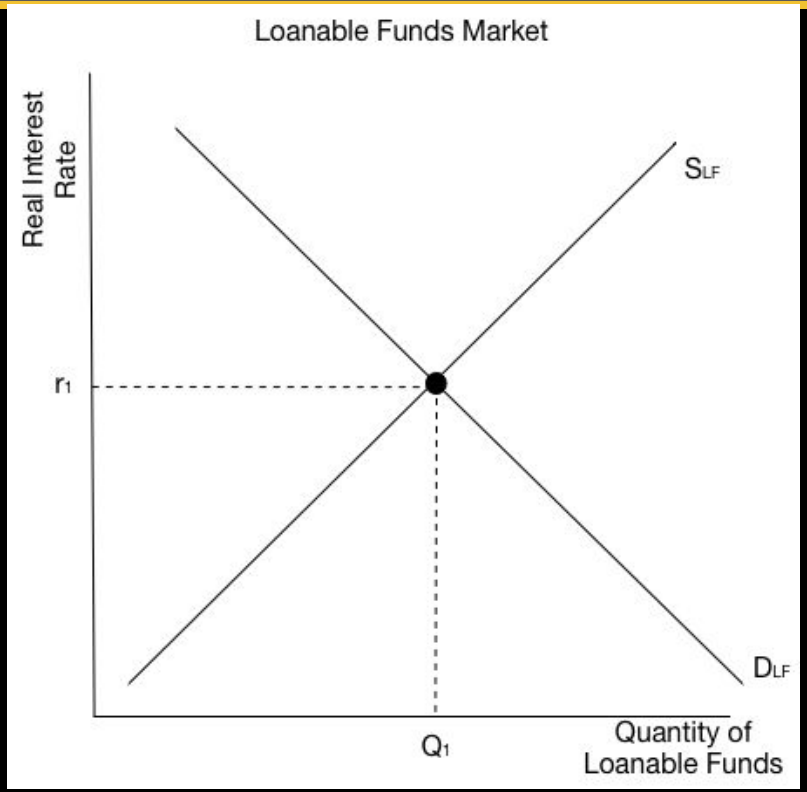
Loanable Funds Market:

Who participates?

Demanders - businesses and individuals or governments who wish to borrow **at interest**.

Suppliers - businesses and individuals or governments who wish to earn interest by loaning their money out for interest.

Loanable Funds Market



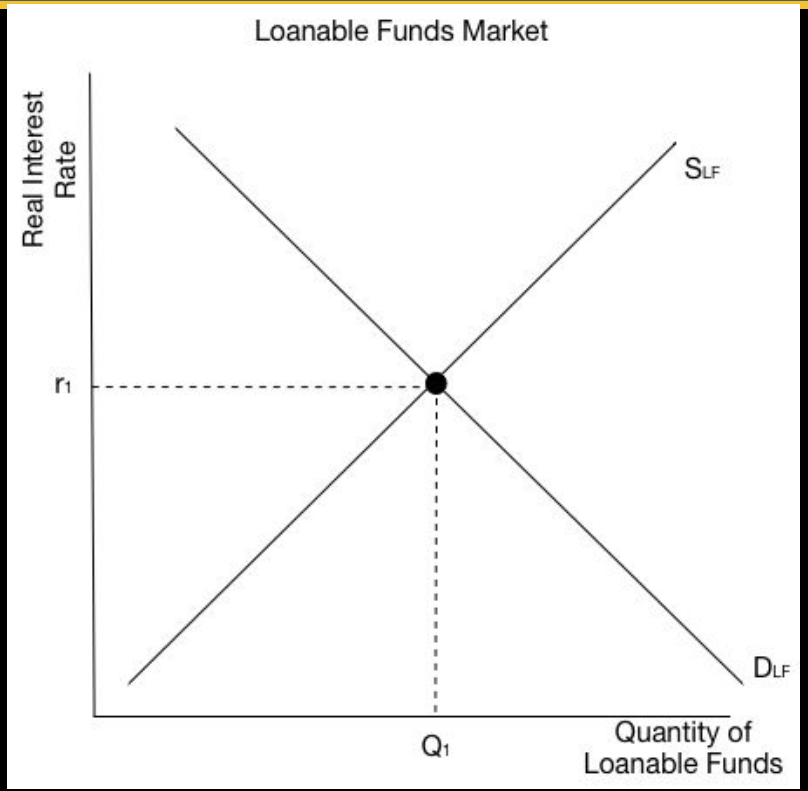
Questions?

Loanable Funds Market

Graph labeling takeaways:

Real interest rates - I just got a raise at work … 2%. How do I feel about this?

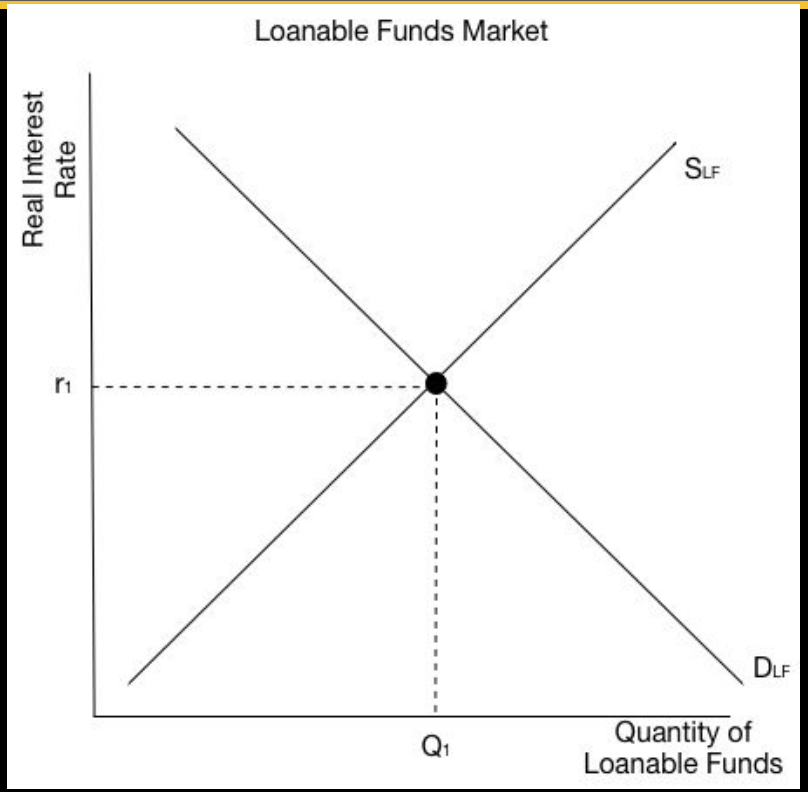
Lenders care about the *return* from their investment so they adjust for inflation.



Loanable Funds Market

Graph labeling takeaways:

It is extremely important to note equilibrium on the axis . Students must label each axis, label each equilibrium point, and label each line.

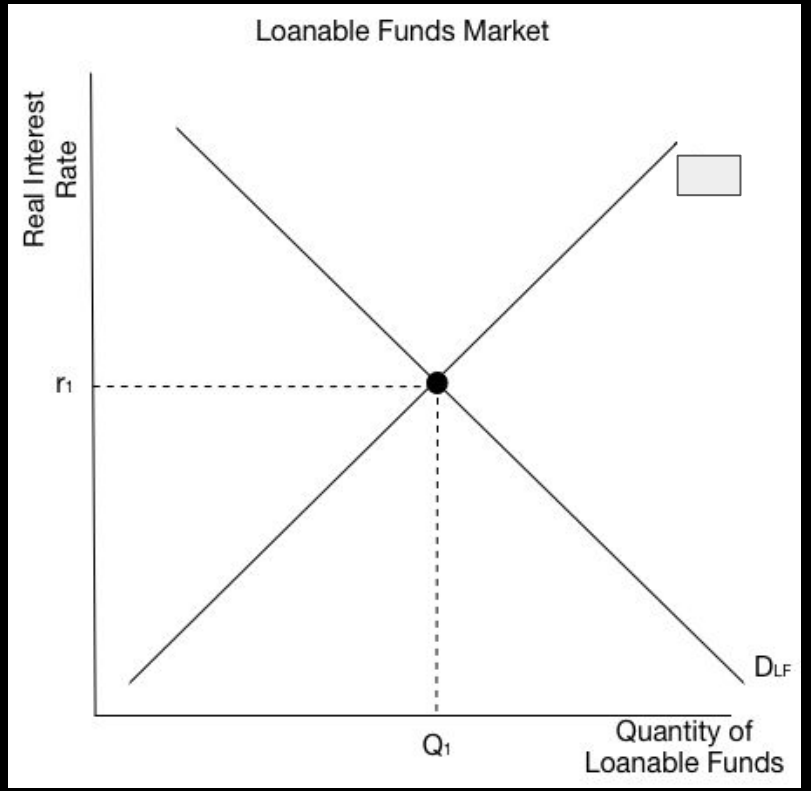


Loanable Funds Market

Graph labeling takeaways:

Why can't I give this graph credit?

If there is no Supply label, there is no Market. I can't give credit.

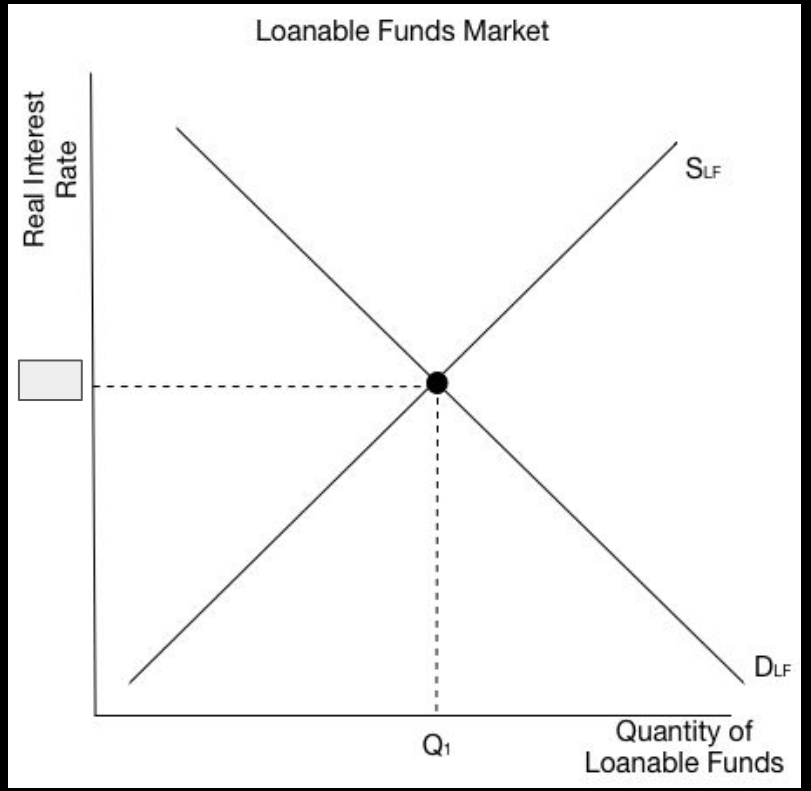


Loanable Funds Market

Graph labeling takeaways:

Why can't I give this graph credit?

If there is no label for interest rates, I can't give credit.



Loanable Funds Market

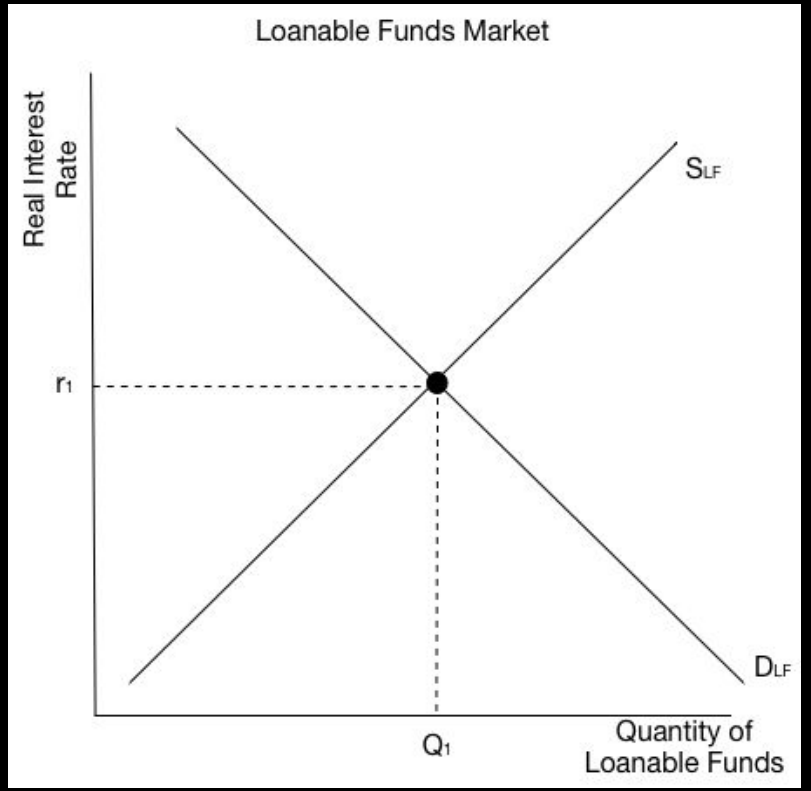
Graph labeling takeaways:

Incorrect labels -

This is not the money market.
Quantity of Money

Nominal Interest rate

All of these lose credit.



Loanable Funds Market

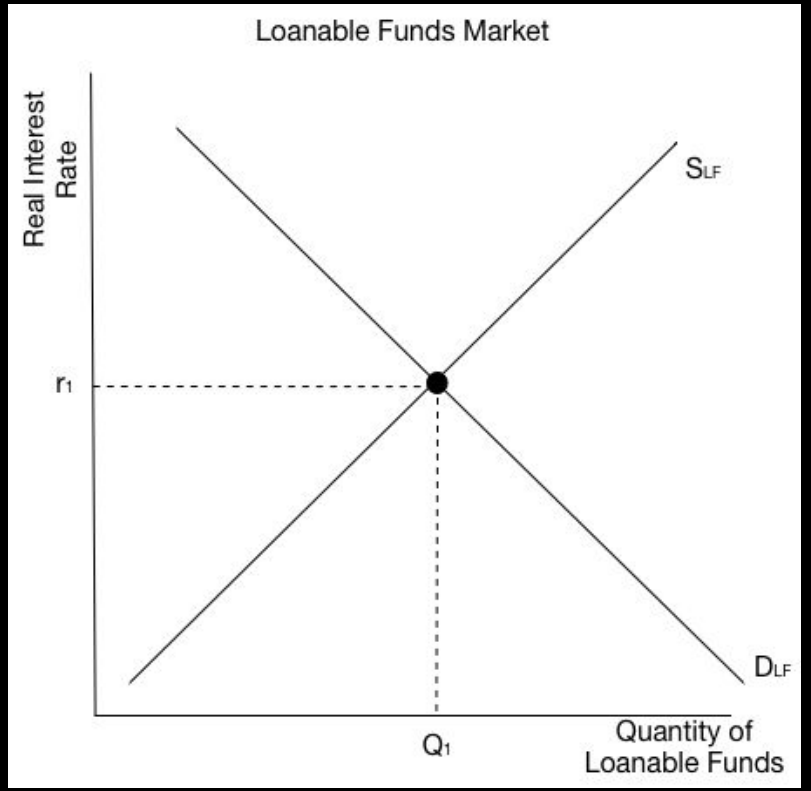
Graph labeling takeaways:

Neutral labels-

The student must place themselves in the loanable funds market.

So they could say P/Q/S/D with a title and be ok, but it is better to have them label correctly and completely.

Draw a graph the size of your palm!



Questions?

Loanable Funds - Demand

Demand shifters:

- Consumer behavior

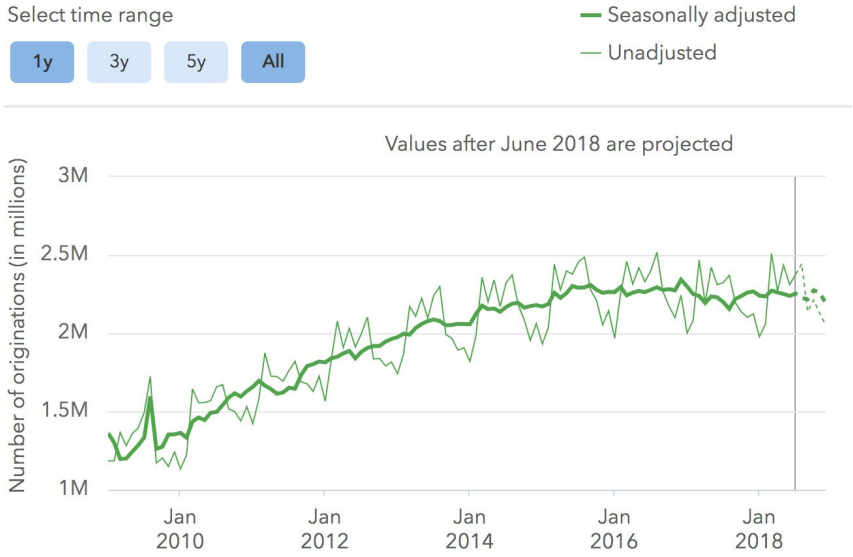
Are consumers borrowing more?

How do you buy your groceries? Homes? cars?

Lending levels

Monitoring overall activity helps us identify new developments in financial markets. These interactive graphs show the number and aggregate dollar volume of new auto loans opened each month. Aggregated monthly originations are displayed along with a seasonally adjusted series, which adjust for expected seasonal variation in lending activity.

Number of loans originated

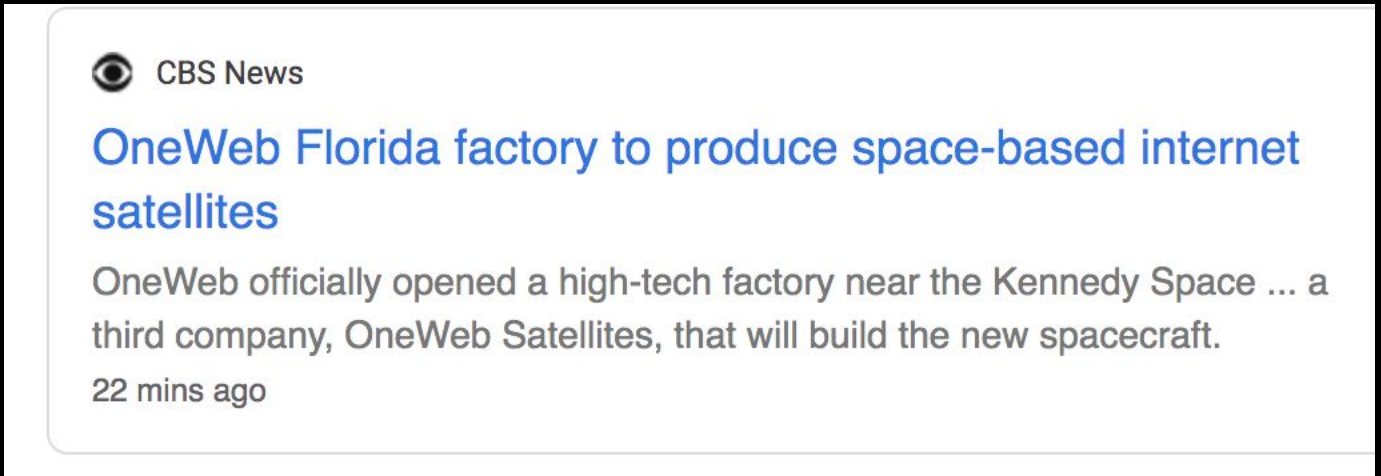


Loanable Funds - Demand

Demand Shifters

- Business borrowing

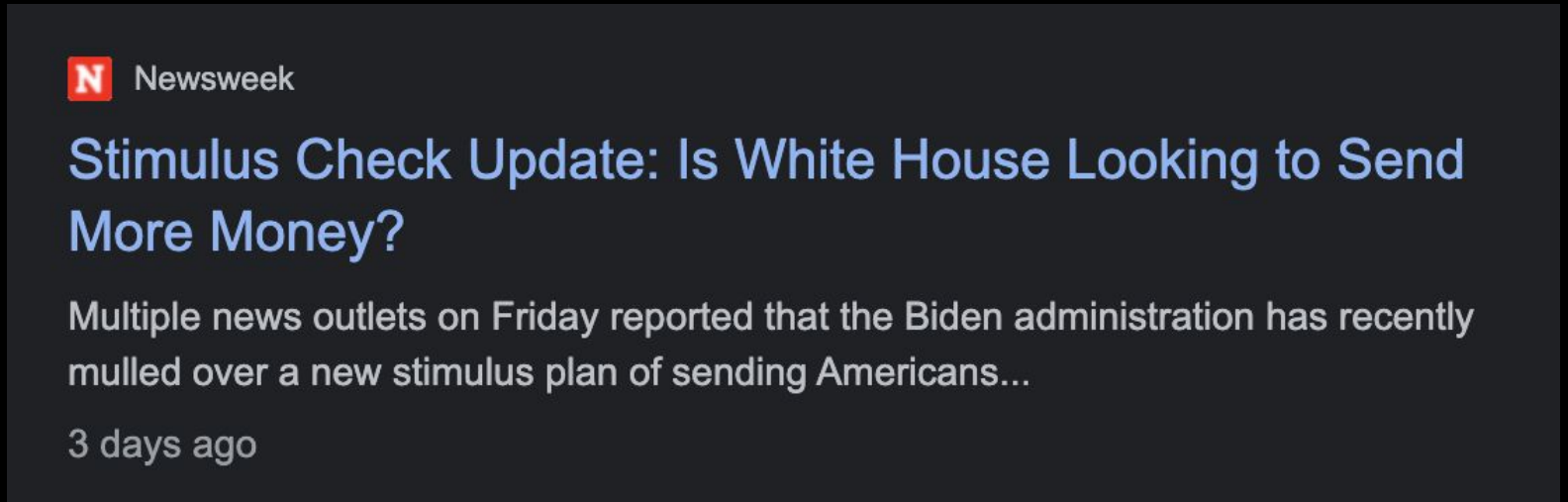
  Why do Businesses borrow?



Loanable Funds Market

Demand Shifters:

Changes in government borrowing - Deficit Spending



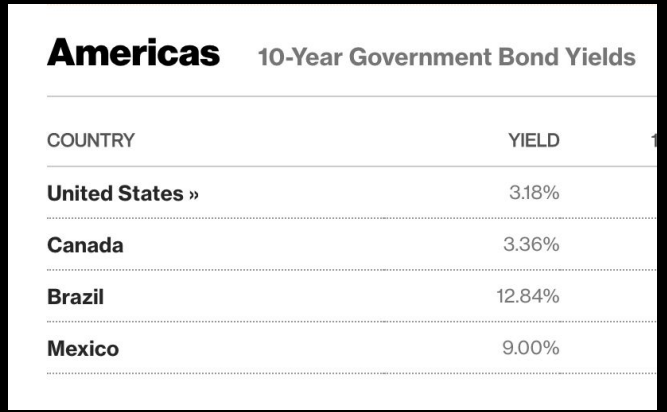
Loanable Funds Market

Supply Shifters:

Changes in Private Savings behavior

Changes in public savings behavior/Changes in government borrowing

Changes in foreign investment - loanable funds flow to the highest real interest rates



Americas 10-Year Government Bond Yields

COUNTRY	YIELD
United States »	3.18%
Canada	3.36%
Brazil	12.84%
Mexico	9.00%

Loanable funds Supply

Terms to know:

Remember National Income, for the purposes of our course is GDP or $Y = C + I + G + NX$

National Savings = Private Savings + Public Savings

Private savings = Y - T - C (National Income - Taxes - Consumption)

Public Savings = T - G (Taxes - Government Spending)

Crowding out - Who would you lend to?

Treasury - They don't care about interest rates. Can borrow as much as market will allow.

Money is worthless if they default.

Average Consumer:

$92,000 in debt - credit cards, cars, homes

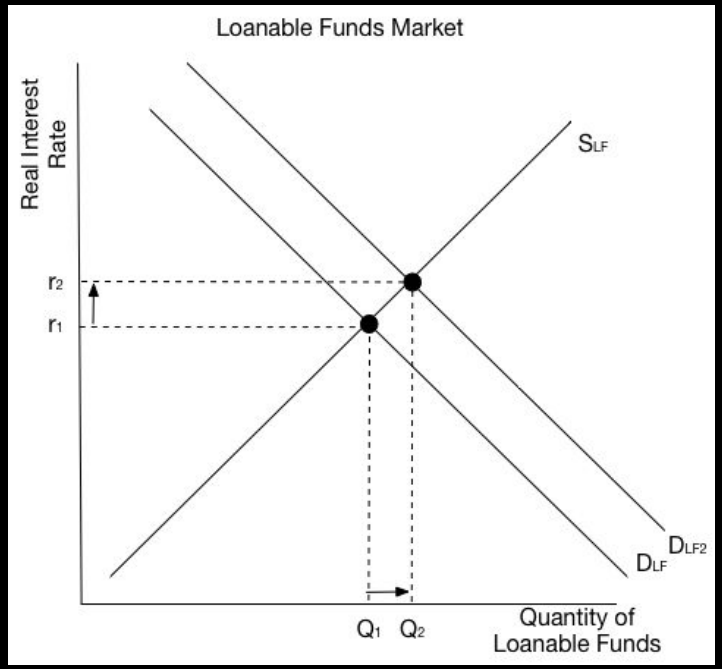
Crowding out

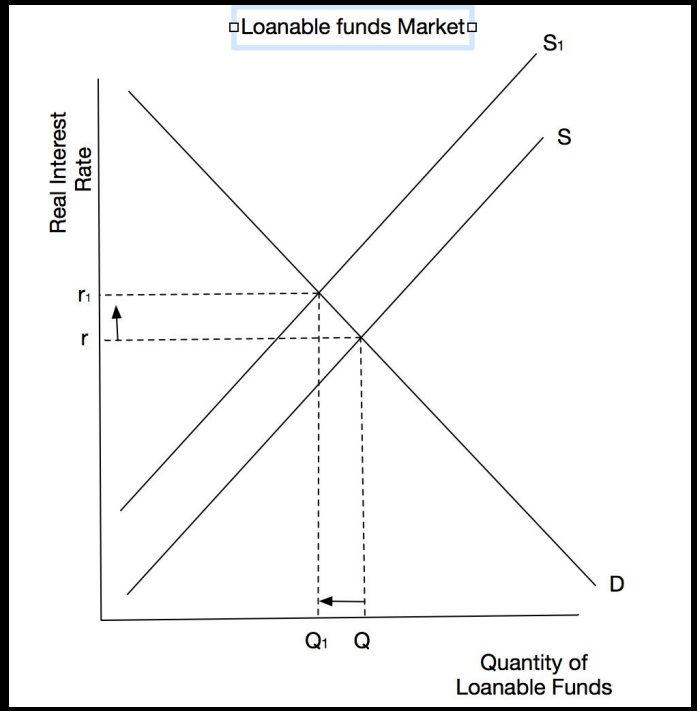
When the government borrows, it is not sensitive to interest rates, so you can look at it two ways:

The government gets in the front of the line, taking low cost loans that should go to consumers.

The supply of funds to businesses and consumers is depleted because the government is getting so many funds before they arrive at the market.

Crowding out - Graphically





Crowding Out

Either way - the real interest rate increases. Both are correct, but I use supply as it shows the quantity available to businesses and consumers has decreased.

Crowding Out

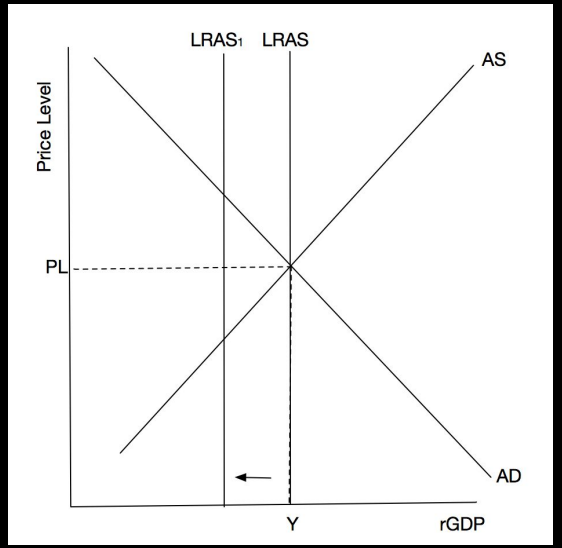
Crowding out implies a reduction in capital investment.

What does this mean for LRAS and the PPC?

Crowding out

Crowding out implies a reduction in capital investment.

What does this mean for LRAS and the PPC over the **long run**?



Questions?

Practice!

Graph recovery from recession and inflationary periods using fiscal policy.

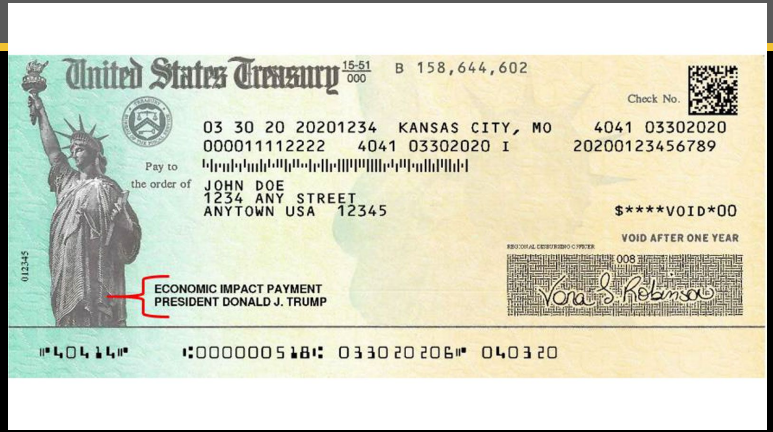
Impacts of **deficit spending** on short and long run:

Short run:

⬆️ in G ⇒ increase in AD

Long run:

Crowding out: ⬆️ in G ⇒ ⬆️ rir ⇒ ⬇️ I.⇒ ⬇️ capital formation ⇒⬇️ LRAS.



Impacts of **deficit spending** on short and long run:

Short run:

⬆️ in G ⇒ increase in AD

Long run:

Crowding out: ⬆️ in G ⇒ ⬆️rir ⇒ ⬇️ I.⇒ ⬇️ capital formation ⇒⬇️ LRAS.

Impacts of **deficit spending** on short and long run:

What is capital formation?

It is increasing the **capacity** of an economy to produce.

Capital formation includes building new factories, investing in new technology and training to increase productivity. Physical and human capital.

Impacts of **deficit spending** on short and long run:

In the long run - you can build more capital/change economies of scale.

Are depreciating assets (factory equipment) replaced?

Are new factories built?

If the factory is closed but still operable, this is an example of a short run problem - recession.

Questions?

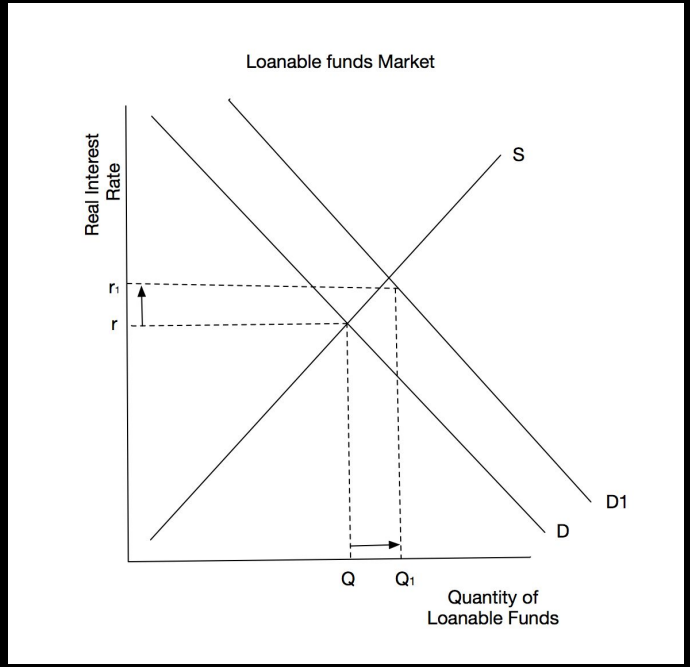
How will loanable funds be affected when:

1. Citizens begin to use credit cards rather than debit cards.
2. US approves a $100 billion dollar spending bill financed by borrowing.
3. A recession slows lending activity.
4. Businesses begin to finance capital stock projects.
5. Uncertain of the future, consumers begin to save more.

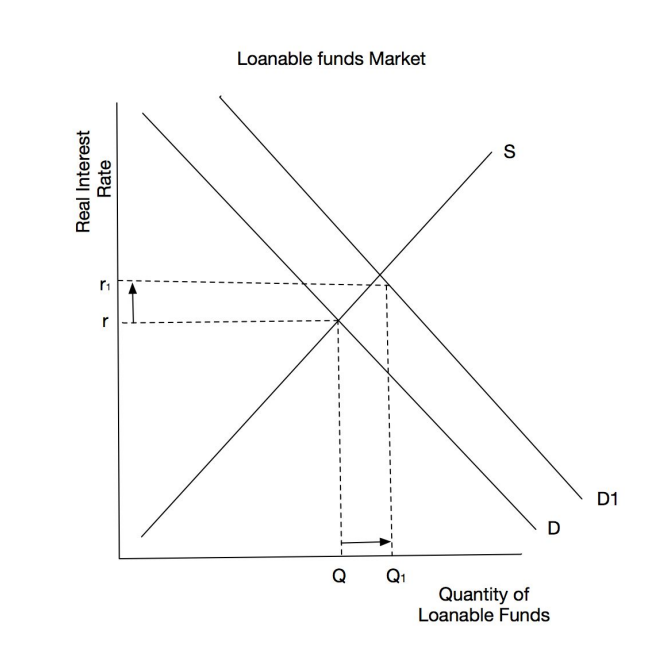
Future question:

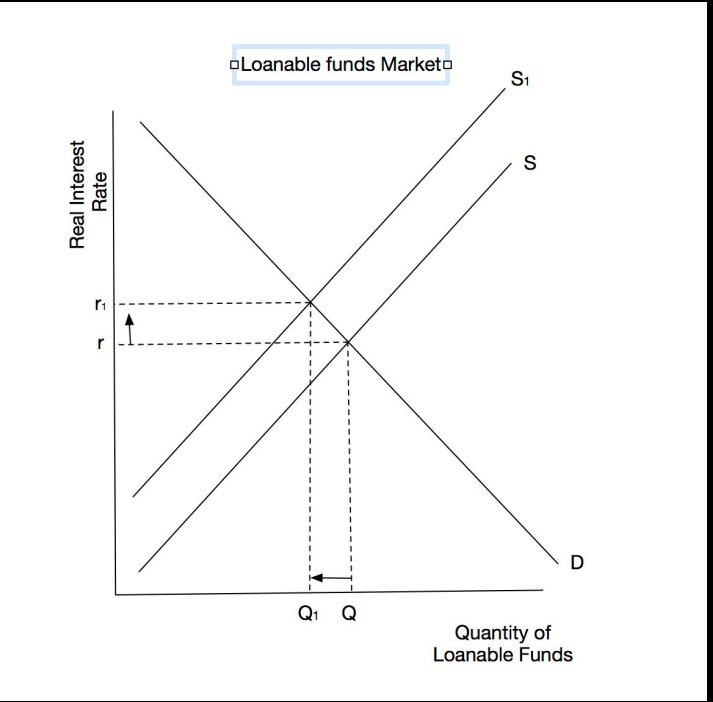
6. US interest rates are higher relative to their neighbors in Canada. (What does this mean for investors? For savers?)

1. Citizens prefer credit to debit.

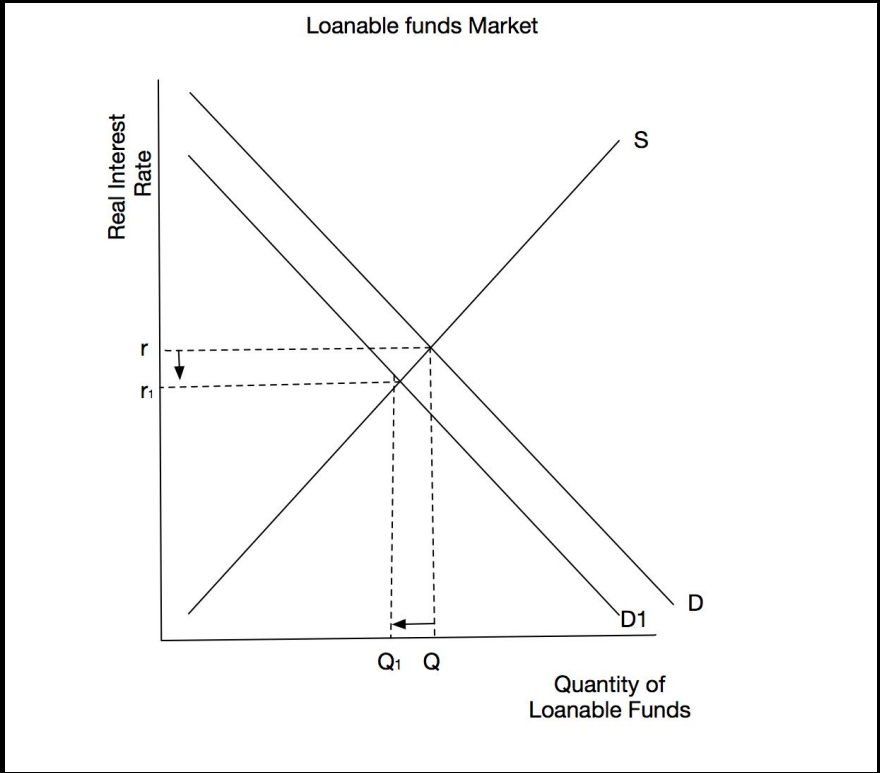


2. Spending bill - Crowding out

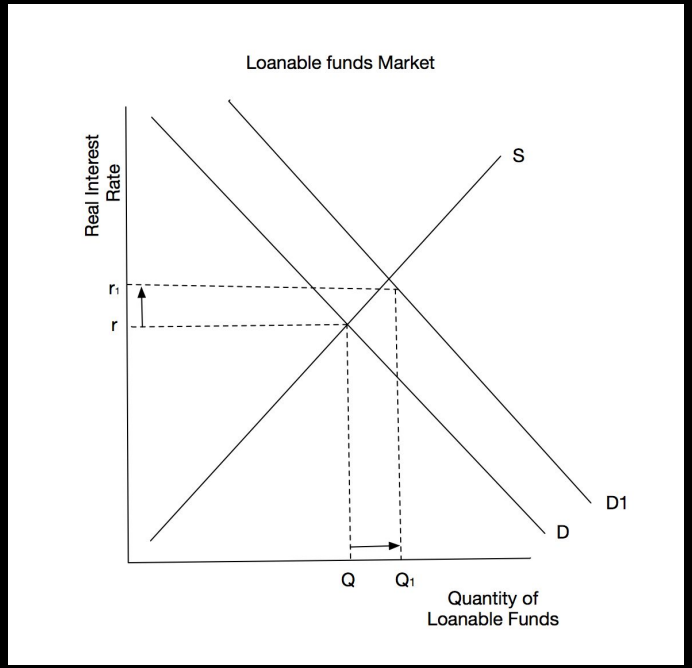




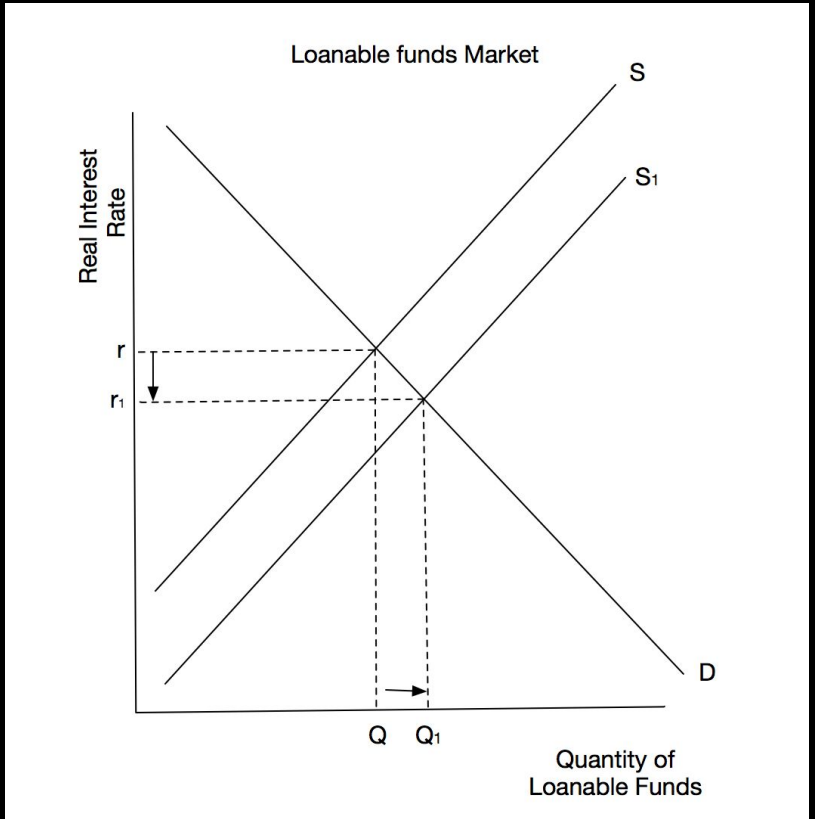
3. Recession slows lending



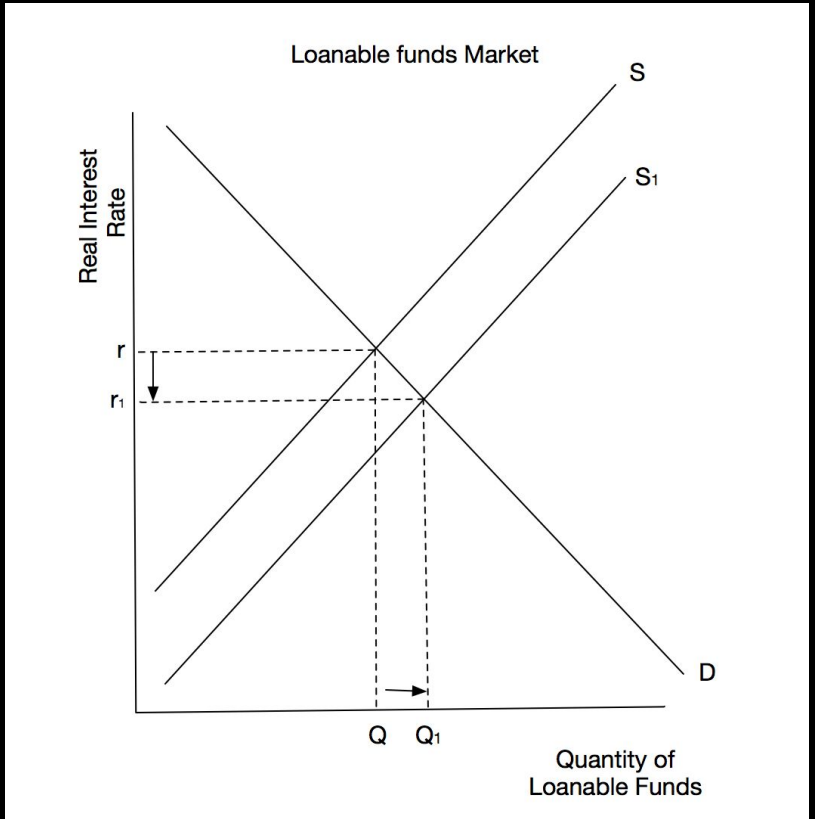
4. Businesses finance capital projects



5. Consumers save more.



6. Rates are higher in US than Canada.



Questions?

Key takeaways from the AP reading:

Prompt: As a result of the interest rate shown in the loanable funds graph, will LRAS shift left, right, or stay the same in the long run? Explain.

"Long run Aggregate supply will shift left due to crowding out."

Incorrect.

Must explain fully: Increased government borrowing will increase interest rates. This will decrease investment spending and decrease **capital formation** in the long run.

Key takeaways from the AP reading:

Prompt: How will an increase in interest rates in the loanable funds market affect the AS/AD model?

"Aggregate Demand will shift left due to less consumption due to high interest rates."

Incorrect.

Interest rates affect two types of spending - investment and *interest sensitive* consumption.

AP 2018 Question 2:

2. Assume the economy of Ucheland is currently at full employment. The government of Ucheland reduces the tax rate on household interest earnings.

   (a) What will happen to private savings in Ucheland?

   (b) Draw a correctly labeled graph of the loanable funds market, and show the effect of the change in private savings identified in part (a) on the equilibrium real interest rate.

   (c) Given the real interest rate change identified in part (b), answer the following questions.

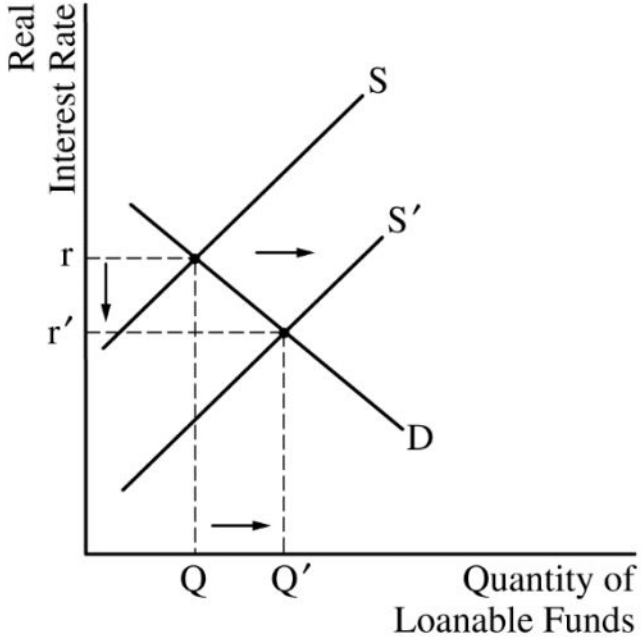
      (i) What is the short-run effect on aggregate demand? Explain.

      (ii) What is the long-run effect on potential real gross domestic product in Ucheland? Explain.

5 points (1 + 2 + 2)

(a) 1 point:

- One point is earned for stating that private savings will increase.



(b) 2 points:

- One point is earned for drawing a correctly labeled graph of the loanable funds market showing a downward sloping demand curve and an upward sloping supply curve.
- One point is earned for showing a rightward shift in the supply curve (increased private savings) and for showing a decrease in the equilibrium real interest rate.

(c) 2 points:

- One point is earned for stating that aggregate demand will increase and for explaining that the decrease in the real interest rate will result in an increase in interest-sensitive spending (consumption or investment or net exports).
- One point is earned for stating that potential real gross domestic product (GDP) will increase as a result of an increase in capital formation brought about by the increase in investment spending (or because capital formation increased the long-run aggregate supply).

Questions?

Additional Resources

EconEdLink: Loanable Funds

AP Daily Macro: Unit 4: Review for exam

On AP Classroom: Topic video for Unit 4.3, FRQs and MCQs index

AC/DC Econ: Question Index

Khan Academy: Loanable Funds

Other resources:

Jacob Reed: Loanable Funds

Econowaugh: Loanable Funds

Jason Welker: Every Graph, Crowding out pt 1, pt 2

AC/DC Econ: Unit 4 Videos