

# Financial Sector



## Developing Understanding

### BIG IDEA 1

#### Economic Measurements **MEA**

- What is money?

### BIG IDEA 2

#### Markets **MKT**

- How is the price of money determined?

### BIG IDEA 4

#### Macroeconomic Policies **POL**

- How do banks create money?
- How do the actions of a country's central bank affect financial decision making and the economy?

In the previous unit, students explored the effects of fiscal policy. In this unit, students will evaluate the macroeconomic effects of monetary policy. Before doing so, though, they should first have an understanding of how the financial sector works and be able to describe how monetary policy is implemented and transmitted through the banking system. This understanding begins with an introduction to financial assets, including money, and the way in which fractional reserve banking allows for the expansion of the money supply. Students will then build on their understanding of the financial sector by learning how to model the money market, the reserve market, and the loanable funds market.

## Building Course Skills

**1.A 1.B 2.A 3.C 4.A 4.C**

In this unit, students will describe the workings of the financial sector so they can apply that understanding in context. Devote sufficient time to introducing students to new concepts and vocabulary. Vocabulary lists or rote memorization on their own will not allow for knowledge transfer.

Students will also be expected to represent a number of different markets graphically in this unit. Explain the underlying assumptions of each market and practice modeling these assumptions so that students can create properly labeled graphs to represent and evaluate economic situations.

Students will continue to build their quantitative skills by interpreting bank balance sheets and calculating changes in demand deposits, loans, and reserves in the banking system as a result of deposits, withdrawals, and monetary policy. Once again, it's important to spend time grounding students in the underlying concepts—in this case, with a thorough introduction to fractional reserve banking—and provide ample time for numerical examples and practice.


## Preparing for the AP Exam

Predicting and explaining the effects of fiscal and monetary policy actions is an important role of economists and an expectation of students on the AP Exam. Understanding fiscal and monetary policy will also help students become more informed citizens.

When responding to free-response questions on the AP Exam that ask which open-market operation is appropriate in a given economic scenario, students often use a scattershot approach and list all possible monetary policy actions rather than the appropriate open-market operation. Students should practice carefully reading and responding to the question, ensuring that they answer the question that is being asked. This will help students perform better on the exam and move them away from rote memorization and toward greater understanding.

Balance sheet questions are a common challenge area for students on the AP Exam. Use past AP Exam questions to analyze the tasks and determine key vocabulary and misunderstandings students have when approaching the questions. Then provide opportunities for guided practice answering questions.

## UNIT AT A GLANCE

Enduring Understanding	Topic	Suggested Skills	Class Periods
			~11–13 CLASS PERIODS
MEA-3	<b>4.1 Financial Assets</b>	<b>1.D</b> Describe the similarities, differences, and limitations of economic concepts, principles, or models.	
	<b>4.2 Nominal v. Real Interest Rates</b>	<b>1.A</b> Describe economic concepts, principles, or models.	
	<b>4.3 Definition, Measurement, and Functions of Money</b>	<b>1.B</b> Identify an economic concept, principle, or model illustrated by an example.	
POL-2	<b>4.4 Banking and the Expansion of the Money Supply</b>	<b>3.C</b> Determine the effect(s) of a change in an economic situation using quantitative data or calculations.	
MKT-3	<b>4.5 The Money Market</b>	<b>4.A</b> Draw an accurately labeled graph or visual to represent an economic model or market.	
POL-1	<b>4.6 Monetary Policy</b>	<b>2.A</b> Using economic concepts, principles, or models, explain how a specific economic outcome occurs or what action should be taken in order to achieve a specific economic outcome.	
MKT-4	<b>4.7 The Loanable Funds Market</b>	<b>4.C</b> Demonstrate the effect of a change in an economic situation on an accurately labeled graph or visual.	
	Go to <a href="#">AP Classroom</a> to assign the <b>Personal Progress Check</b> for Unit 4. Review the results in class to identify and address any student misunderstandings.		

## SAMPLE INSTRUCTIONAL ACTIVITIES

The sample activities on this page are optional and offered to provide possible ways to incorporate various instructional approaches into the classroom. Teachers do not need to use these activities or instructional approaches and are free to alter or edit them. The examples below were developed in partnership with teachers from the AP community to share ways that they approach teaching some of the topics in this unit. Please refer to the Instructional Approaches section beginning on p. 113 for more examples of activities and strategies.

Activity	Topic	Sample Activity
1	4.1	<p><b>QHT</b></p> <p>Provide students with a list of critical vocabulary for this topic (e.g., stock, bond, interest rate, loan). Have students mark the list with a Q for words they have a question about, an H for words they have heard and might be able to identify, and a T for words they know well enough to teach to their peers. Discuss their markings as a class and have students who marked any words with a T describe the terms to their classmates.</p>
2	4.4, 4.5, 4.6	<p><b>Simulation and Debriefing</b></p> <p>Carry out an in-class simulation of open-market operations in an economy with limited reserves to give students a frame of reference for how T-accounts record lending activity while also observing the effects of central bank purchases and sales of securities. Have students take on the role of banks and give them a blank T-account and set of assets, typically securities and cash (deposits). With you acting as the central bank, introduce policy actions that require the “banks” to adjust their T-accounts accordingly. Debrief the experience with students to ensure that connections are made to the concepts being studied.</p>
3	4.5, 4.7	<p><b>Practice Modeling</b></p> <p>The money market, the reserve market, and the loanable funds market are introduced in this unit. When introducing how to graph each market, first model it for students by drawing it on the board and explaining the underlying assumptions while doing so (e.g., why the money demand curve is downward-sloping and why the money supply curve is vertical). Then provide an opportunity for students to practice generating the graph with appropriate labels themselves and work through different scenarios and shifts within the context of each graph.</p>



### Unit Planning Notes

Use the space below to plan your approach to the unit. Consider how you want to pace your course and methods of instruction and assessment.


.....

.....

.....

.....

## SUGGESTED SKILL

 *Principles and Models*

## 1.D

Describe the similarities, differences, and limitations of economic concepts, principles, or models.



## AVAILABLE RESOURCE

- External Resource > [Davidson Next AP Macroeconomics Course—Money and the Money Market](#)

## TOPIC 4.1

# Financial Assets

### Required Course Content

#### ENDURING UNDERSTANDING

**MEA-3**

Money makes it possible to compare the value of goods and services, and interest rates provide a measure of the price of money that is borrowed or saved.

#### LEARNING OBJECTIVE

**MEA-3.A**

- Define the principal attributes—liquidity, rate of return, and risk—associated with various classes of financial assets, including money.
- Explain the relationship between the price of previously issued bonds and interest rates.

#### ESSENTIAL KNOWLEDGE

**MEA-3.A.1**

The most liquid forms of money are cash and demand deposits.

**MEA-3.A.2**

Other financial assets people can hold in place of the most liquid forms of money include bonds (interest-bearing assets) and stocks (equity).

**MEA-3.A.3**

The price of previously issued bonds and interest rates on bonds are inversely related.


**MEA-3.A.4**

The opportunity cost of holding money is the interest that could have been earned from holding other financial assets such as bonds.

## TOPIC 4.2

**Nominal v. Real  
Interest Rates**

## SUGGESTED SKILL

 *Principles and Models*

## 1.A

Describe economic concepts, principles, or models.



## AVAILABLE RESOURCES

- External Resource > [Davidson Next AP Macroeconomics Course—Money and the Money Market](#)
- Classroom Resources > [Well, What Do You Expect? Inflationary Expectations and Macroeconomic Variables](#)

**Required Course Content****ENDURING UNDERSTANDING****MEA-3**

Money makes it possible to compare the value of goods and services, and interest rates provide a measure of the price of money that is borrowed or saved.

**LEARNING OBJECTIVE****MEA-3.B**

- Define the nominal and real interest rate.
- Explain the relationship between changes in nominal interest rates, expected inflation, and real interest rates.
- Calculate the nominal and real interest rate.

**ESSENTIAL KNOWLEDGE****MEA-3.B.1**

A nominal interest rate is the rate of interest paid for a loan, unadjusted for inflation.


**MEA-3.B.2**

Lenders and borrowers establish nominal interest rates as the sum of their expected real interest rate and expected inflation.

**MEA-3.B.3**

A real interest rate can be calculated in hindsight by subtracting the actual inflation rate from the nominal interest rate.

## SUGGESTED SKILL

 *Principles and Models*

## 1.B

Identify an economic concept, principle, or model illustrated by an example.



## AVAILABLE RESOURCE

- External Resource > [Davidson Next AP Macroeconomics Course—Money and the Money Market](#)
- External Resource > [Money Stock Measures—See Footnotes for Components](#)

## TOPIC 4.3

# Definition, Measurement, and Functions of Money

## Required Course Content

### ENDURING UNDERSTANDING

**MEA-3**

Money makes it possible to compare the value of goods and services, and interest rates provide a measure of the price of money that is borrowed or saved.

### LEARNING OBJECTIVE

**MEA-3.C**

- Define money and its functions.
- Calculate (using data as appropriate) measures of money.

### ESSENTIAL KNOWLEDGE

**MEA-3.C.1**

Money is any asset that is accepted as a means of payment.

**MEA-3.C.2**

Money serves as a medium of exchange, unit of account, and store of value.

**MEA-3.C.3**

The money supply is measured using monetary aggregates designated as M1 and M2.

**MEA-3.C.4**

The monetary base (often labeled as M0 or MB) includes currency in circulation and bank reserves.

## TOPIC 4.4

# Banking and the Expansion of the Money Supply

## Required Course Content

### ENDURING UNDERSTANDING

#### POL-2

The banking system plays an important role in the expansion of the money supply.

### LEARNING OBJECTIVE

#### POL-2.A

- Define key terms related to the banking system and the expansion of the money supply.
- Explain how the banking system creates and expands the money supply.
- Calculate (using data and balance sheets as appropriate) the effects of changes in the banking system.

### ESSENTIAL KNOWLEDGE

#### POL-2.A.1

Depository institutions (such as commercial banks) organize their assets and liabilities on balance sheets.

#### POL-2.A.2

Depository institutions operate using fractional reserve banking.

#### POL-2.A.3

Banks' reserves are divided into required reserves and excess reserves.

#### POL-2.A.4

Excess reserves are the basis of expansion of the money supply by the banking system.

#### POL-2.A.5

The money multiplier is the ratio of the money supply to the monetary base.

#### POL-2.A.6

The size of expansion of the money supply depends on the money multiplier.


#### POL-2.A.7

The maximum value of the money multiplier can be calculated as the reciprocal of the required reserve ratio.

#### POL-2.A.8

The amount predicted by the simple money multiplier may be overstated because it does not take into account a bank's desire to hold excess reserves or the public holding more currency.

### SUGGESTED SKILL

 Manipulation

#### 3.C

Determine the effect(s) of a change in an economic situation using quantitative data or calculations.



### AVAILABLE RESOURCE

- External Resource > [Davidson Next AP Macroeconomics Course—Money Creation](#)

## SUGGESTED SKILL

 *Graphing and Visuals*

## 4.A

Draw an accurately labeled graph or visual to represent an economic model or market.



## AVAILABLE RESOURCES

- External Resource > [Davidson Next AP Macroeconomics Course—Money and the Money Market](#)
- Classroom Resources > [Markets – Reconciling the Markets for Money and for Loanable Funds](#)

## TOPIC 4.5

## The Money Market

## Required Course Content

## ENDURING UNDERSTANDING

## MKT-3

In the money market, demand for and supply of money determine the equilibrium nominal interest rate and influence the value of other financial assets.

## LEARNING OBJECTIVE

## MKT-3.A

- Define (using graphs as appropriate) the money market, money demand, and money supply.
- Explain (using graphs as appropriate) the relationship between the nominal interest rate and the quantity of money demanded (supplied).

## MKT-3.B

Define (using graphs as appropriate) equilibrium in the money market.

## MKT-3.C

Explain (using graphs as appropriate) how nominal interest rates adjust to restore equilibrium in the money market.

## ESSENTIAL KNOWLEDGE

## MKT-3.A.1

The demand for money shows the inverse relationship between the nominal interest rate and the quantity of money people want to hold.

## MKT-3.A.2

Given a monetary base determined by a country's central bank, money supply is independent of the nominal interest rate.

## MKT-3.B.1

In the money market, equilibrium is achieved when the nominal interest rate is such that the quantities demanded and supplied of money are equal.

## MKT-3.C.1

Disequilibrium nominal interest rates create surpluses and shortages in the money market. Market forces drive nominal interest rates toward equilibrium.

*continued on next page*



**LEARNING OBJECTIVE**

**MKT-3.D**


- a. Explain (using graphs as appropriate) the determinants of demand and supply in the money market.
- b. Explain (using graphs as appropriate) how changes in demand and supply in the money market affect the equilibrium nominal interest rate.

**ESSENTIAL KNOWLEDGE**

**MKT-3.D.1**

Factors that shift the demand for money, such as changes in the price level, and supply of money, such as monetary policy, change the equilibrium nominal interest rate.

## SUGGESTED SKILL

 Interpretation

## 2.A

Using economic concepts, principles, or models, explain how a specific economic outcome occurs or what action should be taken in order to achieve a specific economic outcome.



## AVAILABLE RESOURCES

- External Resource > [The Federal Reserve Bank of St. Louis – Teaching the New Tools of Monetary Policy](#)

## TOPIC 4.6

# Monetary Policy

## Required Course Content

### ENDURING UNDERSTANDING

## POL-1

Fiscal and monetary policy have short-run effects on macroeconomic outcomes.

### LEARNING OBJECTIVE

## POL-1.D

- Define monetary policy and related terms.
- Explain (using graphs as appropriate) the short-run effects of a monetary policy action.
- Calculate (using data and balance sheets as appropriate) the effects of a monetary policy action.

### ESSENTIAL KNOWLEDGE

## POL-1.D.1

Central banks implement monetary policies to achieve macroeconomic goals, such as price stability.

## POL-1.D.2

The tools of monetary policy may include the central bank's discount rate and other administered interest rates (e.g., interest on reserves), open market operations, and the required reserve ratio. The tools used and the way in which they are implemented differ between economies that have limited reserves in their banking system and economies that have ample reserves in their banking system. (The banking system in the United States has ample reserves, and the Federal Reserve's key policy tool is interest on reserves.)

## POL-1.D.3

When the central bank conducts an open-market purchase (sale), reserves increase (decrease), thereby increasing (decreasing) the monetary base.

## POL-1.D.4

When the central bank conducts an open-market purchase (sale) in an economy with limited reserves, the effect on the money supply is greater than the effect on the monetary base because of the money multiplier.

*continued on next page*

**LEARNING OBJECTIVE****POL-1.D**

- Define monetary policy and related terms.
- Explain (using graphs as appropriate) the short-run effects of a monetary policy action.
- Calculate (using data and balance sheets as appropriate) the effects of a monetary policy action.

**POL-1.E**

Define why there are lags to monetary policy.

**ESSENTIAL KNOWLEDGE****POL-1.D.5**

Many central banks carry out policy to hit a target range for an overnight interbank lending rate, sometimes referred to as the central bank's policy rate. (In the United States, this is the federal funds rate.)

**POL-1.D.6**

Central banks can influence the nominal interest rate in the short run, which in turn will affect investment and consumption. [See also EK MKT-5.G.2 for the influence on net capital inflows.] In an economy with limited reserves, the central bank can influence the nominal interest rate by changing the money supply. In an economy with ample reserves, changes in the money supply do not effectively change the nominal interest rate; instead, the central bank can influence the nominal interest rate by changing its administered interest rates.

**POL-1.D.7**

Expansionary or contractionary monetary policies are used to restore full employment when the economy is in a negative (i.e., recessionary) or positive (i.e., inflationary) output gap.

**POL-1.D.8**

Monetary policy can influence interest rates, aggregate demand, real output, and the price level. [See also EK MKT-5.E.3 for the effect on exchange rates.]

**POL-1.D.9**

A money market model, a reserve market model, and/or the AD–AS model may be used to demonstrate the short-run effects of monetary policy.

**POL-1.E.1**

In reality, there are lags to monetary policy caused by the time it takes to recognize a problem in the economy and the time it takes the economy to adjust to the policy action.

## SUGGESTED SKILL

 *Graphing and Visuals*

## 4.C

Demonstrate the effect of a change in an economic situation on an accurately labeled graph or visual.



## AVAILABLE RESOURCES

- External Resource > [Davidson Next AP Macroeconomics Course—Loanable Funds](#)
- Classroom Resources > [Markets – Reconciling the Markets for Money and for Loanable Funds](#)

## TOPIC 4.7

# The Loanable Funds Market

## Required Course Content

### 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

**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.B**

Define national savings in both a closed and an open economy.

### ESSENTIAL KNOWLEDGE

**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.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.

*continued on next page*

**LEARNING OBJECTIVE****MKT-4.C**

Define (using graphs as appropriate) equilibrium in the loanable funds market.

**MKT-4.D**

Explain (using graphs as appropriate) how real interest rates adjust to restore equilibrium in the loanable funds market.

**MKT-4.E**

- Explain (using graphs as appropriate) the determinants of demand and supply in the loanable funds market.
- 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.

**ESSENTIAL KNOWLEDGE****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.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.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.