

# PAGE ONE ECONOMICS NEWSLETTER

the back story on front page economics

## Traditional Versus Shadow Banking

February 2012

### Classroom Edition

*An informative and accessible economic essay with a classroom application.*

*Includes the full version of the Page One Economic Newsletter, plus questions for students and an answer key for classroom use.*

Common Core Standards (see page 8)



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February ■ 2012

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## Traditional Versus Shadow Banking

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*"If you owe your bank a hundred pounds, you have a problem. But if you owe a million, it has."*

—John Maynard Keynes

Borrowing and lending is an important feature of a well-functioning economy. Individuals use credit—money lent by an individual or financial institution—to buy homes, go to college, and make general purchases. Firms use credit as start-up money and to buy property, build plants, and purchase equipment. A significant amount of credit is available through the traditional banking system that matches borrowers and lenders. There is also a parallel system, often referred to as “shadow banking,” that performs a similar function but through specialized financial institutions. This shadow system operates outside many of the rules and regulations placed on traditional banks, hence the “shadow” designation. To better understand shadow banking, it is helpful to first understand borrowing, lending, and credit in general.

Borrowing and lending can take place either directly or indirectly. Direct finance occurs when funds move directly from a lender to a borrower—there is no middleman. If you have ever lent money to a friend, then you have engaged in direct lending. This type of exchange often proves difficult because lenders and borrowers need to match up, which can require substantial work for both parties. For example, investors need to first find a borrower, then assess (and continue to monitor) the borrower’s creditworthiness, write a contract, and accept payments—a costly process. This process has largely been streamlined through the development of organized financial exchanges.

A second form of lending is termed indirect finance. In this case, funds are channeled indirectly through a third party—or intermediary—such as a bank, in a process called financial intermediation. The most well-known form of financial intermediation is traditional banking, which occurs as follows: (i) Savers store excess funds as deposits in banks. (ii) Banks are required to keep only a fraction of their deposits on hand as reserves.<sup>1</sup> (iii) Banks use the excess reserves to provide loans to borrowers in what is known as a *fractional reserve banking system*. Typically, traditional banking takes place under one roof in commercial banks or thrifts (i.e., savings and loan associations, credit unions, and savings banks).

Intermediaries perform two major roles. First, they are the *brokers* that match borrowers and lenders. The ultimate lenders, bank depositors, need not seek out borrowers when an intermediary is involved. Instead, banks implicitly match borrowers and lenders by taking deposits and making loans. Second, when banks take deposits and make loans they perform a *qualitative asset transformation* (QAT). That is, banks take deposits, which are liquid and can be withdrawn on demand, and turn them into loans, which are less liquid and generally have long maturities and are paid back to the lender over time.<sup>2</sup>

Indirect finance also has several other advantages over direct finance. Banks are highly specialized in monitoring and assessing the creditworthiness of borrowers because of their superior information gathering. They are also able to make large loans because they can pool large numbers of deposits. In addition, banks allow savers to have more diversified holdings. By keeping funds on deposit at banks, savers essentially loan small amounts to a large number of borrowers across different industries and geographic areas. One loan default<sup>3</sup> is unlikely to affect depositors substantially.

Banks are subject to regulation to ensure soundness of the financial system. For example, banks are legally required to hold a certain amount of *capital*, the difference between what a bank owns (its assets) and its obligations (its liabilities).<sup>4</sup> This regulation is aimed at ensuring stability in the banking system by requiring banks to have a cushion against losses. Banks are also supported in the form of deposit insurance, which guarantees individual accounts up to \$250,000 in the event of bank failure. Further, the Federal Reserve may assist banks as a lender of last resort. Healthy banks that need short-term funding can borrow from the Fed's *discount window*, which provides an added cushion. These safeguards are in place to prevent bank runs, a situation where depositors simultaneously withdraw funds, precipitating a bank's collapse.

Because regulation is costly, a shadow industry has risen for *regulatory arbitrage*—that is, the circumvention of regulation. Shadow banking performs the same function as traditional banking; it channels money from lenders to borrowers. However, the process is different and more complex. In this parallel system, borrowers still obtain mortgages, credit cards, and student loans from financial institutions. In contrast to traditional banking, however, in shadow banking loans are not funded or serviced by deposits. Instead, the loan originator sells the loans to another financial institution, which pools the loans with many others. These loan pools are *securitized* in a multistep process; that is, various financial instruments are created from the underlying loan payments.

For example, let's consider one possible scenario: A finance company specializing in residential home loans extends 100 mortgages to borrowers and subsequently sells the loans to another financial intermediary. This second intermediary takes the 100 newly acquired loans and combines them with another 900 mortgages. These 1,000 mortgages are pooled together and *securities*—financial instruments—are created. These financial instruments are then issued (sold) to the public (investors) who are paid interest on their investment. The value of these instruments is derived from the monthly payments of the underlying mortgage pool, and the instruments lose value if the mortgagees default. In this system, loans are not funded by deposits at banks. Instead, loans are generally funded by [repurchase agreements](#) (repos) and [money market mutual fund](#) (MMMF) investments. This funding is short in maturity and generally liquid, so it is conceptually similar to bank deposits.

The securitization process is conducted through chains of financial institutions, such as financial holding companies, [investment banks](#), and government-sponsored enterprises such as Freddie Mac and Fannie Mae. Although shadow banking reduces the cost of intermediation, it does not offer the safeguards of traditional banking. Thus, the shadow banking system is more vulnerable to runs, but instead of individuals withdrawing their deposits, investors stop extending the short-term funding that shadow banks rely on.

Both the traditional and shadow banking systems match lenders and borrowers and use short-term, liquid funding to supply long-term loans that are less liquid. As illustrated, the latter system includes many more steps and often involves several institutions. The risks and regulations differ for each system, but both play an important role and perform a crucial task for the economy. ■

## NOTES

<sup>1</sup> Here, “savers” refers to any entity storing money in a bank. Savers may be households, businesses, nonprofits, or governments.

<sup>2</sup> “Liquidity” refers to the ease with which something can be converted into cash. “Maturity” refers to the length of time until the last payment due date of a loan.

<sup>3</sup> Default occurs when a borrower is unable to repay the lender.

<sup>4</sup> Bank capital requirements are slightly complicated, using “risk-weighted” assets in determining the necessary capital banks must hold.

*Page One Economics Newsletter* from the Federal Reserve Bank of St. Louis continues the *Liber8 Newsletter* and provides an informative, accessible economic essay written by our research analysts. A classroom edition with a lesson plan is written by our economic education specialists. The newsletter is published 9 times per year, January through May and August through November.

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Name\_\_\_\_\_ Period\_\_\_\_\_

Federal Reserve Bank of St. Louis *Page One Economic Newsletter*:  
"Traditional Versus Shadow Banking"

After reading the article, answer the following questions.

1. Describe the two ways borrowing and lending take place.

Direct Lending	
Indirect Lending	

2. What are the difficulties involved in direct lending?

3. What are the advantages of intermediaries over direct lending?

4. How does the operation of the shadow banking industry differ from that of the traditional banking industry?

5. Why is the shadow banking system more vulnerable to runs?

## Teacher's Guide

### Federal Reserve Bank of St. Louis *Page One Economic Newsletter*: "Traditional Versus Shadow Banking"

After reading the article, answer the following questions.

**1. Describe the two ways borrowing and lending take place.**

<b>Direct Lending</b>	Direct lending occurs when funds move directly from a lender to a borrower—there is no middleman.
<b>Indirect Lending</b>	(i) Savers store excess funds as deposits in banks or investments. (ii) Banks are required to keep only a fraction of their deposits on hand as reserves. (iii) Banks use the excess reserves to provide loans to borrowers.

**2. What are the difficulties involved in direct lending?**

Lenders and borrowers need to match up, which can require substantial work for both parties. For example, investors need to first find a borrower, then assess (and continue to monitor) the borrower's creditworthiness, write a contract, and accept payments—a costly process.

**3. What are the advantages of intermediaries over direct lending?**

Banks are highly specialized in monitoring and assessing the creditworthiness of borrowers because of their superior information gathering. They are also able to make large loans because they can pool large numbers of deposits. In addition, banks allow savers to have more diversified holdings.

**4. How does the operation of the shadow banking industry differ from that of the traditional banking industry?**

In contrast to traditional banking, loans in shadow banking are not funded or serviced by deposits. Instead, the loan originator sells the loans to another financial institution, which pools the loans with many others. These loan pools are *securitized* in a multistep process; that is, various financial instruments are created from the underlying loan payments.

**5. Why is the shadow banking system more vulnerable to runs?**

The shadow banking system does not have the same safeguards as the traditional banking system, such as the legal requirement to hold sufficient capital. Nor do these institutions have access to (i) deposit insurance for investors or (ii) the Federal Reserve discount window. For these reasons, financial stress can lead to situations in which investors stop using repos and investing in MMMFs—sources of funds that the securitization market relies on.

## For Further Discussion

**Display or distribute copies of the provided visual. Read the following to your students and lead a discussion based on the scenarios and results provided.**

The loanable funds market works much like other markets:

1. Buyers and sellers interact in a market to determine a price. In the loanable funds market, the good being bought and sold is money and the price for that good is an interest rate.
2. In many of the markets we encounter, individuals such as you and I demand goods and services and firms supply those goods and services. In the loanable funds market however, borrowers demand loanable funds and savers such as you and I supply the loanable funds.
3. And, like other markets, the demand for loanable funds and the supply of loanable funds shift, which can cause prices—in this case, the interest rate—to increase or decrease.

**Read the scenarios below, then choose which of the four graphs best illustrates the given result: How will interest rates react? Will they increase or decrease? Explain your answer.**

**Teacher note:** Although there are many factors that affect supply and demand in markets, remind students to focus only on the variables in question. Economists refer to this as *ceteris paribus*, or “all other things held constant.”

**Scenario 1:** Savers decide to save more as a result of a national awareness campaign.

Graph C. An increase in savings also increases the supply of loanable funds. The loanable funds supply curve shifts to the right, resulting in a lower interest rate.

**Scenario 2:** Businesses experience growing optimism about the economy. They seek loans to invest in new equipment.

Graph A. The demand for loanable funds increases. The loanable funds demand curve shifts to the right, resulting in a higher interest rate.

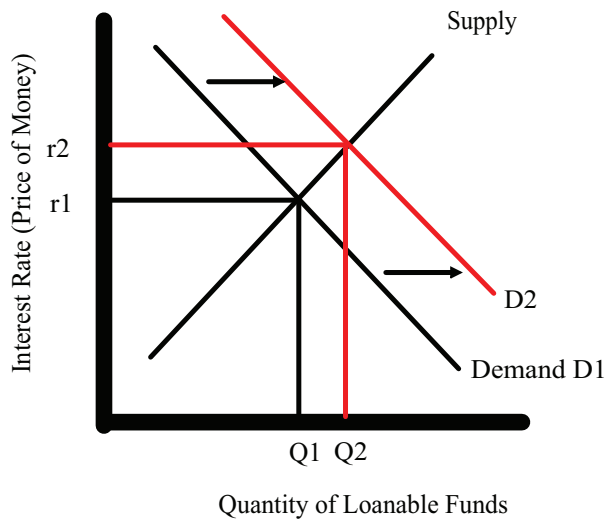
**Scenario 3:** Consumers use credit cards unwisely; they spend more than their incomes. Savings becomes negative.

Graph D. The supply of loanable funds decreases as consumers spend more and save less. The loanable funds supply curve shifts left, resulting in a higher interest rate.

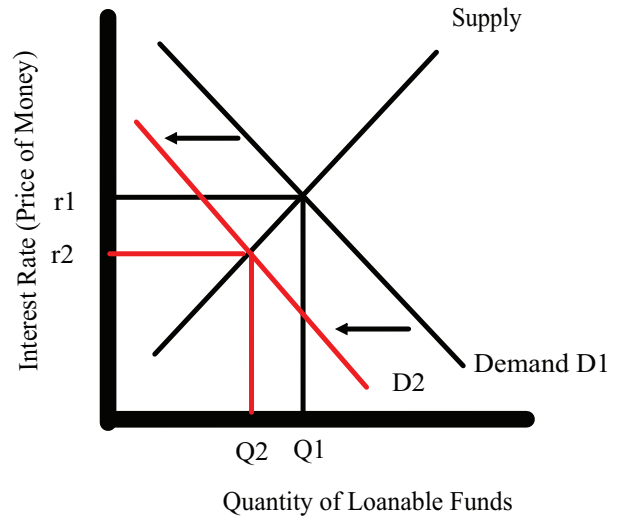
**Scenario 4:** Businesses fear recession. They cut back on investment spending.

Graph B. The demand for loanable funds decreases as businesses cut back on investment: The loanable funds demand curve shifts left, resulting in a lower interest rate.

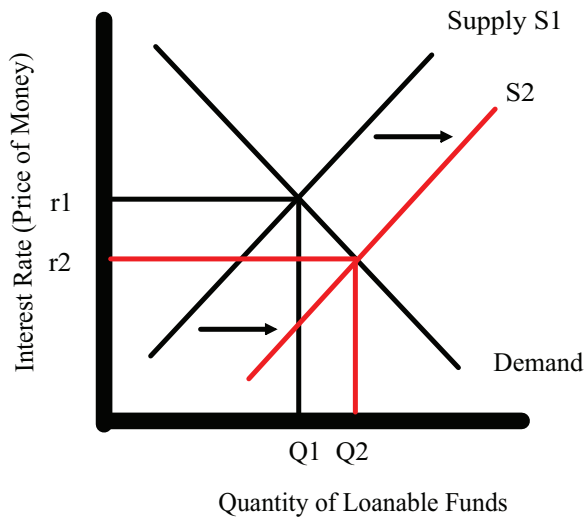
**Graph A**



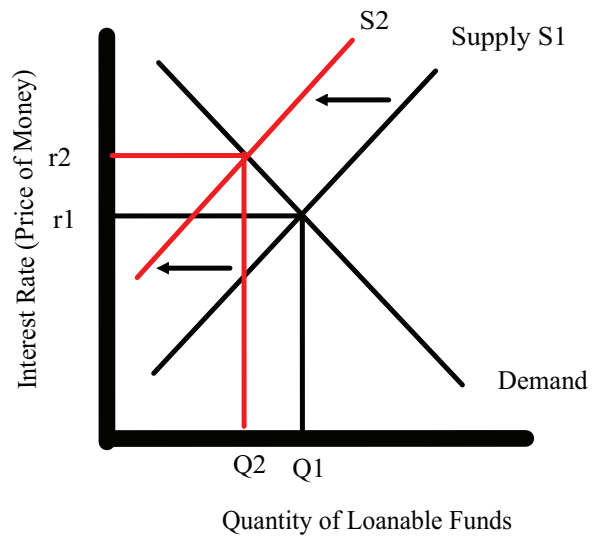
**Graph B**



**Graph C**



**Graph D**





## **Common Core Standards**

### **Grades 6-12 Literacy in History/Social Studies and Technical Subjects**

- **Key Ideas and Details**

RH.11-12.1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

RH.11-12.2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

- **Craft and Structure**

RH.11-12.4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).