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What Do Financial Market Indicators Tell Us?

January 2012

Classroom Edition

An informative and accessible economic essay with a classroom application.

Includes the full version of the Liber8 Newsletter*,*
plus questions for students and an answer key for classroom use.

Common Core Standards (see page 8)

ECONOMIC EDUCATION | FEDERAL RESERVE BANK OF ST. LOUIS

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What Do Financial Market Indicators Tell Us?

Financial market data are reported daily in the news—usually as prices, indexes, or interest rates. While these data provide direct information (e.g., a Treasury bill pays 2 percent interest), they also give some indication of future economic growth, inflation, and financial market stability. Changes in these data can also affect decisions about consumer spending, educational loans, and retirement plans. Financial markets are important in everyday life because making good business decisions is difficult without understanding how key financial indicators behave. Popular financial indicators usually fall into four categories: commodity prices, stock indexes, interest rates, and yield spreads (the difference between two interest rates).

We start with the simplest financial indicator—commodity price. Various commodities (e.g., corn, gold, oil) are traded on commodity exchanges, much like the stock markets for individual stocks. If an airline wants to purchase 1,000 barrels of oil today, it needs to pay the current price, which is called the spot price.[1] However, if the airline company wants to purchase 1,000 barrels of crude oil for delivery next year, then it can sign a contract at a fixed price today for the oil it will buy next year; this price is called the futures price. If some event reduces the future supply of oil, which may increase the spot price at a certain time next year, the airline will pay only the locked-in price specified in the futures contract. Hence, this lower futures price reduces the oil expense for the airline. Futures prices are affected by various factors, such as the spot price, storage costs, and interest costs.

The most common financial indexes refer to the prices of the stocks of publicly traded companies. For example, the stock price of Microsoft was $25.76 on December 12, 2011. Other than individual stock prices, an aggregate stock price index also plays an important role. For instance, the Standard and Poor's 500 (S&P 500) is a market value-weighted[2] stock price index of 500 stocks chosen based on market size, liquidity, and industry. It covers various industries in the entire U.S. economy. If investors plan to allocate their funds to equity markets, they likely will pay attention to two factors: the prices of the stocks of individual companies and the prices across the broader stock market, as measured by indexes like the S&P 500.

Stock prices generally increase or decrease as a result of changes in expected future earnings. If a company's new product launch is viewed positively by the market, the stock price of that company may rise. On the other hand, movements of aggregate stock indexes tend to signal changes in the state of the macroeconomy: Good economic news should increase the earnings of many companies. For instance, the S&P 500 may increase after better-than-expected job growth. Similarly, a sequence of bad economic news causes investors to lower their profit forecasts for firms. Thus, the S&P 500 is one of the most closely watched stock indexes because it incorporates new information about the future health of the economy. Just as stock price indexes cover equity markets, interest rates determined in the bond markets are also important.

An interest rate is simply the price of borrowing money for a fixed period. In the United States, the federal funds rate, which is importantly influenced by Federal Reserve monetary policy decisions, is one of the most important interest rates. It is the interest rate at which banks borrow money from other banks. In bond markets, interest rates are referred to as yields. Bonds with different maturities have different yields. It usually costs less to borrow for a few days or months than a few years because of a factor known as the term premium.[3] If borrowers expect projects to generate higher profits in the future, they may be more willing to

[1] The spot price of oil contains information about the current demand and supply of oil conditions.

[2] A market value-weighted index is an index whose components are weighted according to the total market value of their outstanding shares.

[3] Investors need the extra compensation for locking up their money for a longer period.

borrow at a higher rate. But interest rates can also be influenced by other factors. For example, if inflation is expected to be higher in the future, creditors or investors tend to require higher yields to compensate them for the inflation risk they incur.[4] As a result, the nominal interest will increase. Thus, bond yields also convey information about future inflation and economic growth. In addition to Treasury securities, corporate bonds are also important financial indicators. Corporate bonds have letter designations (e.g., AA+, B+) that represent the quality of the bonds (i.e., the risk of borrower default).[5] Lower-quality bonds tend to have higher yields to compensate investors who are willing to take more credit risk. A corporate bond is considered investment grade if its credit rating by rating agencies is "BBB" or higher.[6]

Now that we know what yield is, let's talk about yield spread. The yield spread refers to the difference between the yields on two different bonds. Popular spreads are those derived from yields of Treasury bonds of different maturities (i.e., the term spread) and of corporate bonds with different credit risk (i.e., the credit spread). First, the term spread on Treasury securities—the difference between the yield on a 10-year Treasury bond and a 3-month Treasury bill—is frequently mentioned in the news as the yield curve[7]: When the yield curve slopes downward, future short-term interest rates are expected to fall because investors generally believe the economy will weaken or fall into a recession. The second type of spread—the credit spread—can also increase or decrease because of changes in the possibility of default risk. For instance, when credit spreads widen, it implies that the market is factoring a higher risk of default on lower-quality bonds, which may occur during times of financial distress.

The table summarizes the most common financial indicators.

By Linpeng Zheng, Research Associate

[4] Unexpected high inflation will hurt creditors if the dollars paid back to them are worth less than the dollars lent.

[5] U.S. government Treasury securities are also rated by credit rating agencies, such as Standard & Poor's or Moody's.

[6] Some institutional investors (e.g., pensions) will invest only in AAA-rated bonds based on S&P's credit rating standard. Bonds with ratings below "BBB" are collectively called junk bonds.

[7] This is because the slope of the yield curve can be approximated as the term spread between the 10-year Treasury security and a 3-month Treasury security.

The *Liber8® Economic Information Newsletter* is published 9 times per year, January through May and August through November. The newsletter is a selection of useful economic information, articles, data, and websites compiled by the librarians of the Federal Reserve Bank of St. Louis Research Library. Please visit our website and archives liber8.stlouisfed.org for more information and resources.

FINANCIAL MARKET INDICATORS

Indicator	Definition	Significance
Dollar exchange rate	The rate at which U.S. dollars can be exchanged for other currencies.	A strong dollar relative to other foreign currencies may decrease U.S. exports and increase imports from overseas and vice versa.
Commodity futures (e.g., oil, corn)	A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future for a certain price.	Futures prices change with respect to future economic and financial prospects.
Dow Jones Industrial Average	A price-weighted average of 30 significant stocks traded on the New York Stock Exchange.*	Reflects economic expectations; useful as a leading indicator on general economic conditions and business and investors confidence.
S&P 500	A market value-weighted stock index of 500 stocks chosen for market size, liquidity, and industry grouping.	Reflects economic expectations; useful as a leading indicator on general economic conditions and business and investors confidence.
NASDAQ Composite (National Association of Securities Dealers Automated Quotations)	A stock index of the common stocks and similar securities listed on the NASDAQ stock market consisting of more than 3,000 components.	An indicator of the performance of stocks of technology and growth companies.
Federal funds rate	The interest rate at which banks can borrow the funds held at the Federal Reserve from other banks.	The federal funds rate usually affects other interest rates, including mortgage rates, credit card rates, and the interest that banks pay to customers.
London Interbank Offered Rate (LIBOR)	The interest rate at which banks can borrow funds from other banks in the London interbank market.	Most widely used benchmark for short-term interest rates. It is the basis for how much interest is charged for loans to consumers and business; currently calculated for 10 different currencies.
Treasury yield	The interest return on fixed-interest securities issued by the Treasury (e.g., 3-month Treasury bill, 10-year Treasury note).	An indicator of the interest rate in different time periods and inflation expectations.
Treasury inflation-protected securities (TIPS)	The interest and principle payments rise with inflation, as measured by the consumer price index, while their interest rate remains fixed.	A Treasury security that is indexed to inflation to protect investors from the negative effects of inflation.
Corporate yield	The interest return on fixed-interest securities issued by corporations (e.g., bonds issued by Microsoft).	An indicator of interest rate and corporate credit and default risk. Corporate yields are usually higher than Treasury yields with the same maturity because of the higher default risk of corporate borrowers.
Term spread (i.e., yield curve)	The difference between interest yields on securities with different maturities, typically the difference between a 10-year bond and a 3-month bill.	An indicator of interest rate and inflation expectations. When the difference in yields is negative, it may imply a possibility of recession in the near future.
TIPS spread	The difference between yields on Treasury securities and TIPS.	This spread gives an insight into bond market investors' inflation expectations.
Credit spread	The difference between interest yields on different securities in relation to different credit quality, usually between yields on Treasury securities and corporate bonds.	When the credit spread widens, it usually means investors are pricing in a higher level of risk. When credit spreads narrow, it is often an indication that capital is flowing more freely through the economy.

NOTE: *A price-weighted index is an index whose components are weighted according to the total market price of their outstanding shares.

SOURCE: Some definitions are from Constable, Simon and Wright, Robert E. *The Wall Street Journal Guide to the 50 Economic Indicators that Really Matter: From Big Macs to "Zombie Banks," the Indicators Smart Investor Watch to Beat the Market*. New York: Harper Business, 2011.

Name_________________________________ Period_______

Federal Reserve Bank of St. Louis *Liber8*:
"What Do Financial Market Indicators Tell Us?"

After reading the article, answer the following questions.

1. What is the difference between the spot price and the futures price?

2. Why would a firm (such as an airline) want to purchase a commodity (such as oil) on the futures market?

3. If movements of stock prices generally result from changes in expected future earnings, predict how the following news concerning Widgets, Inc. might influence the price of its stock:

- **Widgets, Inc. unveils a new product line.**
- **Widgets, Inc. faces rising labor costs.**
- **Economic forecasters say economic growth is likely to be strong next year.**

4. How does the federal funds rate influence other rates?

5. How are interest rates associated with the following factors?

- **Higher future profits/growth**
- **Inflation**
- **Credit risk**

6. What does a downward-sloping yield curve imply about the future?

Teacher's Guide

Federal Reserve Bank of St. Louis *Liber8*: **"What Do Financial Market Indicators Tell Us?"**

After reading the article, answer the following questions.

1. What is the difference between the spot price and the futures price?

The spot price is the current price, while the futures price allows a firm to lock in a price for delivery that will take place in the future.

2. Why would a firm (such as an airline) want to purchase a commodity (such as oil) on the futures market?

Paying the futures price allows a firm to lock in a price, which reduces the risk that rising future prices will make the firm less profitable.

3. If movements of stock prices generally result from changes in expected future earnings, predict how the following news concerning Widgets, Inc. might influence the price of its stock:

• Widgets, Inc. unveils a new product line.

The price of the stock will likely rise, as the new product line will likely increase profits.

• Widgets, Inc. faces rising labor costs.

The price of the stock will likely fall since higher labor costs will reduce company earnings.

• Economic forecasters say economic growth is likely to be strong next year.

The price of the stock will likely rise since higher economic growth will allow firms to sell more goods.

4. How does the federal funds rate influence other rates?

The federal funds rate is the interest rate at which banks borrow money from other banks. The federal funds rate directly affects other interest rates, including mortgage rates, credit card rates, and the interest that banks pay to customers. So if the federal funds rate rises, other rates will rise and if the federal funds rate falls, other rates will fall.

5. How are interest rates associated with the following factors?

• Higher future profits/growth

If borrowers expect projects to generate higher profits in the future, they may be more willing to borrow at a higher rate.

• Inflation

If inflation is expected to be higher in the future, creditors or investors tend to require higher yields to compensate them for the inflation risk they incur.

• Credit risk

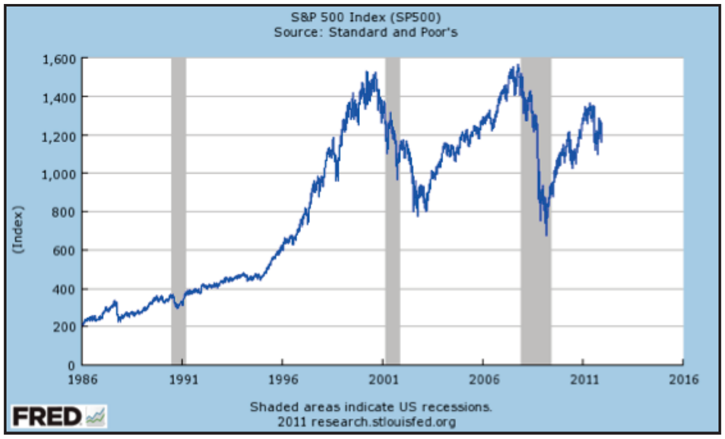
Lower-quality bonds tend to have higher yields to compensate investors who are willing to take more risk.

6. What does a downward-sloping yield curve imply about the future?

Future short-term interest rates are expected to fall because investors generally believe the economy will weaken or fall into recession.

For Further Discussion

The following graph shows the S&P 500 Index over the past 25 years. Three recessions have occurred during that period (as indicated by the shaded areas).



In general, what is the relationship between recessions and stock market performance, as measured by the S&P 500?

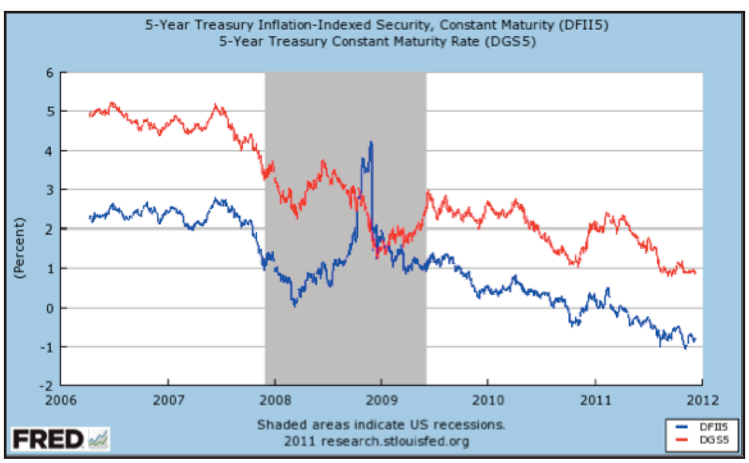
Generally, stock prices tend to decrease during recessions.

Teacher note: While the stock market and the "real" economy are related, they are not the same thing. For example, in the recession of 2001 the stock market started to lose value before the recession started and continued to lose value after the recession had ended.

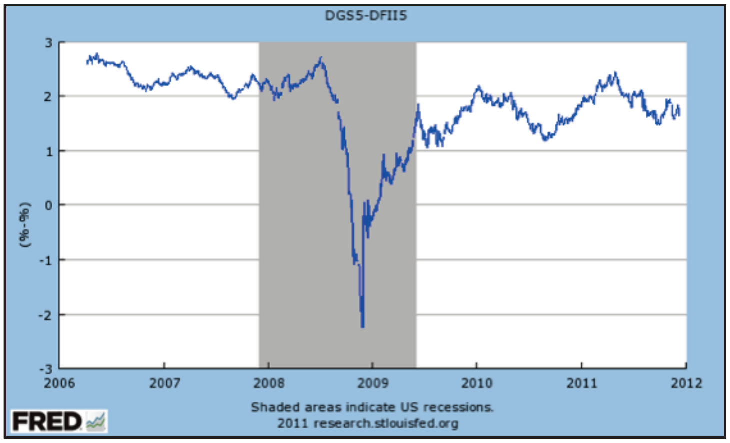
Why do you think that recessions cause stock prices to fall?

Recessions are associated with lower levels of spending, rising unemployment, and a contracting economy in general—all will likely reduce the earnings of firms. Since stock prices generally increase or decrease as a result of changes in expected future earnings, it is rational for investors to sell stocks as a result of a weakening economy.

The first graph below shows the yield for a 5-year Treasury security in red and the yield for a 5-year Treasury Inflation-Indexed Security (TIIS) in blue.



The second graph shows the same information as the graph above but shows only the difference in the yields between a 5-year Treasury security and a 5-year TIIS. This is called the inflation-indexed Treasury yield spread. In this case, the yield spread is a measure of the inflation expectations of participants in the bond market over the next five years. This measure is closely watched by economists and Federal Reserve policymakers.



What was the expected inflation rate in early 2006?

About 2.7 percent.

What was the expected inflation rate in early 2008?

About 2 percent.

What was the expected inflation rate in late 2008?

About negative 2.2 percent, or 2.2 percent *de*flation. People were expecting prices to fall in the future.

What is the most current inflation expectation?

Just under 2 percent.

Tell the students that the economy generally functions best in an environment of "price stability"—the absence of both high inflation and deflation. Federal Reserve Chairman Ben Bernanke generally describes price stability as an inflation rate of 2 percent or a bit less. Ask students to describe the change in inflation expectations from 2008 to 2010.

Inflation expectations dropped from a level of 2.7 percent inflation to –2.2 percent inflation (2.2 percent deflation). Inflation expectations have returned to near-normal levels since then.

Teacher note: While the Federal Reserve System responded to a variety of economic indicators during the financial crisis, they were concerned about deflation. In response to the severity of the financial crisis and recession, the federal funds rate target was lowered from 5.25 percent on June 29, 2006, to a target range of 0 to 0.25 percent on December 16, 2008, where it has remained ever since.

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).