

## TEACHER EDITION

*Page One Economics*® is an informative accessible essay on timely economic issues. The Teacher Edition provides the essay; student questions with answers; and additional lesson ideas for classroom, extra credit, or make-up assignments.

The Student Edition includes the essay and student questions;  
[https://research.stlouisfed.org/publications/page1-econ/2016-10-03/financing-businesses-and-public-projects-with-stocks-and-bonds\\_SE.pdf](https://research.stlouisfed.org/publications/page1-econ/2016-10-03/financing-businesses-and-public-projects-with-stocks-and-bonds_SE.pdf).

National Common Core State Standards (see page 10)



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## Financing Businesses and Public Projects with Stocks and Bonds

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### GLOSSARY

**Bond:** A certificate of indebtedness issued by a government or corporation.

**Commercial bank:** A business that accepts deposits and makes loans.

**Dow Jones Industrial Average:** An index consisting of stock prices of 30 companies in various industries reflecting U.S. economic activity.

**Gross domestic product (GDP):** The total market value, expressed in dollars, of all final goods and services produced in an economy in a given year.

**Initial public offering (IPO):** A company's first sale of stock to the public.

**Investment banker:** Someone who works with a business to determine how much money should be raised to accomplish the goals of the business and the price and number of shares that should be sold to reach those financial goals.

**Investors:** People or institutions who provide money or other assets to a company in return for possible financial gain in the future.

**Mutual fund:** A company that pools investors' money and then issues shares to its investors.

**NASDAQ:** The National Association of Securities Dealers Automated Quotations system—a stock exchange where trades are made electronically.

**Primary market:** The market in which new stocks and bonds, in the form of initial public offerings (IPOs), are issued.

**Retained earnings:** A portion of a company's profit used as savings, to pay off debt, or to reinvest in the company.

**Revenue:** Money received; income.

**Secondary market:** The market in which investors buy and sell securities among each other.

**Special purpose districts:** Government entities existing to support a special function, such as fire protection, libraries, or mass transit.

**Stock:** A share of ownership in a company. Stocks are often traded publicly.

**Stock exchange:** A market in which stocks are bought and sold.

"Brexit turmoil deepens: Dow down nearly 900 points in 2 days."

—CNN Money, June 27, 2016<sup>1</sup>

"Dow gets post-'Brexit' bounce, gains 270"

—USA Today, June 28, 2016<sup>2</sup>

No doubt you have heard "the Dow" mentioned in the news. But do you know what it means? It's the **Dow Jones Industrial Average (the Dow)**, an index consisting of the stock prices of 30 large companies in various industries reflecting U.S. economic activity. When newscasters refer to the Dow, they quote a figure reflecting the approximate combined stock prices of the companies. The companies represent producers of industrial and consumer goods, entertainment, financial services, and information technology, so the Dow is designed to represent U.S. economic activity and is considered representative of the stock market in general.<sup>3</sup> More than a few people might experience euphoria over gains in the Dow, just as more than a few might experience depression over losses. Why? Because people rely on the money they may gain from stocks in the Dow, as well as the tens of thousands of other stocks sold across the world, to fund their homes, educations, and retirements.

When people buy **stock**, they are buying a share of ownership in a company. Businesses can also issue bonds to raise money; investors can also buy bonds to save money. A **bond** is a certificate of indebtedness issued by a government or corporation—an IOU. Although stocks and bonds can gain or lose value, people consider them important methods of saving money to use in the future. Let's look at the important role of stocks and bonds in growing businesses and funding important public projects.

### Stocks

Entrepreneurs are individuals who are willing to take risks in order to develop new products and start new businesses. They recognize opportunities, enjoy working for themselves, and accept challenges. But how do entrepreneurs raise money for their businesses? New businesses usually must rely on the entrepreneur's own money or money the entrepreneur

can raise from friends, family, or private equity **investors**. Investors are people or institutions who provide money or other assets to a company in return for possible financial gain in the future. If and when the business becomes sufficiently successful, it may be difficult to achieve greater production without more money than it can raise simply by saving or going back to the original investors. If this is the case, the business may seek to issue an **initial public offering** (IPO). As the name implies, an IPO is a company's first sale of stock to the public.

### ***Raising Money for Business Expansion***

When a business needs money to grow, it has several options.

- It can save money from its **revenue**—the money it receives or income it earns. This is called **retained earnings**—a portion of a company's profit used as savings, to pay off debt, or to invest in the company.
- It can borrow money from a bank, which can be difficult if a new business does not have a long enough history to prove to a bank that it can be successful and is reliable.
- It can find private investors. Those who invest get partial ownership of the company. Many companies start this way. Some continue to operate this way indefinitely. However, this option can be difficult. The entrepreneur must have some very wealthy friends and family members or the attention of private equity investors to make this work.
- It can find public investors. This means allowing strangers to own part of the business by buying stock, but it also allows the business to raise a lot of money quickly.
- It can issue a bond, which involves asking an individual or institution to lend the business money.

All of these avenues for financing are available to businesses, but let's focus on finding public investors by selling stock, which takes place in the primary market.

### ***Primary Market***

The **primary market** is the market in which new stocks and bonds are issued. The primary market consists of businesses and their initial investors. This is where new stocks are born. Although businesses have other options,

their initial investors are usually acquired through an IPO issued by an investment banker. An **investment banker** is someone who works with a business to determine how much money should be raised to accomplish the goals of the business and the price and number of shares that should be sold to reach those goals. The investment banker also assesses a business's potential for growth and profit, as well as its risks.

The investment banker works for an investment bank that will purchase the IPO shares or advise other investors to purchase shares of the new stock, including large institutional investors such as mutual funds or commercial banks.<sup>4</sup> A **mutual fund** is a company that pools investors' money and then issues shares to its investors. **Commercial banks** are businesses that accept deposits and make loans. The buyers of the stock provide the business with the money it needs to grow. So companies raise money by issuing an IPO with the assistance of an investment banker. If the company wants to raise money in the future, it can talk with an investment banker about issuing a secondary public offering. Companies aren't limited to a single public offering.

### ***Secondary Market***

The **secondary market** is the market in which investors buy and sell securities with other buyers and sellers. The secondary market connects people who want to buy stock in a business with those who have stock to sell. The National Association of Securities Dealers Automated Quotations (**NASDAQ**) and the New York Stock Exchange (NYSE) are examples of U.S. **stock exchanges**—markets in which stocks are bought and sold. The NASDAQ and NYSE are part of the broader stock market. Many people think that when they buy stock, say through the NASDAQ stock exchange, the business that issued the stock gets the money. This is not the case. The company gets the money from the stock sold through the IPO in the primary market. After the IPO, owners of the stocks can sell it at the market price on the stock exchange on which it is traded—in this case, the NASDAQ. The purchaser of the stock pays for the stock, and the seller of the stock—not the business—receives the money. (See the boxed insert "An IPO Example.")

Companies often buy and sell their own stock in the secondary market. They might buy their stock to decrease

### An IPO Example

You've probably heard of Groupon. Groupon issued an IPO in 2011 through three investment banks, Morgan Stanley, Goldman Sachs, and Credit Suisse.<sup>1</sup> Institutional investors bought shares of Groupon stock through the IPO, and the money from the sale of the stock was used to fund Groupon's business activities. The stock then traded on the NASDAQ stock exchange. When the institutions that bought the stock through the IPO decided to sell the stock, they sold it to buyers through the NASDAQ. When the institutions sold the stock, they—not Groupon—got the money. Groupon received only the proceeds from the IPO.

<sup>1</sup> De La Merced, Michael. "Three Banks Grab Groupon I.P.O." DealBook, *New York Times*, June 2, 2011; [http://dealbook.nytimes.com/2011/06/02/three-banks-grab-groupon-i-p-o/?\\_r=0](http://dealbook.nytimes.com/2011/06/02/three-banks-grab-groupon-i-p-o/?_r=0).

the number of shares that are available in the market. Such a purchase will often have the effect of increasing the price per share. So why would a company care about its price per share if it doesn't get the money when its stock is sold? Actually, there are at least three very good reasons. First, a higher stock price is good for the company's employees who may own the company stock. Second, the company is seen as having a higher value (one measure of value is the price of its stock multiplied by the number of shares in the hands of the public). So, if the company would want to issue more stock through the primary market in a secondary public offering, the price it could ask would be higher. A higher value also would help if the company were to seek a loan from a bank.

### Bonds

A **bond** is another tool businesses can use to raise money and investors can use to save money. A bond is a certificate of indebtedness issued by a government or corporation—an IOU. When a business wants to raise money for expansion, it can issue a bond, which is simply asking an individual or institution to lend the business money. The business will use the money for expansion, and the terms of the bond will explain how and when the bondholder will be repaid.

#### *Using Bonds for Public Projects*

Bonds are also a common way to fund projects for public use, such as libraries, stadiums, or bridges. Let's say that a city wants to install a top-of-the-line recreational center with a pool, tennis courts, and a fitness center for its

### The Bond Report Card

We all understand the meaning of grades, right? An "A" on your algebra exam is better than a "B," which is better than a "C." Bonds are graded similarly. Credit rating agencies, such as Moody's Investors Services and the Standard & Poor's, assign grades to bonds issued by corporations. Different agencies use different grading structures, but generally the grades are much like a report card: An A grade indicates a high-quality bond issued by a company with a high capacity to repay the bond. However, where you might simply get an A grade, or even an A+, the highest grade for a bond is AAA. Wouldn't your parents like to see that on your report card! Another difference is that while a C might indicate an average grade on a report card, investors must beware of buying a bond with a C grade. Such bonds are very susceptible to default.

SOURCE: Investopedia; <http://www.investopedia.com/terms/a/aaa.asp>.

residents. The city could fund the center using money it has saved; it could increase taxes and wait to build it; or the city might choose to issue a bond. The city would receive the money needed to build the recreational center and repay the money to the bondholders, with interest, over a specified period of time. (See the boxed insert "The Bond Report Card" to learn about bond ratings.)

Many municipalities and **special purpose districts** issue bonds. Special purpose districts are government entities existing to support a special function, such as fire protection, libraries, or mass transit. Generally, bonds are issued for a specific reason. A school district may issue a bond to build a new school building; a fire district may issue one to buy new equipment. After the bond is issued by the municipality or district in the primary market, it is traded in a bond market, which works much like the stock market described earlier. The entity issuing the bond (the issuer) gets the money for the project from the bond issue. After the issuer gets the money, the bonds may be traded among people and institutions in the secondary bond market, and the issuer gets no additional money. The bonds are simply traded among individuals and institutions: The bond buyer pays for the bond and then owns the bond, and the bond seller gets the money in exchange for the bond.

### The Economy

Businesses, public projects, and investors can all benefit from stocks and bonds. But, there's more! All of this

activity benefits the economy as a whole. IPOs help businesses get the financial capital they need to increase production. The increase in production increases U.S. **gross domestic product (GDP)**, which is the total market value of all final goods and services produced in the economy. As an added bonus, as businesses grow, they hire more employees.

### Conclusion

Financial capital—money used to fund businesses and some public projects—is made available by issuing stocks and bonds. Stocks are issued in the primary market, and the money raised by a company’s stock issue is used primarily to fund the expansion of the business, while often providing repayment to the initial company investors. After all the stock is issued, any further sale of the stock takes place in the secondary market, which consists of stock exchanges. When someone sells a share of stock, the seller—not the company that originally issued the stock—gets the money for the sale. The bond market works similarly. Bonds are IOUs: When someone buys a company’s bond, he or she is lending the company money. The bond provides the details of how and when the company will repay the money. The same is true with bonds issued by cities or special purpose districts. If at some point after buying the bond, but before the agreed-upon time for repayment, the bondholder wants to sell the bond, he or she can sell it in the secondary bond market. The seller gets the money for the sale.

Stocks and bonds are efficient ways to help businesses grow, and bonds are an efficient way for cities to fund important public projects. For businesses, alternative ways to raise money for growth, such as saving and reinvesting its profits, can take a very long time. For cities, asking for a tax increase to build a recreational center or fund other projects might be unpopular. People can voluntarily participate in the growth of the business or the development of the project by purchasing stocks or bonds. However, in the case of bonds for a public project, the taxpayers are ultimately responsible for repaying the bond. We’ll save that discussion for a later issue of *Page One Economics®: Focus on Finance*. ■

### Notes

<sup>1</sup> Yan, Sophia; Riley, Charles and Egan, Matt. “Brexit Turmoil Deepens: Dow Down Nearly 900 Points in 2 Days.” CNN Money, June 27, 2016; <http://money.cnn.com/2016/06/26/investing/markets-brexite-reaction-monday/>.

<sup>2</sup> Shell, Adam and Hjelmgard, Kim. “Dow Gets Post-‘Brexit’ Bounce, Gains 270.” *USA Today*, June 28, 2016; <http://www.usatoday.com/story/money/markets/2016/06/28/british-stocks-claw-back-brexite-losses/86458584/>.

<sup>3</sup> “Dow Jones INDU Average Index.” CNN Money; <http://money.cnn.com/data/dow30/>.

<sup>4</sup> “IPO Basics: Getting In on an IPO.” Investopedia; <http://www.investopedia.com/university/ipo/ipo1.asp>.

*Page One Economics®* and *Page One Economics®: Focus on Finance* provide informative, accessible essays on current events in economics and personal finance as well as accompanying classroom editions and lesson plans. The essays and lesson plans are published January through May and September through December.

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

Federal Reserve Bank of St. Louis *Page One Economics*®:  
**“Financing Businesses and Public Projects with Stocks and Bonds”**

After reading the article, answer the following questions:

1. What is the Dow Jones Industrial Average (the Dow) considered to represent?

2. What signal does the Dow index provide stock market watchers?

3. How do stocks and bonds serve the U.S. economy?

4. A business has several ways to grow without an IPO. List the ways to grow below.

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**Primary Market or Secondary Market?****Indicate where the following transactions would take place. Circle the correct market.**

5. ID Protectors, Inc. wants to expand into other cities but will need a large amount of cash. Management is working with an investment banker to issue stock.

Primary market                      Secondary market

6. Fire Recovery Systems recently issued an IPO. Its stock is trading on the NASDAQ.

Primary market                      Secondary market

7. The City of Juniper is planning a new library. It will ask its voters to pass a bond issue. If successful, the city will issue new bonds.

Primary market                      Secondary market

8. Mr. Peale just purchased 100 shares of Simon Manufacturing through a stock exchange.

Primary market                      Secondary market

9. DevelAPPers, Inc. wants to double its staff by hiring 100 app developers. It is working with an investment banker to issue bonds.

Primary market                      Secondary market

10. Anthony Smith wants to sell his AJACKS Corp. bond.

Primary market                      Secondary market

## Teacher's Guide

Federal Reserve Bank of St. Louis *Page One Economics*®:  
**“Financing Businesses and Public Projects with Stocks and Bonds”**

After reading the article, answer the following questions:

1. What is the Dow Jones Industrial Average (the Dow) considered to represent?

The Dow is considered to represent the stock market in general.

2. What signal does the Dow index provide stock market watchers?

Movement in the Dow signals similar movement in other stocks in general.

3. How do stocks and bonds serve the U.S. economy?

IPOs allow businesses to issue stock to the public to raise money so the businesses can increase production. The increase in production increases U.S. gross domestic product. In addition, as companies grow, they are likely to hire more employees. Bonds provide financing for public resources.

4. A business has several ways to grow without an IPO. List the ways to grow below.

It can

- use retained earnings,
- borrow from a bank,
- find private investors,
- find public investors, or
- issue bonds.

### Primary Market or Secondary Market?

Indicate where the following transactions would take place. Circle the correct market.

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Primary market

Secondary market

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Secondary market

10. Anthony Smith wants to sell his AJACKS Corp. bond.

Primary market

Secondary market

## For Further Discussion

Econ Lowdown® of the Federal Reserve Bank of St. Louis provides numerous economic education resources for teachers to use with their students. These include lesson plans, videos, online modules, interactive whiteboard lessons, and podcasts. These free resources are available at <https://www.stlouisfed.org/education>.

The resources listed below from Econ Lowdown can be integrated with the content contained in this article.

**Teachers:** To register your students for one or more of our online courses, on the Econ Lowdown website (linked above), click the “TEACHERS” button to create or access your account and visit the Instructor Management Panel.

### Capital Markets Online Course for Teachers and Students

Capital markets include the stock and bond markets, and this is where businesses turn for funding when they need investors. In this course, students will learn how capital markets keep the economy moving and how they provide opportunities for businesses, entrepreneurs, and investors to achieve their goals.

<https://www.stlouisfed.org/education/capital-markets-online-course-for-teachers-and-students>

### Understanding Capital Markets

This video defines stocks and bonds and provides an explanation of what capital markets are and how they work.

<https://www.stlouisfed.org/education/tools-for-enhancing-the-stock-market-game-invest-it-forward/episode-1-understanding-capital-markets>

### Wealth Creation for All

This video suggests investing in capital markets to meet financial goals. It explains the concept of risk versus return, what capital markets are, and how we all can participate in them.

<https://www.stlouisfed.org/education/tools-for-enhancing-the-stock-market-game-invest-it-forward/episode-2-wealth-creation-for-all>

### Get Into Stocks—No-Frills Money Skills Video Series, Episode 3

Through the story of a local ice-cream cart owner trying to expand her business, students learn about the process by which companies become publicly owned and traded by issuing stock. Students learn key terms, such as capital gains and dividends, and discover how the prices of stocks are affected by how successful a company is in its respective industry.

<https://www.stlouisfed.org/education/no-frills-money-skills-video-series/episode-3-get-into-stocks>

### Understanding Bonds—No-Frills Money Skills Video Series, Episode 4

The video host employs high-tech tools to foil Miss Information in her attempts to misguide investors. The video provides viewers with information about government bonds, corporate bonds, coupon and non-coupon bonds, and the potential risk and return of investments.

<https://www.stlouisfed.org/education/no-frills-money-skills-video-series/episode-4-understanding-bonds>

### Stock Market Strategies: Are You an Active or Passive Investor? (*Page One Economics* Classroom Edition)

Stock market mutual funds offer investors diversified stock market portfolios, but there are several types. Actively managed funds attempt to “beat” the market by using research, forecasts, and judgment to pick stocks with the best growth prospects. Passively managed funds attempt to replicate the market by buying a representative sample of the stocks on a specific stock market index. Which to choose? This issue of *Page One Economics* explains the efficient market hypothesis and how it might influence your investment decisions.

<https://www.stlouisfed.org/education/page-one-economics-classroom-edition/stock-market-strategies-are-you-an-active-or-passive-investor>

## Common Core State Standards

### Grades 6-12 Literacy in History/Social Studies, Science, 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.

- **Integration of Knowledge and Ideas**

RH.11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem

### National Standards for Financial Literacy

#### Content Standard 5: Financial Investing

Financial investment is the purchase of financial assets to increase income or wealth in the future. Investors must choose among investments that have different risks and expected rates of return. Investments with higher expected rates of return tend to have greater risk. Diversification of investment among a number of choices can lower investment risk.

- **Benchmark: Grade 8**

Financial assets include a wide variety of financial instruments including bank deposits, stocks, bonds, and mutual funds. Real estate and commodities are also often viewed as financial assets.