Education Resources from the St. Louis Fed

Scott Wolla, PhD
Senior Economic Education Specialist
Federal Reserve Bank of St. Louis
scott.a.wolla@stls.frb.org

The views expressed here do not reflect the official positions of the Federal Reserve System or the Federal Reserve Bank of St. Louis.
Education Resources from the St. Louis Fed

https://www.stlouisfed.org/education

Econ Ed at the St. Louis Fed

Click on the red apple to use our Econ Lowdown teacher portal. Add your students to the more than 4.5 million enrollments in our online courses and videos.

econlowdown

Our free lesson plans, activities, and readings make it easier for you to teach economics and financial literacy. They offer flexibility and real world connections to help prepare your students with 21st century skills for college and career readiness.

We have great resources for consumers and parents, too!
Saving for College

Continuing Feducation Video Series, Episode 2

Education Pays

Unemployment rates and earnings by educational attainment, 2017

<table>
<thead>
<tr>
<th>Education Attainment</th>
<th>Unemployment Rate (%)</th>
<th>Median Usual Weekly Earnings ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral degree</td>
<td>1.5</td>
<td>1,743</td>
</tr>
<tr>
<td>Professional degree</td>
<td>1.5</td>
<td>1,836</td>
</tr>
<tr>
<td>Master's degree</td>
<td>2.2</td>
<td>1,401</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>2.5</td>
<td>1,173</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>3.4</td>
<td>836</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>4.0</td>
<td>774</td>
</tr>
<tr>
<td>High school diploma</td>
<td>4.6</td>
<td>712</td>
</tr>
<tr>
<td>Less than a high school diploma</td>
<td>6.5</td>
<td>520</td>
</tr>
<tr>
<td><strong>Total: 3.6%</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>All workers: $907</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Amazing $2,000 Pizza
Continuing Feducation Video Series, Episode 3

https://www.stlouisfed.org/education/continuing-feducation-video-series/episode-3-the-amazing-pizza
Economics and Personal Finance
https://www.stlouisfed.org/education

Econ Ed at the St. Louis Fed

ONLINE COURSE LOGIN

TEACHERS

Click on the red apple to use our Econ Lowdown teacher portal. Add your students to the more than 4.5 million enrollments in our online courses and videos.

econlowdown

Our free lesson plans, activities, and readings make it easier for you to teach economics and financial literacy. They offer flexibility and real world connections to help prepare your students with 21st century skills for college and career readiness.

We have great resources for consumers and parents, too!
Investing in Your Future

A college education is one of the most important investments that young people will make. And yet, they often make their investments haphazardly. Financial education should be an important part of preparing young people for the future. This includes choosing a college, selecting a major, paying for college, and strategies for academic success.

The following videos and assessments are designed to introduce concepts that are important to your financial future.

Apr 1, 2018 - May 31, 2018

Investing in Yourself: An Economic Approach to Education Decisions

Apr 1, 2018 - May 31, 2018

Continuing Education—Saving for College

Apr 1, 2018 - May 31, 2018

Continuing Education—The Amazing $2000 Pizza
Continuing Education—Saving for College

investment in human capital

© 2018 Federal Reserve Bank of St. Louis
What is the relationship between education and unemployment?

☐ a. Those with more education are more likely to be unemployed.

☐ b. Those with more education are less likely to be unemployed.

☐ c. There is no relationship between education and unemployment.
Investing in Yourself: An Economic Approach to Education Decisions

Scott A. Volla, Senior Economic Education Specialist

"When I travel around the country, meeting with students, business people, and others interested in the economy, I am occasionally asked for investment advice...I know the answer to the question and I will share it with you today. Education is the best investment." —Federal Reserve Chairman Ben S. Bernanke, September 24, 2001

One of the most important investment decisions you will ever make is the decision to invest in yourself. You might think that investment is only about buying stocks and bonds, but let’s take a step back and consider investment a little differently. Economists use the word investment to refer to spending on capital, which can be either physical capital (tools and equipment) or human capital (education and training). Let’s briefly look at each type.

Investing in Physical Capital

A firm invests in itself by buying capital that it uses to improve what it does. In other words, it invests in physical capital to earn higher profits in the future. For example, a firm might invest in new technology to increase the productivity of its employees. The increased productivity raises future revenue (income earned by the firm) and profits (revenue minus costs of production). Seems like an easy decision, right? Well, before a firm invests in physical capital, it must consider three very important points.

First, a firm invests in technology now with the expectation that it will lead to higher revenue and expected profits in the future. But this expectation might not be realized. For example, the technology might not increase productivity as much as the firm expected. Or the demand for the good the firm produces might decrease, resulting in less revenue than expected.

Second, a firm considers other investment alternatives. A firm can invest in many ways to raise future profits. For example, maybe investment in technology A results in profits, but investment in technology B, which is more expensive, leads to much larger profits.

Third, a firm also considers the potential return on investment (ROI). The ROI is a performance measure of the effectiveness of an investment. It is calculated as the net gain (gain from investment minus cost of investment) divided by the cost of investment. A firm compares the expected gain with the investment cost to make a sound decision. Of course, the result of any investment lies in the future and must be projected. Predicting the future is always tricky; therefore, any uncertainty about the result must also be considered.

Investing in Human Capital

Investing in human capital is the effort that people expend to acquire education, training, and experience. People invest in their human capital for the same reason a firm invests in physical capital to increase productivity and earn higher income. An added benefit is the increase in job...
Page One Economics

College: Learning the Skills To Pay the Bills?

Scott A. Wolla, Senior Economic Education Specialist

An investment in knowledge pays the best interest.
—Benjamin Franklin

It's often said that a college education is the key to success. And the decision to go to college is one of the most important choices young people encounter. But you might wonder why a college degree makes such a big difference. Does college really teach valuable skills, or is it all about the degree itself—the piece of paper that serves as your ticket to success? Or is it a bit of both?

The Economic Benefits of Education

Economists observe that individuals benefit greatly from education, and those benefits accumulate into benefits for the entire economy. For the individual, education increases job opportunities and usually results in a higher income. This occurs because workers with more education tend to have higher productivity, which means they tend to produce more output with the same inputs. Because businesses can sell this extra output to earn higher revenues, firms are willing to pay highly productive employees a higher wage. In other words, higher productivity increases the value of these employees to the firm.

So, as noted above, an educated workforce benefits society by producing more goods and services with the same level of resources. Productivity gains fuel economic growth, which increases the standard of living in an economy—for both the highly educated workers and the population more broadly. In a sense, these are two sides of the same coin: Education increases productivity, and higher productivity results in higher incomes for workers and more economic growth for the economy.

How Are Education and Productivity Linked?

In some ways, discussing the relationship between education and productivity is like trying to answer the old question “Which came first, the chicken or the egg?” On the one hand, education might nurture productivity,

Page One Economics

Education, Income, and Wealth

Scott A. Wolla, Ph.D., Senior Economic Education Specialist

Jessica Sullivan, Economic Education Intern

By some estimates, income and wealth are near their highest levels in the past hundred years, much higher than the average during that time span and probably higher than for much of American history before then.

—Janet Yellen, Federal Reserve Chair

Americans have among the highest living standards in the world and have enjoyed rising living standards for decades. Median household income in the United States in 2015 was $56,516, up from $49,276 in 2010. However, gains in household income have not been evenly distributed across all income groups. Income inequality has been increasing in the United States since the 1970s, peaking in 2013 (Figure 1). A 2013 Gallup poll found that 63 percent of Americans feel that the distribution of U.S. money and wealth is unfair. While many factors contribute to income and wealth inequality, the role of education is a key piece of the puzzle.

Figure 1
U.S. Income Inequality a Rising Trend

NOTE: The Gini coefficient (often known as the Gini ratio or index) is a common measure of income inequality within a nation. It gauges income inequality on a scale from 0 to 1, with 0 representing perfect equality and 1 the highest level of inequality. The lowest U.S. value was 0.280 in 1976, and the highest value was 0.482 in 2009. In 2011, the Gini coefficient was 0.47.
Focus on Finance

PAGE ONE Economics

Smart Phones and Budget Changes
Jeannette R. Bennett, Senior Economic Education Specialist

"A wise man adapts himself to circumstances, as water shapes itself to the vessel that contains it."
—Chinese proverb

Introduction
Everyone wants financial success, but how can it be achieved? A first step in attaining this goal is making a budget. This means creating a plan that ensures an effective way to balance income, spending, and saving during a given time.

Yesterday's budget won't work for today. Consumer spending patterns change in response to changes in other aspects of life, such as income, workforce and educational levels, family demographics, and technology. Food expenditures are one example: The percentage of per capita disposable income spent on food from 1950 to 2014 changed dramatically. In 2014, consumers had about 10 percent more of their disposable income available for things other than food than consumers did in 1950. (See Figure 1.)

Certainly, a budget designed in 1950 would look quite different from one created today.

Figure 1: Percent of Per Capita Disposable Income Used for Food Expenditures in the United States, 1950-2014


PAGE ONE Economics

Bankruptcy: When All Else Fails
Kris Bertelson, Ph.D., Senior Economic Education Specialist

"Bankruptcy is about financial death and financial rebirth. Bankruptcy is the great American story rewritten."
—Elizabeth Warren, U.S. Senator

Not overspending can help life go more smoothly. Still, many people find themselves in financial trouble. In fact, there were approximately 800,000 bankruptcy filings in 2017 (see the table for a breakdown of bankruptcy filings). Hopefully you will never find yourself unable to pay your debts, but it is good to know there are options available should you need serious financial help.

Personal Finance Basics
First Things First—Earning Income
When it comes to money and being prepared, it is important to mention personal income. Earning income results from the skills you develop and apply to your work; this is what economists call human capital. Typically, the more skills you develop and the higher education level you attain, the higher income you will earn and the fewer unemployment you will face. Of course, this also depends on what you study and the job market.

Budgets
Once you are earning income, developing a budget is a powerful tool you can use to help keep your finances in order. A budget is an itemized summary of estimated income and expenses for a given period, usually monthly. Budgeting can help you set goals, plan for major purchases, and make cutbacks in spending when necessary so that you can cover any unexpected expenses.

When Financial Problems Happen
Having a budget can help you establish good personal finance habits, such as saving a part of your income and paying bills on time. Unfortunately, whether living within a budget or not, people can find themselves in difficult financial circumstances. There are many reasons for financial problems: sometimes the problems are temporary, minor setbacks, such as needing
After reading the article, complete the following:

1. Define the following terms in your own words, then label each as either a "stock" or a "flow."

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Stock or Flow?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>The payment people receive for providing resources in the marketplace.</td>
<td>Flow</td>
</tr>
<tr>
<td>Savings</td>
<td>The accumulation of saved money set aside for future spending and consumption.</td>
<td>Stock</td>
</tr>
<tr>
<td>Wealth</td>
<td>Also called net worth, it is the total value of a person's assets, such as liquid assets, real estate, businesses, and cars, minus any liabilities.</td>
<td>Stock</td>
</tr>
</tbody>
</table>

2. Researchers look for relationships between variables. A positive relationship exists between two variables when an increase in one is associated with an increase in the other. For example, there is a positive relationship between outdoor temperatures and sales of air conditioners—as temperatures rise, so do sales of air conditioners. On the other hand, there is a negative relationship between two variables when an increase in one is associated with a decrease in the other. For example, there is a negative relationship between outdoor temperatures and sales of furnaces—as the temperature rises, sales of furnaces tend to fall. State the relationships between the variables in the table below.

<table>
<thead>
<tr>
<th>Variable 1</th>
<th>Variable 2</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor temperatures</td>
<td>Sales of air conditioners</td>
<td>Positive</td>
</tr>
<tr>
<td>Outdoor temperatures</td>
<td>Sales of furnaces</td>
<td>Negative</td>
</tr>
<tr>
<td>Level of education</td>
<td>Income</td>
<td></td>
</tr>
<tr>
<td>Level of education</td>
<td>Unemployment</td>
<td></td>
</tr>
<tr>
<td>Level of education</td>
<td>Wealth</td>
<td></td>
</tr>
</tbody>
</table>
Investing in Yourself: An Economic Approach to Education Decisions

By Scott A. Wolla

“When I travel around the country, meeting with students, business people, and others interested in the economy, I am occasionally asked for investment advice... I know the answer to the question and I will share it with you today: Education is the best investment.”

—Federal Reserve Chairman Ben S. Bernanke, September 24, 2007

One of the most important investment decisions you will ever make is the decision to invest in yourself. You might think that investment is only about buying stocks and bonds, but let’s take a step back and consider investment a little differently. Economists use the word investment to refer to spending on capital, which can be either physical capital (tools and equipment) or human capital (education and training). Let’s briefly look at each type.

**Investing in Physical Capital**

A firm invests in itself by buying capital that it uses to improve what it does. In other words, it invests in physical capital to earn higher profits in the future. For example, a firm might invest in new technology to increase the productivity of its employees. The increased productivity raises future revenue (income earned by the firm) and profits (revenue minus costs of production). Seems like an easy decision, right? Well, before a firm invests in physical capital, it must consider three very important points.

First, a firm invests in technology now with the expectation that it will lead to higher revenue and expected profits in the future. But this expectation might not be realized. For example, the technology might not increase productivity as much as the firm expected. Or the demand for the good the firm produces might decrease, resulting in less revenue than expected.
Why does a firm invest in physical capital?

Your Answer:
To increase its productivity and profits.

Why do people invest in human capital?

Your Answer:
To increase their incomes.

How does the average unemployment rate differ for those with more education?

Your Answer:
Those with more education tend to have lower unemployment.
Sign up for the EconLowdown Newsletter!

A MONTHLY NEWSLETTER OF EVENTS AND RESOURCES FOR K-12 ECONOMICS AND PERSONAL FINANCE TEACHERS

ONE MILLION STUDENT ENROLLMENTS
FREE classroom resources from the St. Louis Fed!

http://www.stlouisfed.org/education
Follow us on Facebook!

April is National Financial Literacy Month. We have free tools to empower consumers now and all year long: http://ow.ly/UYXg30jyEBC
Questions?

Scott Wolla, Ph.D.
Senior Economic Education Specialist
Federal Reserve Bank of St. Louis
scott.a.wolla@stls.frb.org
314-444-8624