



FEDERAL
RESERVE
BANK *of*
ST. LOUIS

CENTRAL TO AMERICA'S ECONOMY®

ECONOMIC LITERACY FOR LIFE



Today's Lessons =
Tomorrow's
Financial Stability
and Success

ANNUAL REPORT 2016



The St. Louis Fed Soars into 2017 with a New Logo

The Federal Reserve Bank of St. Louis unveiled a new corporate logo in 2017, featuring a soaring eagle as the central image.

The striking, contemporary eagle reflects the St. Louis Fed's orientation to the future and embodies the confidence that the public has entrusted in the Bank throughout its history, dating back to 1914. The new logo is only the third in the Bank's history. It serves as a bold symbol of the St. Louis Fed's core mission of promoting a healthy economy and financial stability.

ECONOMIC LITERACY FOR LIFE

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TABLE OF CONTENTS

President's Message	5
Economic Literacy for Life Essays	
On a Mission to Educate One and All	8
Teach One, Reach Many	16
It's Never Too Early to Start	24
For Better or Worse, Your Decisions Matter	32
Invest in Human Capital to Build a Better Future	40
Take Our Quiz	48
Our People, Our Work	54
Our Leaders, Our Advisers	60
Chair's Message	61
Boards of Directors, Advisory Councils, Bank Officers	62

Our financial statements are available online. To read them, go to the website for the annual report, www.stlouisfed.org/annual-report/2016, and click on the financial statements button in the navigation.

OUR LEADERSHIP IN LITERACY



James Bullard is president and CEO of the St. Louis Fed.

Everyone needs to have an understanding of how the economy works to compete in today's world. Yet, as a society, we have underinvested in economic education and financial literacy. In serving in my role as CEO of the St. Louis Fed, I often hear from business, civic and community leaders that the current workforce must be more financially trained for us all to advance.

Statistics confirm that there is much room for improvement. A recent survey of American adults included several questions designed to assess the level of financial literacy in the population.¹ The survey showed, for instance, that only 33 percent of respondents correctly answered a question about how long it would take for debt to double with a

given interest rate that is compounded annually. As another example, only 59 percent of respondents recognized that money in a savings account would buy less one year later if the inflation rate was higher than the return on savings.

Other questions in the survey covered topics such as saving and planning. In this area, the survey revealed that only 58 percent of non-retired respondents have a retirement account, and only 41 percent of those with financially dependent children report saving for their children's college expenses.

What can we at the St. Louis Fed do about these shortcomings? We know from our research, programs and outreach that economic education and financial literacy are critical building blocks to teach individuals how to secure a good-paying job, pay their bills, plan for their future and that of their families, and be good citizens. We also know that economic education must start when children are young—preschoolers even—and continue into adulthood and retirement. That is why the St. Louis Fed has made a significant commitment in terms of investment and resources to advance economic education for all.

Our educational efforts matter because an individual's financial decisions—both good and bad—ripple out to

“In 2016, we reached nearly 500,000 students across the 50 states through teachers who attended our training programs.”

James Bullard, President and CEO

others. What affects households can, in turn, impact communities and, from there, can positively or negatively influence the soundness of the economy overall.²

A Leader in the System

The St. Louis Fed is a leader in the Federal Reserve System when it comes to developing programs that enhance financial literacy and economic education. We are also skilled here at our Bank in applying rigorous research-based methods to track pre- and post-test outcomes for students, which help us validate the quality and effectiveness of the materials we create.

As you will see in this report, everyone can use our education materials, and there is something for everyone—from stories for preschoolers to lesson plans for use in kindergarten through college to online resources for parents, seniors and, of course, teachers at all levels. All are easily accessible via www.stlouisfed.org/education. And all are free.

We think our efforts are paying off. In 2016, we reached nearly 500,000 students across the 50 states through teachers who attended our training programs. Also, for the first time, we crossed the 1-million threshold in online enrollments in our courses and videos.

Given that there are about 50 million students in public schools alone in this country, we know there is a wider audience to reach.³

Our resources and efforts in advancing financial literacy go beyond the classroom, though. The economics expertise at the St. Louis Fed provides us with a unique opportunity and competitive advantage to lead in the field of financial literacy. For example, at our St. Louis headquarters, visitors can tour our interactive *Inside the Economy*[®] Museum to learn about the economy and their role in it—illustrating to the public how the choices one person makes can affect the macroeconomy. In addition, our Bank’s Center for Household Financial Stability[™] conducts and shares research on household balance sheets, often focusing on such critical basics as mortgage debt, student loan debt and wealth discrepancies among different age groups, races and people with different levels of education.

Continuing the St. Louis Fed Tradition

All of these efforts are a continuation of the St. Louis Fed’s pioneering tradition, established decades ago. In the 1960s and 1970s, the St. Louis Fed became known as the “maverick” among the 12 Federal Reserve banks around the country for its forethought on the link between inflation and monetary policy—before this idea became mainstream in the economics profession or within the Federal Reserve System itself. Likewise, the St. Louis Fed became a leader in amassing and presenting economic data in an accessible and objective way for

anyone to use (again, free of charge).

This innovative mindset shines through today in many areas of our Bank. To name just a few:

- a top-tier Research department providing thought leadership on monetary policy,
- a Supervision department that is a national leader in training examiners and in communicating key supervisory and regulatory information across the banking industry,
- powerful, public resources, such as the Federal Reserve Economic Data (FRED®) online database, the GeoFRED® data-mapping tool and the FRASER® digital archive of the Federal Reserve, and
- a top-notch Economic Education department that advances financial literacy for life, which is the main focus of this annual report.

Financial literacy is of utmost importance today. We know that educating the public about economic concepts can help make our communities financially stronger. Our leadership in advancing financial literacy and economic education furthers our public mission to strengthen the economy for the benefit of all.



James Bullard
President and CEO

ENDNOTES

1. FINRA Investor Education Foundation. "Financial Capability in the United States 2016," July 2016. More than 27,000 American adults (age 18 or older) took the survey. The summary of findings and the full report can be found at <http://www.usfinancialcapability.org/results.php?region=US>.
2. For example, see Bernanke, Ben S. "Financial Education," remarks at the Conversation with the Chairman: A Teacher Town Hall Meeting, Federal Reserve Board, Washington, D.C., on Aug. 7, 2012; and the statement by Chairman Bernanke on financial literacy on April 20, 2011. They can be found at www.federalreserve.gov/newsevents/speech/bernanke20120807a.htm and www.federalreserve.gov/newsevents/testimony/bernanke20110420a.htm, respectively.
3. National Center for Education Statistics. Digest of Education Statistics: 2015, Table 203.10, December 2016. See https://nces.ed.gov/programs/digest/d15/tables/dt15_203.10.asp?referrer=report.



ABOUT THE AUTHOR

Assistant Vice President Mary Suiter (above) has been responsible for economic education at the Federal Reserve Bank of St. Louis since 2006. Earlier, she directed the Center for Entrepreneurship and Economic Education at the University of Missouri-St. Louis. She has taught economics and personal finance to teachers throughout the U.S. and in 14 other countries. She has written numerous articles, lessons, book chapters and curricula on economics and personal finance for K-12 classrooms.

ON A MISSION TO EDUCATE ONE AND ALL

By Mary Suiter, Economic Education Officer

When I tell people about my job as head of the economic education department at the St. Louis Fed, I often get this response: “I hated economics. All those graphs and all the math.” My response is usually something like this: “At its core, economics is about the decisions people make when faced with limited resources. All of us are faced with limited resources at a personal level, but the businesses we run or for whom we work, as well as those who govern us, face limited resources, too. Making informed choices and recognizing that there are costs and consequences to the choices we make are key elements of economic literacy.”

When we make informed economic decisions, we

“Really, economic education is a central piece of civic education; educated, informed citizens need to have a better grasp of the issues, which always have an economic base to them.”

Rodney Gerdes | social studies teacher and department chair at Oakville High School, St. Louis

benefit and often society as a whole benefits.¹ Let’s look at some of these decisions:

- Students who choose to attend a trade school or decide to get a two-year or four-year degree recognize that they give up the goods, services or saving they could have had with the money they spend for school. They also give up the opportunity to earn income while attending classes and studying. However, they likely recognize the future consequences of this choice—better access

to employment and higher income over their lifetimes than would be available with only a high school diploma. Society benefits because these students are prepared for jobs, are more productive, earn higher incomes and, as a result, are

Listen to Mary Suiter give an overview of our “econ ed” offerings. Then, watch as she and key partners discuss economic and personal finance literacy. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.



able to spend and save more over their lifetimes than those who don't pursue postsecondary education.

- Local governments are often asked by developers for tax breaks as a condition for building housing, retail shops or other businesses. The governments must decide if the promise of more tax revenue later offsets the forgone goods and services (roads, schools, etc.) that could be provided with that funding now. The best decision will provide the most benefits to the community relative to the costs.
- Likewise, business owners make decisions on a daily basis. The automaker weighs the pros and cons of building a new plant vs. retrofitting an old one. A retailer must decide if a bricks-and-mortar store can still make money in this online world. A baker wonders if she should focus on bread for the masses or personalized cupcakes for the few. The choices these business owners make affect the number of workers they employ and the amount of tax they pay—and all of this affects society as a whole.

Making informed decisions reminds us that there is no such thing as a free lunch. Yes, it's a cliché, but people often lose sight of the fact that choosing one option involves giving up another.

In spite of the importance of economic literacy, few of us can say we make the grade. Perhaps that's because the teaching of economics and personal finance isn't a priority in most schools.²

Among the many who think more needs to be done in the schools is Vicki Fuhrhop, a member of one of our educator advisory boards: “We're educating the consumers of the future, the citizens who will be out there voting and having an impact on our nation and the economy; they need to be prepared.”

Only 20 states require high school students to take an economics course. (Even fewer states—17—require a course in personal finance.) Students may have an opportunity to take an economics course in college, but in 2014 only 65.2 percent of U.S. high school students chose to attend college.³ And, only 3 percent of U.S. colleges and universities require students to take a basic economics course, according to a report from the American Council of Trustees and Alumni.⁴

As a result, many people don't understand basic economics or aren't literate in financial concepts needed in the world today.

A Longtime Mission

For decades, the Federal Reserve Bank of St. Louis has provided economic education. In the beginning, this involved face-to-face training with teachers and a twice-a-year newsletter for them. Our efforts escalated when James Bullard became president and CEO of the St. Louis Fed in 2008. At the start of his tenure, he stated, “Many people

“Many people think economics is too complicated. But everyone lives with the consequences of supply and demand every day. ... People need to understand how the system works.”

St. Louis Fed President and CEO James Bullard

think economics is too complicated. But everyone lives with the consequences of supply and demand every day. We live in a market system, and people need to understand how the system works.”⁵

Bullard had a vision for economic education at the St. Louis Fed. He asked us to provide easily accessible resources online to help people understand their economic world. He challenged us with this task in 2009.

Since that time, we have created more than 400 classroom resources, including videos, online courses, lessons, whiteboard activities, PowerPoint decks, websites, webinars, publications, infographics, glossaries, flashcards—plenty for everyone to teach themselves and to teach others about basic economics and personal finance.

We have two primary online tools:

- a public website at www.stlouisfed.org/education where anyone—young kids, students applying to college and their parents, grandparents, business leaders, struggling families—can access these resources and use them; and
- a teacher portal at www.econlowdown.org because teachers are the main audience we target. Teachers, along with Scout leaders, community group leaders, home schooling families and others, can go to the portal to register, create classrooms, add students to those classrooms, and assign videos, audio casts and online courses for students to complete.

Since the first resources were added to the portal, we have had more than 3.4 million enrollments

in the online resources from all 50 states, as well as from England, Spain and Canada. In the past three years, the Federal Reserve banks of Atlanta, Philadelphia, Cleveland and Kansas City have joined us in making resources available through the teacher portal. We also have resources available to help people learn to avoid fraud from the FINRA Foundation for Investor Education and to learn about capital markets from the SIFMA Foundation.

Among our many other partners is Economics Arkansas, which trains teachers to integrate economics and personal finance into their classes. “You’re the Cadillac of professional development organizations that we can partner with,” says Sue Owen, the executive director. “The quality, the content, the professionalism, it is absolutely the best.”

In addition to our online resources, we provide professional development for educators. Last year, we made face-to-face presentations to more than 6,000 educators. (“The conferences are fantastic,” says Rodney Gerdes, one of our frequent attendees.) And, these educators have gone on to teach students year after year—multiplying our reach across the St. Louis Fed’s District and the country.

continued on Page 14

Our resources for learning about economics and personal finance include something for just about everyone—videos, podcasts, lesson plans, newsletters, online courses, infographics, in-person training and even old-fashioned flash-cards. These numbers scratch the surface on what was available and who was using what in 2016.

BY THE NUMBERS



1.1 million student enrollments in online courses and videos.

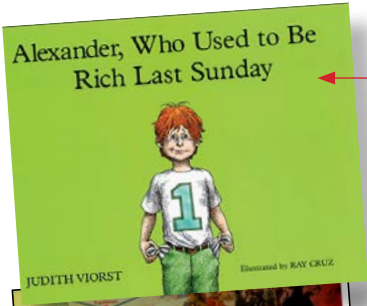


107 videos with Q&A.

6,483 educators reached through our programs.



486,225 students who were reached by educators who attended our programs.



167 lessons for classroom and other use.



78 online learning modules.



13.7 million pageviews of websites.



Beware: Debt can drown you.
Know the facts about the financial services you use.

442,468 downloads of resources.

All **50** states had students enrolled to use our online resources.



The Bank worked with **86 percent** of the **240** majority-minority, all-girls and/or urban high schools in the Eighth District to provide economic education content and resources.

1,732 students who toured our museum on school field trips.

Knowing that economics is not required or tested in most schools and school districts, we provide resources that can be used to integrate economics in other disciplines.

continued from Page 11

Of course, we provide resources for economics and personal finance classes. But, knowing that economics is not required or tested in most schools and school districts, we provide resources that can be used to integrate economics in other disciplines.

For example, our resources for young children emphasize the basics in economics and personal finance while enhancing language arts and mathematics skills. If teachers are reading the book *Alexander Who Used to Be Rich Last Sunday*,⁶ they can use our lesson to talk about spending, saving, choices and opportunity cost. They can also reinforce math content, such as counting by 2's and creating bar charts. As another example, middle school mathematics teachers might incorporate our lessons about compound interest and credit into an algebra class.

It's not uncommon to see our resources used in high school government or history classes, too. One of our first initiatives was to create six lessons about the Great Depression.⁷ These lessons can be used alone but are often used in coordination with government lessons on monetary and fiscal policy or with history classes studying the New Deal.

Since that first multidiscipline curriculum was created, we've answered the call for more lessons integrating economics in history, geography and government classes and incorporating data, maps and primary source documents.

The resources we create for classrooms are vetted by economists and reviewed by classroom teachers. We have educator advisory boards across our District, with more than 100 members in total. These teachers provide feedback and assist in developing content that works in classrooms.

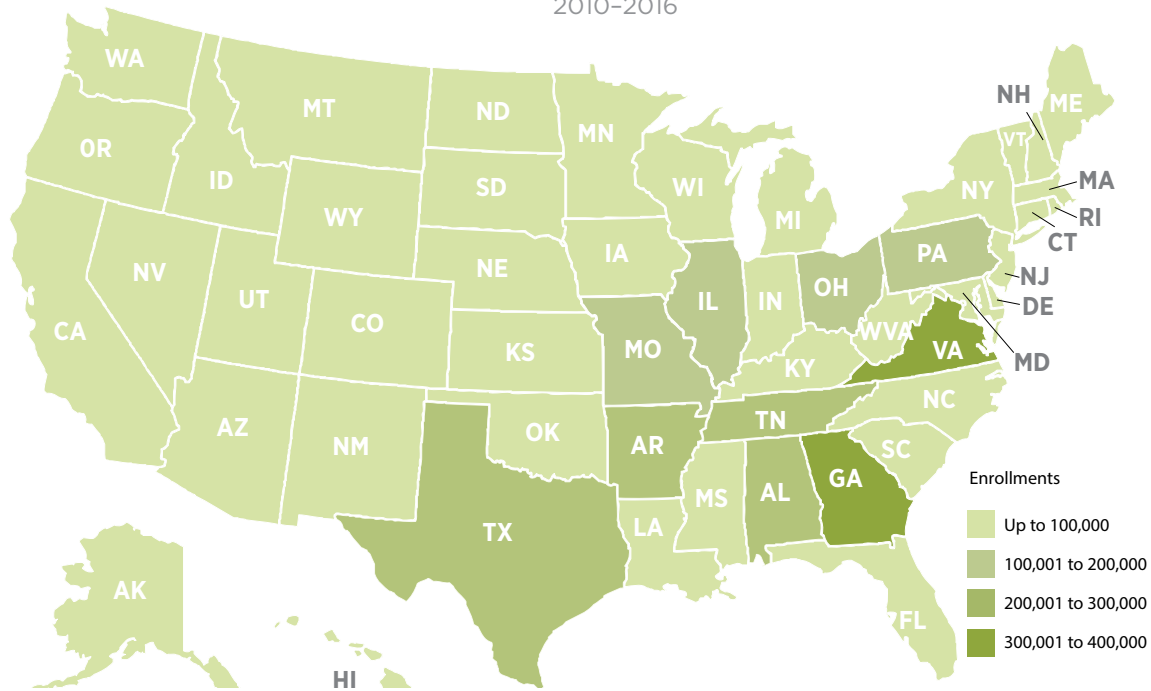
What about the Results?

We found that on average in 2016 the post-test scores of students enrolled in our online courses were 23 percent higher than their pre-test scores. In 2009, outside evaluators reviewed our GDP and Pizza course and found a 14 percent increase in student post-test scores, which was statistically significant.⁸ A 2015 evaluation of our Soar to Savings online course showed positive and statistically significant gains in learning from pre-test to post-test. More specifically, the study found a 56.5 percent increase in scores from pre-test to post-test.⁹

We also partnered with an urban community college in our District to develop and implement a financial literacy curriculum unit for its new-student course. The curriculum was taught in randomly selected sections.¹⁰ We evaluated the effectiveness of the unit based on student pre-test and post-test scores. On average, students who were taught the financial literacy curriculum unit scored about

3.4 Million Student Enrollments in Our Online Courses and Videos—and Counting!

2010–2016



Our online “push” started in 2010. In 2016, enrollments topped 1 million for the first time in a calendar year, reaching nearly 1.2 million students by the end of the year.

7 percentage points higher than the students who were not taught the curriculum.

On the following pages, you will read more about the need for education about economics and personal finance, as well as about the results it yields for many different people. Specifically, the articles cover:

- the reasons we focus on teaching teachers,
- the importance of teaching economics and personal finance to children when they are young—as young as preschoolers,
- our emphasis on decision-making—how good economic decisions benefit the stability of the individuals and families making those decisions and the stability of the economy as a whole, and
- the vital need to invest in human capital.

Along the way, we will show you samples of our resources, as well as connect you to short videos,

podcasts and other audio clips featuring people who use those resources—teachers, students, parents and others.

Mary Suiter has received the Bessie B. Moore Service Award from the National Association of Economic Educators and the Alumni Award of Excellence from the University of Delaware Alfred Lerner College of Business and Economics Alumni Association.

TEACH ONE, REACH MANY

By Erin Yetter, Senior Economic Education Specialist

Although the nine members of the economic education team at the St. Louis Fed have a combined 100-plus years of experience in the field of economic education, we could barely make a dent by ourselves in teaching economic and personal finance literacy to all those who need it. That's why we focus our efforts primarily on teaching the teachers, from those in pre-K to those in the college classroom.

Some may think that the best path to economic literacy is to work directly with students. But let's look at the math behind that. A new wave of students enters school and graduates every year. Direct contact and intervention with students would require using scarce

“As we prepare teachers to enter the world of teaching, it's important that they understand how economics relates to all parts of their lives and how to incorporate economics into all curricula areas.”

Betty Porter Walls | assistant professor in the College of Education at Harris-Stowe State University in St. Louis.

resources to visit the same classroom repeatedly, teaching new students each time.

Instead, with our “teach one, reach many” model, teachers receive high-quality resources and training, both online and in person. These new skills and tools stay with the teachers to be used year after year, with wave after wave of students.

On average, a teacher who attends our programs reaches 75 students in a year! If the

teacher continues to teach for 10 years, that's 750 students. How does this multiplier effect add up? In 2016, we reached nearly 6,500 teachers, who in turn taught nearly a half-million students that year.

How We Help

What do teachers need from us and get from us?

In general, most teachers, even high school social studies teachers, have little to no economics



ABOUT THE AUTHOR

Erin Yetter joined the Federal Reserve Bank of St. Louis in 2012. Earlier, she taught economics at the University of South Florida, the University of Delaware and Hillsborough Community College, in Tampa, Fla. She has written numerous lessons and published research articles on economic and personal finance education.



Watch as teachers from one of our educator advisory boards talk about their favorite resources from the St. Louis Fed's economic education department. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.



In our free professional development programs for educators, we teach economics and personal finance content, and we demonstrate methods ... to teach economics and personal finance in the classroom successfully.

background.² Generally, they aren't required to take any economics courses. There is an adage in education that you can't teach what you don't know.

In our free professional development programs for educators, we teach economics and personal finance content, and we demonstrate methods educators can use to teach economics and personal finance in the classroom successfully. We also provide, through our teacher portal, online professional development for educators. These programs, too, focus on content and pedagogy.

Focusing on both the "what" (content) and "how" (pedagogy) is equally important. Research abounds showing the positive relationship between teacher content knowledge in economics and student achievement in economics.³ For example, one group of researchers found that students whose teachers participate in economic education professional development programs and who use high-quality materials perform better on tests of economic knowledge—and the more professional development the teacher has, the better the students perform.⁴ Another study showed that training teachers in the use of a high-quality curriculum resulted in significant improvement in the average personal finance knowledge of students across a broad spectrum of personal finance content.⁵

A team of evaluators who reviewed the St. Louis Fed's economic education programs found that teachers who attended professional development programs learned the content and used the



Watch as one high school teacher tells how he turned his students on to using FRED® (Federal Reserve Economic Data), the St. Louis Fed's signature economic database. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.

curriculum materials received.⁶ And another group of researchers found that “a rigorous state mandate for financial education, if carefully implemented, can improve the credit scores and lower the probability of delinquency for young adults.”⁷ These researchers identified professional development in personal finance for educators as part of what makes a rigorous mandate.

What Teachers Say

And what do the teachers themselves think about the St. Louis Fed's efforts to get them to weave economics and personal finance into their classes?

Vicki Fuhrhop, a high school business teacher on one of our educator advisory boards, framed her answer around the needs of students. “We don't want them to learn by trial and error. That's too grave of an impact on them. We need to educate them so they don't make mistakes—so they make really good decisions.”

As for the resources themselves, Fuhrhop said she appreciated the variety of content and modes of accessing them (“I really like the Econ Ed Mobile app”), as well as the fact that the resources are always being updated—and are free.

Another board member is Patrice Bain. “Being a middle school teacher, if I should Google ‘economics,’ chances are there's not going to be too much for middle school. And, so, to have a site [www.stlouisfed.org/education] where you can just put in ‘middle school’ and all of these

wonderful resources pop up, I'm saving a lot of time.”

Bain added, “Something else that I think is so vital to what's being offered is that many of them are research-based. They just align with the latest research and how people learn.”

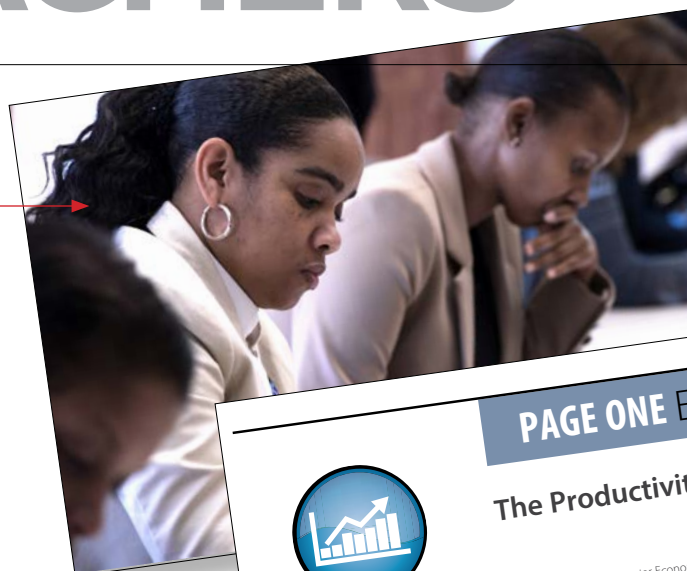
A few resources for teachers:

- The **Econlowdown Teacher Portal** at www.econlowdown.org, used by thousands of teachers around the country to enhance instruction by providing online courses, videos and podcasts for their students.
- In-person and over-the-web **professional development** so that teachers can learn about economic and personal finance content themselves. In most instances, teachers qualify for continuing education credits.
- **Print lessons, curricula, readings, PowerPoints, and SMART and Promethean board materials** for pre-K through college classrooms that can be downloaded at www.stlouisfed.org/education.

The St. Louis Fed has a myriad of free resources to help teachers learn how to incorporate economics and personal finance into classes on just about any subject. Many of these are online—courses, lesson plans, videos, podcasts, infographics, whiteboard activities, webinars and much more. In addition, there are in-person workshops and conferences. Materials are available for all levels, from pre-kindergarten to college.

TOOLS FOR TEACHERS

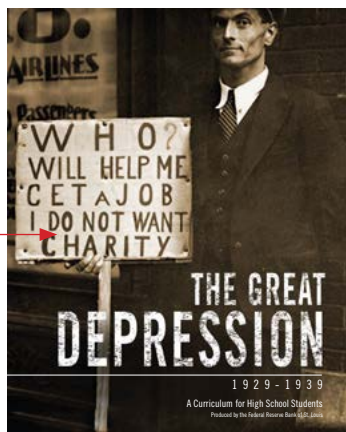
Teacher conferences offer professional development credit.



Our Econ Ed Mobile Learning app focuses on inflation and the cost of credit—and has games, too!



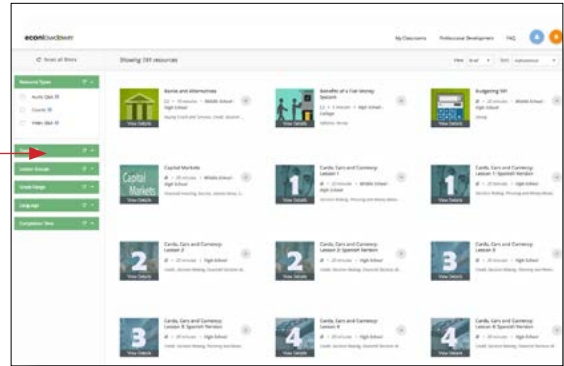
An award-winning curriculum—plus videos, photos and even a cross-word puzzle.



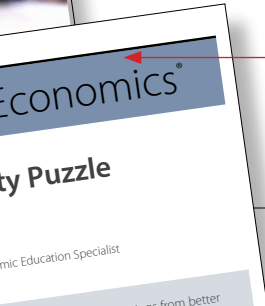
econlowdown[®]
click. teach. engage.



Teachers can hear from many economists—including Fed Chair Janet Yellen.



The Instructor Management Panel: the bridge between our resources and your classroom.



Page One Economics summarizes timely economic issues.



Workshops and conferences are held throughout the year.



The Economic Lowdown videos: Watch and learn.

Our Recent Awards

Year	Award
2017	Excellence in Financial Literacy Education (EIFLE) Award for Children's Education Program
2016	National Association of Economic Educators (NAEE) Gold Curriculum Award of Excellence
2015	Abbejean Kehler Technology Award EIFLE Award for Econ Lowdown and the Inside the Economy® Museum
2014	PR Daily's Corporate Social Responsibility Award

Economics and Personal Finance Classes Aren't Universally Required

A Look at the U.S. and States in the St. Louis Fed's District

	U.S.	Ark.	Ill.	Ind.	Ky.	Miss.	Mo.	Tenn.
States that include economics in their K-12 standards (+District of Columbia)	51	Y	Y	Y	Y	Y	Y	Y
States that require standards to be implemented (+DC)	45	Y	Y	Y	Y	Y	Y	Y
States that require a high school course in economics be offered (+DC)	23	Y	N	Y	N	Y	N	Y
States that require a high school course be taken (+DC)	20	Y	N	Y	N	Y	N	Y
States with standardized testing of economics (+DC)	16	N	N	Y	Y	Y	N	N
States that include personal finance in their K-12 standards (+DC)	45	Y	Y	Y	Y	Y	Y	Y
States that require personal finance standards be implemented (+DC)	37	Y	Y	Y	Y	Y	Y	Y
States that require a high school course in personal finance be offered (+DC)	22	Y	N	N	N	Y	Y	Y
States that require a high school personal finance course be taken (+DC)	17	Y	N	N	N	N	Y	Y
States with standardized testing of personal finance (+DC)	7	N	N	N	N	N	Y	N

SOURCE: Council for Economic Education, Survey of the States, 2016.

NOTES: The St. Louis Fed is the home of the Eighth Federal Reserve District. The District covers all of Arkansas and parts of Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee. Y=Yes. N=No.



All Hands on Deck to Reach New Teachers



The St. Louis Fed leaves no stone unturned in trying to inform teachers about the Bank's free resources for teaching economics and personal finance. The econ ed staff knocks on school districts' doors, attends teacher conventions, hosts informational and training programs, and promotes lessons and resources through an online newsletter, across social media platforms and more. In 2016, the staff launched an additional outreach effort: the Econ Ed Employee Envy Program, also known as e4.

The staff asked all St. Louis Fed employees to reach out to the teachers in their lives—their children's

teachers, in addition to neighbors, spouses, friends and others who teach. Employees signed up and requested a resource bag for the grade level of the teacher they knew. The bags contain sample lesson plans, bookmarks, a planner and information on how to sign up for the Instructor Management Panel.

Bank employees gave the bags to teachers and encouraged them to sign up online for the monthly newsletter using a code they found in the bag. When the teacher signed up, the employee and the teacher both received a T-shirt with the Econ Lowdown logo.

Since the program began, more than 350 resource bags have been handed out to teachers in the greater St. Louis area. Plans are in the works to expand the program so that even more teachers can have Econ Lowdown resources at their fingertips.



IT'S NEVER TOO EARLY TO START

By Mary Suiter, Economic Education Officer

“**J**ust get money from the machine.”
“Use your credit card.”
“Write a check for it.”

If you are a parent, grandparent, teacher or dedicated observer of human behavior, you have likely heard one or more of these statements from young children in your family.

This sort of thinking is just one example of the disconnect between what children learn through observing their economic world and accurate economic information. Kids see parents get money from the ATM, swipe their credit and debit cards at the checkout, or perhaps still pay by writing a check. Kids see these transactions and recognize that no coins or bills are involved. They don't intuitively know that there must be money in a bank account in order for ATM withdrawals to happen or for checks to be accepted, and they aren't aware that there's a credit card bill that follows those credit card purchases.¹

“Teach the children so it will not be necessary to teach the adults.”

Abraham Lincoln

These aren't the only misconceptions kids have about money. They think that banks keep in a box the same money kids deposit—so if they deposit five \$2 bills, they will get the same five \$2 bills when they withdraw.

Often, kids don't recognize that there is a link between work and income. And although most older children realize that they can't have everything they want, they think that when they are adults they will be able to do just that.²

These misconceptions limit children's ability to think economically and solve economic problems³ because it is difficult to build on a foundation that isn't strong.

Simple Steps We Can Take

All of these misperceptions can be corrected—but only if someone

Watch as 3- and 4-year-olds get a taste of personal finance education, and see what parents have to say about starting so young. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.



teaches children about these things. And the earlier we start doing this, the better.

Recent research shows that young children form financial behaviors by as early as age 7. Their earliest experiences with economic transactions are likely encouraged by and experienced with a significant adult, such as a parent or grandparent.⁴ Parents, grandparents and teachers can assist young children in developing sound financial habits by providing:

- opportunities for them to observe adults engaging in those habits,
- instruction and
- opportunities for the children to practice the habit.⁵

So, grandparents might take their grandchildren on a trip to the bank and deposit coins and currency in an account or drop coins in a jar that is visible to the grandchildren. Then the grandparents might talk about why they save with their grandchildren, and finally they might provide the grandchildren with a piggy bank and encourage them to begin saving.

If children have developed these early basics, teachers, parents and grandparents are in a position to build on kids' financial understanding in later

elementary grades through middle school and high school.⁶ For example, students who know about earning income and saving are better-prepared to learn about compound interest, credit and financial investment.

Don't Underestimate the Kids

We also know that young children can and do learn economics. For example, one study found that students in the early elementary grades can learn concepts such as goods, services, producers, consumers, division of labor, the connection between work and income, taxes and the use of taxes to provide goods in the community.⁷ Later studies support these findings and also show that teacher education in economics and the use of high-quality materials, such as those found on the St. Louis Fed's EconLowdown site, result in significant gains in student learning.⁸

Some teachers believe that young children can start making sense of their economic lives if they understand basic concepts such as earning income, spending, saving, setting goals and making choices. But often these teachers feel ill-prepared to teach the content.⁹

Among the growing cadre of teachers who have prepared themselves to teach this content and to do so long before kids enter high school are Betty Porter Walls and Betty Chism, both from St. Louis.

"They're never too young," says Walls, who teaches college students how to become teachers and also supports the university's early childhood education center. "We're starting very early. We're



“I think it’s important to teach them ... about financial decisions so that they can become ... critical thinkers and decision-makers.”

Betty Chism, middle school teacher

doing lessons with our preschoolers,” such as a recent story time with the book *Bunny Money*. “Children know what money is. They need to know how to use it.”

Chism would agree that starting earlier is better. She had been teaching personal finance at a high school but recognized that such education was needed sooner. She moved to a middle school, where she teaches both personal finance and computer literacy.

“They don’t know anything about spending and saving and budgeting,” she said. “I think it’s important to teach them ... about financial decisions so that they can become financially literate and critical thinkers and decision-makers.”

What of the Role of Parents?

Bill Hardekopf, the chief executive officer at LowCards.com, a provider of credit card information, thinks that financial education is ultimately the responsibility of parents.¹⁰ Unfortunately, not all parents provide the necessary financial education, and many do not demonstrate sound financial habits. The Charles Schwab 2011 Teens & Money Survey found that parent discussions about money didn’t necessarily translate into knowledge of financial tools for children. And a T. Rowe Price 2016 Parents, Kids & Money Survey found that 71 percent of parents were reluctant to discuss financial matters.

Some parents are more prepared and proactive than others.

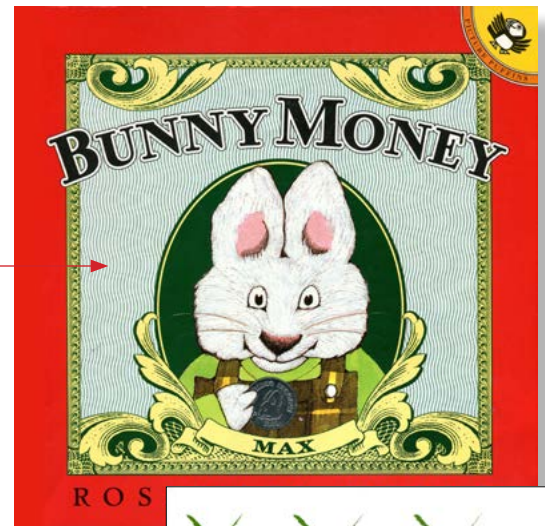
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Not just teachers, but parents, grandparents and other caregivers can easily access our resources to help little ones start to learn about money, choices and even simple economic concepts. As the kids get older, they can access these books, lessons and videos themselves.

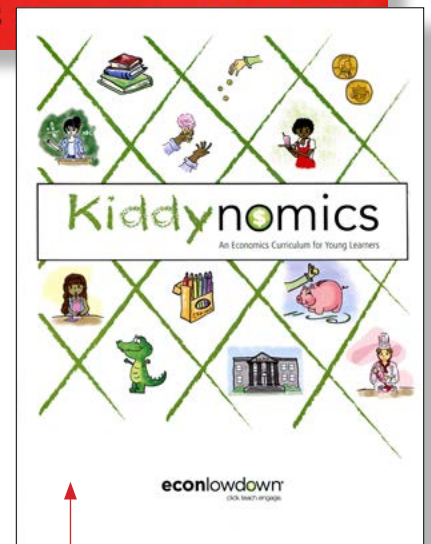
ECONOMICS CAN BE CHILD'S PLAY



Storybooks related to money, counting, saving.

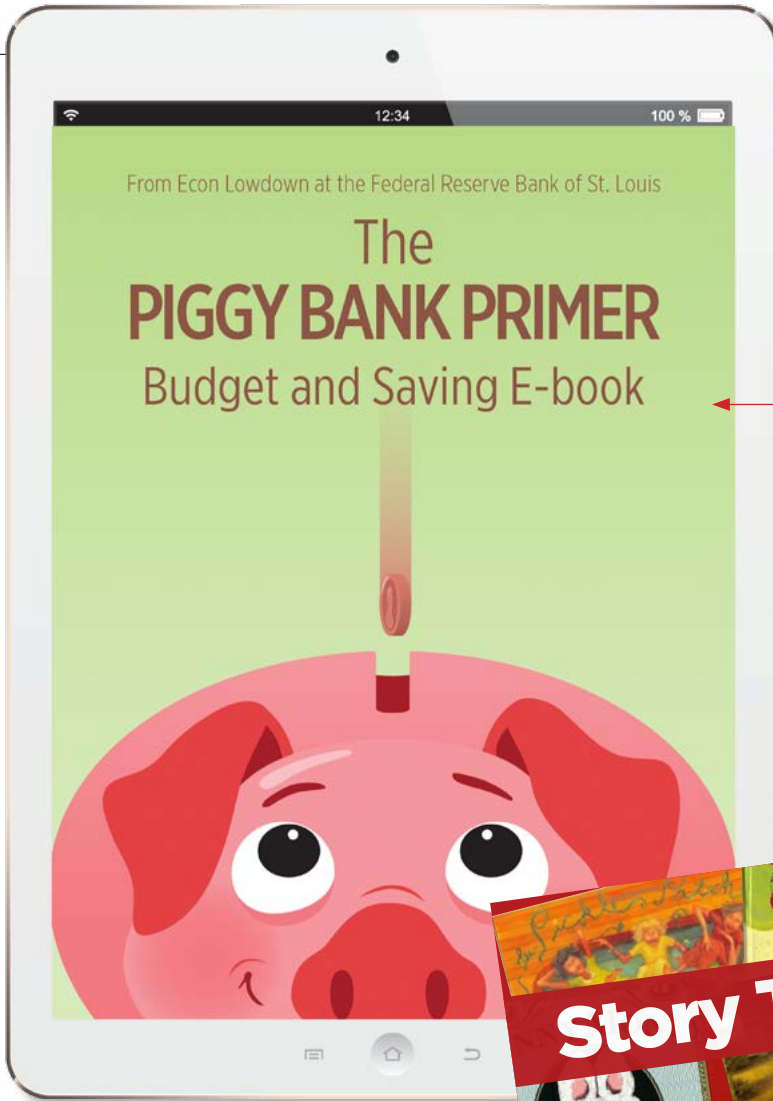


Resources for kids in school and in extracurricular activities—like Scouts.



Lesson plans and activities for in and out of the classroom.





econlowdown[®]
click. teach. engage.

For your phone or tablet: story, activities and puzzles to teach 7-9-year-olds the basics.



Parent Q&As to spark discussion with children after reading storybooks with money-related themes.



No-Frills Money Skills: short videos on personal finance topics.

Watch as St. Louis Fed experts lead Daisy Scouts in an exercise about making choices. Parents also talk about the importance of personal finance education for their girls at a young age. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.



continued from Page 27

Angela Statum, whose 3-year-old attends the preschool where Walls assists, said she and her husband “talk about financial responsibility all the time,” but mainly to their 10-year-old. She was surprised that her younger boy was learning about money, too, at school.

“I said to my husband, ‘Do you know what they’re doing in class? They’re doing all this financial stuff, setting up stores and shops.’ I’m excited.”

Lori Von Holten, another mother of a child in the class, was equally surprised. But, she added, “It makes a lot of sense. There’s math you can learn from counting, there are emotional skills with having the restraint to save, there are issues with social responsibility ... and how money plays into that.”

If we expect students to understand complex economic ideas in high school and college and as adults, the foundation should be laid in elementary and middle school.

Lay a Foundation Early

Schools don’t introduce calculus to high school seniors as their first mathematics class; rather, they start with arithmetic in pre-K and kindergarten and build on that foundation in subsequent grades. Likewise, if we expect students to understand complex economic ideas in high school and college and as adults, the foundation should be laid in elementary and middle school.

Economics is the business of everyday life. Children engage in the business of everyday life as they make choices, including those related to spending, saving and even borrowing.¹¹ Just as reading and mathematics education helps children master skills they will need throughout their lives,

economic education helps students master knowledge and skills they will need to function every single day—from making personal decisions about their studies and their activities and choosing how to manage their money to making decisions later as workers, consumers and citizens.

A sample of resources for parents and teachers:

- **Kiddynamics: An Economics Curriculum for Young Learners** is designed for pre-kindergarten and kindergarten students. The curriculum includes five lessons that introduce basic concepts, such as scarcity, choice, goods, services, spending, saving, consumers, producers and banks. Kids explore these concepts through popular children’s books and participate in activities.
- **Parent Q&As** are sets of questions with answers that parents, grandparents or teachers can print or pull up on their phones. Then, when reading to

their kids, they can use these questions to start conversations with their children about a variety of topics, including decision-making, saving, savings goals and spending.

- **Piggy Bank Primer e-book** introduces basic economic concepts—saving, savings plan, spending, costs, benefits, goods, services and opportunity costs—to 7-9-year-olds.
- The **No-Frills Money Skills video series** covers a variety of personal finance topics and is appropriate for those in middle school and above.

To see these and other resources, go to www.stlouisfed.org/education.





ABOUT THE AUTHOR

Barb Flowers has been with the Federal Reserve Bank of St. Louis since 2009. Earlier, she was the director of the Center for Entrepreneurship and Economic Education at the University of Missouri–St. Louis. She has taught economics and personal finance throughout the country and has authored numerous lessons, curricula and articles on personal finance education.



FOR BETTER OR WORSE, YOUR DECISIONS MATTER

By Barb Flowers, Senior Economic Education Manager

In this reference to the Great Recession, former Federal Reserve Chairman Ben Bernanke was talking about budgeting, wise credit use and saving as key components not only to the success of households but also to the success of our economy.

Certainly, making informed decisions regarding spending, credit, saving and other financial matters helps the individual household's bottom line. But in what ways do the individual's decisions, when made well, benefit the overall economy? And, when do the individual's decisions, when done poorly, set all of us back?

Decision-making is one of the most basic skills taught and promoted by the economic education team at the Federal Reserve Bank of St. Louis. Bad financial decisions by individuals usually ripple throughout society—as do

“The recent crisis demonstrated the critical importance of financial literacy and good financial decision-making, both for the economic welfare of households and for the soundness and stability of the system as a whole.”¹

Ben Bernanke / former Federal Reserve chairman


good ones. Let's look at some examples:

Decisions about Credit

Individuals' decisions regarding credit were critical as the country entered the Great Recession (2007-09). Creditors were reluctant to lend. Households either didn't want the credit or couldn't get it. (Economists debate which scenario was more likely, with many thinking that house-

holds' stress over already high credit balances caused them to voluntarily reduce their credit exposure.²)

Either scenario would have produced a considerable drop in consumption spending and gross domestic product (GDP), which are key indicators to the health of the overall economy. The drop that actually did happen was the


A lack of savings can starve economic growth. Savings are the lifeblood of investment, and investment is the driver of increases in our standard of living.

result of individuals' decision-making—whether it was the decision on the part of households to maintain high credit balances leading up to the recession, or the decision on the part of creditors to sharply reduce access to loans, or whether it was the decision on the part of lenders to extend large loans to households or, later, to sharply reduce access to lending.

Decisions about Saving

As for the issue of saving, decisions on whether to save, how much, etc., can have an impact on individuals and on the economy that can be just as serious as the impact of decisions regarding credit. For example, the dire effects of poor saving habits may lie dormant until they are too late to correct.

Consider the retirement savings of baby boomers. Life expectancy for a baby born in 1930 was 59.7 years. A baby boomer born 30 years later could be expected to live for 69.7 years.³ In a financial sense, whether increased longevity is good news or bad news depends on the decisions made on the way to senior living.

Nearly 50 percent of baby boomers either do not know how much they have saved or, even worse, report that they have saved nothing for retirement.

About one-third have at least \$100,000 saved but less than \$250,000.⁴ Baby boomers who made the decision to save nothing for retirement can expect to live nearly 12 years longer than their parents did, relying only on Social Security. Even those who have saved may outlive their savings.

So, how do these personal saving decisions affect the economy in general?

For starters, a lack of savings can starve economic growth. Savings are the lifeblood of investment, and investment is the driver of increases in our standard of living. If seniors have not saved a sufficient amount to fund their retirement, they will have to draw down every dollar of their savings. On a large scale, this reduces the money available to businesses to borrow to expand. Beyond this, these same retirees will use every dollar of their Social Security for consumption, placing nothing in savings for others to invest.

And things could get worse. Social Security projections show annual deficits until 2034, when the fund will be depleted.⁵ Whatever the remedy turns out to be, it will most certainly involve higher taxes or lesser benefits, having an impact on consumption and investment in the future.

Building Our Skills

The common theme is that decisions matter, and that the effects of poor decisions made by some can spill over to a great number of us. The St. Louis Fed has multiple resources to help all of us develop stronger decision-making skills. For example, beginning at the early elementary level, students



can participate in an online, interactive storybook called *Once upon a Decision*. Those who are a bit older (including adult consumers) can view a higher-level course, *The Art of Decision-making*.

Both courses promote informed decision-making by having students define their problem, identify the alternatives that could possibly solve their problem, choose the criteria that would best satisfy their goals in solving the problem, evaluate their alternatives according to these criteria or goals, and then choose the best alternative, all the while being aware of what they give up when making their choice.

What they give up, their opportunity cost, is the most important lesson in personal finance and

economics because it represents the consequences of a decision.

For the baby boomer who spent all of his income, the opportunity cost is the loss of spending power in retirement. For the individual who used his credit card with abandon, the opportunity cost is the many goods he cannot buy in the future.

But for society as a whole, there is also an opportunity cost to the individual's behavior. So, the opportunity cost of ignoring decision-making education might present itself as a lower standard of living, not just for those who made the poor decisions, but for all of us.

continued on Page 38

WE CAN HELP YOU MAKE DECISIONS



Short videos for young adults.

The Amazing \$2,000 Pizza: a credit card horror story.



It's never too late — or early—to work on your decision-making skills. The St. Louis Fed has resources for people of all ages, and the resources cover all sorts of topics, from budgeting to banking, credit to college, saving to shopping ... and on and on.

econlowdown
economics teaches, engages.

Beware: Debt can drown you.
Know the facts about the financial services you use.

Check-Cashing Stores
Pros: Quick one-stop service for cashing checks and cashing money orders.
Cons: Fees of up to \$3 per cashed check and \$3.50 per money order. Some stores charge a 3.5% fee.
Tip: Use a debit card or a credit card instead.

Banks and Credit Unions
Pros: Usually the best choice for account holders, free debit cards, free online banking, free ATM use (ATM's). The lowest interest rates on loans.
Cons: Usually no check-cashing services for a few hundred dollars. Locations and hours may be inconvenient for some. Those with a bad track record may not get an account.

Prepaid Cards
Pros: An alternative for those who can't get a regular credit or debit card or who don't want to deal with checks or cash.
Cons: Use to top different kinds of fees on the prepaid card. Avoid gas and other online fees, ATM and monthly fees.

Payday Lending, Pawnshops, Title Lending
Pros: Open when banks aren't—and when banks aren't, there's no one else to turn to.
Cons: Annual interest rates in the hundreds of percent. Fees at least as much as the total amount for 20 percent of loans. High a payment, and your car will be repossessed or your pawnshop item sold.

Refund Anticipation Loans and Checks
Pros: "Check-out" loans can get a payday loan's cash advance for 20 percent of the refund.
Cons: High fees—up to \$50 for your check. Loans can be used to pay bills or to get cash.
Tip: If you need cash, wait for your refund to come in.

Inhouse Financing (Including Rent-to-Own)
Pros: Convenient—finance a purchase where you buy it. May be your only choice if you have bad credit or no cash. Often, low weekly or monthly payments. Sometimes, the interest rates are reasonable too.
Cons: A used car financed with a "buy here, pay here" loan could ultimately cost you a third more than a traditional car loan. High a payment, and your car will be repossessed or sold. 20 percent of the total price of the car. Check only 20 percent of customers return an item within four months, making the "buy here, pay here" model a high-risk business.

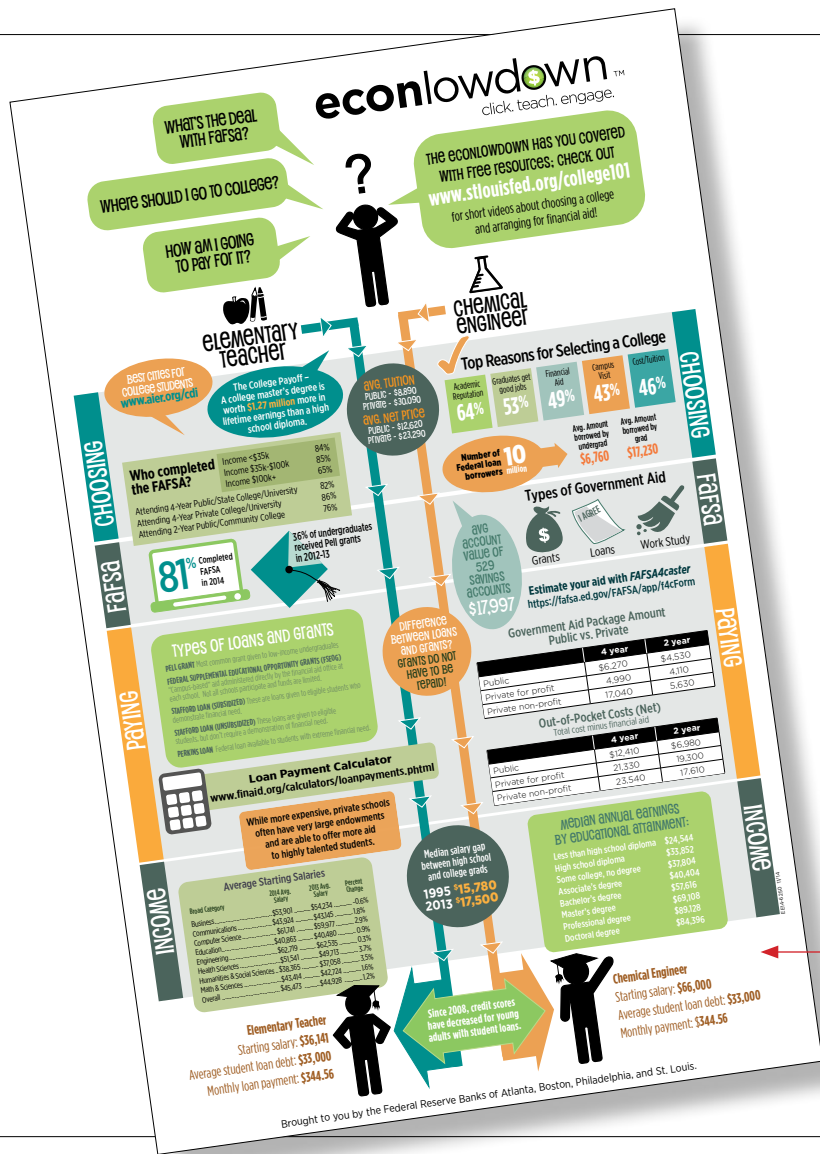
25% If you need cash, wait for your refund to come in.

For more info, go to:
The National Financial Literacy Center at www.consumerfinance.gov
The National Credit Union Administration at www.ncua.org
The Federal Reserve Board of Governors at www.federalreserve.gov
To watch the videos, go to www.stlouisfed.org/learn-can-drown-you
To see other free resources from the St. Louis Fed, go to www.stlouisfed.org/learn-can-drown-you

Brought to you by the Federal Reserve Board of Governors, Atlanta, Dallas, Philadelphia, and St. Louis.



Be careful about the financial services you use.



In one online course: credit cards, debit cards, buying a car and holding on to your currency!

"Homework" for those thinking about college.

An online course to make tough decisions easier.

Multiple resources on using credit wisely—and picking up the pieces when you don't.

Using Credit Wisely

Understanding the Cost of Credit

Building Your Credit

Repairing Damaged Credit

ALL RESOURCES AVAILABLE AT STLOUISFED.ORG/EDUCATION

continued from Page 35

While everyone can access our online resources on decision-making, some high school seniors have a unique opportunity every year to learn in person from St. Louis Fed experts about the decisions that the students face currently and will face for the rest of their lives. These 13 young men and

women are members of our student board of directors. They meet monthly with St. Louis Fed leaders to learn about basic economics, personal finance and the Fed itself.

“We need to understand how decisions we make now can affect us in our future,” said Amanda Meyer, a board member.

Credit is a particular interest of the students since they will be headed to college soon.

A Case for Better Decision-making by One and All

Results from a Survey of 25,000 Americans

	U.S.	Arkansas	Illinois	Indiana	Kentucky	Mississippi	Missouri	Tennessee
Spending more than income	18%	15%	18%	20%	16%	21%	18%	16%
Have unpaid medical bills	21%	30%	18%	27%	27%	33%	26%	24%
Do not have emergency funds	50%	50%	47%	52%	52%	56%	56%	56%
Used one or more non-bank borrowing methods in the past 5 years	26%	32%	24%	26%	29%	35%	31%	30%
Paid the minimum payment only (credit cards)	32%	40%	30%	34%	31%	32%	35%	32%
Home “underwater” (negative equity)	9%	10%	12%	12%	6%	12%	11%	7%
Did not compare credit cards	58%	53%	59%	57%	62%	53%	62%	56%
Results on 5-question literacy test—3 or fewer correct	63%	65%	61%	65%	65%	69%	62%	65%

SOURCE: FINRA Investor Education Foundation.

NOTES: These questions were taken from the 2015 National Financial Capability Study, which was funded by the FINRA Investor Education Foundation. Answers are given for the U.S. overall and for each of the states in the Eighth Federal Reserve District, home of the St. Louis Fed.



Watch as members of our student board of directors talk about the preparation they've received from the St. Louis Fed to make better decisions. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.

“We learned about both credit and then forecasting your college expenses,” said Meyer, “and how this is a great investment, but how you also need to be aware of your post-education salary, expenses and things like that.”

Added Egzona Ramushi, another board member, “I think that was one of the most important things we learned because ... we don't want to be in debt for the rest of our lives.”

Some of our other resources on decision-making:

- The **Credit Cred** online course, in which you learn about building strong credit, arranging credit for major purchases, avoiding common mistakes and monitoring your own credit score.
- The **Budgeting 101** course, which shows you how to create a budget for a fictional nursing student—and then for yourself.
- The video **Ways to Save**, part of our **No-Frills Money Skills** series, which shows how to save for major goals in life, such as cars, college and retirement.

To see these and more resources, go to www.stlouisfed.org/education.

Barb Flowers has received the Bessie B. Moore Service Award from the National Association of Economic Educators.



“We learned about both credit and then forecasting your college expenses, and how this is a great investment, but how you also need to be aware of your post-education salary, expenses and things like that.”

*Amanda Meyer,
member of the
St. Louis Fed's student
board of directors*



ABOUT THE AUTHOR

Scott Wolla has been a senior economic education specialist at the Federal Reserve Bank of St. Louis since 2010. Prior to the St. Louis Fed, Scott taught history and economics in Minnesota for 14 years. He has taught economics and personal finance throughout the country. He is the principal author of the St. Louis Fed's Page One Economics publication and has written numerous articles, lessons, book chapters and curricula on economics and personal finance for K-12 classrooms.



INVEST IN HUMAN CAPITAL TO BUILD A BETTER FUTURE

By Scott Wolla, Senior Economic Education Specialist

The knowledge and skills that people obtain through education and experience are referred to as “human capital” by economists. People invest in human capital for similar reasons that businesses invest in physical capital and individuals invest in financial assets—they hope to earn income.

The relationship between education and income is well-established: On average, those with more education tend to earn more income. In 2015, the median weekly earnings of a person (age 25 and over) with a professional degree were \$1,730, while those for someone with a bachelor’s degree were \$1,137 and those for someone with a high school diploma were \$678. The differences are dramatic.

The benefits of education don’t end with higher income. The 2015 unemployment rates of the groups

“Whenever I am asked what policies and initiatives could do the most to spur economic growth and raise living standards, improving education is at the top of my list.”¹

Janet Yellen / chair of the Federal Reserve

mentioned above are 1.5 percent for those with a professional degree, 2.8 percent for those with a bachelor’s degree and 5.4 percent for those with a high school diploma.²

There is also a relationship between education and wealth accumulation. Better-educated people not only earn more dollars but are

more efficient in translating income into wealth (assets minus liabilities).³ There are many factors that explain differences in wealth, but part of the story lies with the way well-educated families handle their money: They are more likely to have liquid assets to sustain a financial rough patch, they are more likely to have a diversified financial portfolio and they are more likely to keep debt low relative to assets.

So, the quip stands—education pays.

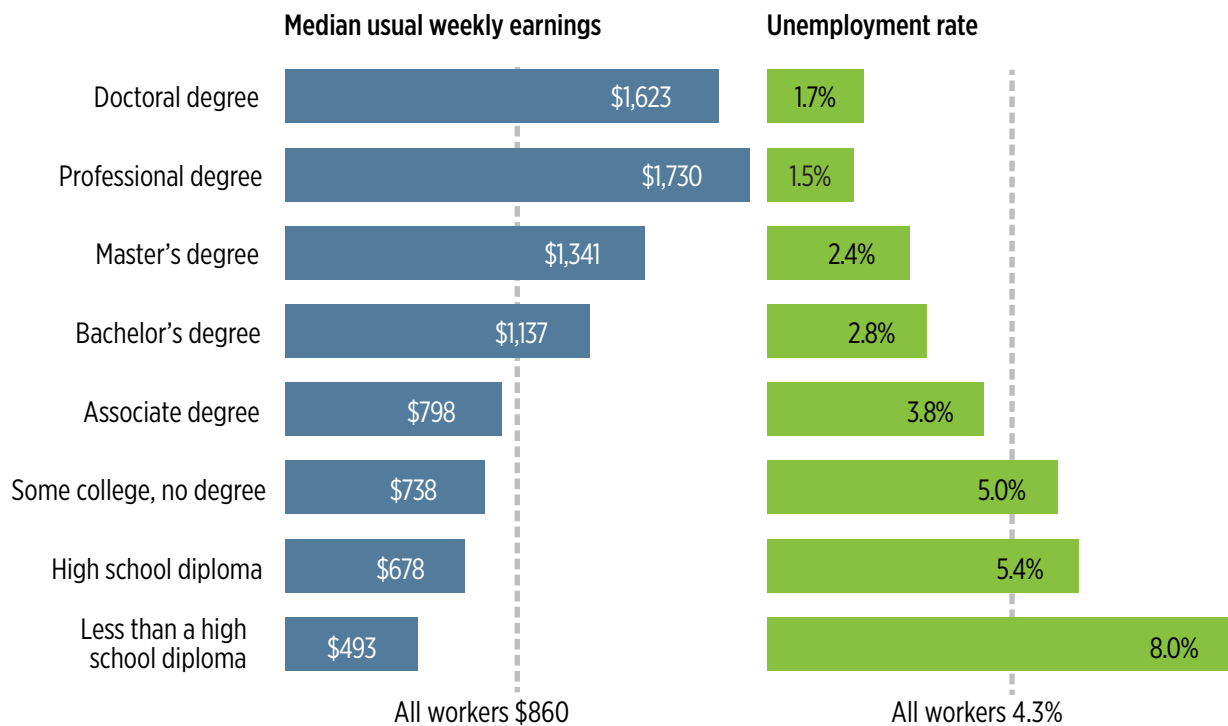
Family Financial Outcomes Based on Education

Education*	Percentage of families	Median income (2013)	Median wealth (2013)	Wealth-to-income ratio**	Millionaires (family wealth)
No high school diploma	12%	\$22,320	\$37,766	1.43	1 in 110
High school diploma	50%	\$41,190	\$95,072	2.15	1 in 18
Two- or four-year degree	25%	\$76,293	\$273,488	3.45	1 in 4.6
Advanced degree	13%	\$116,265	\$689,100	5.58	1 in 2.6

SOURCE: Boshara, Ray; Emmons, William R.; and Noeth, Bryan. "The Demographics of Wealth: How Age, Education and Race Separate Thrivers from Strugglers in Today's Economy." Essay No. 2: Education and Wealth, Federal Reserve Bank of St. Louis, May 2015, pp. 4, 5, 9, and 13; <https://www.stlouisfed.org/-/media/Files/PDFs/HFS/essays/HFS-Essay-2-2015-Education-and-Wealth.pdf>

NOTES: *Based on the education level of a family headed by someone 40 years of age or older. **This ratio shows how much wealth each group has per dollar of income. For example, the ratio for families without a high school degree was 1.43, which means that, on average, for every \$1 of income there was \$1.43 of wealth. The ratio is a measure of how efficient people are at turning income into wealth.

Earnings and Unemployment Rates by Educational Attainment, 2015



SOURCE: U.S. Bureau of Labor Statistics, Current Population Survey.

NOTES: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Economics and Civic Literacy

The benefits of education extend beyond the income and wealth of individuals. Economic knowledge is part of basic civic literacy. Being a thinking, voting and productive member of society requires an economic understanding of the world in which we live.

However, an even rudimentary understanding of this basic economic framework appears to be missing in the United States.⁴ This has implications for larger society. Understanding the issues being discussed in the public square today requires working knowledge of the trade deficit, budget deficit, monetary policy, banking regulation, financial markets and tax law, to name a few of the key topics.

Further, living in a representative democracy grants citizens the ability to influence policy through their interactions with policymakers. Former Federal Reserve Gov. Frederic Mishkin suggested that as policymakers listen to their constituents, a “better-informed citizenry makes for better economic policymaking.”⁵

Education and Productivity

Human capital is also a key contributor to productivity—workers with more education and skills tend to produce more output. Recently, the rate of productivity growth has slowed—from 2.5 percent during the years 1995 to 2010 to 0.4 percent from 2011 to 2015.⁶ This has economists concerned because productivity is a key driver of economic growth, real wages and living standards.

Recent research suggests that rising human capital explains about 20 percent of the growth in U.S. productivity from 1950 to 2007. The researchers estimated that educational attainment has been growing at about one year per decade, which has contributed about 0.6 percentage points to productivity growth per year.⁷ However, they warned that the growth in educational attainment



Listen to a Boy Scout dad talk about his son's use of St. Louis Fed resources to earn a personal management merit badge.



Listen to a university librarian talk about his use of our resources on campus to help students and staff.

Go to the online version of this article at www.stlouisfed.org/annual-report/2016.

Have Some Fun with FRED while Building Your Human Capital

The Federal Reserve Bank of St. Louis recently released FREDcast™, an interactive forecasting game that allows users to forecast four economic variables, track their forecasts' accuracy on scoreboards and compete with friends and other users in leagues. It's already a hit with teachers, students and economics enthusiasts.

To participate, users make predictions for:

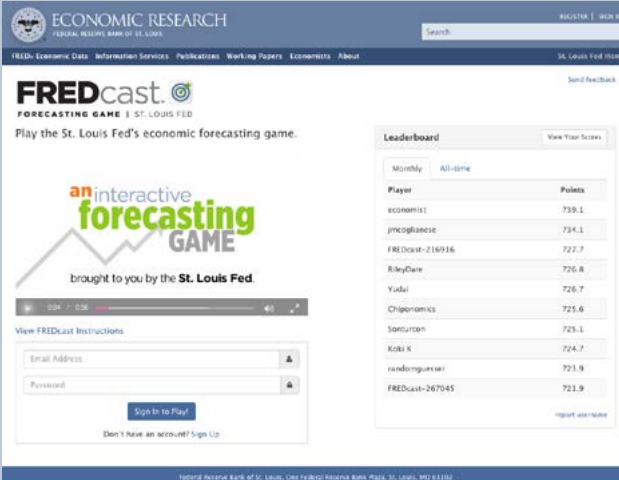
- real gross domestic product (GDP),
- employment,
- unemployment and
- the consumer price index (CPI).

Forecasts are then compared with the actual release numbers and scored monthly for accuracy. Players can judge their performance by looking at their rankings within leagues or for all FREDcast users.

FREDcast is powered by FRED, or Federal Reserve Economic Data, the signature economic database of the Federal Reserve Bank of St. Louis.

FRED is a free data aggregate and includes nearly 500,000 economic and social science series. Data are collected from regional, national and international sources and cover topics with broad appeal (like the U.S. consumer price index) and niche information (like total electricity production in China).

Additional data are being added all the time. See <https://fred.stlouisfed.org>.



The screenshot shows the FREDcast website interface. At the top, there's a navigation bar with 'ECONOMIC RESEARCH' and 'FEDERAL RESERVE BANK OF ST. LOUIS'. Below that, a search bar and links for 'REGISTER' and 'SIGN IN'. The main content area features the 'FREDcast FORECASTING GAME | ST. LOUIS FED' logo and a sign-up form with fields for 'Email Address' and 'Password', and a 'Sign In to Play!' button. To the right, a 'Leaderboard' table is visible, showing player names and their scores.

Player	Points
economist	739.1
jmccglane1c	734.1
FREDcast-2169116	727.7
RileyCave	726.8
Yudai	726.7
Chigonomics	725.6
Santurcon	725.1
Kobi K	724.7
randongusser	723.9
FREDcast-267945	721.9



There's no cost to play FREDcast, so set up your account today by visiting <https://research.stlouisfed.org/useraccount/fredcast>.

has started to slow, which means that its contribution to economic growth—and income—will probably diminish as well.

As such, human-capital development is not only about individual income and wealth or even responsible civic behavior; rather, it has implications for the future growth of the economy and the standard of living of its citizens.

Shared Goals

How does this relate to the goals of the Federal Reserve System? The Fed has a congressional mandate to promote price stability and maximum sustainable employment. To understand how the Fed works toward these twin goals, people must be familiar with basic economic concepts. Former St. Louis Fed President William Poole said that while the Federal Reserve Act did not mention “the Fed’s obligation in educating the nation’s populace in economics, it has been an implicit mission from the start.”⁸ And as former Fed Chairman Ben Bernanke said, “The Federal Reserve’s mission of conducting monetary policy and maintaining a stable financial system depends on the participation and support of an educated public.”⁹

This necessitates a deliberate strategy to lay the conceptual foundation for understanding how the economy works. People must understand the principles of inflation, unemployment and economic growth to assess whether the Fed is achieving its mandates. But, to be understood, these concepts require cognitive support. Underneath these concepts—the “bones” if you will—lie economic concepts such as scarcity, choice and opportunity cost. Upon that foundation lie the factors of production and supply and demand. And then comparative advantage.

And so the structure gets built from the ground up. It doesn’t appear overnight. The St. Louis Fed provides economic literacy support by providing



Watch as members of a carpenters’ union talk about building their human capital by using our training materials on personal finance. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.

Watch as two of our outside board members talk about the need in their communities for personal finance and economic education. Go to the online version of this article at www.stlouisfed.org/annual-report/2016.



high-quality (award-winning) lesson plans, online modules, publications, podcasts, videos and professional development opportunities for people of all ages. In this way, the St. Louis Fed provides the means by which people can increase their own human capital.

Echoing the need for this, Bryan Jordan, a member of the St. Louis Fed's board of directors, noted, "It doesn't matter whether you are young or whether you are old. The ability to connect the concepts of sound financial management with being able to participate in the economic vibrancy of communities, whether it be buying a house, getting a credit card or getting a job, are all important."

Added Karama Neal, a member of the Little Rock Branch's board of directors, "There is such a need for people to understand how economics works, both personally and in the larger economy.

"The St. Louis Fed has wonderful economic-education materials. I've used them myself."

A few of our resources to help build human capital and civic literacy:

- Read **Education, Income and Wealth**, a short, easy-to-follow essay in the January 2017 edition of **Page One Economics** that discusses the links between education and both income and wealth.
- Watch **Saving for College**, a short video that follows a high school student as she learns about investing in human capital, factors to consider when choosing a college and ways to finance a higher education.
- Listen to the **The Labor Market**, an episode in the **Economic Lowdown podcast series**, to hear how a young person looking for that first job can learn about labor market basics: the role of education, supply, demand, productivity and government regulation.

For these and hundreds of other resources, start at www.stlouisfed.org/education.

Visit Our Museum on the Economy: It's Educational and Entertaining

If you want to build your human capital in an easy way, come visit one of the nation's leading economy museums: the Inside the Economy® Museum at the Federal Reserve Bank of St. Louis. Immerse yourself in nearly 100 fun and interactive displays, games and videos on topics ranging from inflation to banking to the global economy.

Visitors enter through the Bank's original teller lobby from the early 1900s, which instantly transforms from historic to modern as a theatrical light show sets the stage for the museum. Among the highlights inside is a trading pit, where you and your friends can compete against one another as you buy and sell wheat in a frenetic environment. Watch (a video) as guards open the 45-ton door to the vault, and see workers inside processing cash. Have your photo taken next to the Million Dollar Money Cube.

School field trips and visits by other groups are welcome. Educational programs and classroom space are available.

The museum, at Broadway and Locust Street, is a short walk from the Gateway Arch. Hours are 9 a.m. to 3 p.m., Monday through Friday, excluding holidays. Admission is free, and each visitor receives a bag of shredded currency.



For more information, go to www.stlouis.fed.org/EconomyMuseum. Watch the one-minute video there for a mini-tour.



**INSIDE THE
ECONOMY.
MUSEUM**

AT THE FEDERAL RESERVE BANK OF ST. LOUIS

WHAT'S YOUR ECONOMIC IQ?

If you've bookmarked econlowdown.org as a favorite or subscribe to our Page One Economics, chances are you take your economic education seriously.

Here's a chance to put your know-how of economics to the test. Find out how well you understand opportunity cost, taxes and real wages—and various other topics that can affect your economic and financial standing.

Take our six-question quiz here. Then, turn to page 53 to view the answer key. For each answer, you'll find a list of related resources from the St. Louis Fed to help you learn more. Search for free resources at www.stlouisfed.org/education.

Want to test your knowledge further? Take the complete test online at www.stlouisfed.org/annual-report/2016.

1. If your annual income rises by 50 percent while prices of the things you buy rise by 100 percent, then your

- a. real income has risen.
- b. real income has fallen.
- c. money income has fallen.
- d. real income is not affected.

2. If the government charges a new tax of \$1 on every pair of blue jeans sold, which would most likely result?

- a. Consumers would pay a higher price for blue jeans and buy fewer pairs of blue jeans.
- b. Consumers would pay a higher price for blue jeans, and blue jeans sellers would make larger profits.

- c. Consumers would pay a higher price, and blue jeans sellers would limit the number of blue jeans consumers could buy.
- d. Blue jeans sellers would increase the quantity sold to make up for the taxes paid to the government.

3. The opportunity cost of a new public high school is the

- a. money cost of hiring teachers for the new school.
- b. cost of constructing the new school at a later date.
- c. change in the annual tax rate to pay for the new school.
- d. other goods and services that must be given up for the new school.

4. What is meant by the statement that every economic system faces the problem of scarcity?

- a. The additional benefits of goods and services are greater than their additional costs.
- b. There are times when some products can be purchased only at high prices.
- c. There are never enough productive resources to satisfy all human wants.
- d. All economies have recessions during which scarcities exist.

5. A high school student buys a sweatshirt from a store. The sweatshirt is on sale at a 20 percent discount off the regular price. In this exchange,

- a. both the student and the store benefit.
- b. the student benefits, but the store does not.
- c. the store benefits, but the student does not.
- d. neither the student nor the store benefits.

6. An economy will typically experience a decline in its unemployment rate when there is

- a. an increase in population.
- b. a decrease in consumer incomes.
- c. an increase in economic growth.
- d. a decrease in business investment.

Turn to Page 53 for answers.

ENDNOTES AND REFERENCES

ON A MISSION TO EDUCATE ONE AND ALL

ENDNOTES

- 1 See Lusardi and Mitchell.
- 2 See Survey of the States from the Council for Economic Education.
- 3 See Norris.
- 4 See American Council of Trustees and Alumni.
- 5 See Bullard.
- 6 To see the lesson, go to www.stlouisfed.org/education/alexander-who-used-to-be-rich-last-sunday.
- 7 See the curriculum, lesson plans, website and other resources on the Great Depression at <https://www.stlouisfed.org/education/the-great-depression>.
- 8 See Bosshardt and Grimes.
- 9 See Wolla.
- 10 See Yetter and Suiter.

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TEACH ONE, REACH MANY

ENDNOTES

- 1 See Bosshardt and Grimes 2010.
- 2 See Loibl, as well as Way and Holden.
- 3 See Bosshardt and Watts; Becker, Greene and Rosen; Marlin; Wetzel, and O'Toole, and Millner, 1991; Allgood and Walstad, 1999; Valletta, Hoff, and Lopus, 2013; and Butters, Asarta, and Thompson, 2013.
- 4 See Swinton 2010.
- 5 See Asarta et al.
- 6 See Bosshardt and Grimes 2011.
- 7 See Urban et al.

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- 4 See Whitebread and Bingham.
- 5 Ibid.
- 6 See Butt et al., Grody et al., Hagedorn et al., Harter and Harter, and Sherraden et al.
- 7 See Larkins and Shaver 1969.
- 8 See Berti and Monaci, as well as Kourilsky, Laney and Morgan.
- 9 See Way and Holden.
- 10 See Engel.
- 11 See Meszaros and Suiter 2005.

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IT'S NEVER TOO EARLY TO START

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- 1 See Butt et al., Grody et al., Hagedorn et al., Harter and Harter, and Sherraden et al.
- 2 See Meszaros and Suiter, 1998.
- 3 See Miller and VanFossen

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FOR BETTER OR WORSE, YOUR DECISIONS MATTER

ENDNOTES

1. See Bernanke.
2. See Jiang.
3. See National Vital Statistics Report.
4. See Insured Retirement Institute.
5. See Social Security.

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INVEST IN HUMAN CAPITAL TO BUILD A BETTER FUTURE

ENDNOTES

1. See Yellen.
2. See Employment Projections.
3. See Boshara et al.
4. See Lusardi.
5. See Mishkin.
6. See data in FRED (Federal Reserve Economic Data) at <https://fred.stlouisfed.org/graph?q=chrH>.
7. See Fernald et al.
8. See Poole.
9. See Bernanke.

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Our economic education team has a combined 100-plus years of experience in the field of education. Seated (left to right) are: Andria Matzenbacher, senior learning technology designer; Barb Flowers, senior economic education manager; Mary Suiter, assistant vice president and economic education officer; Eva Johnston, senior economic education specialist; and Kris Bertelsen, senior economic education specialist in our Little Rock Branch. Standing (left to right) are: Mark Bayles, senior economic education specialist; Scott Wolla, senior economic education specialist; Erin Yetter, senior economic education specialist in our Louisville Branch; Katrina Stierholz, vice president and head of the Bank's library; and Jeannette Bennett, senior economic education specialist in our Memphis Branch.



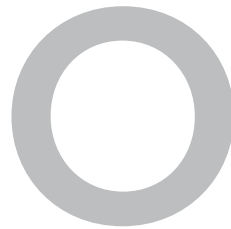
ANSWER KEY FOR QUIZ

For each question on page 48, you'll find an answer and a list of related resources from the St. Louis Fed on this page. All of our resources—from online courses to award-winning videos, podcasts, lesson plans, and more—are available free of charge at www.stlouisfed.org/education.

<p>1. If your annual income rises by 50 percent while prices of the things you buy rise by 100 percent, then your</p> <p>b. real income has fallen.</p>	<ul style="list-style-type: none"> • The Great Inflation Online Course for Consumers • Inflation Online Course for Consumers • The Economic Lowdown Podcast Series, Episode 14: Getting Real about Interest Rates
<p>2. If the government charges a new tax of \$1 on every pair of blue jeans sold, which would most likely result?</p> <p>a. Consumers would pay a higher price for blue jeans and buy fewer pairs of blue jeans.</p>	<ul style="list-style-type: none"> • Interactive Whiteboard Activity: Tax Incidence
<p>3. The opportunity cost of a new public high school is the</p> <p>d. other goods and services that must be given up for the new school.</p>	<ul style="list-style-type: none"> • Opportunity Cost Online Course for Consumers • Once Upon a Decision Online Course for Consumers • The Economic Lowdown Podcast Series, Episode 1: Opportunity Cost
<p>4. What is meant by the statement that every economic system faces the problem of scarcity?</p> <p>c. There are never enough productive resources to satisfy all human wants.</p>	<ul style="list-style-type: none"> • Monster Musical Chairs Lesson (Grades K-1) • Page One Economics: Choices Are Everywhere. Why Can't We Just Have It All? • So Few of Me Lesson (Grades 1-3)
<p>5. A high school student buys a sweatshirt from a store. The sweatshirt is on sale at a 20 percent discount off the regular price. In this exchange,</p> <p>a. both the student and the store benefit.</p>	<ul style="list-style-type: none"> • Parent Q&A for Sheep in a Shop (Grades K-2) • Explore Economics Video Series, Episode 3: What Makes Something Useful as Money? (Grades 3-5)
<p>6. An economy will typically experience a decline in its unemployment rate when there is</p> <p>c. an increase in economic growth.</p>	<ul style="list-style-type: none"> • Unemployment Short Courses Series • What Is Unemployment, How Is it Measured, and Why Does the Fed Care? Lesson (Grades 7-10) • The Economic Lowdown Podcast Series, Episode 5: Unemployment

Ready to test your knowledge further? Take the complete test online at www.stlouisfed.org/annual-report/2016.

OUR PEOPLE, OUR WORK



Our mission at the Federal Reserve Bank of St. Louis is to promote stable prices, encourage maximum sustainable economic growth and support financial stability for constituents in our Eighth District and across the United States. The following numbers offer a snapshot of how the St. Louis Fed—through our people and our work, and with vision and purpose—**brought this mission to life** over the past year.



THE
FEDERAL
RESERVE
BANK of
ST. LOUIS

RANKED
#1

TOP
WORK
PLACES
2016

ST. LOUIS POST-DISPATCH

OUR
PEOPLE

OUR PEOPLE

No. 1 ranking in the St. Louis Post-Dispatch's Top Workplaces 2016 survey, Large Employer category.

President James Bullard named **No. 58** on Worth magazine's Power 100 list of the most powerful men and women in global finance for 2016. Bullard was the only Reserve bank president named to the list.

Perfect score of **100** in the Human Rights Campaign's Best Places to Work Corporate Equality Index, for our inclusive policies related to LGBT employees.

1,316 staff, the majority at the District's headquarters in St. Louis, with staff also located at branches in Little Rock, Louisville and Memphis.

36 college and **8** high school students served as interns for the Bank.

Launch of a **5th** employee-led resource group: SERVE, for military veterans. The other four focus on women, African-Americans, Asians and the LGBT community.



SAFETY AND SOUNDNESS

SAFETY AND SOUNDNESS

Supervised **130** state-member banks, plus **494** bank and savings and loan holding companies.

1.1 billion currency notes inspected and authenticated.

3,500 suspect counterfeit notes removed from circulation.

Shredded and composted **116,260** pounds of cash deemed unfit for circulation.

Assisted federal agencies in identifying nearly **\$59 million*** in improper payments—curtailing payment errors, waste, fraud and abuse—as fiscal agent to the U.S. Treasury and its Do Not Pay program.

28,613 hours dedicated by internal auditors to reviewing St. Louis Fed operations.

**Total is for fiscal year 2016.*



ECONOMIC RESEARCH

The research productivity of St. Louis Fed's economic research division ranked:

- **No. 6** among all research departments at central banks worldwide,
- **No. 35** among all U.S. research institutions, and
- **No. 59** among all research institutions worldwide.

More than **421,000** data series in FRED®, the St. Louis Federal Reserve's free online economic database, used by people in **171** countries.

61,049 pageviews of GeoFRED®, our geographical economic data tool that allows users to transform data in FRED® to create and share maps by geographic category and time frame.

2.2 million economic research items from around the world that anyone can access for free via IDEAS.*

**IDEAS is the world's largest bibliographic database dedicated to economics. This service, provided by RePEc (Research Papers in Economics), is hosted by our research division.*



PUBLIC OUTREACH

PUBLIC OUTREACH

16,500 bankers, regulators and other industry participants joined our call-in and in-person information sessions providing information on financial and regulatory developments.

519 people attended Dialogue with the Fed events, our evening lecture series on timely economic issues, in St. Louis and Memphis. Similar outreach events across the Eighth District attracted attendees numbering **503** in Little Rock, **1,464** in Louisville and **687** in Memphis.

10,500 people attended presentations about the economy and Fed-related issues requested through our public speakers bureau.

11,139 people signed up for **44** workshops, conferences, speeches and other events sponsored by our community development department on economic factors affecting low- and moderate-income communities in the District.

Staff met with **550** bankers, business and community leaders to discuss local economic conditions.

500 people registered for **10** forums in Helena, Ark., and Greenwood, Miss., as part of the launch of our Delta Communities initiative, aimed at strengthening communities in that region.

11,203 visitors toured the Inside the Economy® Museum in its second year of operation at the District's headquarters in St. Louis.

COMMUNICATION AND SOCIAL MEDIA



CORPORATE CITIZENSHIP



COMMUNICATION AND SOCIAL MEDIA

48 million pageviews of the St. Louis Fed's website.

365,180 pageviews of our On the Economy blog.

150,249 pageviews of The FRED Blog.

67,569 followers on Twitter @stlouisfed, which ranked **No. 4** on InvestorPlace's Top 10 list of "Who to Follow on Twitter: A Stock Trader's Guide."

7,197 followers on LinkedIn and **7,552** Facebook page Likes.

59,520 subscribers to all of our online and print publications and newsletters.

CORPORATE CITIZENSHIP

\$226,335 donated by St. Louis Fed employees around the District to local United Way campaigns.

\$35,960 raised by employees to support food banks and feeding programs for the needy in the St. Louis area.

More than **7,000** back-to-school supplies donated by Bank employees to Operation Food Search.

154 tons of waste that in the past would have gone to landfills were recycled or composted.

OUR LEADERS, OUR ADVISERS

The Federal Reserve's decentralized structure—the Board of Governors, the Federal Open Market Committee and 12 Reserve banks—ensures that the economic conditions of communities and industries across the country are taken into consideration when deciding monetary policy. Members of our boards of directors and our advisory councils represent the diverse perspectives of Main Street within the Eighth Federal Reserve District.

Listed on the following pages are board members from each of the four zones of the Eighth District: St. Louis, Louisville, Ky. (celebrating its centennial year), Little Rock, Ark., and Memphis, Tenn. Members of our advisory councils are also shown, as are members of the Bank's Management Committee, officers of the Bank, and retirees from our boards and our advisory councils. All lists are current as of March 31, 2017.

THE CULTURE OF A TOP WORKPLACE

Culture is vital to the long-term success of any organization. A strong culture infuses employees with a sense of purpose that translates into a passion for serving their customers and communities.

As chair of the Federal Reserve Bank of St. Louis, I have been impressed by the culture that permeates this entire organization. The Bank's culture stems from its deeply held core values of diversity, inclusion, innovation, integrity, a commitment to the public interest, a focus on constituents and independence of views. Those who work with and for the St. Louis Fed already appreciate this positive workplace culture, so I was thrilled when the Bank earned external recognition as the No. 1 Top Workplace among large employers in St. Louis for 2016.

The Bank's core values not only define how work gets done every day, but also help to establish priorities, such as promoting economic education and financial literacy, the focus of this year's annual report. Educating people about the importance of making wise financial decisions is one way that the Bank fulfills its mission of building a healthy economy and promoting financial stability. While each individual may only make a small difference, the collective impact of our financial decisions has the power to influence the entire economy.

Each time my fellow directors and I interact with the St. Louis Fed's leaders, we learn more about how the Bank's culture and values drive the employees to make a positive difference. We see the results that each employee in St. Louis and the branch cities of Little Rock, Louisville and Memphis

brings to his or her unique role. Collectively, the Bank's management and staff ensure that the economy of "Main Street" is taken into account in monetary policy decision-making.

The St. Louis Fed strives to create a workplace culture that brings out the best in each employee. This culture inspires employees to develop innovative ideas and solutions, while reinforcing the shared values that strengthen the entire team and produce lasting benefits to our community.



Kathleen M. Mazzarella
Chair of the Board of Directors
Federal Reserve Bank of St. Louis



Mazzarella is chairman, president and CEO of Graybar Electric Co. Inc

PHOTO COURTESY OF GRAYBAR ELECTRIC CO INC.



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James Bullard (center), president and CEO of the Federal Reserve Bank of St. Louis, meets with guests following a presentation by him.



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Robert Hopkins (left), senior vice president and regional executive of the Little Rock Branch, talks with University of Arkansas-Fort Smith Chancellor Paul Beran following a speech there by St. Louis Fed President James Bullard.

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Nikki Jackson (left), senior vice president and regional executive of the Louisville Branch, at a discussion that St. Louis Fed President James Bullard had in Louisville with area business leaders.

COMMEMORATING

100
Years
1917 - 2017

LOUISVILLE BRANCH CENTENNIAL

On Dec. 3, 1917, the first branch of the Federal Reserve Bank of St. Louis was opened, in Louisville. The city's regional importance as an industrial base and leading banking center made it nearly certain that the Federal Reserve would open a branch there.

Nearly a century later, the Louisville Branch still serves the communities of southern Indiana and central and western Kentucky. Its early role as an operations center for check and cash processing has shifted to one of public outreach, notably in the areas of community development and economic education.

In 2016 alone, Louisville's public outreach efforts included more than 130 meetings with local busi-

ness leaders, more than 20 speeches, nearly a dozen economic-outlook events and roughly 40 visits with bank CEOs. Public outreach also brought economic literacy resources to schools, from pre-K through college, and supported a pilot program to introduce children's savings accounts to local elementary schools. The Louisville Branch also collaborated with our Center for Household Financial Stability on events aimed at strengthening the balance sheets of families—and the list goes on.

To learn more about the Louisville Branch, visit www.stlouisfed.org/louisville.

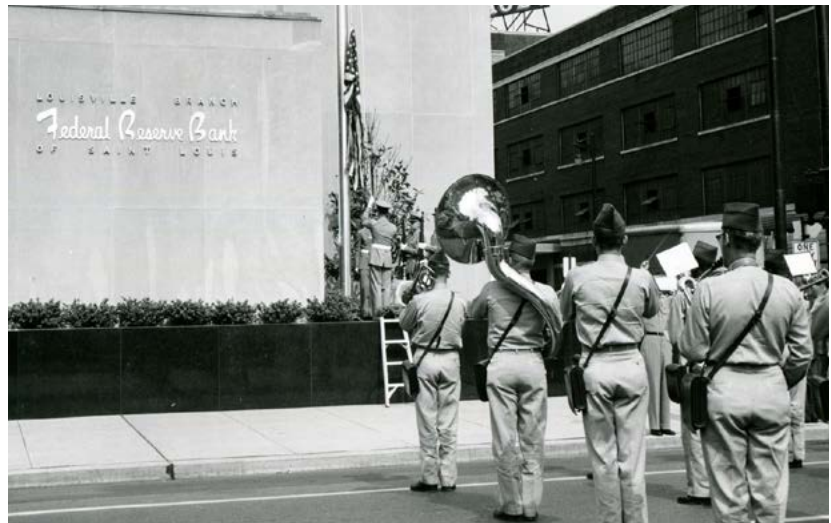


Photo by Doris Kuprion of Louisville, Ky.

When the Branch's new building was opened in 1958 (above), the 158th Army Band from nearby Fort Knox provided music, while the color guard from the University of Louisville Navy ROTC raised the flag. In 1947 (left), the Fed's outreach was a literal endeavor as bankers and others climbed over fences on a farm near Princeton, Ky., to hear a St. Louis Fed economist talk about pastures. In the Branch's new location today (above left), the board of directors meets.

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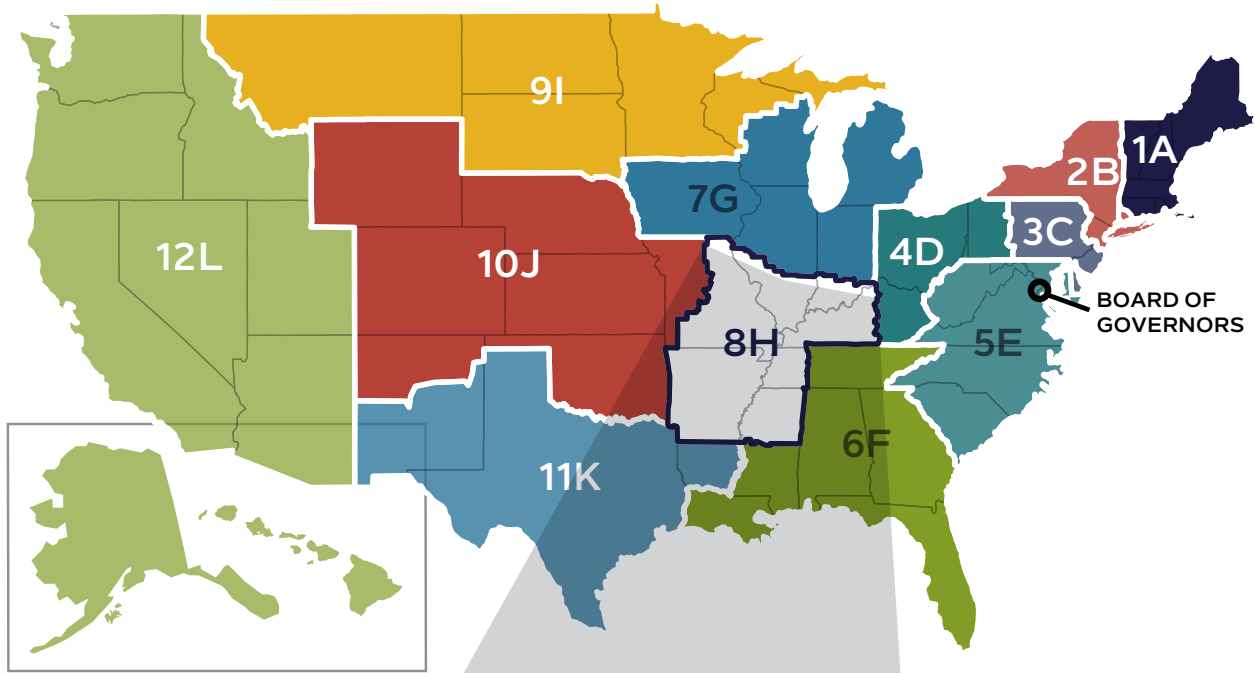
Eric D. Robertson
President, Community
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Memphis, Tenn.



Douglas Scarborough (left), senior vice president and regional executive of the Memphis Branch, chatting with former Memphis board member J.W. Gibson II while on a tour of Memphis sights with other St. Louis Fed officials.

THE EIGHTH FEDERAL RESERVE DISTRICT—8H

The Eighth Federal Reserve District is composed of four zones, each of which is centered around one of the four cities where our offices are located: St. Louis (headquarters), Little Rock, Louisville and Memphis. Nearly 15 million people live in the Eighth Federal Reserve District.



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Council members represent a wide range of Eighth District industries and businesses and periodically report on economic conditions to help inform monetary policy deliberations.

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Council members meet twice a year to advise the St. Louis Fed's president on the credit, banking and economic conditions facing their institutions and communities. The council's chair also meets twice a year in Washington, D.C., with the Federal Reserve chair and governors.

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Amy Whitehead

Director, Community Development Institute
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Vice President and Regional Branch
Administrator, Hope Federal Credit Union
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The council keeps the St. Louis Fed's president and staff informed about community development in the Eighth District and suggests ways for the Bank to support local development efforts.

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Ronald J. Kruszewski
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Stifel Financial Corp.
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The FAC is composed of one representative from each of the 12 Federal Reserve districts. Members confer with the Fed's Board of Governors at least four times a year on economic and banking developments and make recommendations on Fed System activities.

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We express our gratitude to those members of the boards of directors and of our advisory councils who retired over the previous year.

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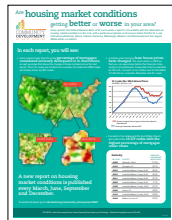
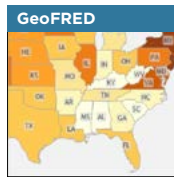
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