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Quantitative Easing Explained

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"All the perplexities, confusions, and distresses in America arise, not from defects in their constitution or confederation, not from a want of honor or virtue, so much as from downright ignorance of the nature of coin, credit, and circulation."
—John Adams in a letter to Thomas Jefferson, August 25, 1787

The recent financial crisis and its aftermath have proven to be a great challenge for the Federal Reserve. In late 2008, in response to rapidly deteriorating economic and financial conditions, the Federal Open Market Committee (FOMC) pushed the federal funds rate target[1] close to zero. As conditions worsened, the Fed turned to nontraditional policies to bolster financial market conditions. Such policies include large-scale asset purchases—in the hundreds of billions of dollars range—of, for example, mortgage-backed securities[2] and Treasury securities. This action is commonly called "quantitative easing" (QE).[3] Some believe QE will sharply increase inflation rates; however, these fears are not consistent with economic theory and empirical evidence—assuming the Fed is both willing and able to reverse QE as the recovery gains momentum.[4]

Typically, the FOMC changes the federal funds rate target to achieve its dual mandate of maximum sustainable economic growth and price stability. From September 2007 to June 2008, the FOMC incrementally lowered the federal funds rate target from 5.25 percent to 2 percent as turmoil engulfed credit markets. The financial panic intensified in mid-September 2008 when the investment banking company Lehman Brothers declared bankruptcy (the largest such filing in U.S. history) and American International Group (AIG) neared bankruptcy as its stock plummeted. In response, the Fed rolled out new emergency lending programs and lowered the federal funds rate target in October 2008 from 2 percent to 1 percent. In December 2008, the continuing severity of the crisis prompted the Fed to drop the target to the extraordinarily low range of between 0 and 0.25 percent, where it has remained. Because nominal interest rates cannot go below zero and the Fed needed to continue to support a weakened economy, it turned to nontraditional policy, including QE.

QE affects the economy through changes in interest rates on long-term Treasury securities and other financial instruments (e.g., corporate bonds). To have an appreciable impact on interest rates, QE requires *large-scale* asset purchases. When the Fed makes such purchases of, for example, Treasury securities, the result is an increased demand for those securities, which in turn raises their prices. Treasury prices and yields (interest rates) are inversely related: As prices increase, interest rates fall. As interest rates fall, the cost to businesses for financing capital investments, such as new equipment, decreases. Over time, new business investments should bolster economic activity, create new jobs, and reduce the unemployment rate. QE is not a new approach; it was used by the Fed in the 1930s,[5] the Bank of Japan in 2001,[6] and more recently by the Bank of England. Since 2009, the Fed has initiated QE two times, each with different goals.

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[1] For more on traditional monetary policy and the federal funds rate, see Liborio, Constanza S. "Fiscal and Monetary Policy in Times of Crisis." Federal Reserve Bank of St. Louis *Liber8*, March 2011.

[2] A mortgage-backed security is an investment vehicle composed of pools of mortgages. Banks create mortgage loans that comply with standards set by Fannie Mae and Freddie Mac. These institutions then pool the mortgages for sale to investors. This allows banks to free up capital for other loans.

[3] The technical term for the policy is "credit easing." For more on the differences between "quantitative easing" and "credit easing," see Bernanke, Ben S. "The Crisis and the Policy Response." Speech at the London School of Economics, January 13, 2009.

[4] See Anderson, Richard G.; Gascon, Charles S. and Liu, Yang. "Doubling Your Monetary Base and Surviving: Some International Experience." Federal Reserve Bank of St. Louis *Review*, November/December 2010, *92*(6), pp. 481-505.

[5] Anderson, Richard G. "The First U.S. Quantitative Easing: The 1930s." Federal Reserve Bank of St. Louis *Economic Synopses*, No. 17, 2010.

[6] Spiegel, Mark M. "Did Quantitative Easing by the Bank of Japan 'Work'?" Federal Reserve Bank of San Francisco *Economic Letter*, No. 2006-28, October 20, 2006.

The first round of QE began in March 2009 and concluded in March 2010. One of the primary goals was to increase the availability of credit in private markets to help revitalize mortgage lending and support the housing market. To accomplish this goal, the Fed purchased $1.25 trillion in mortgage-backed securities and $200 billion in federal agency debt (i.e., debt issued by Fannie Mae, Freddie Mac, and Ginnie Mae to fund the purchase of mortgage loans). To help lower interest rates in general (and thaw the frozen private credit market), the Fed also purchased $300 billion in long-term Treasury securities.

The second round of QE, widely called QE2, began in November 2010 and is scheduled to conclude by the end of the second quarter of 2011. Its goal is to strengthen the economic recovery and combat a possible Japanese-style deflationary outcome.[7] QE2 works toward both of these objectives by fostering economic growth through lower interest rates intended to spur consumer spending and business investment. During QE2, the Fed will purchase up to $600 billion in long-term Treasury securities.

Critics of QE warn that because QE increases the monetary base[8] significantly, dramatic inflation could result. Currently, banks hold a large amount of reserves, which constitutes the largest component of the monetary base. If banks were to loan these reserves, they would effectively increase the money supply. If the money supply were to grow at a rapid rate, the resulting increase in economic activity could cause inflation to accelerate and expectations of future inflation to increase. The Fed, however, remains confident that its programs, including incentives for banks to retain their reserves, will prevent such an outcome.[9] For example, the Fed pays banks interest on reserves at Fed banks. If the interest rate on these reserves is higher than the return banks could receive from alternative investments (the banks' opportunity cost), reserves will remain idle.

Public expectations of future inflation are also crucial in determining the path of inflation and the ultimate effect of QE. If the public trusts that the increase in the monetary base QE creates is only temporary, then they will *not* expect rapid inflation in the near future. These expectations collectively influence actual pricing behavior and, in turn, actual inflation. As such, the credibility of the Federal Reserve is perhaps the most important determinant of successful monetary policy.

—By Lowell R. Ricketts, Research Associate

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[7] For a more in-depth look at deflation, see El-Ghazaly, Hoda. "Deflation: Who Let the Air Out?" Federal Reserve Bank of St. Louis *Liber8*, February 2011.

[8] The monetary base, the narrowest measure of money, is the sum of currency in circulation and bank reserves. Bank reserves are deposits of financial institutions at Federal Reserve Banks, plus the amount of currency and coin held in bank vaults.

[9] For details, see Bernanke, Ben S. "Federal Reserve's Exit Strategy." Testimony before the Committee on Financial Services, U.S. House of Representatives, Washington, D.C., February 10, 2010.

Recent Articles and Further Reading on Quantitative Easing

"What Is QE2? Understanding the Fed's Latest Monetary Policy Moves," by Amy Hennessy, Federal Reserve Bank of Atlanta *Extra Credit*, Spring 2011.

This article explains the FOMC's decision in November 2010 to institute another round of large-scale asset purchases, often referred to as QE2.

"The Downside of Quantitative Easing," by Daniel L. Thornton, Federal Reserve Bank of St. Louis *Economic Synopses*, No. 34, 2010.

This essay analyzes the potential dangers if banks lend or invest their current excess reserves and increase the money supply.

"Quantitative Easing Explained: Putting More Money into Our Economy to Boost Spending," by the Bank of England, 2010.

This pamphlet explains the basic concept of quantitative easing and how low and stable inflation is crucial to a thriving and prosperous economy.

Free Resources and Data Sources

Resource: The Financial Crisis: A Timeline of Events and Policy Actions
Description: A timeline with brief descriptions of major financial events and policy actions since February 2007. Includes a glossary, FAQs, and links to related data series, publications, and cooperating agencies.
Published by: Federal Reserve Bank of St. Louis
Location: http://timeline.stlouisfed.org/

Resource: The Federal Reserve's Balance Sheet
Description: Details of the scope and scale of Federal Reserve operations as represented by the assets and liabilities on the Fed's balance sheet, which includes QE1 and QE2 (on Table 8). See the Table 8 Interactive Guide for an explanation of each item on the balance sheet.
Published by: Board of Governors of the Federal Reserve System
Location: www.federalreserve.gov/monetarypolicy/bst_fedsbalancesheet.htm

Resource: Focus on Economic Data: The Federal Reserve and Monetary Policy, January 26, 2011
Description: A lesson plan, based on the January 26, 2011, Federal Reserve press release, to help students understand current and possible Federal Reserve actions that influence prices, employment, and economic growth.
Published by: EconEdLink, Council for Economic Education
Location: www.econedlink.org/economic-resources/focus-on-economic-data-federal-reserve.php

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