

# Economic SYNOPSES

short essays and reports on the economic issues of the day



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## Has QE Been Effective?

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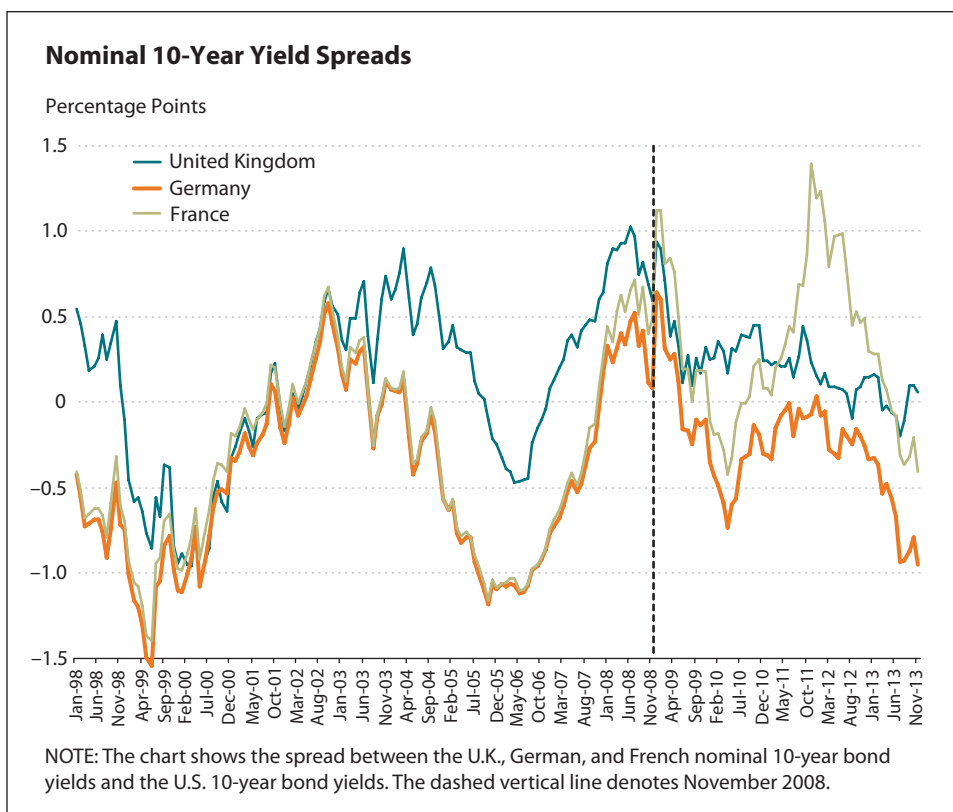
In the wake of the 2007-09 financial crisis, the Federal Open Market Committee (FOMC) began purchasing large quantities of longer-term private and government securities in an attempt to reduce longer-term yields. This operation was dubbed quantitative easing (QE). Longer-term yields declined by relatively large amounts on days when the FOMC made specific QE announcements. However, the objective of QE has been to reduce long-term yields beyond the levels they would have reached in order to stimulate aggregate demand and, thereby, increase output and employment.<sup>1</sup> This essay compares the relationship between long-term sovereign yields in the United States with those of countries that did not engage in QE during that period. If U.S. QE reduced long-term yields beyond what they would have otherwise been, the 10-year Treasury yield should have declined relative to sovereign yields in countries that did not engage in QE.

The first chart shows the spread between the U.K., German, and French nominal 10-year bond yields and the U.S. 10-year bond yields from January 1998 through November 2013. The dashed vertical line denotes November 2008; the first QE announcement occurred on November 25, 2008. The three spreads rose sharply from November to December, reflecting the sharp December decline in the Treasury yield relative to the other sovereign yields. The increase was extremely short-lived, however, as all three spreads peaked in January 2009 and declined throughout the year.

If QE reduced long-term yields relative to what they would have otherwise been, there should be a statistically significant change in the behavior of the spreads after the FOMC began its QE policy. The possibility of a significant change in the behavior of the

**Longer-term yields declined by relatively large amounts on days when the FOMC made specific QE announcements. However, the objective of QE has been to reduce long-term yields beyond the levels they would have reached without QE.**

spreads was investigated using a Bai-Perron test. Results showed no statistically significant breaks in the German or U.K. spreads and a statistically significant break in the French spread. This break occurred in September 2007 and corresponds to the widening in the spread between the French and German spreads. This widening reflects

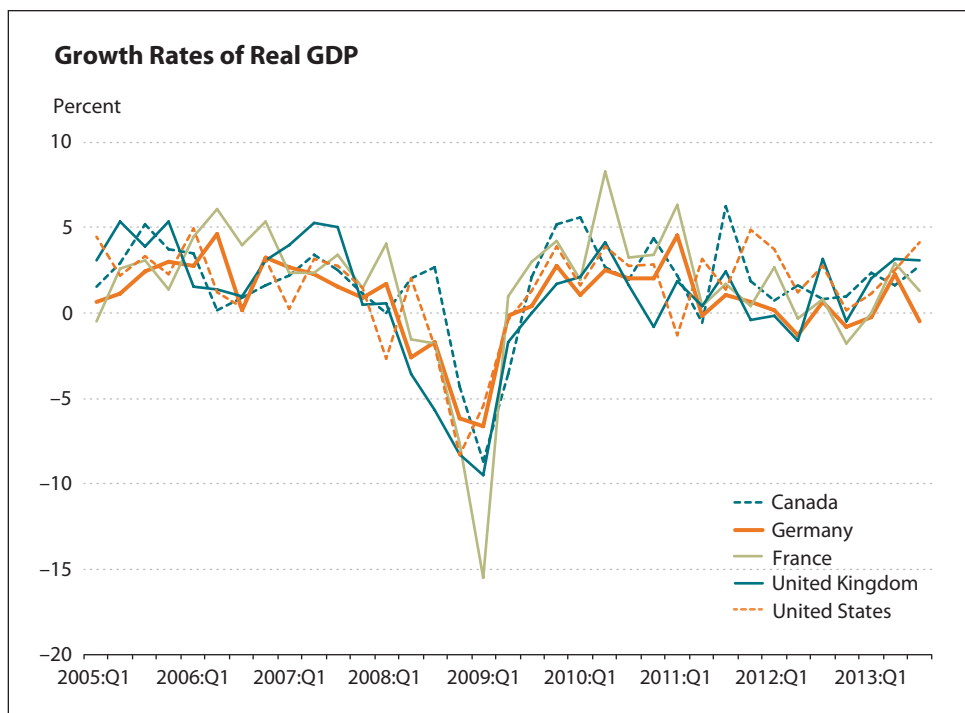


an increase in default risk associated with holding French bonds and is not evidence of the effectiveness of QE.

The lack of statistically significant change in the behavior of the spreads following the adoption of QE could be due to other factors that reduced sovereign yields relative to the Treasury yield. Differences in the expected rates of inflation across countries are one possibility. However, results of the same analysis using real 10-year yields for Canada and Germany are nearly identical to those using nominal yields.

Another possibility is that other countries experienced a greater output decline relative to that of the United States, which caused their yields to decline compared with the United States. The second chart shows the gross domestic product (GDP) growth rates of Canada, France, Germany, the United States, and the United Kingdom since 2005. The GDP growth patterns of four of the five countries have been similar since the fourth quarter of 2008; the sole exception is France, whose growth declined more. Hence, it appears unlikely that divergent growth rates could account for the lack of support for QE.

A third possibility is that the default risk on Canadian, German, and U.K. sovereign debt could have declined relative to that of the United States over this period. If so, there would be no statistically significant change in the behavior of the spreads even if QE reduced long-term bond yields relative to what they would have otherwise been. However, U.S. and Canadian 10-year credit default swaps fell relative to those in the euro area and the United Kingdom. If anything, this change would have exacerbated the effect of QE on the behavior of yield spreads.



The analysis presented here suggests that QE had little or no effect in reducing long-term yields relative to what they would have otherwise been.<sup>2</sup> If QE did not significantly reduce long-term yields relative to what they would have otherwise been, it cannot have increased output or employment either. ■

## NOTES

<sup>1</sup> See Thornton, Daniel L. "An Evaluation of Event-Study Evidence on the Effectiveness of the FOMC's LSAP Program: Are the Announcement Effects Identified?" Working Paper No. 2013-033A, Federal Reserve Bank of St. Louis, October 2013; <http://research.stlouisfed.org/wp/2013/2013-033.pdf>.

<sup>2</sup> For other evidence on the effectiveness of QE, see Thornton, Daniel L. "QE: Is There a Portfolio Balance Effect?" (forthcoming in Federal Reserve Bank of St. Louis *Review*, First Quarter 2014).