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THE RESPONSE OF INTEREST RATES TO US AND UK QUANTITATIVE EASING*

Jens H. E. Christensen and Glenn D. Rudebusch

We analyse declines in government bond yields following announcements by the Federal Reserve and the Bank of England of plans to buy longer term debt. Using dynamic term structure models, we decompose US and UK yields into expectations about future short-term interest rates and term premiums. We find that declines in US yields mainly reflected lower expectations of future short-term interest rates, while declines in UK yields appeared to reflect reduced term premiums. Thus, the relative importance of the signalling and portfolio balance channels of quantitative easing may depend on market institutional structures and central bank communication policies.

In late 2008, the Federal Reserve lowered its target policy rate – the overnight federal funds rate – effectively to its zero lower bound. Given a deteriorating outlook for economic growth and a perceived threat of price deflation, the Fed began to purchase longer term securities to push down bond yields and provide additional monetary policy stimulus to the economy. Similarly, in the early spring of 2009, the Bank of England, which had lowered its policy interest rate – the Bank Rate – to its effective zero lower bound, projected weak UK economic growth and a medium-term inflation rate that was below its official 2% target. Therefore, the Bank of England announced plans to purchase government bonds to increase nominal economic activity.

Facing similar circumstances, the Federal Reserve and the Bank of England purchased roughly comparable amounts of bonds – both relative to the size of their economies and to the stocks of outstanding government debt. Recent research also suggests that the two central bank bond purchase programmes induced a comparable reduction in government bond yields in each country. For the US, Gagnon *et al.* (GRRS) (2011) report a cumulative decline in the 10-year US Treasury yield of 91 basis points following eight key announcements about the Fed's first programme of large-scale asset purchases (LSAPs).[1] For the UK, Joyce *et al.* (JLST) (2011) report that long-term UK government bond (or gilt) yields fell a total of about 100 basis points after six key quantitative easing (QE) announcements.[2] Furthermore, both GRRS and JLST provide evidence suggesting that the same mechanism – the portfolio balance channel – was primarily responsible for the bond yield responses in each country.[3] The portfolio balance channel operates when the central bank bond purchases, which change the relative supply of assets held by the

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[1] D'Amico and King (2010), Hamilton and Wu (2012) and Krishnamurthy and Vissing-Jorgensen (2011) provide further discussion.

[2] Note that JLST focus on a two-day event window, while GRRS use a one-day window.

[3] However, as described below, GRRS and JLST emphasise different versions of the portfolio balance channel. GRRS focus on a duration removal version, while JLST focus on a market segmentation version.