Annex 1.8. The Effects of Large-Scale Asset Purchase Programs

This annex discusses the impact of the introduction and subsequent expiration of large-scale asset purchase programs on the cost of credit in the United States, United Kingdom, and the euro area.[1]

Beginning in late-2008, major central banks introduced large-scale asset purchase programs (LSAPs) in an effort to reduce the cost and increase the availability of credit, facilitate secondary market activity, reduce liquidity premia, and improve conditions in financial markets more generally. The Federal Reserve announced its intention in November 2008 to purchase $100 billion in agency debt, $500 billion in agency-backed mortgage-backed securities (MBS). In March 2009, the program was expanded to $1.25 trillion in agency-backed MBS, $200 billion in agency debt, and $300 billion in Treasury securities. The full amount of treasuries was purchased by end-October 2009, while $175 billion of agency debt and the full $1.25 trillion of agency-backed MBS were purchased by end-March 2010 (Table 1.17). The Bank of England's asset purchase scheme was announced and implemented beginning March 2009, and was focused on gilt purchases and to a lesser extent private sector assets; the program was eventually expanded to a target of £200 billion. The ECB's credit-easing program, which was initiated in mid-2009, earmarked €60 billion in covered bond purchases by end-June 2010.

Table 1.17. Central Bank Purchases

	Total outstanding (billions of local currency)	Amount of central bank purchases to date (billions of local currency)	Targeted central bank purchases (billions of local currency)	Central bank purchases (as a percent of outstanding)
United States				
Treasuries	7,358	300	300	4.1
Agency MBS	5,577	1250	1250	22.4
Agency debt	2,824	175	175	6.2
United Kingdom				
Gilts	803	200	200	24.9
Corporate bonds		2		
Commercial paper		0		
Euro area covered bonds	1600	40	60	3.8

Sources: Bank of England; European Central Bank; Federal Reserve; and Securities Industry and Financial Markets Association.

The LSAPs generally had their intended impact on credit costs (Table 1.18). Ten-year U.S. treasury yields declined nearly 50 basis points following the initial announcement of the Federal Reserve's asset purchase program in November 2008. The Fed's asset purchase program had a more pronounced impact on the agency and MBS market, reducing agency debt spreads to treasuries by around 60 basis points on the week. In the United Kingdom, the introduction of the BoE's asset purchase scheme also triggered a 60 basis points decline in 10-year gilt yields over a one week time period. In the euro area, the ECB's covered bond purchase program helped to stabilize the covered bond market, leading to higher and more longer-dated issuance and tighter covered bond spreads across nearly all jurisdictions and maturities.

[1] This annex was prepared by Rebecca McCaughrin.

Table 1.18. Credit Cost Impacts

	Pre-announcement	Announcement	Announcement + 7 days	Start of Purchases	End of Purchases	Current
10-year treasury (percent)	3.00	2.53	2.76	2.78	3.38	3.88
change since pre-announcement (basis points)		-47	-24	-22	38	88
30-year fixed MBS current coupon (percent)	5.41	4.97	4.12	4.05	4.51	4.55
change since pre-announcement (basis points)		-44	-129	-136	-90	-86
10-year agency debt (percent)	4.93	4.36	3.48	3.67	3.63	3.75
change since pre-announcement (basis points)		-57	-145	-126	-130	-118
10-year gilt (percent)	3.64	3.36	3.03	3.09		4.06
change since pre-announcement (basis points)		-28	-61	-55		42
Euro area covered bond (percent)	3.93	3.98	3.68	3.65		2.82
change since pre-announcement (basis points)		5	-25	-28		-111

Source: Bloomberg L.P.

Beyond the initial response, it is difficult to isolate the effect of the LSAPs from the broader improvement in global risk premia and liquidity conditions, as broader credit spreads also tightened following the announcement and implementation of the programs. Regression analysis, for the most part, though, generally confirms the findings from event studies. [2]

In addition to a compression in spreads, the LSAPs also improved liquidity conditions. The introduction of LSAPs helped to boost market liquidity, narrowing bid-ask spreads, boosting turnover volumes, reducing the new issuance premium on corporate bonds, and narrowing the spread between gilt or treasury yields and OIS rates – a proxy for liquidity premia.[3]

Whereas the initiation of the LSAP programs triggered a significant narrowing in spreads, the expiration of the various programs has so far had only a limited effect on credit costs. Since the Fed completed its Treasury debt purchases at the end of October 2009, yields have risen about 50 basis points at the long-end of the curve. A similar trend has been seen in the United Kingdom where longer-dated gilt yields have come under pressure on the back of rising net new issuance and a shift toward longer-dated supply, as well as increased fiscal concerns.

The muted effect is in part due to the fact that the end of the programs were well-telecast to the market in advance, while the pace of purchases also diminished over time, smoothing the effect

[2] Gagnon, Raskin, Remache and Sack (2010) estimated the impact on treasury yields was around 90 basis points and about 110 basis points on MBS yields. Another study (Stroebel and Taylor, December 2009) found a somewhat less pronounced impact of credit-easing measures on MBS spreads, instead attributing much of the tightening to a coincidental decline in prepayment and default risks. Our own analysis showed that (i) the Federal Reserve's purchases were the dominant driver of mortgage rates over a truncated time period and that (ii) the projected impact was largely consistent with the actual repricing that occurred.

[3] The improvement was delayed in the euro area covered bond market, as investors were reportedly reluctant to sell, price transparency was weak, and banks still had insufficient balance sheet capacity to support market-making activities. There has been greater improvement in market liquidity since late-2009. See ECB *Financial Stability Report*, December 2009.

of exiting from the market. While there is likely to be some upward pressure on both agency and MBS rates as market conditions normalize, a number of factors should contain upward pressure at least in the near-term, including (i) limited net new mortgage supply; (ii) a potential reallocation by underweight institutional investors; (iii) the lack of alternative available credit-related assets; and (iv) a continued expansion in banks' securities books. Clearly, an unwind of central bank holdings could trigger a more pronounced rise in credit costs, though such actions appear unlikely in the immediate future.