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ECB Unconventional Monetary Policy: Market Impact and International Spillovers

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Notes

1. See for example R. Rajan, "Global Monetary Policy: A View from Emerging Markets," Brookings Institution, April 10, 2014.

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7. See [Figure 1](#) for the evolution of the balance sheet of the ECB.
8. It is worth noting also the following technical details: first, all the SLTROs and VLTROs were preannounced by the ECB who communicated to markets precise schedules for operations. Second, initially, auctions took place for preset amounts at variable rate tenders where banks bid both the amount of money and the interest rate. In these auctions, the ECB would satisfy the demand of liquidity starting from the highest offered interest rate until exhaustion of the preset amount of loans available for auction. However, in October 2008, as the crisis intensified, the ECB moved to a framework where it agreed to satisfy all the liquidity demanded by banks (“full allotment”) against collateral. Also, the variable rate tenders were abandoned and the cost of liquidity was linked to the average main refinancing rate (the discount rate)

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However, the latter analysis would entail particular challenges that go beyond the scope of this paper. The analysis would require estimating a term structure model to extract the expected path of the short-term rate for each of the more than 30 individual countries in the sample. Data limitations and modeling uncertainty would complicate the analysis. To our knowledge, from the literature it emerges that the importance of the signaling channel is model dependent ([Bauer and Rudebusch, 2014](#); [Bauer and Neely, 2014](#)). Against the background of the impact of the modeling strategy on the results, a credible analysis of the signaling channel would call for the adoption of different term structure models. We feel that this goes beyond the scope of our paper.

14. In the EA core, we include countries whose AAA credit rating was never questioned in the period under review (Austria, Finland, Germany, and

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17. The estimation was done with STATA12.
18. This approach also reduces the concern that other events occurring over the same day drive market developments.
19. The ECB communicated the intention to “actively implement its Securities Markets Programme” on Sunday, August 7, 2011.
20. Using information on the total allotment before the auction takes place might be problematic if the sum finally allotted is not known in advance. Two considerations alleviate this concern. First, there could be market expectations on the size of the allotment. Second, before the auction, banks might start frontloading collateral (also government bonds) on the basis of

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25. As purchases are nonnegative, we estimate the reaction function with a Tobit model.
26. For the announcement dummies the procedure is the same, that is, we multiply the number of ones/events by the estimated coefficients of the dummies.
27. An earlier version of this paper presented an impulse response analysis consistent with the findings of Neely.
28. The results above survive a number of robustness tests that are described in the next sections and in the [online annex](#). For Italy and Spain, however, the positive impact of the SMP on equity prices crucially depends on the

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The tests indicate that the baseline specification delivers fairly robust results. We do not report the results for brevity.

32. Regarding the announcements related to the SMP, implied volatilities went down in response to the first SMP announcement on May 10, 2010, while they increased on the day of the second SMP announcement on August 8, 2010.
33. For emerging markets, only announcements significantly reduced yields.

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