

BIS Bulletin No 20: Online Appendix

Complementing the descriptive analysis in the Bulletin, we use a panel local linear projection regression analysis in the spirit of Jordà (2005). Specifically, we estimate the following relationship:

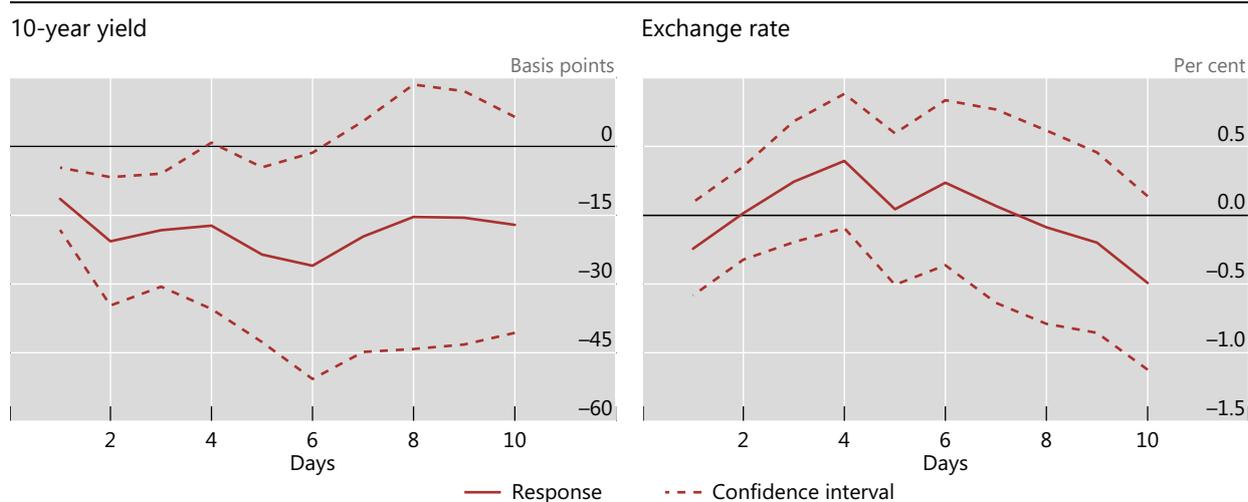
$$\Delta Y_{i,t+d} = \beta_d * IR_{i,t} + \varphi_d * BPP_{i,t} + \theta_i + \delta_t + \epsilon_{i,t+d}$$

where the dependent variable, $\Delta Y_{i,t+d}$, is the changes in either bond yields or bilateral exchange rates from the announcement date t to day $t + d$, where d ranges from 1 to 10. $BPP_{i,t}$ is a dummy variable that takes value 1 on the date of asset purchase announcement. The coefficient of interest is φ , that quantifies the impact of bond purchase announcements.

In the regressions, we control for changes in domestic policy rates ($IR_{i,t-1}$) as well as country- and time-specific dummies, θ_i and δ_t , respectively. The inclusion of time dummies is important as this controls for global news driving EME market dynamics, including major policy announcements by the ECB and Federal Reserve. The sample includes all the 13 EMEs covered in Table 1 that initiated BPPs. We use daily data from 1 January to 29 April 2020.

EME bond purchase announcements reduced bond yields

Graph A.1



Estimated impact of bond purchase announcement based on panel local linear projection regressions. The regressions control for country and time fixed effects as well as for changes in domestic policy rates. Standard errors are clustered at the country level. Confidence intervals are 90%. A falling exchange rate denotes an appreciation vis-à-vis the US dollar.

Source: Authors' calculations.

Our results suggest that, on average, the announcements of bond purchases reduced benchmark bond yields in a significant and persistent way (Graph A1, left-hand panel). On the day of the announcement, 10-year yields fell by about 10 basis points. The effect persists and further builds up in subsequent trading days, reaching a maximum of –25 basis points after six trading days. At the same time, the announcements do not appear to have affected currency values significantly (Graph A1, right-hand panel). Bilateral exchange rates against the US dollar appreciated on impact by 0.3% on average, but the effects are not significant at conventional levels and dissipate quickly.

A problem that we cannot easily overcome is that some of the bond purchases were announced in a package of measures that included policy rate cuts (for which we can control) as well as other liquidity-providing measures or FX market interventions. The estimated impact of bond purchases might be

confounded by the effects of these other measures. That said, the use of the panel data should somewhat guard against this as the mix of policy measures announced varied between countries and some BPPs were introduced on a standalone basis.

References

Jordà, Ò (2005): "Estimation and inference of impulse responses by local projections", *American Economic Review*, vol 95, no 1, pp 161–82.