

Asset Purchases and Sovereign Risk Premia in the Euro Area during the Pandemic*



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We analyse the impact of ECB asset purchases on sovereign bond spreads during the Covid-19 pandemic. Using an enhanced event study design, we trace the impact of asset purchases over time, distinguishing between announcement, expectation, and implementation effects. We find large initial announcement effects, particularly in countries with lower sovereign credit ratings. Expectations about the final size of ECB asset purchases ('the stock') and the implemented net purchases ('the flows') affected spreads at the time of market stress, but the marginal impact of additional purchase flows subsequently became smaller. Strong announcement effects and only a transient role for the expected and actual purchases are the hallmarks of a credible policy response. We conclude that the ECB succeeded in coordinating market beliefs into a 'good equilibrium.'

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The effects of central bank asset purchases, known as quantitative easing, have attracted a lot of attention since the global financial crisis. Findings range widely, from highly effective and persistent to moderate and temporary. The Covid-19 crisis provided a unique experience to revisit this topic. The ECB, along with national central banks, embarked on asset purchases of unprecedented scale and pace. The ECB augmented its pre-existing Asset Purchase Programme (APP) and launched the Pandemic Emergency Purchase Programme (PEPP), which came with much more flexibility than their previous asset purchase programmes in terms of pace, composition, and maturity of purchases. We analyse this episode to understand better the financial market impact of ECB asset purchase programmes.

In our [recent working paper](#) (Blotevogel et al., 2022), we trace the impact of the ECB's purchases of public debt over time from incipient rumours, through the day of announcement, to the intervention in financial markets. We compile a country-level dataset that combines information about announcements of asset purchases, market expectations, and actual purchases by the ECB. We rely on data published by the ECB on asset purchases during the pandemic and on Bloomberg surveys about investor expectations of the ECB's asset purchase programmes ahead of each monetary policy meeting.¹ Based on these data, we build a continuous time series of the (average) market belief concerning the future course of asset purchases (including the total size).

We have two main findings. First, we confirm a powerful effect of ECB announcements on sovereign bond spreads. These effects were concentrated in the period of market stress during March to April 2020. Countries with lower sovereign credit ratings witnessed spread compressions ranging between 100 to 280 basis points — economically large effects. Second, we show that expectations about the final size of ECB asset purchases ('the stock') and implemented purchases after the announcement ('the flow') also affected spreads, although both effects were transient in that they only materialised in the weeks of severe market stress.

Strong announcement effects and only a transient role for the expected total size and actual purchases are the hallmarks of a highly credible policy response. In our reading of the results, the ECB succeeded in coordinating market beliefs into a 'good equilibrium' in which self-fulfilling debt crises are ruled out (Blanchard, 2022; and Lorenzoni and Werning, 2019). And in the good equilibrium, the marginal impact of actual and expected central bank purchases became negligible.

Announcements, expectations, and implementation effects

The literature on event studies is vast and mainly focuses on announcement effects (Altavilla et al., 2016; Altavilla et al., 2019; and Rostagno et al., 2021). However, this approach is fraught with problems. Taken in isolation, the announcement effect can skew the assessment of the overall effectiveness of asset purchases. That is because financial markets can react outside a narrow window around the announcement. Expectations can build up before announcements (De Santis, 2020), and financial markets may take time to digest announcements (Mamaysky, 2018), leading to delays or systematic reversals of the announcement effect. In theory, it could also be that announcements matter less than the actual implementation of asset purchases, which have received less attention in the literature.

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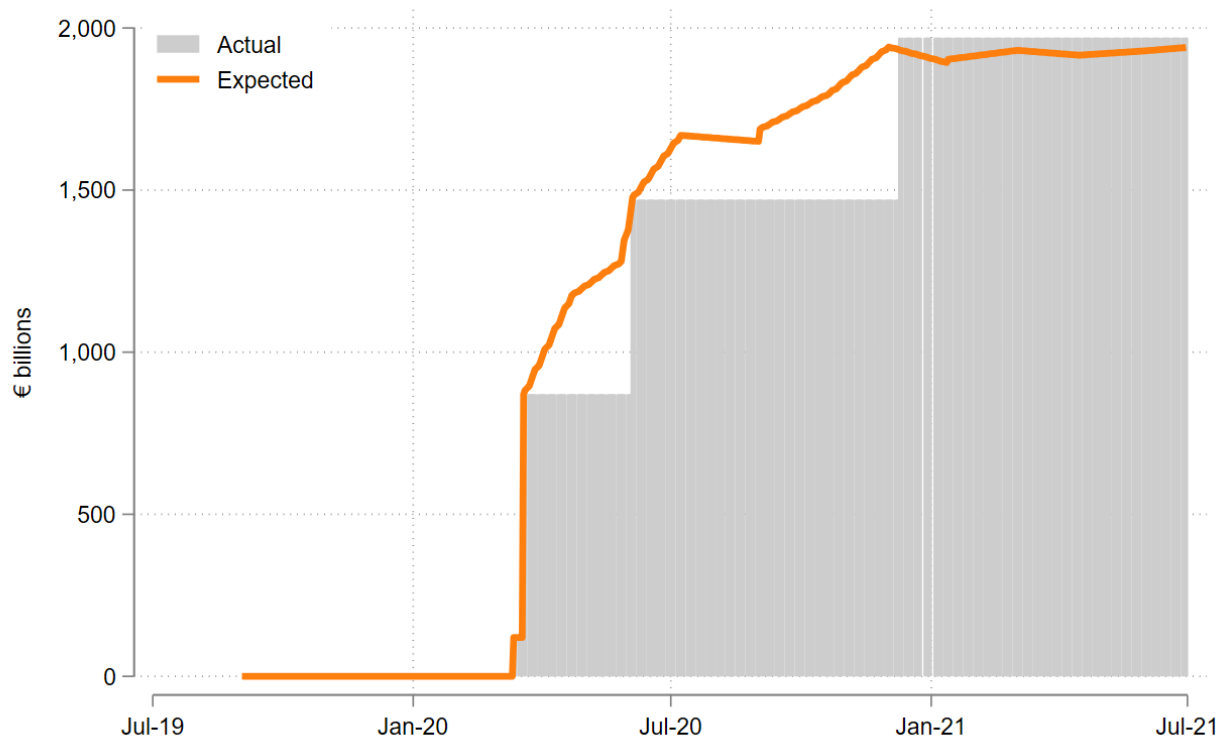
For this reason, we enhance a standard event study method. Our approach seeks to trace the effects over time, from the moment rumours start circulating to the moment of intervention in financial markets. We combine information from Bloomberg market surveys and ECB balance sheet data over the whole period of expanding asset purchases in late 2019 to mid-2021. Bloomberg published a survey of market expectations for the total size of ECB asset purchases during the pandemic ahead of each meeting of their Governing Council. We interpolate survey observations to measure the final ‘stock’ of asset purchases expected by markets at each point in time. We first build an aggregate series of expected asset purchases, which we then break down to country level expectations based on the ECB’s capital key. Actual flows are estimated by combining weekly aggregate ECB bond holding data with monthly APP and bi-monthly PEPP breakdown by country. Expected flows are computed as the difference of the expected final stock and realised purchases to date (Figures 1a and 1b show euro area aggregate final stocks and daily purchases).

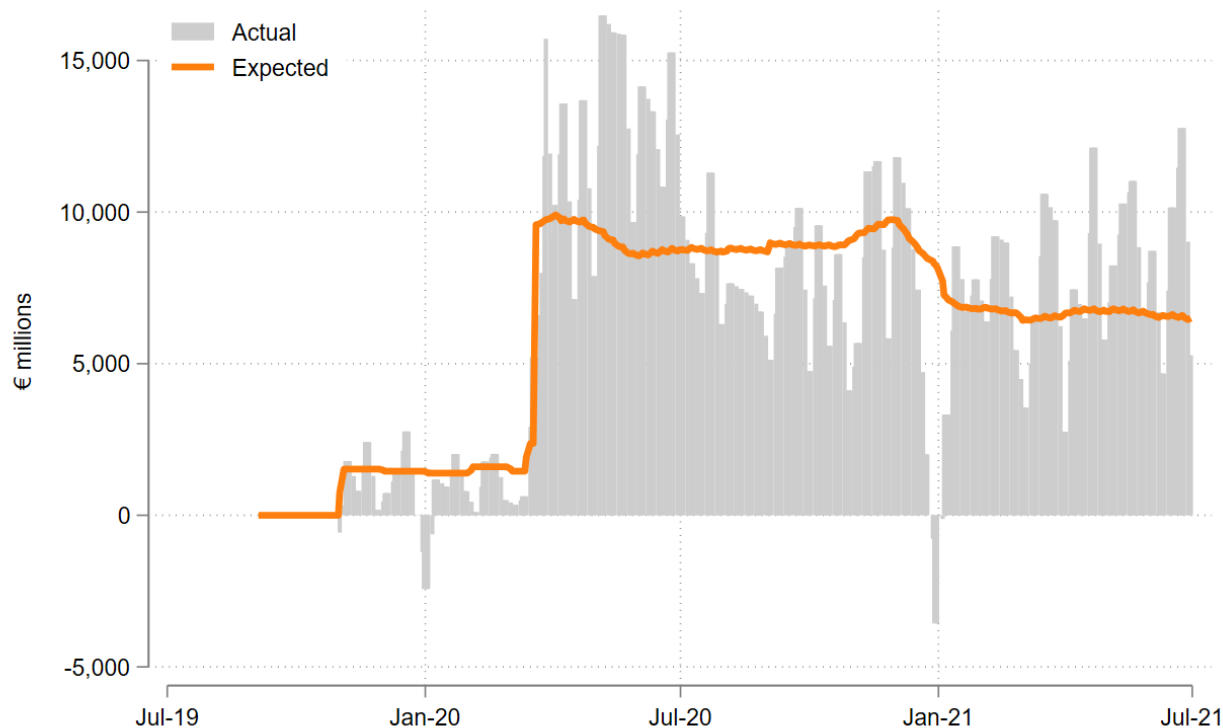
Our events mark the days when the ECB revealed important new information about the design and implementation of asset purchases as part of its policy response to the pandemic. They include the day of PEPP announcement (18 March 2020) and its recalibrations (4 June and 10 December 2020), as well as important speeches by members of the ECB Governing Council. We validate these events through an agnostic identification procedure on media news coverage. Using Brandwatch, we created an index that measures media mentions of the ECB and asset purchase programmes in major English-speaking news outlets throughout our sample period.

Our event window spans the day of the announcement and the subsequent trading day to allow the market to digest the news. To our knowledge, ours is the first study to cover the full pandemic period and to cover a broad set of sovereign issuers in the euro area. Finally, as our focus is on the asset purchases and the events are likely to capture many other factors, we strip out those components with control variables such as the interest rate expectations captured in the overnight indexed swap, the stock index Eurostoxx, and the systemic risk perception priced in the ECB’s composite index of system stress index.

Figure 1 a) and b): Announced and expected size of ECB asset purchases during the pandemic

Actual and expected final stock



Actual and expected daily purchases

Sources: ESM and Bloomberg Finance L.P.

Our findings

Our main empirical findings are twofold. First, we confirm the consensus view that ECB asset purchases were instrumental in lowering the difference between the government borrowing costs of member states, the so called ‘sovereign credit spreads’ or ‘risk premia’. The overwhelming majority of the total impact on spreads is due to the announcement effect. Specifically, the announcement of PEPP, the programme’s legal confirmation, and its first recalibration had significant market impact—albeit with considerable cross-country variation. Countries with lower credit ratings witnessed larger decline in spreads (Figure 2a).

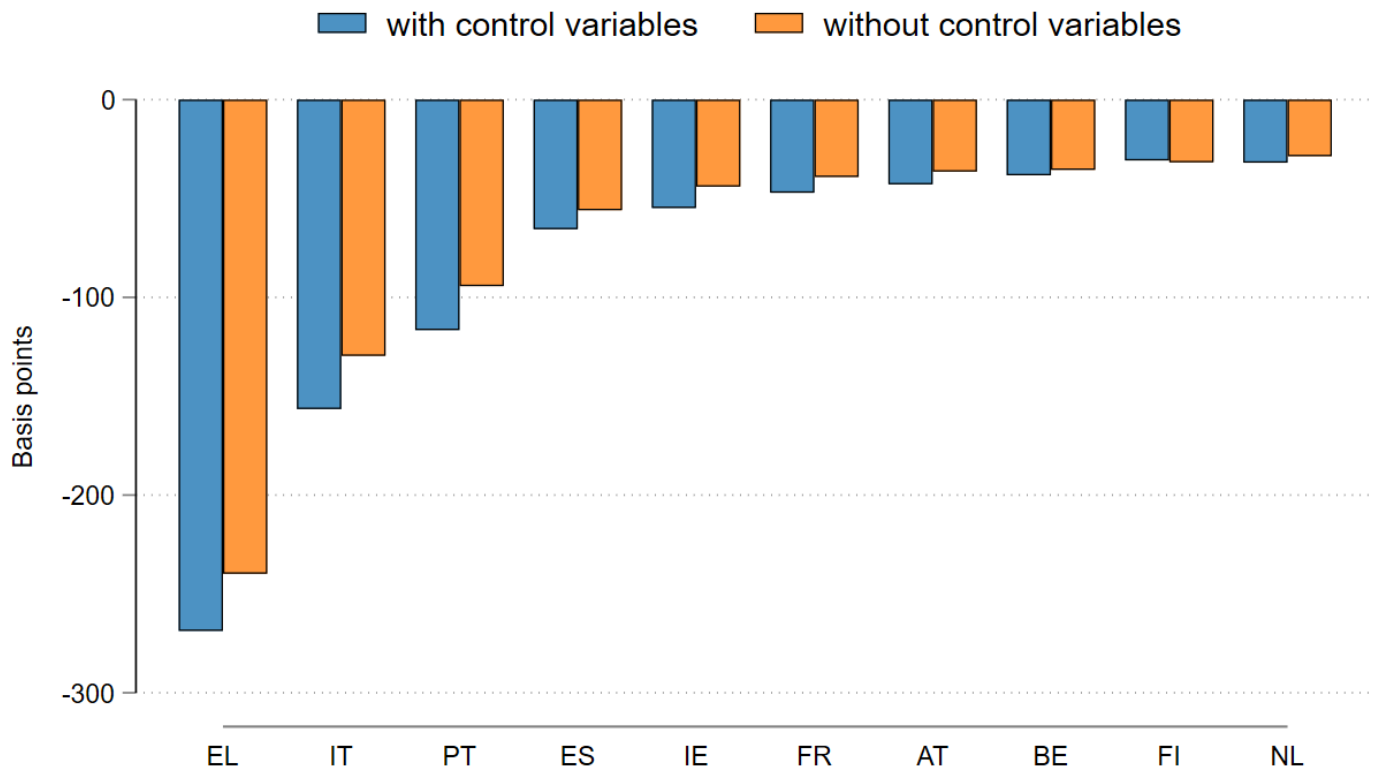
Second, we demonstrate that expectations about the final size of ECB asset purchases (‘the stock’) and realised purchases (‘the flow’) also affected spreads in the weeks following the inception of PEPP. As borrowing costs started to diverge, the risk premia widened, and expectations were building for an eventual augmentation of PEPP. Following the initial period of heavy intervention, expectations for additional purchases and a larger final stock evolved, but their marginal impact declined. Overall, we saw large announcement effects, the largest being for Greece at 240 to 280 basis points and Italy at 130 to 180 basis points, cumulatively. The decreases experienced by Ireland, Portugal, and Spain were in a range of 40 to 100 basis points.

These large, concentrated effects faded over time and two thirds of total announcement effects occurred on two days: 19 March and 26 March (Figure 2b). 4 June was significant for Italy, but to a much lesser extent. The control variables increased sovereign risk premia, confirming that the chosen events indeed picked up on a raft of information contained in monetary policy announcements.

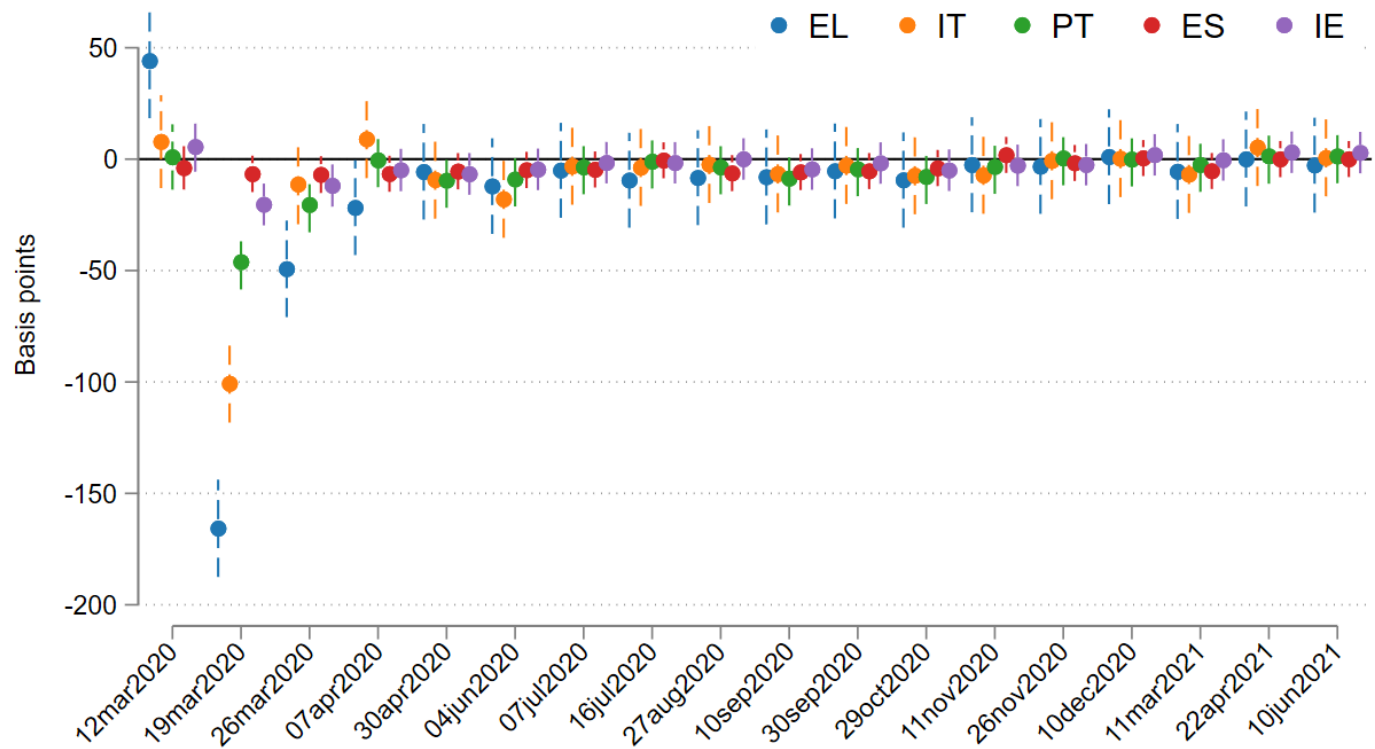
Markets did not expect PEPP, which partly explains the large impact on 19 March 2020. From March onwards, markets incorporated future recalibrations of PEPP in their information set before the announcement. Changes in market expectations for the final stock vary in sign and by country, so while the market was incorporating PEPP assumptions in the expectations, these differed by country.

Figure 2 a) and b): Impact of ECB policy announcements on 10-year sovereign bond spreads versus Germany, cumulatively and by event day.

Cumulative announcement effect on sovereign bond risk premium



Announcement effect - 2-Day changes in sovereign bond risk premium

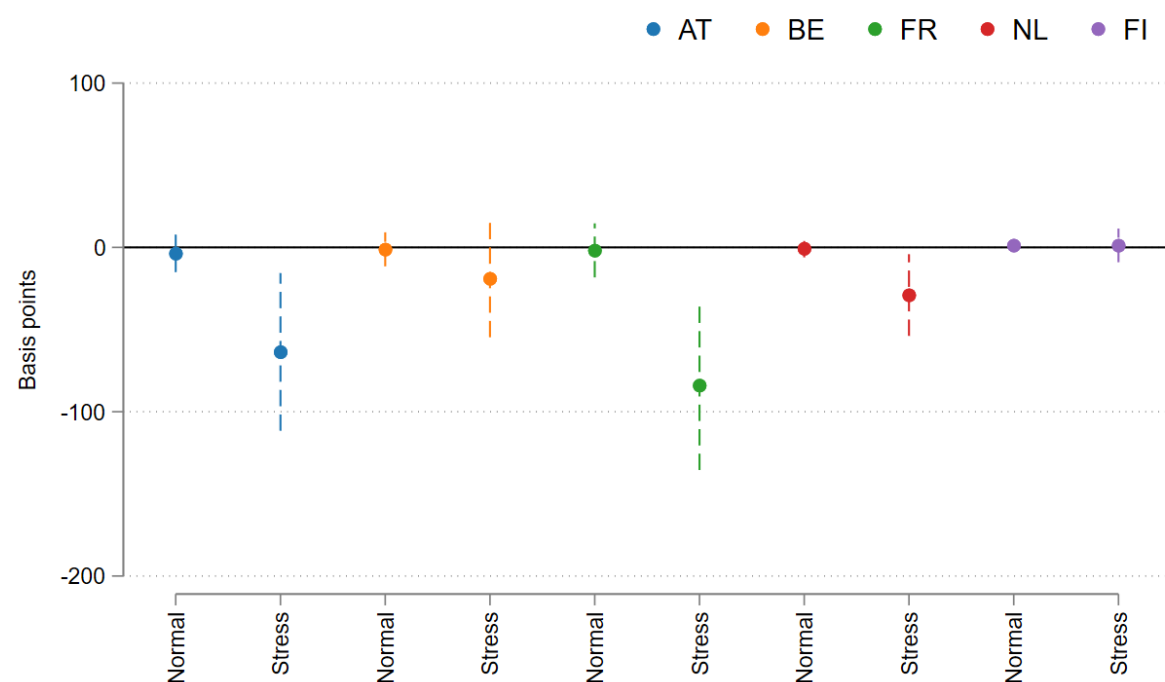


Sources: ESM and Bloomberg Finance L.P.

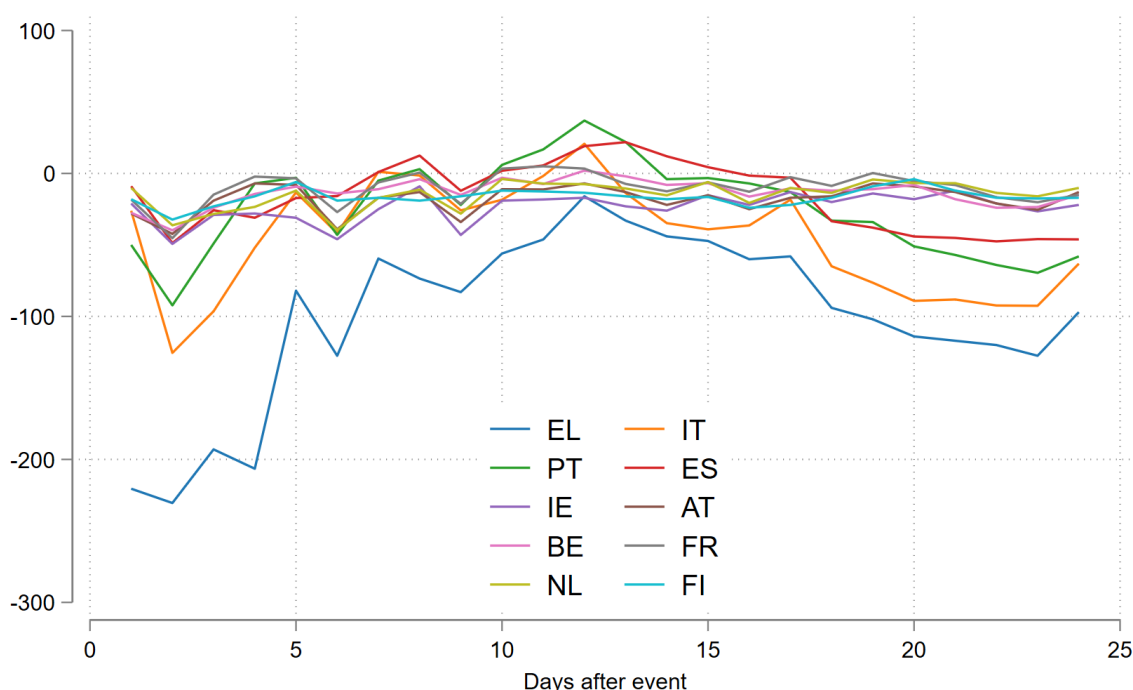
Over the entire sample, daily purchases do not help explain spreads. If we isolate the surprise component of purchases (the difference between actual and expected), we find that these mattered in distressed market conditions of tightening spreads at the peak of the crisis in March to April 2020 (but interestingly only for countries with stronger sovereign credit ratings; Figure 3a). We also compute a so-called persistence profile (Mamaysky, 2018) that examines systematic spread movements after each announcement (Figure 3b). The results support the view that peak impact took place at announcement. We also control for the role of fiscal policy support at the European level, such as the Next Generation EU, but the immediate announcement effect of these initiatives has been smaller compared to that of the ECB asset purchases. It seems plausible, however, that these initiatives helped cement the ‘good equilibrium’ coordinated by the ECB’s asset purchase programmes.

Figure 3 a) and b) Impact of the flow of purchases by market conditions and persistence profile of price impact upon announcement

Impact of surprise purchase flows



Persistence of announcement effect



Sources: ESM and Bloomberg Finance L.P.

Our empirical method also offers some insight into the channels at play in the transmission of asset purchases to sovereign bonds spreads during the pandemic. Our finding that asset purchases were particularly effective in distressed market conditions is the hallmark of a 'liquidity channel'.

That said, our ability to discriminate between the immediate liquidity channel and the portfolio rebalancing channel is limited, as the announcement effects that we document could feed into both transmission channels at the same time (Bailey, 2020).

Lessons for the future

Our analysis traces the effects of ECB asset purchases during the pandemic. Overall, asset purchases had a large impact precisely at the time when investors were most worried, and markets were strained. The ECB's response dispelled the risk of a self-fulfilling debt crises (De Grauwe and Ji, 2013 and 2022), and succeeded in stabilising financial markets and coordinating investors' beliefs into a 'good equilibrium'.

The ECB's PEPP helped move the market to an expectations-based equilibrium with lower risk premia, which reacted little to 'stock' and 'flow', as "credibility did the trick" (Wright, 2019). This experience is reminiscent of 2012, when the establishment of the ESM and the announcement of the ECB's Outright Money Transaction tool helped stabilise sovereign debt markets.

These episodes serve as good examples of how a credible, predictable, and transparent institutional framework can address the risk of market tensions, reduce volatility, and thereby help safeguard financial stability in the euro area. ■

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