

Analyzing the Efficacy of the Fed's Secondary Market Corporate Credit Facility

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Summary:

This article analyzes the effectiveness of the Secondary Market Corporate Credit Facility (SMCCF) in stabilizing the US corporate bond market during the COVID-19 pandemic. The SMCCF announcements in March and April 2020 significantly reduced credit spreads across different bond maturities, restoring a more typical upward-sloping yield curve. The Federal Reserve's bond purchases, though relatively small in scale, notably decreased credit spreads for eligible bonds compared to ineligible ones. The study's model suggests that market dynamics, including a rush to sell short-term safe bonds and increased investor risk aversion, contributed to the unusual yield curve inversion during the height of the pandemic. By reducing risk aversion and improving market conditions, the Fed's actions helped restore a more normal credit curve, particularly in the investment-grade bond segment.

Key findings:

1. The SMCCF program announcements in March and April 2020 significantly reduced credit spreads across bond maturities, restoring a typical upward-sloping yield curve during the COVID-19 pandemic.
2. Despite modest bond purchases, the Federal Reserve's intervention notably lowered credit spreads for eligible bonds compared to ineligible ones, indicating effectiveness in stabilizing market conditions.
3. Our theoretical model suggests that market dynamics, such as a "dash for cash" and increased investor risk aversion, contributed to an unusual yield curve inversion, highlighting the importance of the Fed's actions in restoring market stability.

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JEL Classification: E44, E58, G12, G14

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Comments to the authors are welcome at bin.wei@atl.frb.org.

1 Introduction

The COVID-19 pandemic in early 2020 created significant challenges for the US corporate bond market. The pandemic-induced “dash for cash” triggered a selloff in US fixed income (and other) markets, with fixed-income mutual funds registering large outflows. As the risk-off sentiment swept through financial markets in March 2020, prices of corporate bonds fell and credit spreads increased sharply.¹

To stabilize the financial system, the Federal Reserve swiftly implemented various measures, including cutting its policy rate to near zero and launching asset purchase programs. Despite these efforts, liquidity in the corporate bond market remained strained, prompting the Fed to introduce the Primary Market Corporate Credit Facility (PMCCF) and the Secondary Market Corporate Credit Facility (SMCCF) on March 23, 2020. These facilities aimed to provide support to businesses through bond issuance and liquidity to the existing corporate bond market, initially focusing on investment-grade companies. The scope of these interventions had an immediate impact on financial markets, boosting stock prices and compressing credit spreads. However, challenges persisted, leading to further adjustments announced on April 9, 2020, which expanded eligibility to fallen angel companies—those recently downgraded from investment grade to “junk.”

The SMCCF marks the first time that the Fed directly supported corporate credit markets through bond purchases, potentially taking on significant credit risk. Understanding the efficacy of SMCCF provides important lessons for the design of future policy. This article summarizes our work in [Gilchrist et al. \(n.d.\)](#), which evaluates the efficacy of the SMCCF and analyzes the mechanism(s) through which it affected the pricing of investment-grade corporate bonds in the secondary market. In particular, the analysis here focuses the announcement effects of the SMCCF.²

Analyzing the efficacy of the SMCCF faces complexities, given the multiple policy interventions announced simultaneously and the specific eligibility criteria of the SMCCF. The pandemic-induced inversion of the credit curve presents an important but confounding factor in any analysis that relies on the SMCCF’s maturity-eligibility criterion to estimate the effects of the

¹ Credit spreads refer to the difference in yield between a corporate bond and a comparable maturity government bond, such as a US Treasury bond.

² [Gilchrist et al. \(n.d.\)](#) also measure how the Federal Reserve’s purchases of individual corporate bonds affected credit spreads using precise intraday transaction data. Purchased bonds initially narrowed spreads by 11 basis points more than ineligible bonds, maintaining a 3 basis point advantage eight hours later. Moreover, [Gilchrist et al. \(n.d.\)](#) provides a model to illustrate how shocks like the “dash for cash” and increased risk aversion contributed to credit curve inversion, with subsequent Fed announcements reducing risk aversion and restoring the credit curve to prepandemic levels, as analyzed through the preferred-habitat framework ([Vayanos and Vila, 2021](#)).

program announcements on corporate bond prices.³ At the same time, the potential announcement-induced shifts in the credit curve highlight a powerful channel through which announcements of such policies can affect credit markets in times of widespread distress.

Gilchrist et al. (n.d.) identify the efficacy of the SMCCF amid other policy measures using a matched sample of program-eligible and ineligible corporate bonds issued by the same firm.⁴ The effects of March 23 and April 9 announcements can be estimated by comparing postannouncement responses of credit spreads to those within a two-day preannouncement window. The estimation controls for the aforementioned confounding effects associated with the inversion of the credit curve by estimating the price impact of the two announcements using a specification that relies on the program’s maturity-eligibility criterion augmented with interaction terms. These interaction terms allow the slope of the curve to rotate in the postannouncement window and across the program-eligible and ineligible bonds.

Detailed empirical analysis shows that the March 23 announcement induced a significant differential shift in the *slope* of the credit curve for program-eligible bonds compared with their ineligible counterparts. The analysis further shows that the April 9 announcement led to a significant downshift and a uniform steepening of the entire investment-grade credit curve. This result strongly supports the notion that the efficacy of the SMCCF reflected a broader mechanism that restored the normal upward slope of the credit curve and had little to do with the program’s maturity-eligibility criterion. Furthermore, the empirical analysis finds that the announcement effects were mainly on credit risk premiums based on a decomposition of credit spreads into expected default risk and risk premium components.⁵

Overall, this study underscores the substantial impact of central bank interventions in restoring market confidence during times of crisis, highlighting the pivotal role of policy announcements in reshaping financial conditions.

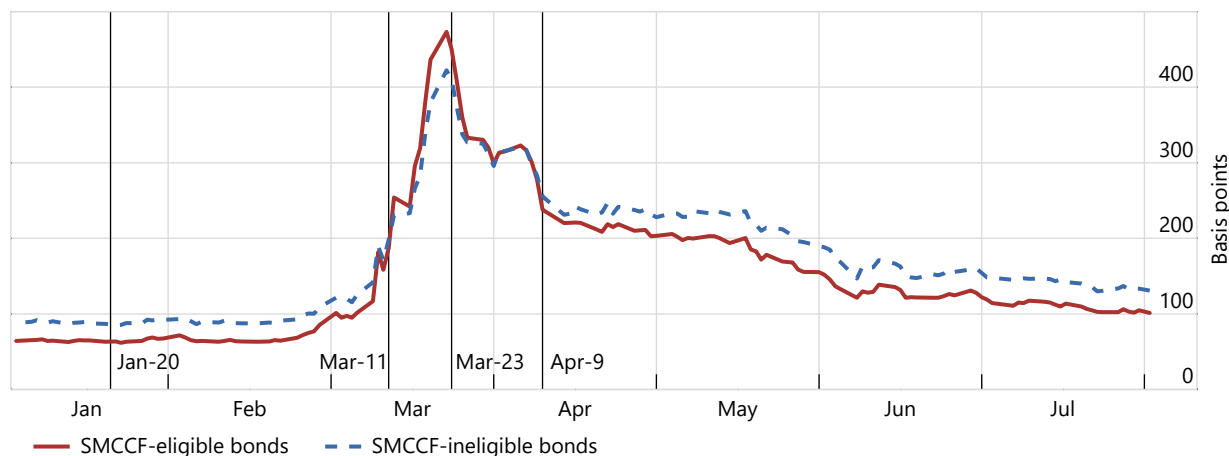
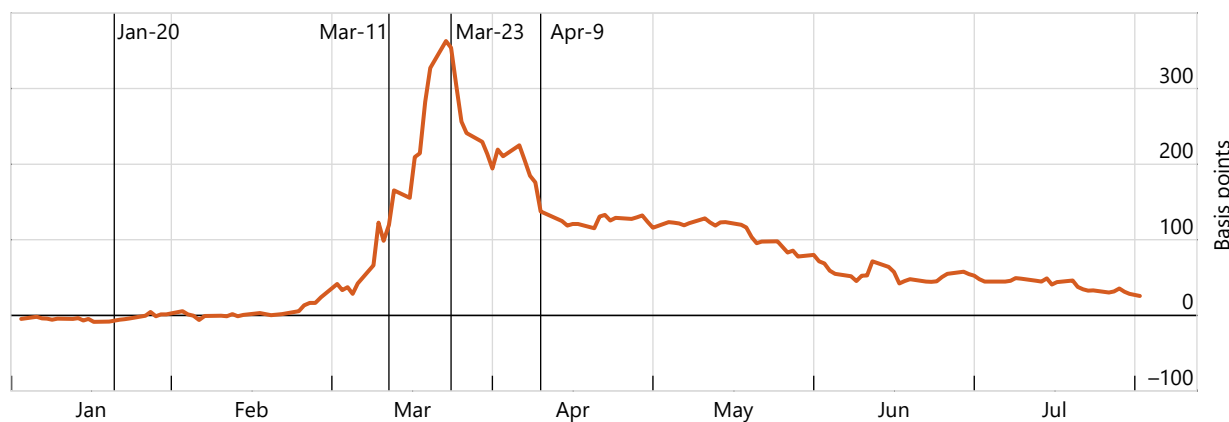
2 Turmoil in Corporate Bond Markets and The SMCCF Announcements

Figure 1 takes a look at the dynamics of credit spreads of SMCCF program-eligible and ineligible bonds during the 2020 COVID-19 pandemic. In particular, in panel A, the red line shows the daily average credit spread of SMCCF-eligible bonds, while the blue line shows the corresponding average credit spread of their ineligible counterparts, where the two types of

³ Under normal conditions, the credit curve is typically upward sloping due to the greater exposure of longer-term corporate bonds to credit risk, interest rate risk, and other factors.

⁴ The SMCCF imposed a maturity-eligibility criterion—eligible bonds had to have a remaining maturity of less than or equal to five years when purchased.

⁵ Credit spreads can be decomposed into expected default and credit risk premium components. The former reflects the probability that the issuer will default on its debt obligations and the expected loss given default, while the latter represents the additional compensation that investors require for bearing the uncertainty and risk associated with holding a corporate bond.

Figure 1: US Corporate Bond Market during the 2020 Covid-19 Pandemic**A. Investment-grade credit spreads****B. Investment-grade credit risk premium**

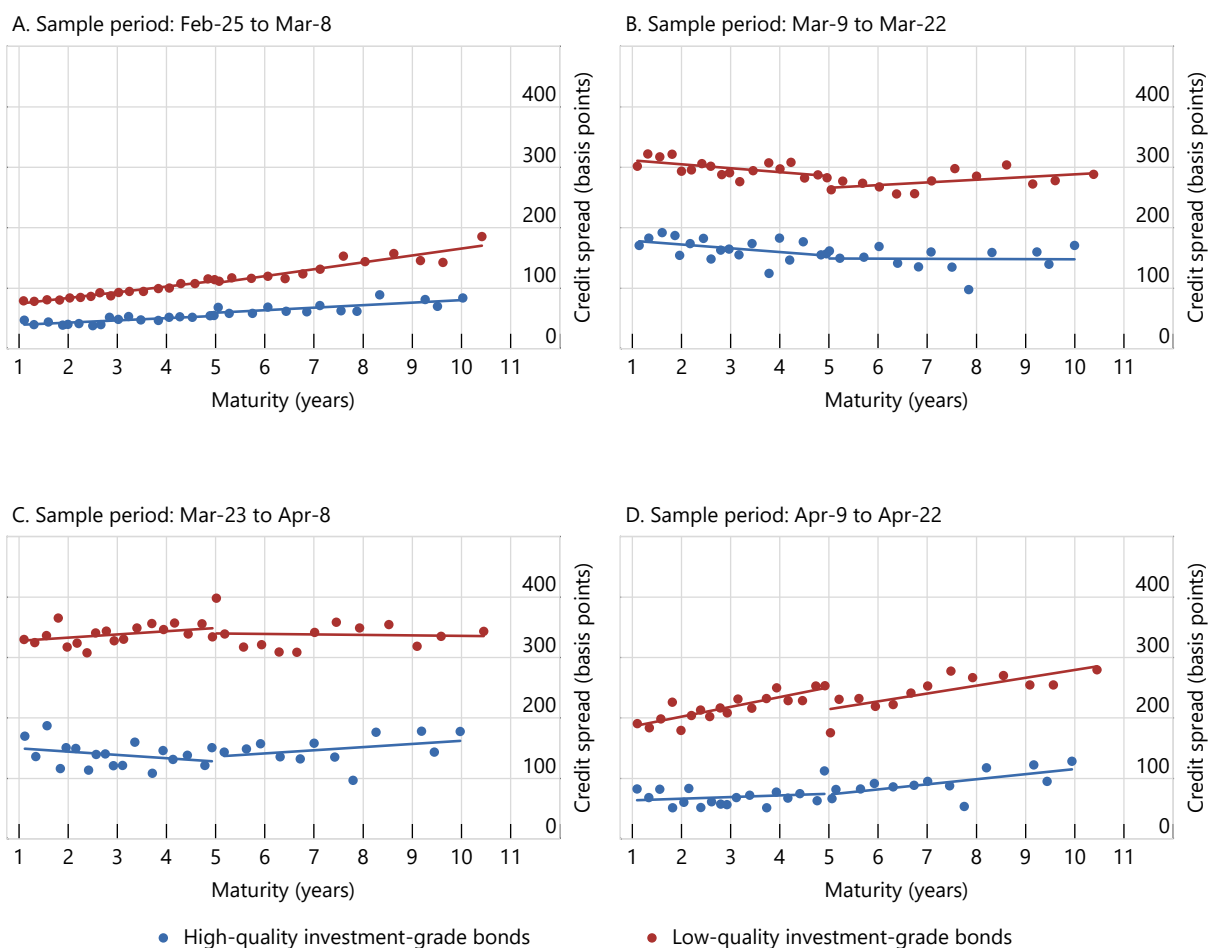
Note: The red solid line in panel A shows the daily average credit spread of SMCCF-eligible corporate bonds, while the dashed blue line shows the daily average credit spread of SMCCF-ineligible corporate bonds, with both types of securities issued by the same set of US companies (see the text for details). The solid line in panel B shows the time-series of the cross-sectional average of the residual credit spreads, a proxy for the credit risk premium in the investment-grade segment of the corporate bond market. Vertical lines at specified dates: Jan-20 = Chinese officials acknowledge that COVID-19 might be transmissible between humans; Mar-11 = WHO declares COVID-19 a pandemic; Mar-23 = Fed announces the establishment of the P/SMCCF; and Apr-9 = Fed expands the facilities to include corporate bonds of issuers that were rated investment grade as of March 22 but were subsequently downgraded to junk. Source: Authors' calculations using data from TRACE, CRSP, Mergent FISD, and S&P's Compustat

bonds were issued by the same set of US investment-grade companies.⁶ Before the COVID-19

⁶ The matched sample is selected to minimize the maturity differential between the two sets of securities. Bonds issued by companies with investment-grade ratings as of March 22 and with remaining maturities

shock, ineligible bonds typically had higher credit spreads than eligible ones due to liquidity and other differences. During the March 2020 outbreak, this spread narrowed and disappeared amid financial turmoil. Following the Fed’s March 23 announcement, both eligible and ineligible bonds saw significant credit spread reductions, reflecting the Fed’s commitment to supporting the economy. The April 9 announcement had a more pronounced impact on eligible bonds, possibly due to the SMCCF’s maturity-eligibility criteria.

Figure 2: Credit Curve during the 2020 COVID-19 Pandemic



Note: Each panel shows the binscatter plot of credit spreads and maturity in the investment-grade segment of the US corporate bond market during the specified period of the COVID-19 pandemic. High-quality investment-grade bonds are those in Aaa/AAA or Aa/AA rating categories, while low-quality investment-grade bonds are those in A/A or Baa/BBB categories.

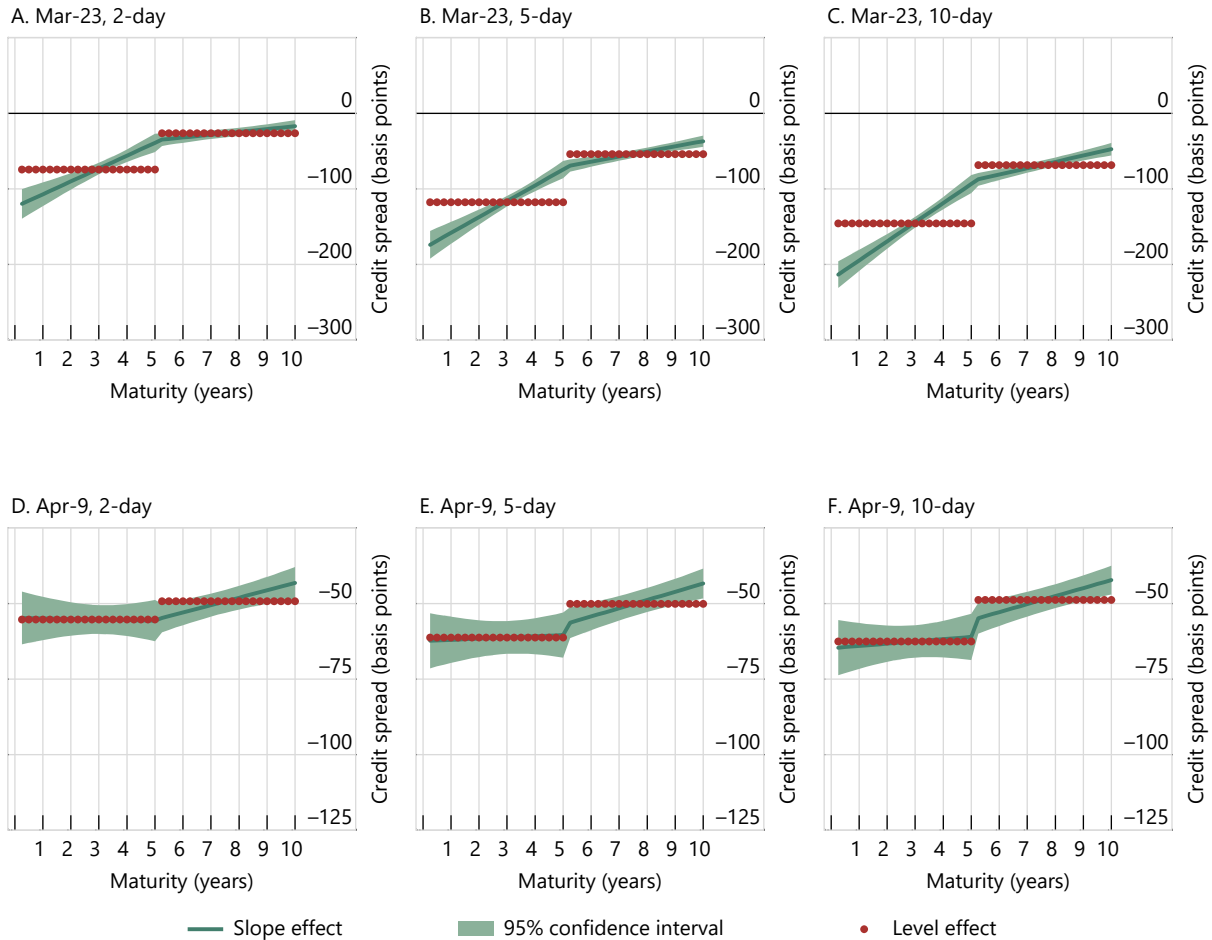
Source: Authors’ calculations using data from TRACE and Mergent FISD

of five years or less as of the March 23 announcement were chosen. For each SMCCF-eligible bond fitting these criteria, all bonds from the same issuer with maturities exceeding five years were considered. The bond with the maturity closest to five years was selected for both eligible and ineligible groups.

Figure 2 shows the cross-sectional relationship between credit spreads and maturity during the various phases of the pandemic. We distinguish between “high”- and “low”-quality investment-grade bonds, with the former plotted in blue and the latter in red. Panel A examines the early phase of the pandemic-induced turmoil in the corporate bond market. Initially, while credit spreads widened slightly, the credit curve’s slope in both investment-grade segments remained stable and upward. By mid-March (as seen in panel B), as the crisis intensified, credit spreads surged, causing the credit curve to invert—especially pronounced in the high-quality investment-grade segment. This trend reflects the “dash for cash” phenomenon, where investors sought to liquidate shorter-maturity, high-quality bonds during the panic. Panel C depicts the period after the March 23 announcement but before April 9. Credit spreads continued to widen overall, although the credit curve inversion eased somewhat. Finally, panel D covers the weeks following the April 9 announcement. Despite elevated spreads, both high- and low-quality investment-grade credit curves resumed an upward slope similar to the early crisis phase shown in panel A. These rotations indicate that a key aspect of the announcements was restoring the normal upward slope of investment-grade credit curves.

A bond-level panel regression around a narrow window of the announcements helps to quantify the effect of the SMCCF. In particular, the regression includes interaction terms that allow the slope of the credit curve to shift in the postannouncement window and across the program-eligible and ineligible segments of the market. The main findings include that the March 23 announcement steepened the program-eligible segment of the investment-grade credit curve by compressing credit spreads at the very short end of the curve by significantly more than their counterparts closer to the five-year maturity eligibility cutoff. For example, two days after the announcement, credit spreads on bonds with a remaining maturity of one year fell 57 basis points, whereas spreads on bonds with a remaining maturity of five years narrowed a mere 5 basis points, according to our estimates. The former effect on one-year bonds is also persistent—ten days after the announcement, credit spreads on one-year bonds narrowed further by 72 basis points more than their levels two days before the announcement. In contrast, there is no such slope effect on the program-eligible segment of the market in response to the April 9 announcement. These results thus suggest that the April 9 announcement led to a significant downshift and a uniform steepening of the entire investment-grade credit curve. This result strongly supports the notion that the efficacy of the SMCCF reflected a broader mechanism that restored the normal upward slope of the credit curve and had little to do with the program’s maturity-eligibility criterion.

Figure 3 displays the estimated announcement effects across the full range of maturities considered in the estimation. Focusing on the March 23 announcement (panels A-C), shorter-maturity bonds saw a significant reduction in credit spreads compared to longer-maturity bonds. The overall credit curve shifted higher and flattened, with a stronger effect on program-eligible bonds. There was no distinct impact at the SMCCF’s five-year maturity cutoff once adjustments were made for the announcement’s broad economic support. Following the April 9 announcement (panels D-E), the entire credit spread term structure steepened and moved lower uniformly. Unlike the March 23 announcement, which had a targeted effect on

Figure 3: Announcement-Induced Shifts in the Slope of the Credit Curve

Note: The green solid lines in panels A–C show the estimated effect of the March 23 announcement on the slope of the investment-grade credit curve, whereas those in panels D–F show the corresponding effects of the April 9 announcement. The green shaded bands represent the corresponding 95 percent confidence intervals. The red dotted lines show the announcement-induced changes in the average level of credit spreads for program-eligible and ineligible bonds based on the specification, which does not control for the associated changes in the slope of the credit curve. See [Gilchrist et al. \(n.d.\)](#) for details. Source: Authors' calculations

program-eligible bonds, the April 9 announcement affected the entire investment-grade credit spread term structure. Combined estimates suggest a substantial difference of about 170 basis points between one-year and ten-year maturity bonds.

Lastly, following [Gilchrist and Zakrajšek \(2012\)](#) and [Gilchrist et al. \(2021\)](#), we decompose investment-grade credit spreads into a component that captures issuer-specific time-varying default risk and a residual component that can be thought of as capturing investor attitudes toward corporate credit risk in that segment of the market. Panel B in figure 1 plots the daily estimate of the average credit risk premium in the investment-grade segment of the market during the COVID-19 pandemic. A significant portion of the spike in investment-grade credit

spreads in response to the COVID-19 shock was due to heightened credit risk sentiment or a decline in market confidence, rather than a significant increase in the likelihood of bond defaults. These findings imply that the announcement-induced rotations of the investment-grade credit curve shown in figure 3 are due primarily to a reduction in credit risk premia, or an improvement in market sentiment, rather than to a reduction in default risk, at least as perceived by equity markets.⁷

3 Conclusion

The Fed announced and implemented the SMCCF in 2020. It is important to quantify the impact of the SMCCF announcements and bond purchases on US corporate bond prices. Using a matched sample of program-eligible and ineligible securities from the same issuers, and accounting for shifts in the credit curve caused by announcements, we find that the March 23 and April 9 announcements significantly reduced investment-grade credit spreads across all maturities. These announcements progressively adjusted the credit curve, restoring the prepandemic, upward-sloping structure of credit spreads in the investment-grade market.

Our analysis reveals no differential effect on credit spreads around the SMCCF's five-year maturity cutoff once curve shifts are considered. The narrowing of credit spreads was primarily driven by declines in credit risk premia. Additionally, our event-based approach, identifying Fed purchases of individual bonds, shows these purchases had notable effects on credit spreads. The main findings align with the preferred-habitat framework, suggesting that the Fed's announcements primarily restored investor confidence and market sentiment, making borrowing easier for companies in the corporate bond and debt markets. All told, our results imply that the primary effect of the Fed's announcements was to restore investor confidence and improve market sentiment, in the process making it substantially easier for companies to borrow in the corporate bond and other debt markets.

⁷ [Nozawa and Qiu \(2021\)](#) use an alternative decomposition of credit spreads into the expected default and risk premium components and find that the risk-premium channel and the default-risk channel are equally important. [Hanson et al. \(2020\)](#) provide a theoretical framework in which the announcement of a corporate bond-buying facility affects the market through a reduction in uncertainty and the associated credit risk premia. See also [Boyarchenko, Kovner and Shachar \(2022\)](#) for evidence on a marked, though gradual, improvement in both primary and secondary market conditions after program announcements.

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