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Is collateral eligibility priced?

By Stefano Corradin[1]

In periods of liquidity crises, a central bank can enlarge the group of securities that are eligible as collateral for borrowing from its facilities. All other things being equal, the price of newly eligible securities should go up, owing to the improved ability of financial institutions to borrow against them. This article provides new evidence that changes in the Eurosystem eligibility criteria had a positive price impact on targeted securities during the financial and euro area sovereign debt crisis.

Collateral eligibility expansion and price impact

Since the start of the financial crisis, there has been substantial debate on the role of haircuts in repo markets. A repo (or repurchase agreement) is a form of short-term funding for financial institutions. A financial institution sells a security to another institution in exchange for liquidity and buys it back in the future. The seller acts as a cash borrower, the buyer acts as a cash lender, and the security is the collateral. Securities that pose material interest rate and/or credit and/or liquidity risks can be used as collateral but not for their full market value. The haircut, i.e. the value of the security in excess of the liquidity exchanged, offers a protection against such risks. Repos have generally been considered safe investments, but recent research shows that haircuts increased rapidly during the financial crisis, a phenomenon referred to as a general “run on repo” (see for example Gorton and Metrick (2012)).

In such circumstances, financial institutions’ ability to borrow against their securities can be impaired. A central bank can take several measurers to further expand the collateral framework and enhance the provision of liquidity. In terms of collateral policy, first, it can ask for lower haircuts relative to the market for those securities that are already eligible as collateral in central bank credit operations. This strategy provides funding relief for the financial sector. Second, it can designate additional securities as eligible collateral for its operations, effectively decreasing the haircut on those securities from 100% to a lower percentage. This strategy should have a positive price impact on these securities, as it enables financial institutions to borrow against them (see e.g. Gârleanu and Pedersen (2011)). Therefore, securities that become eligible should demand an eligibility premium.

But does such a premium really emerge in the market? This article (based on Corradin and Rodriguez-Moreno (2016)) provides new evidence suggesting that it does. Our findings support the idea that, during the financial and euro area sovereign debt crisis, the market put a price on the possibility of a security being pledged to the ECB in exchange for liquidity.

Eurosystem eligibility of US dollar-denominated assets

On 15 October 2008 the ECB announced that certain US dollar-denominated bonds would become eligible collateral, a situation which lasted from 14 November 2008 to 31 December 2010.[2] The goal of the exercise is to understand if this action affected the prices of these bonds. To find out, we use the following strategy.

First, we examine the prices of comparable pairs of US dollar and euro-denominated bonds issued by the same euro area country. We use those prices to compute a basis, which is the difference between the yield to maturity of a US dollar-denominated bond, after hedging of the foreign exchange rate risk, and that of a euro-denominated bond with the same characteristics (i.e. time to maturity). The basis can be interpreted as a yield premium for ineligibility before the ECB announcement on October 2008.

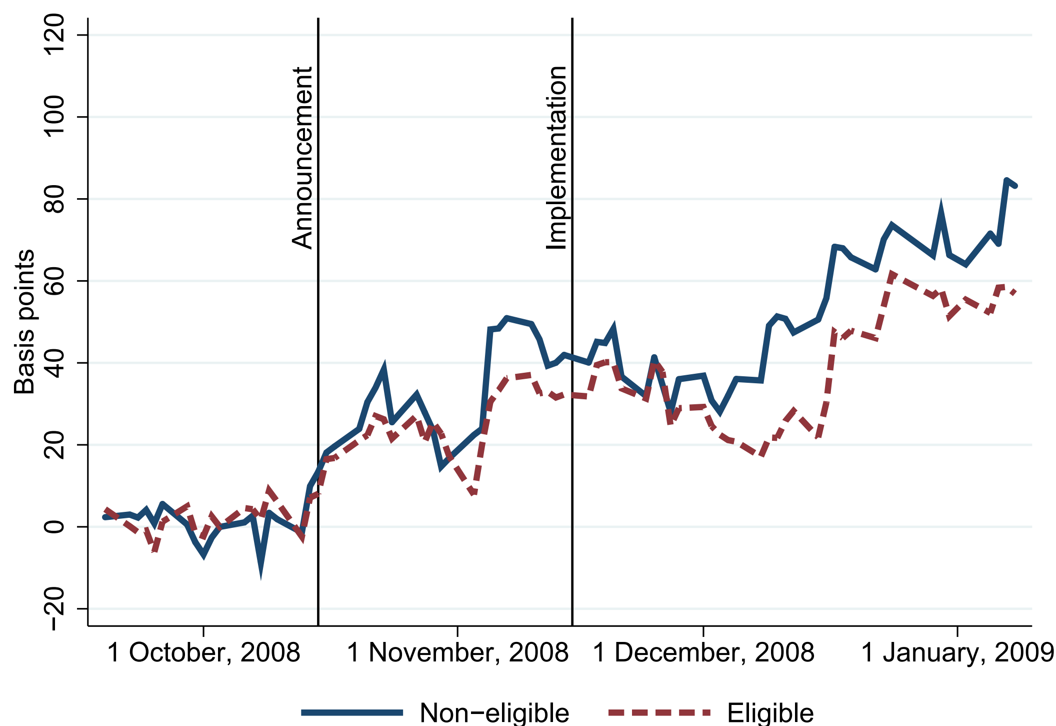
Second, we take advantage of the fact that not all US dollar-denominated bonds in the sample met the eligibility requirements. One key requirement was that bonds be settled in the euro area. Almost half did not satisfy this criterion. Thus we have two groups of bonds: eligible and non-eligible. This allows us to assess whether the price (or yield) of an eligible dollar-denominated bond increased (or decreased) relative to a non-eligible dollar-denominated bond issued by the same euro area country.

Figure 1 shows the estimated response of the basis around the introduction of the changes in the eligibility criteria on 14 November 2008. It plots the averages for the eligible US dollar-denominated group of bonds (red dashed line) and the non-eligible US dollar-denominated group of bonds (blue line) minus their respective pre-announcement average over time. There are two main conclusions to be drawn from the figure. First, the basis grows strikingly large and positive over time: US dollar-denominated bonds are traded at a lower price (or higher yield) than euro-denominated bonds. But before the announcement, eligible and non-eligible bonds have similar basis levels. Second, after the announcement, the eligible bonds have a basis that is 13 points lower on average than that of ineligible bonds.

We interpret the average change in the basis as an eligibility premium using the Eurosystem haircut schedule.[3] In our sample, a euro-denominated bond is subject to a 3% haircut. Eligible US dollar-denominated bonds were subject to an additional haircut (or markdown) of 8%. Thus a comparable US dollar-denominated bond is subject to an overall haircut of 10.76% (1-(1-3%) x (1-8%)). As a result, the estimates suggest that the change in the eligibility criteria lowered the yield to maturity of the eligible US dollar-denominated bonds, after the currency risk has been hedged, by 13 basis points through the haircut reduction from 100% to 10.76%.[4]

The impact is more lasting than that measured by Ashcraft, Gârleanu, and Pedersen (2011), who present evidence regarding the effects of lending by the Federal Reserve under the Term Asset-Backed Securities Loan Facility (TALF). They find that TALF lending did affect the prices of bonds that became eligible under this programme, but the impact was limited to 5 basis points and was mostly temporary.

Figure 1: Eurosystem collateral eligibility expansion: yield impact on affected bonds



Note: The figure plots the averages for the eligible US dollar-denominated group (red dashed line) and the non-eligible US dollar-denominated group (blue line) minus the respective pre-announcement average.

The underlying analysis in Corradin and Rodriguez-Moreno (2016) provides further empirical support for the impact of ECB collateral policy and liquidity conditions created by the ECB on asset prices. Overall, our results suggest that broadening the collateral set and ensuring banks' continued access to liquidity could also be effective through the implied lowering of yields on targeted securities. Financial institutions play a

key role as credit providers in the economy, and liquidity crises arise when they become funding-constrained. In such crises, financial institutions' ability to borrow against their securities plays a key role, as Bagehot (1873) originally pointed out.[5] To alleviate the financial institutions' funding problems and their repercussions on the real economy, central banks can rely on their collateral framework and credit operations as important instruments of monetary policy to supplement the standard interest rate tool.

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[2]On the same date the ECB announced that, consistently with the temporary expansion of the collateral pool, the Eurosystem would also enhance its provision of longer-term refinancing allowing all longer-term refinancing operations to be carried out through a fixed rate tender procedure with full allotment until March 2009. Under fixed rate full allotment counterparties have their liquidity bids fully satisfied, against adequate collateral, and on the condition of financial soundness.
[3]See ECB (2015) for an overview of the risk control measures available to the Eurosystem.
[4]The analysis also covers the second change in the collateral eligibility criteria (September 2012). Once again there is an impact, but this time it is smaller, i.e. 7 basis points overall. One possible reason is that during the first eligibility window the additional haircut is 8%, while during the second it is 16%.
[5]See also the recent article by Bindseil and Laeven (2017).

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