Online Appendix for "Collateral Eligibility of Corporate Debt in the Eurosystem"

This Online Appendix contains supplementary materials for the article titled "Collateral Eligibility of Corporate Debt in the Eurosystem".

A The Eurosystem's Collateral Eligibility List

A.1 Institutional Background

The ECB has three main monetary instruments: OMOs, the main refinancing operations (MRRs), and the standing facilities (SFs).[1] The role of OMOs is to manage interest rates and liquidity, and to provide monetary policy signals. The ECB conducts OMOs in the form of main refinancing operations (MROs), longer-term refinancing operations (LTROs), fine-tuning, and structural operations, most of which are based on scheduled repurchase transactions with financial institutions (FIs) in need of funding liquidity. The second policy tool is the array of MRRs that applies to all FIs and aims to stabilize money market interest rates by easing liquidity shortages. The third tool is described in detail in the main text of the paper.

The ECB, like any other central bank, uses these tools to affect short-term money market rates and to provide liquidity to banks. In practice, monetary policy tools are implemented by national central banks, who interact with eligible counterparties. These institutions are subject to a minimum reserve system and are supervised by a European Economic Area (EEA) national authority to ensure a financially sound operation.

The Statute of the European System of Central Banks (ESCB or Eurosystem) requires all Eurosystem credit operations to be based on adequate collateral. As such, collateral policy plays a vital part in the overnight and unlimited liquidity providing, that is, full allotment, marginal lending facility, or the standing facility. The guidelines and criteria for assets to be eligible as adequate collateral can be found in the General Documentation (GD) Guideline (ECB/2014/60) for the General and Temporary Frameworks of the ECB.[2]

[1] See ECB's website for further details: https://www.ecb.europa.eu/mopo/implement/html/index.en.html.

[2] The details on the eligibility assessment are stated in the General and the Temporary Frameworks, that can be found on the ECB website: https://www.ecb.europa.eu/ecb/legal/1002/1014/html/index-tabs.en.html.

The Eurosystem's Collateral Framework has evolved over time, as Figure A1 indicates. It was implemented at the inception of the euro area, the first version of the General Framework was published in January 2001. Since then, however, the collateral eligibility criteria for corporate bonds and other asset types underwent both permanent and temporary adjustments.[3]

Permanent adjustments were introduced to streamline the general collateral requirements, while certain criteria remained unchanged. For instance, for an asset to become eligible collateral in the Eurosystem, it is required that it is issued in the European Economic Area (EEA) by an issuer incorporated in either the EEA or one of the non-EEA G10 countries. EAs have to trade on regulated markets or on unregulated markets that are accepted by the ECB. In general, the currency of EAs is the euro, although assets issued in U.S. dollar, pound sterling (GPB) and Japanese yen (JPY) were temporarily accepted between October 2008 and December 2010 and reintroduced in September 2012 until further notice. The coupon type is preferably fixed, however in November 2012 the coupon criterion was further streamlined by (a) excluding complex coupon structures and inverse floaters, and (b) requiring floating-rate coupons to be linked to a single standard euro interest rate reference or euro area inflation index.

Apart from smaller amendments, the next significant adjustment to the eligibility criteria was the introduction of the Temporary Framework (in effect between November 2008 and December 2011), a form of monetary policy response to the financial crisis and the subsequent European debt crises. In this period, rating requirements were under special attention: on 15 October 2008, the ECB announced a temporary reduction of the minimum rating requirement from A- to BBB- until the end of 2009. On 7 May 2009,

[3]Additional to the ECB, the following central banks accept corporate bonds as collateral: Reserve Bank of Australia (minimum credit rating of AAA required), Bank of Canada, Bank of Japan, Bank of Sweden, Swiss National Bank and the Federal Reserve System (refer to BIS, 2013). Among those, only the Eurosystem and the Bank of Japan accept a non-negligible proportion of corporate debt to the total size of EAs.

the ECB extended the new rating requirement until the end of 2010 and is still in place to date.

For an asset to be included in the eligibility list, the ECB applies a series of valuation and credit principles, which can be found in more detail in Eberl and Weber (2014) and Bindseil et al. (2017). However, what is especially important for our analysis, is that according to Article 58(6), the eligibility assessment begins only after the asset is issued and when all the necessary documentation is available to the respective national central bank, which typically takes about 30 days. Although the ECB automatically assess the eligibility of a bond after its issuance, there are cases when it does not cover a bond. In this case, it is the borrowing bank that proposes an asset for eligibility assessment. This can happen anytime during the tenor of the bond which is one of the reasons for bonds being included months or even years after their issuance date. Additionally, the ECB might lack the relevant bond documentation which can prolong the assessment process for months. In addition, bonds occasionally experience a rating upgrade, due to which new assessment is required.

The documentation that has to be provided by banks are (i) the letter of rating from the rating agencies, (ii) rating agencies' pre-sale reports, (iii) final offering circulars for the transaction, (iv) ISIN codes of the security, Reuters/Bloomberg page codes, and (v) confirmation of New Global Note (NGN), if applicable. This means that the Eurosystem never confirms the eligibility of an asset prior to its issuance and, thus, market participants cannot reliably predict, based on prior beliefs, the outcome of the assessment procedure when an asset starts trading in the market. Additionally, the ECB reserves the right to not accept EAs due to (i) risk management reasons, (ii) operational reasons, and (iii) any other discretionary measures, as described in Articles 59(6) and 128(2), Article 144, and Article 159 of the GD ECB/2014/60, respectively.[4]

[4]This information is the cornerstone of our identification strategy presented in Section H.4.

Our data spans the period between the introduction of the single tier eligibility list and the announcement of the Corporate Sector Purchase Programme as part of the QE of the ECB. Within this period, we focus most of our analyses on the sub-period between April 2010 and Q2 2016, where the eligibility list is published at a daily frequency.[5] Our focus is on eligible corporate bonds, which represent about 6% (an equivalent to an average of 1,450 individual securities) of all eligible corporate bonds. The monthly corporate bond turnover in the eligibility list – measured as the ratio between the sum of excluded and newly included securities to the total number of securities in the previous month – is about 7%.

As a result of the ECB's collateral strategy, in comparison to other central banks, it maintains the largest and most diverse list of eligible marketable assets. Over the sample period 2007 to 2016, the list is comprised, on average, of about 35,000 securities, with the shortest listing of about 25,000 securities observed in June 2007, and a peak of about 51,000 securities in November 2008. Since the end of 2008, the overall size of the eligibility list has been gradually declining. To maintain this list and the resultant collateral portfolio, the ECB uses risk mitigation tools to reduce concentration risk and to manage the credit risk. The most important tool for these operations are valuation and margin calls, haircuts on pledged collateral, counterparty and asset exposure limits, alongside with the minimum rating criterion.

Unlike the collateral framework that underwent significant changes, haircut-related requirements have not changed over time. According to Nyborg (2016), the most distinct features of the ECB's haircut policy are the following: (i) haircuts are infrequently revised and, therefore, do not reflect current market conditions. The average time between haircut revisions for a single asset is 3.2 years. (ii) Haircuts increase in the duration, liquidity and the credit rating of a given asset (class). Credit quality is distinguished

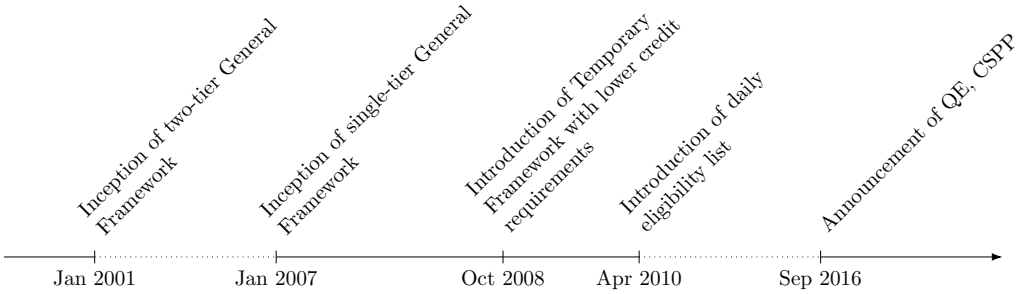
[5]This allows us to precisely pin down the treatment date, that is, the eligibility list inclusion of individual corporate bonds or the first time list inclusion of issuers of those bonds.

as AAA-A and BBB. Other than these features, haircuts are not differentiated across different collateral classes, neither do they depend on the risk of the counterparties pledging the collateral. (iii) When eligible, foreign currency denominated assets carry an additional, increased haircut (penalty for currency risk). (iv) Non-centrally cleared bilateral repos use the same haircuts as the ECB, while the Eurex General Collateral Pooling basket tends to accept a stricter subset of assets, sometimes even with higher haircuts than the ECB.

With the single list, the ECB also introduced the Eurosystem Credit Assessment Framework (ECAF). The framework assigns categories, called steps to the following credit ratings: Step 1 includes AAA-AA, Step 2 A, and Step 3 BBB ratings.[6] This rating scale is harmonized across the major rating agencies (S&P's, Moody's, Fitch, and the Dominion Bond Rating Services (DBRS)), and as a rule of thumb, the ECB always considers the *highest* available credit rating for any marketable asset. Interestingly, the ratings assigned by DBRS often seem pivotal in this categorization, although a surprisingly large number of (sovereign) assets also fall into Steps 1 and 2 in ECAF. Other exceptions from the rule are (a) non-rated or non-investment grade assets with government or issuer guarantees or NBC or (b) supervisory authority suggested rating if no external one is available (this one should never exceed the rating of the issuer country). Sometimes these guarantees and conflicting issuer- and issue-level ratings can give rise to cross-collateral inconsistencies.

[6]Non-investment grade assets are not assigned a step.

Figure A1: Timeline of eligibility list



The figure depicts the evolution of the ECB's collateral framework, the set of rules that determine eligibility criteria in the Eurosystem, over time. Only the most relevant changes are presented.

A.2 The Eligibility List Inclusion

In the following, we study the factors that influence collateral eligibility. On the one hand, inclusion in ECB's list is driven by asset characteristics: bonds that formally fulfill the eligibility criteria are more likely to be included in the list than those that do not. On the other hand, for collateral eligibility to affect either the SL or the secondary bond market, the inclusion should surprise market participants, that is to say the inclusion should be neither mechanical nor fully predictable.

To test the degree of predictability of a bond inclusion in the EA list, we focus on the 811 bonds presented in Table 1. Using this sample, we aggregate the daily eligibility information at the weekly level and fit probit models with an expanding yearly window length on all treated and control bonds. These models rely on the increasing availability of data as time passes, mimicking the potential "learning" investors might experience as they observe the ECB's inclusion decisions over time. We aim to identify the characteristics that make individual bonds more likely to be included in the EA list (EA=1). The predictors are the credit rating of the bond proxied by *ECB credit steps*; *New bond*, a

dummy that equals one for bonds with the ratio of time-to-maturity to initial maturity being greater or equal to 0.95, and is zero otherwise; *Issue size*, measured as the logarithm of the issued amount; and *Country of origin*, a categorical variable assigned as "Core," "Periphery," and "Other" (baseline), the latter pooling bonds from Scandinavia and Eastern Europe. Table A1 reports the results of this analysis.

Table A1: Predictability of the eligibility list inclusion

	Pr(EA=1)						
Est. window	2010-2010	2010-2011	2010-2012	2010-2013	2010-2014	2010-2015	2010-2016
A	-0.158*	-0.122**	-0.150***	-0.186***	-0.194***	-0.203***	-0.206***
	[0.082]	[0.049]	[0.034]	[0.032]	[0.033]	[0.034]	[0.034]
BBB	-0.399***	-0.195***	-0.174***	-0.209***	-0.209***	-0.227***	-0.223***
	[0.084]	[0.051]	[0.036]	[0.032]	[0.033]	[0.034]	[0.034]
New bond	0.484***	0.660***	0.730***	0.690***	0.647***	0.622***	0.617***
	[0.051]	[0.024]	[0.015]	[0.012]	[0.011]	[0.011]	[0.011]
Issue size	0.262***	0.232***	0.156***	0.140***	0.184***	0.175***	0.177***
	[0.029]	[0.019]	[0.013]	[0.011]	[0.009]	[0.009]	[0.009]
Core issuer	0.096*	0.010	-0.002	0.002	-0.022*	-0.024*	-0.022*
	[0.050]	[0.025]	[0.017]	[0.014]	[0.013]	[0.013]	[0.013]
Periphery issuer	-0.177**	-0.058	-0.006	0.084***	0.017	0.045**	0.045**
	[0.083]	[0.054]	[0.029]	[0.024]	[0.022]	[0.021]	[0.021]
Observations	402	1,028	2,083	3,437	4,379	4,938	5,095

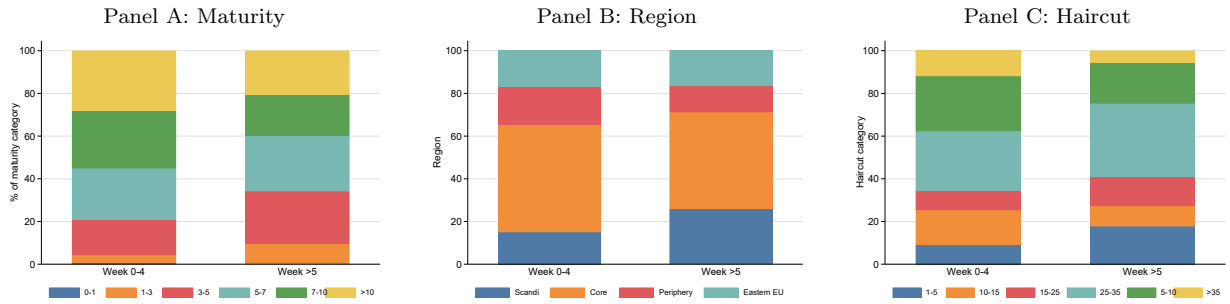
The table presents the marginal effects estimated using probit regressions, where bond-level eligibility (*EA=1*) is the dependent variable. The regressions are based on weekly data, with yearly expanding estimation windows. The rating variables are levels of the categorical variable *ECB credit steps* that follows the haircut schedule applied in the eligibility framework, with Step 1 (baseline), 2 and 3 representing AAA-AA-rated, A-rated and BBB-rated bonds, respectively. *New bond* is a dummy that equals one for younger bonds with the ratio of time-to-maturity to initial maturity being greater or equal to 0.95, and is zero otherwise. *Issue size* is the natural logarithm of the issued amount, measured in EUR million. *Core* and *Periphery* are the levels of the categorical variable *Country of origin* where the baseline is "Others" consisting of Scandinavian and Eastern European countries. The sample period spans April 2010 to June 2016. The data come from Bloomberg. The table reports the robust standard errors corresponding to the estimated regression coefficients. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

The results indicate that credit rating, age and size are universally important determinants of the eligibility decision of the ECB. The reported marginal effects on *ECB credit steps* show that, in line with expectations, the inclusion probability decreases with a lower credit rating: A-rated bonds have, on average, a 17.4 pps lower probability than AAA-AA bonds to be included, whereas this effect is 23.3 for BBB bonds. The probability increases by 48.4–73.0 pps if a bond is a recent issue (*New bond*=1), whereas

larger issues are 14.0–26.2 pps more likely to be included in the list. The importance of the country of origin varies over time. Being issued in a Core (Periphery) economy contributes an additional 2 (4.5) pp increase (decrease) in the inclusion probability. Clearly, these probabilities are rather large because our sample selection is based on all bonds that at some point became eligible. This predictability, however, could bias our analysis by further reducing the possibility of detecting an effect in the SL and the secondary bond market. Therefore, our results, if anything, would under-estimate the effect of the EA list inclusion of a bond. To account for any potential bias, we therefore include *ECB credit steps* as a control variable in the analyses.

To investigate if there are any potential patterns in the selection of eligible bonds into the ECB's eligibility list, we examine the characteristics of early and later included bonds. Specifically, we compare the characteristics of bonds that were included in the first few weeks after issuance to those included five weeks or later. As shown in Figure A2, there is no clear difference between the two groups of bonds in terms of maturity, region, or haircuts. This finding is further supported by the results of the t-tests presented in Table A2. Therefore, we can conclude that the Eurosystem did not exhibit a systematic bias towards or against specific types of bonds during the eligibility assessment process.

Figure A2: Eligible bond composition



The figure depicts the breakdown of eligible corporate bonds in terms of maturity (Panel A), region (Panel B), and haircut (Panel C). The sample covers 605 bonds and spans the period from April 2010 to June 2016. The data come from Bloomberg and ECB's website.

Table A2: Eligible bond composition: t-test

Variable	Early included	Later included	Difference	p-Value
Maturity (in years)	9.513	8.863	0.65	0.323
Region (4 categories)	1.365	1.192	0.173	0.143
Haircut (in %)	18.174	17.651	0.523	0.709

The table presents the mean values of ECB-eligible bond characteristics across bonds included early (week 0 to 4 after issuance) and later (week 5 or later). The p-values correspond to two-sided t-tests. The sample covers 605 bonds and spans the period from April 2010 to June 2016. The data come from Bloomberg and ECB's website.

In the next step, we investigate whether EA list inclusion is simply a matter of time. For this purpose, we narrow our focus to a weekly frequency and limit the sample to the first five (plus) weeks following a bond's issuance. Using a probit regression, we investigate the probability of a bond's inclusion within the initial weeks post-issuance or thereafter (i.e., week since issue being 5 or later). Table A3 presents the results.

Table A3: Probability of entering the EA list

	EA list entrance
Week since issue 0	0.185***
	[0.010]
Week since issue 1	0.043***
	[0.012]
Week since issue 2	-0.131***
	[0.020]
Week since issue 3	-0.138***
	[0.020]
Week since issue 4	-0.167***
	[0.024]
Controls	Yes
Observations	4,902
Pseudo R-squared	0.30

The table presents results of a probit regression that examines a bond's probability of inclusion into the ECB eligibility list following its issuance. The dependent variable, *EA list entrance*, is a dummy variable that equals 1 in the week when the bond initially enters in the eligibility list, and is 0 otherwise. The independent variables, *Week since issue k*, are dummy variables indicating the kth week post-issuance. The omitted baseline is the dummy variable indicating week 5 post-issuance or later. Control variables are ECB creditsteps, the natural logarithm of the principal amount, and the geographical region. The sample period spans April 2010 to June 2016. The analysis is restricted to the period covering the first five (plus) weeks since a bond's issuance. The data come from Bloomberg. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

The results show that the highest probability of inclusion coincides with first the week of the bond's issuance, and this likelihood decreases monotonically in each successive week. Notably, the negative coefficient for "Week since issue 2" indicates a deviation from this monotonic trend at the omitted baseline specification (i.e., "Week since issue

5+"). This suggests that bonds typically enter the list either immediately after issuance or much later (after week five). Moreover, the low pseudo R-squared indicates that neither the time since issuance nor bond characteristics sufficiently explain this variation. We can therefore conclude that there exists an unexplained source of variation that goes beyond timing and bond controls. So, why were these bonds not included immediately after issuance? We propose several explanations for this.

In Online Appendix A.1, we discuss that the ECB reserves the right to not accept otherwise eligible assets due to various reasons as outlined the GD ECB/2014/60. Furthermore, the ECB has a mandate to safeguard financial stability as specified in Articles 127(1) and 127(5) in the Treaty on the Functioning of the European Union (see, e.g., Ioannidis et al., 2021). This means that the ECB, on the one hand, monitors its portfolio with the goal of not harming financial stability and, on the other hand, it employs proper risk management practices, which can result in the exercise of discretionary power when including eligible bonds. In general, the decision-making process of the ECB and the national central banks (NCBs) is complex, as they must consider multiple parameters without a specific and quantitatively defined utility function to maximize, leaving room for discretionary choices and the possibility that some issuances are missed by chance by the NCBs. Based on conversations with ECB officials, who remain anonymous, we understand that there is no clear pattern for these choices. These factors may explain why certain bonds do not immediately enter the eligibility list despite meeting formal eligibility criteria.

In conclusion, our analysis indicate that the source of variation in ECB collateral eligibility can be attributed to discretionary choices made by the ECB and NCBs, which are not revealed to the market. This discretionary decision-making at the bond level also introduces uncertainty at the issuing firm level, which is utilized in the analyses presented in the Online Appendix H.

B Construction of the Data Set

B.1 Databases

The data of this study come from various sources:

- Our main databases are **Compustat** and **Dealscan** that we use to establish our universe of non-financial firms, which we access via Thomson Reuters EIKON. Information from Reuters SDC and Dealscan allow us to classify debt into 7 categories, following Rauh and Sufi (2010) and Grosse-Rueschkamp et al. (2019).

- We obtain general bond information and daily price data for European corporate bonds from **Bloomberg**. We download the following data items: bond characteristics (coupon, issue/maturity date, outstanding amount), corporate bond yields, bond market controls, and bid-ask spreads for the period of 2007 to 2016.

- For each bond issuer, we collect quarterly debt information from **Standard & Poor's Capital IQ** and merge these data with firm characteristics obtained from Compustat. We exclude from our sample any bonds with issuer industry banks or financial. Starting with the whole available universe of European companies and EUR-denominated bonds in both data set s, we filter and drop firms and bonds with insufficient data.

- Using the **FactSet**, we collect the historical monthly bond rating changes published by Moody's (MDR_RATING_INFO) and S&P (SPR_RATING_INFO) for the period 1997 to 2016. In general, Moody's covers a much larger proportion of our security universe than S&P. The bottleneck of our analyses is that that monthly ratings sample is limited. This issue we resolve by using the bonds' initial ratings, as a static bond-level characteristic in our regressions. We standardize the ratings of the four international rating agencies according to a stepwise decreasing scale: we

assign to a AAA+ rating the value 19, to AAA 18, and so on. Since the ECB usually requires a certain rating for an EA by at least one of the rating agencies (e.g., an A- rating by at least one of the three international rating agencies), we decide to take the maximum rating of the four as our final initial bond rating.

- The **ECB**'s website provides us with the list of eligible marketable assets (May 2007 to June 2016, monthly/daily) and the Securities Holdings Statistics by Sector (SHSS), accessible via https://www.ecb.europa.eu/stats/money/shs/html/index.en.html (Q4 2013 to Q2 2016)

- The website of the **Deutsche Bundesbank**, where we obtain the Nelson-Siegel-Svensson parameter estimates, that we use to extrapolate the maturity-matched, German Bund based risk-free curve, to calculate the yield spread, variable *Yield spread*, used to show bond-level eligibility effects.[7]

- From **IHS Markit**, we get proprietary securities lending data for prices (borrowing cost) and quantities (supply and demand) at the individual bond-level.

The bond and firm-level variables are winsorized at the 1 and 99 percent level to minimize the influence of extreme outliers.

B.2 Initial Bond Selection

Since the liquidity of bonds is crucial for bond pricing (Amato and Remolona, 2003; Driessen, 2005; Bao et al., 2011), we only include bonds with an issue size of at least 150 million USD-equivalent. The price of smaller issues might get distorted by a liquidity premium. Using corporate bond characteristics that were collected from Bloomberg, we obtain up to three different issuing firm identifiers for each bond. The first – issuer-level

[7]Download link: http://www.bundesbank.de/Navigation/EN/Statistics/Time_series_databases/Money_and_capital_markets/money_and_capital_markets_list_node.html?listId=www_skms_it03c.

– identifier refers to the firm that is reported as the immediate issuer of the bond. It is not unusual for a firm to issue debt through a specially established financing subsidiary due to tax purposes. Consequently, firms at issuer-level are not necessarily representative of the actual bond-issuing firm. Thus, we define the second – parent-level – identifier as the reported parent company of the issuer-level firm. The third – ultimate parent-level – identifier is the ultimate parent company of the issuing firm.

This firm-level information for each bond allows us to merge bond-level information with firm-specific data. Namely, we obtain the firms' quarterly debt and balance sheet information from Compustat's Capital IQ database. We use the corporate bond sample from the ECB's list of eligible marketable assets to identify any ineligible bonds of the same corporate bond issuers. For this purpose, we use each bond's ISIN to collect the issuer's legal entity identifier (LEI, Bloomberg field ID: ID252) and bond issuer's equity ticker (if not available, its direct parent company's) and exchange code (DS671) via Bloomberg. The information on the equity ticker and exchange code is only available for listed companies, while the LEI is also provided for privately held companies. We utilize both fields to identify any bonds that are associated with either of the two.

We employ Bloomberg's SRCH function and conduct manual searches where appropriate, to download bond-level characteristics (henceforth, static information) for all EUR-denominated bonds with maturity year after 2007, fixed-rate coupon type (DS086), and bullet type maturity (DS092). The static variables include issuance date (DS031), maturity date (DS035), amount issued (DS218), coupon (DS033), coupon frequency (DS034), first coupon payment date (MM020), maturity/refund type (DS092), country of risk (DX129), payment rank (DY381), Moody's initial rating (RN205), Moody's initial rating date (RN206), S&P's initial rating (RN207), S&P initial rating date (RN208), Fitch's initial rating (RN209), Fitch's initial rating date (RN210), DBRS initial rating (RN211), DBRS initial rating date (RN212), market issue (DS061), ultimate parent

country of risk (DY010), country of incorporation (DX650), currency (DS004), announce date (DS219), company is private (DY539), issuer name (DS134), issuer parent equity ticker (DS671), and industry group (DS201). The exact definitions of the stated variables can be viewed in Bloomberg using FLDS <go>.

After some inspection of the sample, we exclude any bonds with issuer industry specification (DS008) "BANK" or "FINANCIAL" and keep only bonds with rank of payment priority (DY381) "Sr. Unsecured" or "Unsecured". For each bond in the sample, we download daily yield to maturity (YLD_CNV_LAST), the bid (PX_BID) and ask prices (PX_ASK) using Bloomberg Valuation Services (BVAL) as our source. BVAL combines data from various pricing sources, such as TRACE, Municipal Securities Rulemaking Board (MSRB), exchanges and broker quotes.

B.3 Representativeness of the Bond Sample

In this section, we examine how representative is our matched sample used in the main analysis (Tables 4-5) relative to the universe of non-financial corporate bonds that become eligible during our sample period. First, we provide a visual representation of the bond characteristics of our sample of 934 bond issues in Figure B1, similarly to Figure 3 that focuses on the ECB's overall eligibility list.

[Figure B1 about here]

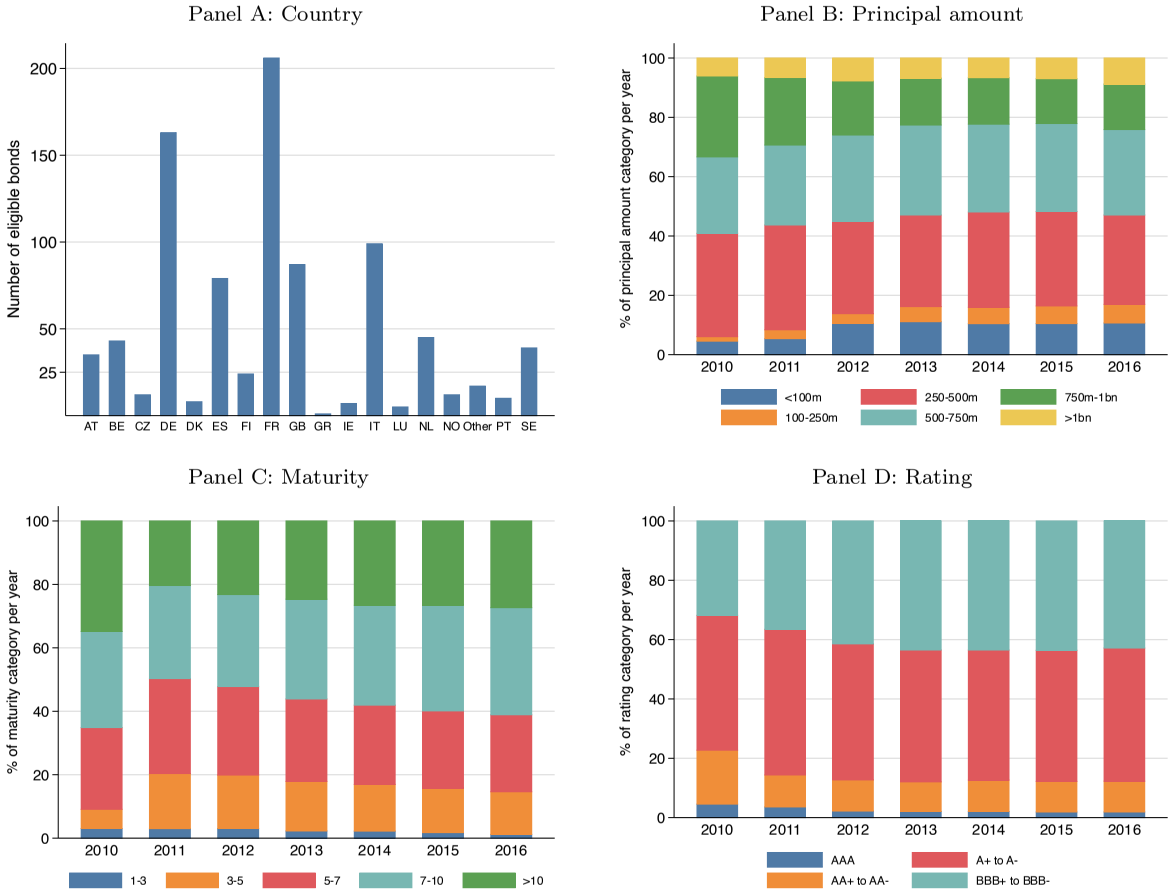
The comparison of the panels of Figure B1 to those in Figure 3 suggests that our bond sample is fairly representative of the ECB's overall list of EAs, both in terms of country of origin (Panel A), issue size (Panel B), maturity (Panel C) and credit rating (Panel D). This similarity between the EA list and our sample indicates that focusing on a specific time period, where daily lists are available preceding the QE, and applying data filters (for instance, minimum liquidity or data availability requirements) likely do not introduce any selection issues into our analysis.

Next, we look into the different subsamples, coming from the stages of merging various datasets, as described in Section 4 and in Table 1. We conduct two-sided t-tests, comparing the (averaged) main variables of interest in the overall, SL, and matched (sub)samples. The "overall' sample contains all bonds with yield and price data available, while the SL subsample consists of bonds where these information, in addition to securities lending market data are available. The matched subsample is made up of bonds with yield, liquidity, and SL data, that have a non-treated (EA=0) matched pair, based on the CEM algorithm described in Section 4.3. The results can be found in Table B1.

[Table B1 about here]

Panel A focuses on the comparison of all the bonds that are treated after 8 April 2010 and have liquidity and yield data available (932 ISINs), to those with available securities lending data (418 ISINs). The panel shows that the main variables of interest, *Yield spread, Lendable value*, *On loan, Indicative fee*, and the *Bid-ask spread*, are not statistically different across the two subsamples. In Panel B, we compare the SL subsample to that of matched bonds. With the exception of *Lendable value* and the *Bid-ask spread*, the remaining variables of interest are drawn from statistically indistinguishable distributions. Panel C zooms in on the comparison of the overall and matched bond samples, and presents a similar picture: except for the same two variables, we find that the subsamples are comparable at conventional levels of statistical significance. This leads us to the conclusion that our results based on the matched sample are rather representative of the general population of non-financial corporate bonds that the ECB considers as collateral for its monetary policy operations, such as OMOs or the standing facility.

Figure B1: Bond sample: bond characteristics



Panel A presents the distribution of eligible bonds in the sample of 932 bonds available for our analysis. Panel B reports the distribution of bond issue size over time for the following six categories: below EUR 100 million, 100–250m, 250–500m, 500–750m, and >1bn. Panel C reports the maturity distribution of bonds over time. Maturity is measured as the difference between maturity and issuance date. The bar chart reports six maturity categories: 1 year or lower, 1-3 years, 3-5 years, 5-7 years, 7-10 years, and 10+ years. Panel D reports the initial rating distribution over time, where initial rating is defined as the average initial bond rating from Moody's, S&P and Fitch. Bonds with missing initial ratings are assigned to category "N/A." All panels are based on the period between April 2010 and June 2016. Our data come from Bloomberg.

Table B1: Representativeness of bond sample

Panel A: Comparison of overall sample and SL subsample

Variable	Overall mean	SL mean	Difference	p-Value	Overall N	SL N
Issue Size	619.284	692.081	-72.797	0.001	932	418
Coupon	3.227	3.199	0.028	0.742	932	418
Mean TTM	7.586	7.197	0.389	0.182	932	418
Initial rating	12.251	13.558	-1.307	0.006	914	414
Mean yield spread	1.337	1.381	-0.044	0.509	932	418
Mean lendable value	92,573.107	90,371.262	2,201.845	0.548	810	417
Mean on loan	9,539.597	9,732.275	-192.678	0.662	761	378
Mean indicative fee	0.008	0.008	0.000	0.438	760	377
Mean bid-ask spread	0.592	0.583	0.009	0.672	924	417

Panel B: Comparison of matched SL sample and SL subsample

Variable	Matched mean	SL mean	Difference	p-Value	Matched N	SL N
Issue Size	728.255	692.081	36.174	0.138	253	418
Coupon	3.587	3.199	0.388	0.002	253	418
Mean TTM	5.326	7.197	-1.871	0.000	253	418
Initial rating	13.230	13.558	-0.328	0.608	252	414
Mean yield spread	1.402	1.381	0.021	0.817	253	418
Mean lendable value	102,928.745	90,371.262	12,557.483	0.007	253	417
Mean on loan	9,816.070	9,732.275	83.795	0.880	253	378
Mean indicative fee	0.007	0.008	-0.001	0.319	253	377
Mean bid-ask spread	0.487	0.583	-0.096	0.000	253	417

Panel C: Comparison of overall sample and matched SL sample

Variable	Overall mean	Matched mean	Difference	p-Value	Overall N	Matched N
Issue Size	619.284	728.255	-108.971	0.000	932	253
Coupon	3.227	3.587	-0.360	0.001	932	253
Mean TTM	7.586	5.326	2.260	0.000	932	253
Initial rating	12.251	13.230	-0.979	0.087	914	252
Mean yield spread	1.337	1.402	-0.065	0.364	932	253
Mean lendable value	92,573.107	102,928.745	-10,355.640	0.015	810	253
Mean on loan	9,539.597	9,816.070	-276.473	0.600	761	253
Mean indicative fee	0.008	0.007	0.001	0.615	760	253
Mean bid-ask spread	0.592	0.487	0.105	0.000	924	253

The table compares the (sub)sample means of the the corporate bond-level variables. The three panels focus on the comparison between the *Overall* bond sample (EA bonds after April 2010 with yield and liquidity data: 932 ISINs), the *SL subsample* (bonds with securities lending data: 418 ISINs), and the *Matched subsample* (where treated bonds are matched to controls: 253 ISINs), in Panels A, B, and C, respectively. *Issue size* is measured in EUR million, the *Coupon rate* is in percentages, while *Time-to-maturity* is measured as years until maturity. The credit rating is the bond's highest initial rating available across all rating agencies. *Yield spread* is the difference between the yield-to-maturity and the maturity matched risk-free rate derived from the Bund curve. The *Bid-ask spread* is the difference between bid and ask prices. *Lendable value* is the supply, while *On loan* is the demand in the SL market, both measured in USD million. *Indicative fee* captures the borrowing costs, measured in percentages. The reported variables are averaged across the cross-section for time-invariant, and across both the cross-section and over the time-series for time-varying variables. The sample period spans April 2010 to June 2016. The data come from Bloomberg and IHS Markit.

C A Model of Collateral Eligibility[8]

C.1 Model of Bond Eligibility Premium without a Securities Lending Market

We consider a representative infinitely lived bank. Let s_t denote the quantity of a bond at time t that is held by the bank and p_t its price t. All bonds have a tenor of only one period, between t and $t+1$, and pay a stochastic cash flow denoted y_{t+1} at maturity.

All bonds are included in the eligibility list of the ECB and, therefore, can be pledged as collateral at the ECB's marginal lending facility. The facility offers overnight liquidity against the face value of the pledged bond net of a haircut h_t at the gross risk-free interest rate $R_{t,t+1}$. The financed amount at time t is denoted as B_t. It is required that the value of the collateral used for pledging holds greater or equal to the collateralized position, that is

$$B_t \leq (1 - h_t)\, s_t$$

Holding collateral EAs allows banks to hedge against funding liquidity shocks and reduce credit constraints by easily converting these fungible assets into cash.

Formally, the bank's problem reads as follows:

$$\max_{\{c_t, B_t, s_t\}} \mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t u(c_t), \tag{C1}$$

s.t.

$$c_t + p_t s_t = y_t s_{t-1} + B_t - B_{t-1} R_{t-1,t}, \tag{C2}$$

$$B_t \leq (1 - h_t) s_t. \tag{C3}$$

[8]We thank Andrea Modena for his help in setting up this model.

FOCs - Bond prices The Lagrangian of the problem holds as:

$$\mathcal{L} = \mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t \left\{ u(c_t) - \lambda_t \left[B_t - (1 - h_t) s_t \right] \right\},$$

s.t

$$c_t + p_t s_t = y_t s_{t-1} + B_t - B_{t-1} R_{t-1,t},$$

λ_t is the Lagrangian multiplier. The FOCs read as:

$$-\beta^t \partial_c u(c_t) p_t + \mathbb{E}_t \beta^{t+1} \partial_c u(c_{t+1}) y_{t+1} + \beta^t \lambda_t (1 - h_t) = 0,$$

$$\mathbb{E}_t \left[\beta \frac{\partial_c u(c_{t+1})}{\partial_c u(c_t)} \right] = \left[1 + \underbrace{\frac{\lambda_t}{\partial_c u(c_t)}}_{\Lambda_t} \right] \frac{1}{R_{t,t+1}}.$$

Rearranging:

$$p_t = \mathbb{E}_t \left[\beta \frac{\partial_c u(c_{t+1})}{\partial_c u(c_t)} y_{t+1} \right] + \Lambda_t (1 - h_t), \tag{C4}$$

Equation (C4) indicates that the price of assets with identical cash flows could have different risk premia due to the eligibility component captured by the $\Lambda_t(1 - h_t)$ where Λ_t is the Lagrange Multiplier that measures the marginal value of relaxing the borrowing constraint, as in Gârleanu and Pedersen (2011).

C.2 A Model with a Private Securities Lending Market

This section expands the model in C.1 by considering the presence of a *securities lending market* where a bank can exchange or swap a non-eligible bond r held in its portfolio, with a bond b that can be pledged at the ECB's marginal lending facility.

There exists a representative infinitely lived financial intermediary. Let p_t^r and s_t^r denote the price and quantity of bonds that are held by the intermediary and that are

not included in the eligibility list of the ECB. Furthermore, let p_t^b and s_t^b denote the price and quantity of bonds that are borrowed by the intermediary on the SL market that can be then pledged at the ECB in exchange for cash. For simplicity, we assume that *only bonds borrowed by the intermediary at the security lending market can be pledged at the ECB's facility*, that is, the intermediary does not hold on its balance sheet any bond that could be pledged at the ECB's marginal lending facility. The intermediary instead holds bond r with a quantity s_t^r that is not included in the ECB's eligibility list but can be exchanged in the SL market for a bond b that is ECB-eligible. Since borrowing is costly, ϕ denotes the fixed fee due for each unit of borrowed/exchanged bond in the SL market. Moreover, the lender of the bond b charges a haircut θ_t so that each unit of nominal quantity of bond r is exchanged with $(1-\theta_t)$ units of bond b. That is, the amount of ECB-eligible bonds s_t^b that the intermediary can use at the ECB's lending facility is constrained to be a fraction of its non-eligible bond holdings s_t^r,

$$s_t^b \leq s_t^r(1-\theta_t).$$

All ECB-eligible bonds b can be pledged as collateral at the ECB's marginal lending facility, which offers overnight liquidity against the face value of the pledged bond net of a haircut h_t at the gross risk-free interest rate $R_{t,t+1}$. The financed amount at time t is denoted as B_t. It is required that the value of the collateral pledged is greater or equal to the collateralized position, that is

$$B_t \leq (1-h_t)\, s_t^b.$$

Formally, the financial institution's problem reads as follows:

$$\max_{\{c_t, B_t, s_t^b, s_t^r\}} \mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t u(c_t), \tag{C5}$$

s.t.

$$c_t + p_t^r s_t^r + p_t^b s_t^b = s_{t-1}^b y_t^b + s_{t-1}^r y_t^r + B_t - B_{t-1} R_{t-1,t} - \phi_{t-1,t} s_t^b, \tag{C6}$$

$$B_t \leq (1 - h_t) s_t^b, \tag{C7}$$

$$s_t^b \leq s_t^r (1 - \theta_t).$$

FOCs - Bonds prices The Lagrangian of the problem holds as:

$$\mathcal{L} = \mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t \left\{ u(c_t) - \lambda_t \left[B_t - (1 - h_t) s_t^b \right] - \mu_t \left[s_t^b - s_t^r (1 - \theta_t) \right] \right\}, \tag{C8}$$

s.t

$$c_t + p_t^r s_t^r + p_t^b s_t^b = s_{t-1}^b y_t^b + s_{t-1}^r y_t^r + B_t - B_{t-1} R_{t-1,t} - \phi_{t,t-1} s_t^b,$$

where λ_t and μ_t are the Lagrangian multipliers. The FOCs read as:

$$-\beta^t \partial_c u(c_t) p_t^r + \mathbb{E}_t \beta^{t+1} \partial_c u(c_{t+1}) y_{t+1}^r + \beta^t \mu_t (1 - \theta_t) = 0,$$

$$-\beta^t \partial_c u(c_t) \left(p_t^b + \phi_{t,t-1} \right) + \mathbb{E}_t \beta^{t+1} \partial_c u(c_{t+1}) y_{t+1}^b + \beta^t \lambda_t (1 - h_t) - \beta^t \mu_t = 0,$$

$$\mathbb{E}_t \left[\beta \frac{\partial_c u(c_{t+1})}{\partial_c u(c_t)} \right] = \left[1 + \underbrace{\frac{\lambda_t}{\partial_c u(c_t)}}_{\Lambda_t} \right] \frac{1}{R_{t,t+1}}.$$

Rearranging:

$$p_t^b = \mathbb{E}_t \left[\beta \frac{\partial_c u(c_{t+1})}{\partial_c u(c_t)} y_{t+1}^b \right] - \phi_{t,t-1} + \underbrace{\frac{\lambda_t}{\partial_c u(c_t)}}_{\Lambda_t} (1 - h_t) - \underbrace{\frac{\mu_t}{\partial_c u(c_t)}}_{\mathrm{M}_t},$$

$$p_t^r = \mathbb{E}_t \left[\beta \frac{\partial_c u(c_{t+1})}{\partial_c u(c_t)} y_{t+1}^r \right] + \mathrm{M}_t \left(1 - \theta_t\right).$$

Therefore, the difference between the two bond prices equals:

$$p_t^b - p_t^r = \mathbb{E}_t \left[\beta \frac{\partial_c u(c_{t+1})}{\partial_c u(c_t)} \left(y_{t+1}^b - y_{t+1}^r \right) \right] - \phi_{t,t-1} + \Lambda_t (1 - h_t) - \mathrm{M}_t (2 - \theta_t). \tag{C9}$$

Equation (C9) confirms that indeed, assets with identical cash flows can have different risk premia due to the eligibility component that is captured by $\Lambda_t(1-h_t)$, similar to the baseline model without a SL market. However, this premium is reduced by the fee $\phi_{t,t-1}$ that the bank has to pay in order to borrow the bond in the SL market. Furthermore, the smaller the haircut θ_t charged in the SL market, the lower is the eligibility premium. Consequently, the model shows that the size of the eligibility premium of ECB-eligible bonds depends on the conditions (fees and haircuts) applied to borrowing the bond in the SL market. That is, we show that the eligibility premium for ECB-eligible bonds that are also lendable in the security lending market is lower than it would have been in the absence of such a market.

Note that our partial equilibrium setup with a representative agent allows us to model the borrower's decisions only. The model does not endogenize agents' lending choices, which are implicitly determined by exogenous lending quantities, their costs, and haircuts. Nevertheless, we acknowledge that, in a general equilibrium setting with an endogenized SL market, eligibility could also affect the bond's supply in the SL market, an aspect we only investigate empirically.[9]

[9] A general equilibrium model that focuses on the feedback effect of eligibility on the primary market of corporate bonds and the capital structure of firms is performed by Kaldorf and Wicknig (2022), linking to our empirical analysis in Section 7.

D The European Securities Lending Market

D.1 Institutional background

The prudential regulatory reforms following the global financial crisis (GFC) created an increased need for collateral, at a time, when large-scale asset purchases and QE significantly decreased the tradeable quantity of HQLA in the market. Amid this collateral shortage, the repo and SL markets have emerged as a secondary market for collateral. The private or interbank repo market has grown substantially, but its trading activity is most concentrated in sovereign bonds, both in the specials and general collateral (GC) segments. Nyborg and Rösler (2019) report that corporate bond repos constitute less than 1% of the total GC repo market volume. As such, corporate repo transactions are performed by the ECB, where collateralized lending operations, both open market operations and transaction through the marginal lending facility, are based on repurchase agreements. Borrowing corporate bonds is, therefore, only feasible at the SL market.

The bond segment of the European SL market has been particularly stable in the past decade (IHS Markit, 2020), with USD 1.75 trillion worth lendable inventory (lending supply) and a steady USD 0.5 trillion on-loan (lending demand). On the supply side, lenders, whose balance sheet assets are offered to be lent, are typically large passive investors, such as mutual funds, insurance companies, and pension and sovereign wealth funds. On the demand side, there are borrowing institutions seeking a specific asset, most often banks seeking HQLA or specific assets to deliver into futures and CDS contracts, hedge funds shorting equities, or dealers and market-makers filling orders on assets that are not in their inventory. The two sides of the market are connected through a lending agent, who manages the beneficial owners' lending portfolio by lending out the assets to those who seek them (in an arrangement where the proceeds form the transaction are

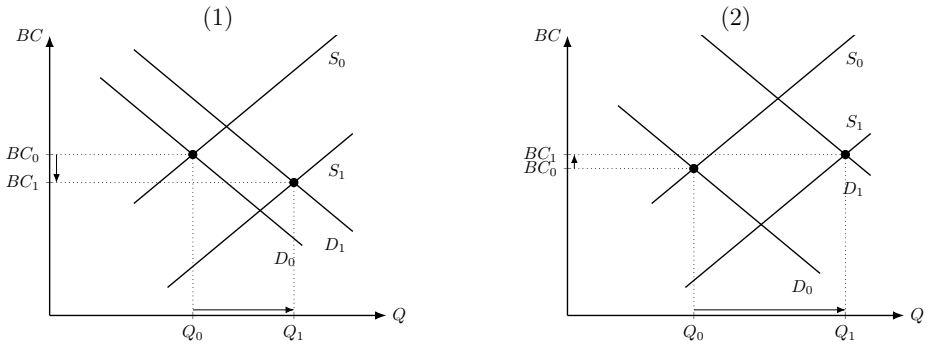
split between the agent-lenders and the asset owners).

Driven by the necessity to hold more and higher-quality regulatory capital, especially around reporting dates, institutions seeking pledgeable collateral have moved from the traditional overnight transactions, to (open) term contracts. In a term contract the security is lent out for a pre-specified length of time, typically between 30 and 60 days.[10] The widespread use of term loans is due to its mutually beneficial setting for both transacting parties: it minimizes the rollover risk of borrowers, while also allows lenders to earn a higher lending fee income on such deals. An indirect consequence of this trend is, however, that the elasticity of the lending market supply and demand, as well fees decrease. This is due to the "best endeavours" nature of the contracts, in which neither party would want to terminate the contract prematurely to protect the business relations, even if market conditions shift. Moreover, early termination would often require the agreement of both parties and result in increased fees. Consequently, we think that the proliferation of term contracts essentially mutes the lending market response to events, such as the eligibility list inclusion of corporate bonds.

Because of this demand-supply imbalance, we observe that despite the larger percentage increase in lending market demand, the post-eligibility list inclusion equilibrium lending fees (borrowing costs) decrease. This is depicted by panel (1) of Figure D1. Note, however, that despite the lower fees following the eligibility list inclusion, it is still profitable for beneficial owners to continue lending due to the offsetting effect of increased demand (on loan volume) over the drop in fees. This dynamic enhances the overall lending profitability after the eligibility event.

[10]The contract duration aims to optimize banks' liquidity coverage and net working capital ratios.

Figure D1: Demand and supply dynamics in the securities lending market



The figure depicts the SL market demand, supply, and equilibrium borrowing costs. In the upper panel, supply increases faster than demand, resulting in a decrease in borrowing cost, while in the lower panel, the increase in demand exceeds that of supply, subsequently pushing the borrowing cost up.

D.2 Which bonds trade in the SL market?

In this section we examine which bond characteristics predict that an issue will be available for securities lending. To address this question, we run probit regressions, in which we model the probability of a bond issue being available for securities lending, *Pr(SL=1)*. Table D1 reports the marginal effects of the estimated coefficients reported at the mean of the explanatory variables.

Table D1: Predictability of securities lending market inclusion

	Pr(SL=1)				
	(1)	(2)	(3)	(4)	(5)
A-rated	-0.031***				-0.057***
	[0.002]				[0.002]
BBB-rated	-0.056***				-0.091***
	[0.002]				[0.002]
NIG or NR	-0.315***				-0.158***
	[0.002]				[0.002]
New bond = 1		0.029***			0.042***
		[0.002]			[0.001]
Core issuer			0.056***		-0.028***
			[0.002]		[0.001]
Periphery issuer			0.137***		0.033***
			[0.002]		[0.001]
Issue size				0.208***	0.188***
				[0.001]	[0.001]
Observations	351,829	351,829	351,829	351,829	351,829

The table presents the marginal effects estimated using probit regressions, where bond-level securities lending availability (*Pr(SL=1)*) is the dependent variable. The rating variables are levels of the categorical variable *ECB credit steps* that follows the haircut schedule applied in the eligibility framework. We use Step 1 (AAA-AA) as the baseline, while Steps 2 and 3 are A-rated and BBB-rated, respectively, and *ECB NIG or NR* corresponds to non-investment grade or not rated bonds. *New bond* is a dummy that equals one for younger bonds with the ratio of time-to-maturity to initial maturity being greater or equal to 0.95, and is zero otherwise. *Core* and *Periphery* are the levels of the categorical variable *Country of origin* where the baseline is "Others" consisting of Scandinavian and Eastern European countries. *Issue size* is the natural logarithm of the issued amount, measured in EUR million. The sample period spans April 2010 to June 2016. The data come from Bloomberg. The table reports marginal effects and robust standard errors corresponding to the estimated regression coefficients. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

The table shows that the higher the credit rating, measured by the levels of the categorical variable *ECB credit steps*, the more likely is the bond to be lendable. This effect is economically significant: non-rated or non-investment grade bonds (*NIG or NR*) are 31.5% less likely to trade on the SL market than their AAA-A rated counterparts. Recent issuance, captured by *New bond=1*, is also increasing the probability to lending market availability, although far less than *Country of origin* or *Issue size*. The latter has a large impact: large issue size increases the probability of the bond to be offered for corporate bond lending by close to 20%.

These effects are comparable to the drivers of the eligibility list inclusion that we document in Table A1. In fact, many bonds in our sample become eligible and lendable

at, or within 30 days from the ECB's eligibility list inclusion. We exclude these bonds from our main analysis, as we cannot measure the "pure" effect of the eligibility inclusion. The presence of such bonds, however, provides further evidence for the spillover between the ECB's monetary policy and the secondary market for collateral.

E Event and rolling window analysis

E.1 Event window length

Table E1: The effect of corporate bond eligibility on the securities lending market

	Overall sample		New bonds		Seasoned bonds	
Panel A: Lendable value						
EA*Post	0.260***	0.270***	0.373***	0.373***	0.018*	0.012
	[0.018]	[0.019]	[0.025]	[0.025]	[0.010]	[0.010]
Observations	4,466	4,466	3,771	3,771	689	689
R-squared	0.982	0.982	0.980	0.980	0.996	0.996
Panel B: On loan						
EA*Post	0.473***	0.487***	0.731***	0.726***	-0.039	-0.082
	[0.097]	[0.095]	[0.132]	[0.131]	[0.101]	[0.094]
Observations	4,466	4,466	3,771	3,771	689	689
R-squared	0.863	0.864	0.872	0.872	0.842	0.842
Panel C: Indicative fee						
EA*Post	-0.165***	-0.155***	-0.191***	-0.191***	-0.114***	-0.076**
	[0.022]	[0.022]	[0.029]	[0.029]	[0.027]	[0.030]
Observations	4,466	4,466	3,771	3,771	689	689
R-squared	0.797	0.798	0.802	0.802	0.767	0.775
Controls	No	Yes	No	Yes	No	Yes
Day-cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Bond-cohort FE	Yes	Yes	Yes	Yes	Yes	Yes

The table presents the results of daily panel regressions of the 15-day event study on the effect of ECB's eligibility list inclusion on bond-level SL market proxies. In panel A, the dependent variable is *Lendable value*, the lending market supply that we proxy as the natural logarithm of the $ amount (stock) of a given bond available for lending. In panel B, the dependent variable is *On loan*, the lending market demand defined as the logarithm of the total $ amount borrowed of the bond on a given day. In panel C, the dependent variable is *Indicative fee*, defined as the logarithm of the lending fee or borrowing cost measured in bps. *EA* is a dummy that equals one if on a given day a bond is included in the EA list, and is zero otherwise. *Post* is the 30-day post-treatment dummy. Controls are dummy variables for the ECB credit steps. Bond-cohort and day-cohort fixed effects are included where indicated, where cohorts are defined for each eligibility treatment date. Three samples are considered: all, new (bonds younger than 30 days) and seasoned bonds. The sample period spans April 2010 to June 2016. The data come from Bloomberg and IHS Markit. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

E.2 The effect of eligibility over time

A concern might arise that in the period of our study, the effect of eligibility is driven by the ECB's increasingly accommodating monetary policy to combat the euro area debt crisis and the period that followed. To address this concern, we implement a three-year rolling window method, which allows us to show how shifting our sample by a year affects the coefficients of interest in our analyses. The main coefficient of interest, *EA*Post*, is

Table E2: The effect of corporate bond eligibility on the secondary market yield and liquidity

	Overall sample		New bonds		Seasoned bonds	
Panel A: Yield spread						
EA*Post	-0.034***	-0.026***	-0.008	-0.009	-0.092***	-0.047***
	[0.007]	[0.008]	[0.009]	[0.008]	[0.013]	[0.014]
Observations	4,466	4,466	3,771	3,771	689	689
R-squared	0.997	0.997	0.998	0.998	0.996	0.997
Panel B: Bid-ask spread						
EA*Post	0.035***	0.040***	0.059***	0.059***	-0.017**	0.002
	[0.006]	[0.006]	[0.008]	[0.008]	[0.007]	[0.008]
Observations	4,466	4,466	3,771	3,771	689	689
R-squared	0.955	0.955	0.951	0.951	0.976	0.978
Controls	No	Yes	No	Yes	No	Yes
Day-cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Bond-cohort FE	Yes	Yes	Yes	Yes	Yes	Yes

The table presents the results of daily panel regressions of the 15-day event study on the effect of the eligibility list inclusion on secondary market bond yield and liquidity. In panel A, the dependent variable is *Yield spread*, defined as the difference between the bond's daily mid yield-to-maturity and the matched risk-free yield that is derived from the German Bund curve provided by Bundesbank. In panel B, the dependent variable is *Bid-ask spread*, defined as the difference between the bond's quoted bid and ask prices. *EA* is a dummy that equals one if on a given day a bond is included in the EA list, and is zero otherwise. *Post* is the 30-day post-treatment dummy. Controls are dummy variables for the ECB credit steps. Bond-cohort and day-cohort fixed effects are included where indicated, where cohorts are defined for each eligibility treatment date. Three samples are considered: all, new (bonds younger than 30 days) and seasoned bonds. The sample period spans April 2010 to June 2016. The data come from Bloomberg and IHS Markit. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

presented across the different estimation periods for the SL and the secondary bond market variables in Tables E3 and E4, respectively.

Table E3, focusing on the SL variables, confirms that the effect of eligibility is concentrated in the new bond segment. On average, the lending supply (*Lendable value*) exhibits a strong upward trend for new bonds that only slightly diminishes over time: from the initial increase of 42% to 30% in the latest estimation window. Shifting our focus to the demand side of the SL market, we observe that *On Loan* exhibits an exceptionally high value of 101%, indicating a strong increase in bond demand in the month following its inclusion in the EA list during the euro crisis, which dissipates as the ECB engages in the TLTRO. While quantities in the lending market might be sensitive to monetary operation that the ECB conducted parallel to eligibility, the price effect, reflected in *Indicative fee* shows that the SL channel of eligibility remains important throughout the entire sample period. In fact, the initial 22.3 bps drop in fees further grows to 33.8–34.2

bps during the TLTRO period. This suggests that there might be less EAs available in the lending market during the competing ECB program, hence the increased price impact of eligibility in the latter part of the sample period.

In Table E4 we turn to examining the secondary market of ECB-eligible bonds. The *Yield spread* carries an average eligibility premium of 2.2–4.3 bps that is slightly changing across the various sub-periods. Looking at the *Bid-ask spread*, we find that our "hoarding" hypothesis persistently holds for new bonds, while there are periods when eligibility temporally seems to improve seasoned bond liquidity. Interestingly though, the effect of eligibility seems to slightly strengthen over time: the more the ECB employs the collateral framework more generally as a monetary policy tool, the more the markets seem to reward this feature, especially for older, seasoned bonds.

Table E3: Rolling window estimation of the effect of corporate bond eligibility on the SL market

Panel A: Lendable value							
	Est. period	Overall sample		New bonds		Seasoned bonds	
EA*Post	2010-2013	0.331***	0.331***	0.424***	0.423***	-0.001	0.003
		[0.023]	[0.023]	[0.027]	[0.027]	[0.014]	[0.013]
	2011-2014	0.282***	0.294***	0.397***	0.395***	0.001	-0.024*
		[0.022]	[0.023]	[0.028]	[0.028]	[0.015]	[0.013]
	2012-2015	0.206***	0.220***	0.305***	0.307***	0.017	0.004
		[0.018]	[0.019]	[0.025]	[0.025]	[0.012]	[0.010]
	2013-2016	0.165***	0.190***	0.301***	0.305***	0.017	0.013
		[0.018]	[0.020]	[0.031]	[0.031]	[0.010]	[0.009]
Panel B: On loan value							
EA*Post	2010-2013	0.689***	0.712***	1.001***	1.010***	-0.315***	-0.311***
		[0.122]	[0.123]	[0.149]	[0.149]	[0.095]	[0.099]
	2011-2014	0.526***	0.630***	0.693***	0.718***	0.205*	0.411***
		[0.114]	[0.122]	[0.151]	[0.151]	[0.121]	[0.149]
	2012-2015	0.281***	0.347***	0.374***	0.383***	0.172	0.311**
		[0.071]	[0.073]	[0.086]	[0.086]	[0.110]	[0.133]
	2013-2016	0.052	0.127	0.079	0.105	0.063	0.230*
		[0.073]	[0.081]	[0.104]	[0.105]	[0.097]	[0.122]
Panel C: Indicative fee							
EA*Post	2010-2013	-0.181***	-0.182***	-0.223***	-0.223***	-0.045	-0.035
		[0.030]	[0.030]	[0.036]	[0.036]	[0.034]	[0.037]
	2011-2014	-0.193***	-0.193***	-0.278***	-0.277***	0.007	0.102***
		[0.028]	[0.029]	[0.036]	[0.036]	[0.033]	[0.029]
	2012-2015	-0.214***	-0.210***	-0.316***	-0.314***	-0.023	0.036
		[0.024]	[0.025]	[0.033]	[0.033]	[0.027]	[0.024]
	2013-2016	-0.221***	-0.221***	-0.342***	-0.338***	-0.093***	-0.050
		[0.026]	[0.029]	[0.041]	[0.041]	[0.030]	[0.034]
Controls		No	Yes	No	Yes	No	Yes
Day-cohort FE		Yes	Yes	Yes	Yes	Yes	Yes
Bond-cohort FE		Yes	Yes	Yes	Yes	Yes	Yes

The table presents the results of daily panel regressions of the event study on the effect of ECB's eligibility list inclusion on bond-level SL market proxies. We run this analysis in 3-year rolling windows to test the robustness of our main coefficient (*EA*Post*) to the sample period, namely the euro crisis or the TLTRO. In panel A, the dependent variable is *Lendable value*, the lending market supply that we proxy as the natural logarithm of the $ amount (stock) of a given bond available for lending. In panel B, the dependent variable is *On loan*, the lending market demand defined as the logarithm of the total $ amount borrowed of the bond on a given day. In panel C, the dependent variable is *Indicative fee*, defined as the logarithm of the lending fee or borrowing cost measured in bps. *EA* is a dummy that equals one if on a given day a bond is included in the EA list, and is zero otherwise. *Post* is the 30-day post-treatment dummy. Controls are dummy variables for the ECB credit steps. Bond-cohort and day-cohort fixed effects are included where indicated, where cohorts are defined for each eligibility treatment date. Three samples are considered: all, new (bonds younger than 30 days) and seasoned bonds. The sample period spans April 2010 to June 2016. The data come from Bloomberg and IHS Markit. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

Table E4: Rolling window estimation of the effect of corporate bond eligibility on the secondary market

Panel A: Yield spread							
	Est. period	Overall sample		New bonds		Seasoned bonds	
EA*Post	2010-2013	-0.020	-0.022*	-0.015	-0.017	-0.039*	-0.032
		[0.012]	[0.012]	[0.015]	[0.015]	[0.023]	[0.024]
	2011-2014	-0.087***	-0.043***	-0.009	-0.011	-0.285***	-0.067**
		[0.016]	[0.013]	[0.014]	[0.014]	[0.040]	[0.029]
	2012-2015	-0.082***	-0.035***	-0.000	-0.001	-0.244***	-0.067***
		[0.014]	[0.011]	[0.013]	[0.013]	[0.030]	[0.017]
	2013-2016	-0.113***	-0.036***	0.013	0.015	-0.251***	-0.113***
		[0.016]	[0.011]	[0.014]	[0.014]	[0.026]	[0.015]
Panel B: Bid-ask spread							
EA*Post	2010-2013	0.072***	0.073***	0.095***	0.095***	-0.013	-0.012
		[0.009]	[0.009]	[0.011]	[0.011]	[0.012]	[0.013]
	2011-2014	0.054***	0.074***	0.105***	0.105***	-0.072***	-0.007
		[0.009]	[0.009]	[0.010]	[0.010]	[0.015]	[0.014]
	2012-2015	0.053***	0.074***	0.112***	0.112***	-0.061***	-0.009
		[0.007]	[0.007]	[0.008]	[0.008]	[0.011]	[0.008]
	2013-2016	0.029***	0.058***	0.098***	0.100***	-0.048***	-0.006
		[0.008]	[0.007]	[0.010]	[0.010]	[0.010]	[0.007]
Controls		No	Yes	No	Yes	No	Yes
Day-cohort FE		Yes	Yes	Yes	Yes	Yes	Yes
Bond-cohort FE		Yes	Yes	Yes	Yes	Yes	Yes

The table presents the results of daily panel regressions of the event study on the effect of ECB's eligibility list inclusion on secondary market bond yield and liquidity. In panel A, the dependent variable is *Yield spread*, defined as the difference between the bond's daily mid yield-to-maturity and the matched risk-free yield that is derived from the German Bund curve provided by the Deutsche Bundesbank. In panel B, the dependent variable is *Bid-ask spread*, defined as the difference between the bond's quoted bid and ask prices. *EA* is a dummy that equals one if on a given day a bond is included in the EA list, and is zero otherwise. *Post* is the 30-day post-treatment dummy. Controls are dummy variables for the ECB credit steps. Bond-cohort and day-cohort fixed effects are included where indicated, where cohorts are defined for each eligibility treatment date. Three samples are considered: all, new (bonds younger than 30 days) and seasoned bonds. The sample period spans April 2010 to June 2016. The data come from Bloomberg and IHS Markit. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

F Eligibility vs. haircuts

In the following, we examine the impact of ECB's haircut changes on eligible assets and contrast the results with the eligibility results. In general, haircuts of private markets, like those on the repo market, differ from the ECB's haircuts. While repo haircuts can change frequently to reflect prevailing market conditions, Jasova et al. (2021) show that the ECB uses haircuts as an additional monetary policy tool. The resultant ECB haircuts have the following features that are relevant for our analysis: They tend *not* to reflect market conditions, as they are revised infrequently (Nyborg, 2016), especially relative to the frequency of the EA list inclusion in our sample. They are mainly driven by four characteristics of individual assets: credit rating, residual maturity, coupon, and asset class. Their changes are either mechanical, such as when a bond migrates along the maturity spectrum, or are explicitly driven by monetary policy, such as with the introduction of a policy change.

Both haircuts and eligibility can change mechanically or due to monetary policy. One distinct difference between the two is that eligibility can also be affected by the ECB's discretionary decision to include an asset in the EA list (see Section 3.2), a feature that we use for our identification strategy. Mechanical haircut changes do not constitute an issue for our analysis as their variation is absorbed by the *ECB credit steps* control in the main regression framework. For the eligibility analysis, we exclude bonds that mechanically enter the EA list due to rating upgrades (or drop from the list following a downgrade). Consequently, to compare the impact of haircuts and eligibility, we focus on monetary policy changes.

As for haircut policy changes, during our sample period, a new haircut regime comes into effect on 1 January 2011. This change introduces the graduated haircut schedule (by differentiating collateral maturity, liquidity and credit quality of a bond), replacing the uniform 5% haircut add-on for $BBB\pm$ bonds. The ECB announced the change on

8 April 2010. This policy shift allows us to assess, in a classical event study framework, both the announcement and the actual implementation effects. Further, we can compare the findings on haircut policy changes to the effect of the temporary collateral framework on foreign currency-denominated bonds (see Section 6.3). Tables F1 and F2 report the results for the announcement and the subsequent implementation of the new haircut policy, respectively.

In practice, the new haircut system results in higher haircuts and, therefore, constitutes negative news for bond investors. As such, we conjecture a positive yield spread impact, lower bid-ask spreads (due to less hoarding of the asset), and an overall decrease in the SL activity with an offsetting increase in borrowing costs. For the haircut announcement, we find quite the opposite market reaction, as shown in Table F1.

We observe an increase in SL activity, a drop in the bid-ask spread and no significant yield response. We conjecture that this market reaction is due to the "spotlight effect" (i.e., higher attention of market participants for a bond due to the eligibility event). In contrast, the impact of the actual haircut policy implementation is in line with our expectations; Table F2 reports increasing yield spreads and decreasing SL market activity. However, a comparison of these results with the inclusion or exclusion of GBP-denominated bonds under the temporary collateral framework (see Tables 7 and 8) suggests that the haircut effect is smaller than the eligibility effect. Further, if we differentiate between old and new bonds, as presented in Table F3 for the yield spread, we can observe that the haircut effect is driven by seasoned bonds. For the new bonds, the yield reaction is negative. This means that new bonds are exposed to two effects, the eligibility effect (since they were only recently included in the EA list) and the haircut implementation effect. The results show that the former effect clearly dominates the latter.

Table F1: The announcement of haircut increases on 8 April 2010

	Lendable value	**On loan**	**Indicative fee**	**Yield spread**	**Bid-ask spread**
EA*Post	0.018***	0.070**	-0.017*	-0.008	-0.021***
	[0.006]	[0.036]	[0.010]	[0.006]	[0.004]
Observations	7,221	7,221	7,221	7,221	7,221
R-squared	0.977	0.846	0.604	0.968	0.762

The table presents the results of daily panel regressions of the event study on the announcement effect of haircut increases, released by the ECB on 8 April 2010. The dependent variables are *Lendable value*, *On loan*, *Indicative fee*, *Yield spread*, and *Bid-ask spread*. *Lendable value* is the natural logarithm of the value of a given bond available for lending. *On loan* is the logarithm of the amount borrowed of the bond on a given day. *Indicative fee* is the logarithm of the indicative lending fee in bps. *Yield spread* is the difference between the bond's daily mid yield-to-maturity and the matched risk-free yield that is derived from the German Bund curve provided by Bundesbank. *Bid-ask spread* is the difference between the bond's quoted bid and ask prices. *EA* is a dummy that equals one for bonds that are ECB-eligible throughout the event window, and is zero otherwise. *Post* is the 30-day post-treatment dummy. The sample period spans 9 March 2010 to 10 May 2010. The data come from Bloomberg and IHS Markit. Bond and daily time fixed effects are included in all regresions. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

Table F2: The implementation of haircut increases on 1 January 2011

	Lendable value	**On loan**	**Indicative fee**	**Yield spread**	**Bid-ask spread**
EA*Post	-0.006	-0.125***	0.023*	0.021***	0.003
	[0.004]	[0.027]	[0.014]	[0.005]	[0.003]
Observations	7,521	7,521	7,521	7,521	7,521
R-squared	0.991	0.848	0.492	0.982	0.716

The table presents the results of daily panel regressions of the event study on the implementation effect of haircut increases by the ECB on 1 January 2011. The dependent variables are *Lendable value*, *On loan*, *Indicative fee*, *Yield spread*, and *Bid-ask spread*. *Lendable value* is the natural logarithm of the value of a given bond available for lending. *On loan* is the logarithm of the amount borrowed of the bond on a given day. *Indicative fee* is the logarithm of the indicative lending fee in bps. *Yield spread* is the difference between the bond's daily mid yield-to-maturity and the matched risk-free yield that is derived from the German Bund curve provided by Bundesbank. *Bid-ask spread* is the difference between the bond's quoted bid and ask prices.*EA* is a dummy that equals one for bonds that are ECB-eligible throughout the event window, and is zero otherwise. *Post* is the 30-day post-treatment dummy. The sample period spans 2 December 2010 to 31 January 2011. The data come from Bloomberg and IHS Markit. Bond and daily time fixed effects are included in all regressions. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

Table F3: The implementation of haircut increases on 1 January 2011 - Yield spread

	Yield spread		
	Overall sample	New bonds	Seasoned bonds
EA*Post	0.021***	-0.057***	0.025***
	[0.005]	[0.013]	[0.005]
Observations	7,521	407	7,114
R-squared	0.982	0.991	0.982

The table presents the results of daily panel regressions of the event study on the implementation effect of haircut increases by the ECB on 1 January 2011. The dependent variable is *Yield spread*. *EA* is a dummy that equals one for bonds that are ECB-eligible throughout the event window, and is zero otherwise. *Post* is the 30-day post-treatment dummy. Three samples are considered: all, new, and seasoned bonds. The sample period spans 2 December 2010 to 31 January 2011. The data come from Bloomberg. Bond and daily time fixed effects are included in all regressions. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

G Shock to Bank Liquidity

The Eurosystem collateral framework serves a crucial role in aiding banks to efficiently manage their liquidity needs. Against this background, we seek to examine the impact of a distinct shock that is quite different from the ones considered so far: a liquidity shock to banks. As an important event in this context, we use the European Council's decision on restructuring of Greek debt in 2011. This event is of particular relevance, as it did not only signify the largest debt restructuring in the history of sovereign defaults, but it was also the first such instance within the euro area. The decision, which took place on 21 July 2011, marked a notable policy reversal by European leaders regarding the unavoidable debt write-off (Simitis, 2014). As Greek debt was primarily held by non-Greek banks within the euro area (Zettelmeyer et al., 2014), this decision heightened the fragility of the European financial system and raised concerns about its overall stability. In fact, financial markets perceived it as a potential threat to the future of the euro as a common currency (Hawranek et al., 2011). The Greek sovereign yield spreads hit a record high of 1600 basis points by the end of the month (De Santis, 2012) and the country's sovereign rating was downgraded to Ca (CC) by Moody's (S&P) on 25 (27) July 2011 (Smeets, 2016). Consequently, banks should have expected a decrease in the proportion of eligible bonds held in their portfolios and therefore should have compensated for this decline by seeking further for eligible bonds from elsewhere in the market.

Table G1 presents the regression results around the restructuring decision. We find that this adverse event led to an increase in the securities lending activity and a drop in borrowing costs. Although there is a significant rise in bonds offered for lending, the amount actually lent out does not appear to be affected. This uneven reaction may be attributed to banks acquiring additional corporate bonds from the secondary (cash) market and subsequently offering them in the SL market.As long as a bank does not need immediate liquidity and therefore is not required to pledge the purchased bond with the

Eurosystem, it is a reasonable decision to offer this bond in the SL market in exchange for a fee. This explanation gains support from the price reaction observed in the secondary bond market. The significant decrease in the yield spread of eligible bonds suggests a higher demand for these bonds following the announcement of the restructuring. However, the bid-ask spread does not show a significant reaction. This lack of response could be due to the presence of two opposing effects. On the one hand, the bid-ask spread should widen due to the increased portfolio holdings of banks, on the other hand, the availability of low-cost collateralized borrowing should reduce the bid-ask spread, as market-makers, mainly the banks' own trading desks, are not required to maintain high inventories.

In summary, the Greek debt restructuring decision served as an exogenous liquidity shock to banks and, similar to our previous findings, appears to have resulted in increased demand for eligible collateral in the secondary market and a heightened activity in the SL market.

Table G1: Decision on Greek debt restructuring

	Lendable value	**On loan**	**Indicative fee**	**Yield spread**	**Bid-ask spread**
EA*Post	0.015***	0.027	-0.032**	-0.034*	0.007
	[0.004]	[0.028]	[0.015]	[0.020]	[0.011]
Observations	8,544	8,544	8,544	8,544	8,544
R-squared	0.991	0.811	0.492	0.933	0.737

The table presents the results of daily panel regressions of the event study on the effect of the Greek debt restructuring decision by the European Council on 21 July 2011. The dependent variables are *Lendable value*, *On loan*, *Indicative fee*, *Yield spread*, and *Bid-ask spread*. *Lendable value* is the natural logarithm of the value of a given bond available for lending. *On loan* is the logarithm of the amount borrowed of the bond on a given day. *Indicative fee* is the logarithm of the indicative lending fee in bps. *Yield spread* is the difference between the bond's daily mid yield-to-maturity and the matched risk-free yield that is derived from the German Bund curve provided by Bundesbank. *Bid-ask spread* is the difference between the bond's quoted bid and ask prices. *EA* is a dummy that equals one for eligible bonds, and is zero otherwise. *Post* is the 30-day post-treatment window. The sample period spans 21 June 2011 to 19 August 2011. The data come from Bloomberg and IHS Markit. Bond and daily time fixed effects are included in all regressions. Robust standard errors are reported in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

H Firm-Level Analysis

In the paper, we analyzed how inclusion in the Eurosystem Collateral Framework affects prices, liquidity, and the secondary collateral market demand of eligible corporate bonds. In this section, we exploit the unique feature of the ECB's EA list that allows us to identify the first inclusion date of an eligible bond-issuing firm. We first consider whether issuers (or banks) can anticipate a firm's inclusion in the eligibility list, and then we show how the lack of predictability and the mechanism of the eligibility assessment process helps our identification at the firm-level. We proceed thereafter by investigating the debt structure of firms, including the debt composition, debt size and maturity decisions of newly eligible issuers. Finally, we investigate firms' supply response by focusing on changes in the debt structure of firms whose bonds were included in ECB's EA list. In particular, we focus on newly eligible firms, that is, bond-issuing firms that are chosen for eligibility for the first time.

We find that the event triggers a corporate debt restructuring process at the issuing firm, during the four quarters following the announcement: newly eligible firms increase their bond debt, and simultaneously reduce their bank debt. Eligibility creates a more favorable market environment for future debt issuances, which leads to a more bond debt-tilted corporate debt structure. As a result, firms not only substitute bank loans with corporate bond issuance, but actually increase their overall supply of marketable bonds, particularly those with longer maturities. This eventually helps capital market development and, ultimately, the capital market union in the euro area. It is conceivable that collateral eligibility has contributed to the European corporate bond market to double in size in the past decade, reaching EUR 1.3 trillion or about 10% of the euro area GDP by 2017.

H.1 Literature Contribution

Our paper enriches the literature that studies corporate debt issuance. Rauh and Sufi (2010), for instance, document the within-debt heterogeneity of firms, although the decision as to whether to issue public debt or obtain bank financing depends on many factors, like monetary policy and aggregate loan supply (Kashyap et al., 1993; Becker and Ivashina, 2014), or the business cycle (Adrian et al., 2013; De Fiore and Uhlig, 2015). These papers suggest that firms prefer capital market finance when loan supply contracts. However, firms do not only adjust the relative proportion of bank and bond debt in response to the state of the macroeconomy, but also the overall size of leverage (Faulkender and Petersen, 2006), and the maturity structure of their public debt (Badoer and James, 2016). We show that the same effect applies to eligible corporate bonds in the euro area in our empirical analyses. Our findings confirm that eligibility, similar to credit ratings or traded CDS contracts on the firms' debt (Faulkender and Petersen, 2006; Saretto and Tookes, 2013; Subrahmanyam et al., 2014, 2017), improves firms' access to the public debt market that helps maintain higher levels of leverage.

H.2 Firm Data and Descriptive Statistics

We complement the bond and eligibility data set with information at the bond-issuing firm level for the period between Q2 2007 to Q2 2016. The data come from the Global Fundamentals Quarterly database of Compustat. We start with the raw data and then exclude observations from financial institutions and the real estate sector (GIC 40 and 60, respectively), along with observations with missing industry entries. We conduct our analyses on EU28 firms and drop companies with total assets that are either missing or negative, or have cash holdings or a total asset value below EUR 50 million. Our focus is on firms for which we also have quarterly debt information from Capital IQ. Among eligible bond-issuing firms, we look at those that experienced an eligibility event in April

2010 or later, then remove them from the sample four quarters following the EA event.[11]

The data on debt composition come from S&P's Capital IQ, which differentiates between seven distinct types of debt: commercial paper, (drawn) credit lines, term loans, senior bonds and notes, subordinated bonds and notes, capital leases and other debt. We follow the definitions of Grosse-Rueschkamp et al. (2019), and assign (drawn) credit lines and term loans to bank debt, while public debt is composed of commercial paper, and subordinated and senior bonds and notes. Total debt is then defined as the sum of all individual debt components.[12] Finally, we merge the Capital IQ sample with Compustat fundamentals data. Focusing on the main period of our analysis (i.e., Q2 2010 to Q2 2016), the resultant sample includes 67 eligible bond-issuing firms and 370 control firms. Summary statistics of the main capital structure and accounting variables are in Table H1, while Figure H1 presents the heterogeneity in the main properties of eligible and ineligible firms.

[Table H1 and Figure H1 about here]

Table H1 shows that the average firm in our sample has ratios of 59.7% bank and 33.6% bond debt to total debt. Total debt is about 32% of total assets. Bank and bond debt maturities are rather comparable, being close to 4 years (45 and 46 months, respectively). Accounting variables are scaled by total assets and are denoted as percentages. The average firm holds cash in the value of about 10% of its total assets, has a 37.1% gross profit margin and 20.8% intangible assets. Figure H1 compares eligible and ineligible firms and confirms that there is a difference in firm size and ratings. Eligible firms are typically large and have better credit quality than their ineligible counterparts. As

[11]Some firms have their first inclusion date prior to May 2007, and are, thus, unobservable in the data set. By focusing on the EA list inclusion in April 2010 or later, we aim to minimize the likelihood of falsely assigning events in the analysis, while the four-quarter post-inclusion window helps us focus on the immediate effect of eligibility.

[12]For firms that report information only semiannually, we carry over the values from the previous publication date, and to mitigate the effect of data errors, the variables are winsorized at the top and bottom one percentile.

for the geographical distribution of the two types of firms, most firms are incorporated in France, Germany, Italy and Spain, while eligible firms are mostly French, German, Spanish, Italian and Dutch.

H.3 Firm-Level Predictability of the Eligibility List Inclusion

To address the potential concern that bond-issuing firms or banks holding EAs can foresee and manage their portfolios in expectations of the ECB's EA list inclusions, we test the extent to which firm characteristics and other variables can predict this decision. We run a bivariate logit regression on *currently eligible issuer* (CEI), where *CEI* is an indicator variable that equals one, if at least one of the firm's outstanding bonds was an EA during the sample period Q2 2010 and Q2 2016, and is zero otherwise. Firm-related information includes sample-averaged balance sheet variables, cash and short-term investments to total assets, gross profit margin, total intangible assets to total assets, net sales to total assets, operating expenses to total assets, and size. Additionally, we include the highest issuer's credit rating, provided by one of the rating agencies, S&P, Moody's, Fitch, or DBRS. The results are presented in Table H2.

[Table H2 about here]

The first columns look at firm characteristics individually, while Columns 8 and 9 are based on pooled multivariate logit regressions. The results suggest that a firm is more likely to become an eligible issuer if it is more profitable, large(r), and it has more intangible assets and a high(er) credit rating. We also observe, based on the $pseudo - R^2$, that an important predictor is credit quality (rating), although this variable alone seems insufficient to reliably predict the inclusion outcome. This is due to the fact that the ECB reserves the right to not accept otherwise eligible assets due to discretionary (or undisclosed) portfolio management reasons. We therefore conclude, similar to the

bond-inclusion results, that the EA list inclusion is not mechanical, nor it is precisely predictable even at the issuer level.

H.4 Identification Strategy and Analysis

The EA list allows us to identify the precise inclusion and exclusion dates of individual assets, as well as the first inclusion date at the issuer level. This is done by pooling all eligible bonds of the same firm and define the earliest inclusion date across the pooled bonds as the issuer's treatment date, that is, prior to this date, none of the firm's bonds were eligible under the collateral framework.[13]

An additional challenge is the unobserved firm-bank relationship. According to the ECB, banks are allowed to propose bonds for eligibility assessment if they were not already listed. Thus, firms with tight bank relationships might have a supportive partner, who would actively promote a bond's eligibility status attainment.[14] Assuming that a strong firm-bank relationship develops over time, we use firm age to control for this trait. Another, rather predictable, inclusion event, on the other hand, is a firm-level *rating upgrade* that leads to bond inclusions following the announcement. To avoid any issues concerning such cases, newly eligible issuers that experience a rating upgrade are excluded from the analysis.

Similar to the bond-level analyses, we use a difference-in-difference approach to tease out the effect of the EA list inclusion at the bond-issuing firm-level. We define the treatment date as the date on which a firm becomes a newly eligible issuer, the first-time bond eligibility for a given firm. Since the treatments often occur at different times across

[13]Even though the details on the eligibility assessment are stated in the General Documentation Guideline, the Eurosystem never confirms the eligibility of an asset prior to its issuance. In addition, the ECB reserves the right to decline to accept otherwise eligible assets due to risk management and operational reasons, or any other discretionary measures.

[14]According to Belke (2015), national central banks are said to have occasionally violated the assessment of collateral assets' credit standing in favor of banks that submitted the securities.

treated firms, we use the two-way fixed effects DiD model:[15]

$$CS\_proxy_{f,t} = \alpha_f + \alpha_t + \beta EA_f \times Post_{ft} + X_{ft} + \epsilon_{ft}. \tag{1}$$

where $CS\_proxy_{f,t}$ is the outcome variable, a capital structure proxy of firm f at time t, EA_f is a time-invariant indicator variable that equals one for treated, and zero for control firms. $Post_t$ is a dummy that equals one for post-treatment periods and is zero otherwise. $X_{f,t}$ are firm-level control variables, while α_f and α_t are firm and quarter fixed effects, respectively.

We estimate Equation (1) as the baseline specification, to evaluate the effects of firm eligibility, where the firm outcome variables of interest are debt structure, aggregate debt size, and debt maturity of treated firms. We study these aspects in a sample, where newly eligible issuers enter the EA list after Q2 2010, and drop out the four quarters following the eligibility event date.

We also account for the potential selection effect in the EA list inclusion, similar to Section 5.2.1, by adding the estimated inclusion probability from Section H.3, and for firm heterogeneity by including lagged quarterly balance sheet information.[16] Size (log total assets) and turnover (the ratio between net sales and total assets) control for larger firms' better access to the credit market (Baker and Wurgler, 2002). We add firms' liquidity (cash holdings to total assets) and profitability variables (gross profit margin or selling, general and administrative expense to total assets), and control for the strong positive relation between intangible assets and firms' capital structure by including the ratio of intangible assets to total assets (Lim et al., 2020). We also control for age to capture the unobserved firm-bank relationship, while sector and country controls account for the variation of capital intensity across different industries and capital markets, or

[15]This follows the work of Wolfers and Stevenson (2006) and Goodman-Bacon (2021).

[16]The results are computed using firm information at the ultimate parent-level but they are quantitatively and qualitatively similar both at the issuer and the parent-level.

bank sector development. The quarterly time fixed effect absorbs common shocks, as well as helps to account for the lack of a single treatment date.

H.5 Debt Structure

While the primary purpose of the EA framework is to facilitate bank refinancing operations, Nyborg (2016, 2017) points out that its breadth and depth are likely to affect other financial market participants and the real economy. Following this argument, we postulate that eligibility has an effect on the debt structure of eligible bond-issuing firms. If none of the company's past bond issues were ever eligible under the collateral framework, then the first-time inclusion of its bond is an exogenous and unexpected shock to the issuer. This shock signals that (i) the newly eligible bond is likely to attract a new pool of investors, like banks who want to borrow from the ECB (Allen and Moessner, 2012); (ii) its future bond issues are also more likely to become eligible; (iii) the yield decrease of eligible bonds makes refinancing with bond issuance cheaper; and (iv) the demand for pledgeable collateral improves the capital market access of bond-issuing firms. Consequently, an eligibility shock likely affects a firm's beliefs about its future refinancing costs and the demand for its new issuances. This should directly influence debt financing decisions, resulting in a shift from bank financing to the newly favourable public debt issuance channel.

Figures H2 and H3 show the difference in debt structure between eligible and ineligible issuers. Figure H2 depicts the time-series evolution of how the public to total debt ratio (bond debt share) of the average eligible firm widens following its inclusion in the collateral framework, relative to the control group of non-treated firms. Figure H3 focuses on the cross-sectional differences of the average eligible versus ineligible issuers. Panel A shows how the bank debt share of eligible issuers drops after treatment, while their public debt ratio increases. The average effect suggests that this phenomenon goes beyond

substitution, as the increase in public debt exceeds the magnitude of the drop in bank financing. Panels B and C focus on the public and bank debt share distributions of eligible and ineligible issuers, and reveal that prior to the eligibility treatment, eligible and ineligible firms are rather similar.

[Figures H2 and H3 about here]

Next, we formally evaluate the effects of firm eligibility on its debt structure by using Equation (1). The results are presented in Table H3, where the dependent variables are the ratio of bank to total debt and public to total debt, in panels A and B, respectively.

[Table H3 about here]

Panel A, focusing on bank debt share, shows that the firm's first-time eligibility inclusion under the EA framework has a significant negative effect on the bank debt share of the affected firm, triggering a significant decrease of 25.73 to 36.25 percentage points. In panel B, we focus on firms' public debt share, and find that the inclusion significantly increases the ratio by 22.83 to 34.97 percentage points. Both results are robust to the inclusion of various firm characteristics, as well as to firm and quarter fixed effects. Overall, the results suggest that firms gradually restructure their debt composition in response to the positive shock of an eligibility event.

H.6 Aggregate Debt Size

Given the descriptive evidence in panel A of Figure H3 and the results of the previous section, the question arises as to whether the size of firms' aggregate debt is also affected. In other words, do newly eligible issuers substitute bank debt with public debt, or do they increase their overall stock of debt? To answer this question, we analyze Equation (1), with the firm specific outcome variable defined as the firm's total debt normalized by its total assets. The results are presented in the two panels of Table H4.

[Table H4 about here]

In panel A, specifications (1) to (3) examine firms' bank debt share, while (4) to (6) the public debt share, both scaled by size, while panel B looks at total debt to total assets. Panel A demonstrates that our baseline results from Table H3 are robust to scaling: bank debt slightly decreases, although insignificantly, while public debt shows a highly significant increase following the eligibility announcement. Overall, we find that normalizing debt components by total debt or by total assets does not affect our main findings qualitatively. In panel B, focusing on the total debt, we show that firms increase their overall debt level in response to the eligibility announcement. We also observe a positive net effect for public debt, meaning that firms do not only substitute bank debt but actually increase their overall level of leverage.[17]

H.7 Debt Maturity

As lenders often have discretion over loan terms, such as maturity (Roberts and Sufi, 2009) or rationing firms in loan volume or maturity (Faulkender and Petersen, 2006), public debt financing can be an attractive alternative for eligible companies. These companies already have an established access to the capital markets, and the increased bond demand and lower bond yields help them overcome banks' financing constraint in periods of a credit crunch. According to Baker et al. (2003), firms use debt market conditions in an effort to determine the lowest-cost maturity at which to borrow. Lenel (2020) documents that most risk-tolerant investors hold long-maturity safe assets, which are valued as good collateral.

Banks' demand for ECB-eligible collateral and eligible firms' improved access to the public debt market are likely to push firms towards issuing longer maturity bonds. This

[17]Interestingly, the change in the level of indebtedness does not seem to affect the overall riskiness of firms, as observed in unreported results from analyzing the response in stock returns, bid-ask spreads or changes in trading volume show.

behavior is also in line with studies that show how firms act as macro-liquidity providers across debt maturities by filling the supply gaps that can arise due to changes in the maturity structure of government debt (Greenwood et al., 2010; Eidam, 2020) and due to unconventional monetary policy shocks (Foley-Fisher et al., 2016). Descriptive evidence in panel C in Figure 3 suggests that bond maturity grows over time, which is why we expect newly eligible firms to issue longer-maturity debt. Table H5 reports the results for the period of Q2 2010 to Q2 2016.

[Table H5 about here]

We observe that eligible firms issue public debt with relatively longer maturities following treatment, while the effect on bank debt maturity is insignificant. It seems reasonable to conclude that bank debt maturity remains unaffected, since newly eligible issuers tend to capitalize on the new financing channel of the corporate bond market. These results are robust to the inclusion of various firm controls and even the estimated inclusion probability. The highly significant and large increase in bond debt maturity, on the other hand, is also in line with the gap-filling argument, which stems from firms' incentive to exploit favorable market conditions and obtain relatively more accessible debt with favorable terms.

H.8 Firm-Level Robustness Tests

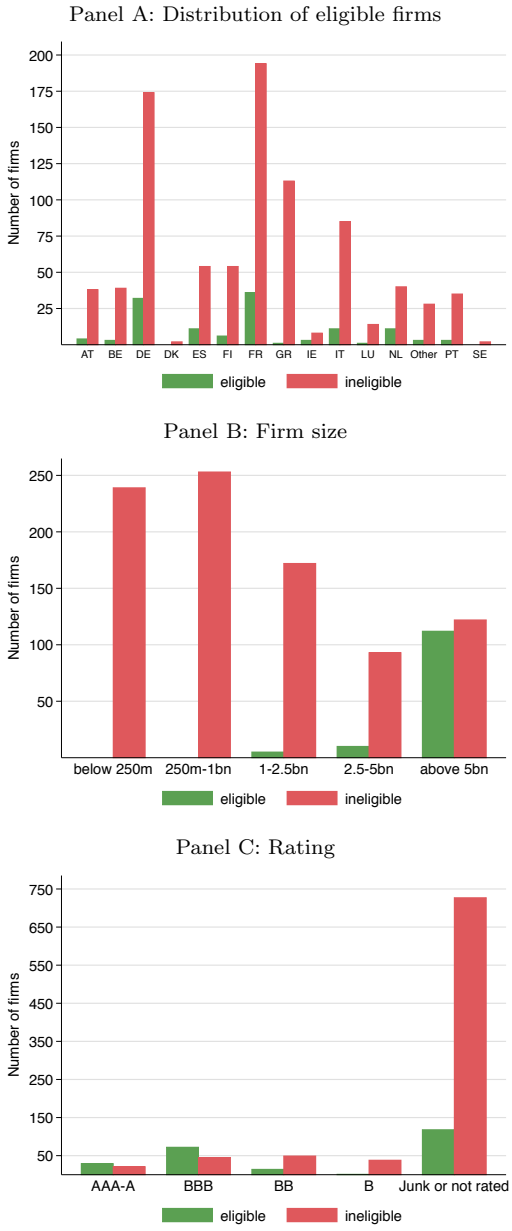
To test the robustness of our firm-level results, we first examine the sensitivity of our analyses to the timing of the treatment. We do this by conducting a placebo test, a DiD specification with fictional treatment dates. For each newly eligible issuer, we define a placebo event by lagging the actual treatment date by eight quarters. The placebo treatment effect is then estimated using the baseline model specification. In line with our expectations, we find that the re-assigned placebo treatment dates do not have an effect

on firms' debt structure. Considering that timing matters, we also investigate whether our findings are driven by any specific time trend and find that our main results are also robust to the inclusion of a time trend.

From a methodological standpoint, one might argue that the two-way DiD approach is inappropriate for an analysis with varying treatment dates. Thus, we re-estimate the treatment effect by applying a staggered DiD estimation (Gormley and Matsa, 2011), and find that the results are both quantitatively and qualitatively similar to the baseline specifications.

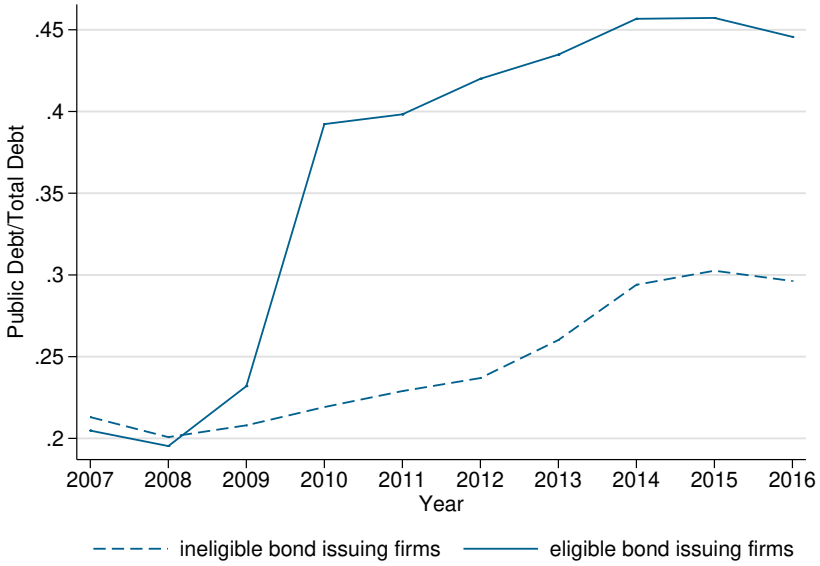
Finally, we ran a matched sample analysis by applying the technique of coarsened exact matching. Again, we find that the results are qualitatively similar to those presented in the paper. All robustness exercises are available on request.

Figure H1: Eligible firm characteristics



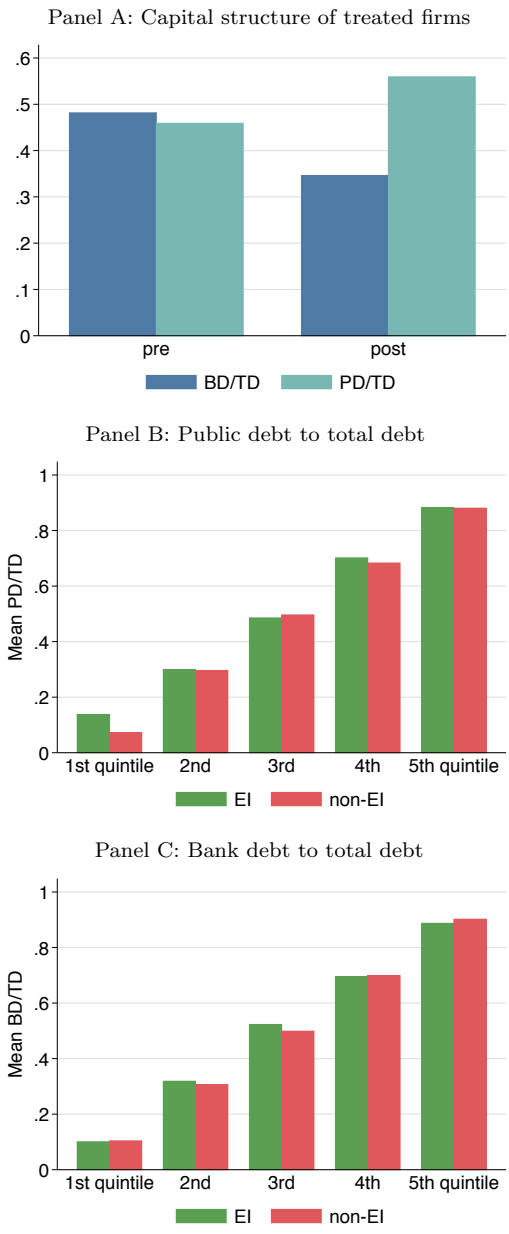
Panel A presents the distribution of eligible (green bars) and ineligible (red bars) firms across EEA countries. Panel B reports the size distribution across eligible and ineligible firms, with the following size categories: below 250m, 250m-1bn, 1-2.5bn, 2.5-5bn, and above 5bn. Size is measured by total assets in million (m) (billion (bn)) euro. Panel C shows the rating distribution across eligible and ineligible firms. Initial rating is defined as the average initial bond rating from S&P, Moody's, Fitch, or DBRS, and the following categories are depicted: AAA-A, BBB, BB, B, and Junk or non-rated. Firms with missing rating information are assigned to the category Junk or non-rated. All panels are based on the period between Q2 2007 and June 2016. Our data come from Bloomberg.

Figure H2: Aggregate public debt to total debt over time, across EI and non-EI



The figure depicts the ratio of public debt to total debt for European firms between Q2 2007 and Q2 2016. The dashed line depicts the average value across all European firms that have issued public debt at least once during the sample period and whose bonds were never eligible under the EA framework, in total 1660 firms. The solid line represents the average public debt share of firms that were either (i) eligible companies at the beginning of the sample, in Q2 2007, or (ii) became eligible during the sample period, 360 firms in total. Our data come from Bloomberg and S&P's Capital IQ.

Figure H3: Comparative figure of eligible and ineligible firms



Panel A depicts the capital structure of treated firms prior to (pre) and following (post) the EA list inclusion, one year around the event. BD/TD (blue) is the bank to total debt ratio, capturing the bank debt share, while PD/TD (turquoise) is the public to total debt or public debt share of the firm. Panels B and C focus on the quintile distribution of the public debt share and bank debt share of eligible (green) and ineligible (red) firms, respectively. All panels are based on the period between Q2 2007 and Q2 2016. Our data come from Bloomberg and S&P's Capital IQ.

Table H1: Descriptive statistics of firms

Variable	Obs.	Mean	SD	p5	Median	p95
Bank debt/Total debt	15,389	0.597	0.332	0.021	0.636	1.000
Bank debt maturity	8,483	45.017	30.342	7.000	41.000	97.009
Bond debt/Total debt	15,389	0.336	0.320	0.000	0.270	0.929
Bond debt maturity	6,836	46.283	32.487	8.000	43.000	91.000
Total debt/TA	15,389	0.323	0.226	0.058	0.284	0.711
Cash/TA	15,389	0.097	0.083	0.010	0.074	0.262
Gross profit margin	15,389	0.366	0.554	0.069	0.344	0.771
Intangible assets/TA	15,389	0.198	0.181	0.002	0.151	0.565
Log(TA)	15,389	6.730	1.471	4.548	6.632	9.260
Net sales/TA	15,389	0.569	0.459	0.096	0.451	1.414
Operating expenses/TA	15,389	0.521	0.442	0.079	0.404	1.331

The table presents summary statistics of firms' capital structure and balance sheet information for the period Q2 2007 to Q2 2016. *Bank (Bond) debt share* is scaled by total assets, *Bank (Bond) debt maturity* is the average maturity of the debt components in months. The accounting variables and total debt are scaled by total assets (TA), unless indicated otherwise. All data come from Compustat and S&P's Capital IQ.

Table H2: The probability of eligibility inclusion

CEI	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cash/TA	-1.5847***						-0.7800	-0.8180
	[0.3710]						[0.5233]	[0.6311]
Gross profit margin		0.5625***					-0.0219	0.5380***
		[0.0900]					[0.1472]	[0.1944]
Intangible assets/TA			2.2565***				1.0039***	1.6865***
			[0.1345]				[0.2016]	[0.2562]
Net sales/TA				-1.4131***			3.9022***	4.9467***
				[0.0954]			[0.8834]	[1.2254]
Operating expenses/TA					-1.7725***		-4.6667***	-5.3179***
					[0.1086]		[0.9496]	[1.2694]
Log(TA)						1.1949***	0.9378***	1.2050***
						[0.0270]	[0.0346]	[0.0472]
Age	No	No	No	No	No	No	No	Yes
Country	No	No	No	No	No	No	No	Yes
Quarter FE	No	No	No	No	No	No	No	Yes
Rating	No	No	No	No	No	Yes	Yes	Yes
Sector	No	No	No	No	No	No	No	Yes
Observations	18,290	18,290	18,290	18,290	18,290	18,290	18,290	18,155
Pseudo R-squared	0.00198	0.00394	0.0269	0.0293	0.0373	0.379	0.489	0.551

The table presents logit regression results of a firm's current eligibility status on its balance sheet information and rating category during the sample period Q2 2007 to Q2 2016. CEI (i.e., currently eligible issuer) equals one if in a given quarter any of a firm's currently outstanding bonds is included in the list of eligible marketable assets, and is zero otherwise. The independent variables are firms' quarterly balance sheet information (log(total assets), gross profit margin, cash holdings, intangible assets, operating expenses, and sales – the latter four are normalized by total assets), firm-level credit rating (the highest current local, long-term issuer's credit rating provided by either S&P, Moody's, Fitch, or DBRS - four categories: AAA–AA-, A+/A/A-, BBB+/BBB/BBB-, BB+ and lower or unrated), firm age (categories: 0–10, 11–20, 21–50, 51 and above years), firm's sector of operation, and its country of incorporation. Our data come from Bloomberg, Compustat, and S&P's Capital IQ. Quarterly time fixed effects are included where indicated. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% level, respectively.

Table H3: Firms' supply response: Corporate debt structure

Panel A: Bank debt/total debt				
EI*Post	-0.1117	-0.2573***	-0.2879***	-0.2894***
	[0.0781]	[0.0820]	[0.0714]	[0.0695]
EI	0.1082	0.1000		
	[0.1244]	[0.1175]		
$\widehat{\text{Prob(CEI)}}$	-0.5783***	-0.0731	0.0086	0.0260
	[0.1260]	[0.1059]	[0.0906]	[0.0927]
Firm Controls	No	Yes	No	Yes
Firm FE	No	No	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
# Firm Clusters	754	753	736	736
Observations	15,389	15,388	15,371	15,371
R-squared	0.0243	0.1865	0.6260	0.6328
Panel B: Public debt/total debt				
EI*Post	0.1070	0.2283***	0.2467***	0.2474***
	[0.0797]	[0.0835]	[0.0694]	[0.0687]
EI	-0.0726	-0.0669		
	[0.1243]	[0.1203]		
$\widehat{\text{Prob(CEI)}}$	0.4094***	0.0027	-0.0300	-0.0524
	[0.1219]	[0.0987]	[0.0871]	[0.0890]
Firm Controls	No	Yes	No	Yes
Firm FE	No	No	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
# Firm Clusters	754	753	736	736
Observations	15,389	15,388	15,371	15,371
R-squared	0.0241	0.2010	0.6594	0.6673

The table presents the results of quarterly panel regressions of the event study on the effect of eligibility list inclusion on firms' debt choice. In panel A (panel B), the dependent variable is defined as the ratio of bank debt (public debt) to total debt. $\widehat{\text{Prob(CEI)}}$ is the probability of inclusion for a given firm in a given quarter, estimated using regression model (9) in Table H2. The eligible issuer dummy variable EI equals one for treated firms, and is zero otherwise. All model specifications consider corporate bond issuers that became newly eligible issuers in or after Q2 2010. Post equals one for the quarter of treatment and the four consecutive post-treatment quarters. Treated firms are excluded from the sample one year after treatment. Firm controls are firm's quarterly balance sheet information (log(total assets), gross profit margin, cash holdings, intangible assets, operating expenses, and sales – the latter four are normalized by total assets), firm-level credit rating (the highest current local, long-term issuer's credit rating provided by either S&P, Moody's, Fitch, or DBRS - four categories: AAA–AA-, A+/A/A-, BBB+/BBB/BBB-, BB+ and lower or unrated), firm age (categories: 0–10, 11–20, 21–50, 51 and above years), firm's sector of operation, and its country of incorporation. Firm and quarterly time fixed effects are included where indicated. The sample period spans Q2 2007 to Q2 2016. Our data come from Bloomberg, Compustat, and S&P's Capital IQ. Standard errors are clustered at the firm level and are in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

Table H4: Firms' supply response: Debt size

	Panel A: Debt structure			
	Bank Debt/Total Assets		**Public Debt/Total Assets**	
EI*Post	-0.0516*	-0.0352	0.0764***	0.0797***
	[0.0305]	[0.0221]	[0.0258]	[0.0280]
EI	-0.0056		-0.0356*	
	[0.0429]		[0.0187]	
$\widehat{\text{Prob(CEI)}}$	-0.0138	-0.0024	-0.0447	-0.0094
	[0.0493]	[0.0296]	[0.0400]	[0.0234]
Firm Controls	Yes	Yes	Yes	Yes
Firm FE	No	Yes	No	Yes
Time FE	Yes	Yes	Yes	Yes
# Firm Clusters	753	736	753	736
Observations	15,388	15,371	15,388	15,371
R-squared	0.1297	0.6804	0.2010	0.6910

	Panel B: Debt size			
EI*Post	0.0592**	0.0248	0.0373***	0.0445***
	[0.0242]	[0.0225]	[0.0133]	[0.0143]
EI	-0.0850**	-0.0411		
	[0.0370]	[0.0370]		
$\widehat{\text{Prob(CEI)}}$	-0.1238	-0.0585	-0.0402	-0.0118
	[0.0779]	[0.0677]	[0.0336]	[0.0314]
Firm Controls	No	Yes	No	Yes
Firm FE	No	No	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
# Firm Clusters	754	753	736	736
Observations	15,389	15,388	15,371	15,371
R-squared	0.0075	0.1622	0.7067	0.7130

The table presents the results of quarterly panel regressions of the event study on the effect of eligibility list inclusion on firms' debt choice. In panel A, the dependent variables are Bank Debt/Total Assets and Bank Debt/Total Assets, which are defined as the ratios of bank and public debt to total assets, respectively. In panel B, the dependent variable Debt size is the ratio of total debt to total assets. The eligible issuer dummy variable EI equals one for treated firms, and is zero otherwise. *Post* equals one for the quarter of treatment and the four consecutive post-treatment quarters. Treated firms are excluded from the sample one year after treatment. The probability of being a currently eligible issuer, $\widehat{\text{Prob(CEI)}}$, is the probability of inclusion for a given firm in a given quarter, estimated using regression model (9) in Table H2. All model specifications consider corporate bond issuers that became newly eligible issuers in or after Q2 2010. Firm controls are firm's quarterly balance sheet information (log(total assets), gross profit margin, cash holdings, intangible assets, operating expenses, and sales – the latter four are normalized by total assets), firm-level credit rating (the highest current local, long-term issuer's credit rating provided by either S&P, Moody's, Fitch, or DBRS - four categories: AAA–AA-, A+/A/A-, BBB+/BBB/BBB-, BB+ and lower or unrated), firm age (categories: 0–10, 11–20, 21–50, 51 and above years), firm's sector of operation, and its country of incorporation. Firm and quarterly time fixed effects are included where indicated. The sample period spans Q2 2007 to Q2 2016. Our data come from Bloomberg, Compustat, and S&P's Capital IQ. Standard errors are clustered at the firm level and are in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

Table H5: Firms supply response: debt maturity

	Bank Debt Maturity		**Public Debt Maturity**	
EI*Post	-5.6800	0.4603	16.2556***	11.6797***
	[4.3178]	[3.3798]	[2.8799]	[2.2998]
EI	-5.8245*		-8.9809***	
	[3.1096]		[1.9459]	
$\widehat{\text{Prob(CEI)}}$	13.6109**	7.7639	-3.3582	8.1244*
	[5.8487]	[5.4893]	[4.0919]	[4.9199]
Firm Controls	Yes	Yes	Yes	Yes
Firm FE	No	Yes	No	Yes
Time FE	Yes	Yes	Yes	Yes
Observations	7,323	7,305	7,323	7,305
R-squared	0.1175	0.6130	0.1402	0.6245

The table presents the results of quarterly panel regressions of the event study on the effect of eligibility list inclusion on firms' debt term choice. The dependent variables, Bank Debt Maturity and Public Debt Maturity, are defined as the outstanding debt-amount-weighted average number of months to maturity in a given quarter. The eligible issuer dummy EI equals one for treated firms, and is zero otherwise. All model specifications consider corporate bond issuers that became newly eligible issuers in or after Q2 2010. Post equals one for the quarter of treatment and the four consecutive post-treatment quarters. Treated firms are excluded from the sample one year after treatment. The probability of being a currently eligible issuer, $\widehat{\text{Prob(CEI)}}$, is the probability of inclusion for a given firm in a given quarter, estimated using regression model (9) in Table H2. Firm controls are firm's quarterly balance sheet information (log(total assets), gross profit margin, cash holdings, intangible assets, operating expenses, and sales – the latter four are normalized by total assets), firm-level credit rating (the highest current local, long-term issuer's credit rating provided by either S&P, Moody's, Fitch, or DBRS - four categories: AAA–AA-, A+/A/A-, BBB+/BBB/BBB-, BB+ and lower or unrated), firm age (categories: 0–10, 11–20, 21–50, 51 and above years), firm's sector of operation, and its country of incorporation. Firm and quarterly time fixed effects are included where indicated. The sample period spans Q2 2007 to Q2 2016. Our data come from Bloomberg, Compustat, and S&P's Capital IQ. Robust standard errors are in parentheses. Statistical significance is denoted by ***, **, and * at the 1%, 5%, and 10% levels, respectively.

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