Real Effects of Corporate Debt Collateral Eligibility

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Abstract

This study examines the real effects of corporate bond collateral eligibility and its transmission through production networks. Specifically, we exploit the daily announcements of the European Central Bank (ECB) eligible collateral list to investigate how collateral eligibility spreads through business relationships. Our findings reveal that when firms' bonds are included in the ECB's eligible collateral list, these firms do not increase their own investment activities, but instead choose to expand their trade credit support to both upstream and downstream partners (suppliers and customers), thereby facilitating their partners' investment and employment growth. This study provides novel insights into understanding the real effects of corporate bond collateral eligibility and its transmission mechanisms through production networks.

Keywords: Corporate Bond Collateral Eligibility; Production Networks; Trade Credit; Real Effects;

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1 Introduction

The role of asset eligibility criteria in determining qualified collateral has received considerable academic attention, largely due to its central importance in macroeconomic and financial theories of borrowing constraints (Bernanke and Gertler, 1989; Kiyotaki and Moore, 1997; Gromb and Vayanos, 2002). Holmstrom and Tirole (1997) show that both collateral requirements and financial intermediation serve as key mechanisms in reducing moral hazard and information asymmetry within credit markets. Their theoretical framework suggests that changes in collateral eligibility criteria can significantly affect firms' direct financing costs. Such eligibility criteria have clear implications for the financing costs of capital-constrained market participants (Chen et al., 2023; Pelizzon et al., 2024). Although existing research has thoroughly examined the financial market effects of collateral eligibility (Eberl and Weber, 2014; Nyborg, 2017; Pelizzon et al., 2024), less attention has been paid to how these effects spread through the real economy, especially through production networks. This research gap is particularly important considering that economic shocks can propagate through input-output linkages, significantly affecting resource allocation patterns (Acemoglu et al., 2012).

The effects of collateral eligibility can potentially spread through production networks via three distinct channels. First, when firms receive collateral certification, their reduced financing constraints allow them to extend more trade credit to their business partners. This channel is particularly relevant because suppliers typically have better information than financial institutions about their buyers' operations (Burkart and Ellingsen, 2004; Cunat, 2007). Firms with improved credit access tend to provide more trade credit to financially constrained firms, thereby facilitating resource redistribution along the supply chain (Petersen and Rajan, 1997). Second, collateral eligibility certification may generate informational externalities through peer monitoring mechanisms. As Stiglitz (1990) argues, peer monitoring enables efficient risk transfer from financial institutions to co-signers while lowering banks' monitoring costs, thus improving credit market efficiency. Third, in line with Holmstrom and Tirole (1997)'s theory of financial intermediation, better financing terms for eligible firms

may lead to crowding-out effects, as their competitors face relatively higher financing costs due to banks' strategic reallocation of monitoring resources. Together, these channels suggest that collateral eligibility effects spread through both cooperative and competitive mechanisms within production networks. Iyoha et al. (2024)

Central banks' collateral frameworks play a crucial role in monetary policy transmission and financial market dynamics (Eberl and Weber, 2014; Nyborg, 2017; Pelizzon et al., 2024). The European Central Bank (ECB), which has included corporate bonds in its eligible collateral framework since the euro's introduction in 1999, provides an ideal empirical setting for studying these network effects. The Eurosystem's transparent and standardized approach to corporate debt pledgeability, characterized by systematic public disclosure of eligibility criteria and non-disclosure of facility utilization[1], enables researchers to identify both direct effects and network externalities.

We exploit this institutional framework by combining the European Central Bank's (ECB) daily updates of eligible collateral list with detailed firm-level data on inter-firm relationships and financial statements. This setting provides quasi-experimental variation in firms' collateral eligibility status, allowing us to identify the causal effects of collateral eligibility on firm behavior and network dynamics. Our study addresses three key questions. First, we examine how corporate bond collateral eligibility affects firms' real economic decisions and their ability to extend trade credit. Second, we study how these effects transmit through production networks, focusing on informational externalities and relationship lending channels. Third, we investigate potential crowding-out effects in resource allocation, as suggested by theories of financial intermediation (Holmstrom and Tirole, 1997), where better financing terms for eligible firms may adversely affect their competitors' credit access. Our findings enhance our understanding of how central bank collateral frameworks affect both the efficiency and distribution of credit through production networks, with important implications for monetary

[1]The marginal lending facility (MLF) allows financial institutions to monetize corporate bond holdings through central bank borrowing. The ECB's non-disclosure policy regarding individual bank usage helps isolate competitive effects by avoiding stigma effects(Lee and Sarkar, 2018).

policy transmission and financial stability.

Our empirical analysis reveals several important findings that support and extend existing theoretical frameworks. First, in line with Holmstrom and Tirole (1997)'s predictions about collateral's role in reducing financing constraints, firms that gain eligibility for the ECB's collateral list show significantly improved ability to extend trade credit to both upstream and downstream partners. Specifically, we find a 3.08 percentage-point increase in accounts receivable, equivalent to approximately 11.1 days (36=0.0308×360) of extended receivable days, representing about 14% of the sample mean. This result supports the theoretical predictions of (Petersen and Rajan, 1997; Burkart and Ellingsen, 2004; Cunat, 2007) regarding suppliers' informational advantages in providing credit. Furthermore, customers of eligible firms receive an extension of about 24.7 days in payment terms (24.7=0.0686×360), equal to 31.2% of the sample mean. These extensions in trade credit subsequently boost employment and investment among the firms' suppliers and customers, demonstrating how financial shocks propagate through production networks, as theorized by Acemoglu et al. (2012).

Second, supporting Holmstrom and Tirole (1997)'s theory of financial intermediation and resource allocation, we find notable credit crowding-out effects when firms are added to the collateral eligibility list. Our evidence shows that when competing firms become collateral eligible, a firm's borrowing costs rise by 5.86%, leading to subsequent decreases in both investment and employment levels. This finding provides new empirical evidence for theoretical predictions about how collateral frameworks redistribute credit in financial markets (Eberl and Weber, 2014; Nyborg, 2017).

Third, our results show that when a firm's business partners gain collateral eligibility, the firm's credit costs decrease by 5.14%, leading to increases in investment and employment. This aligns with Stiglitz (1990)'s theoretical framework on peer monitoring and information externalities, suggesting that collateral eligibility certification creates positive spillover effects through production networks. Together, these findings highlight the significant network externalities of collateral eligibility on both competitors and business partners, extending

beyond immediate financial market effects to create substantial real economic impacts.

This paper makes several contributions to the literature. First, we contribute to the growing literature on the effect of monetary policy on real economic activity. Our research bridges two critical research streams in monetary policy studies. The first stream explores the real economic responses to monetary interventions, encompassing seminal works on large-scale asset purchases (Acharya et al., 2019), bank lending dynamics (Chakraborty et al., 2020), capital structure transformations (Grosse-Rueschkamp et al., 2019), and trade credit mechanisms (Adelino et al., 2023). The second strand delves into the economic consequences of monetary policy's collateral dimensions, with notable investigations into interbank market dynamics (Kacperczyk et al., 2021) and the impact on bond pricing and liquidity (Pelizzon et al., 2024). By examining the real economic implications of collateral eligibility, our study provides a novel empirical perspective to this evolving literature.

Second, we contribute to the literature on unexpected changes in collateral requirements and asset-type eligibility. Prior research has predominantly focused on specific asset types, including variations in real estate collateral values (Chaney et al., 2012; Adelino et al., 2015; Schmalz et al., 2017), patent collateralizability (Mann, 2018; Hochberg et al., 2018), and mortgage-backed securities (MBS) eligibility (Van Bekkum et al., 2018).The study most closely aligned with our research is Van Bekkum et al. (2018), which examines how the European Central Bank's collateral framework modifications reducing MBS eligibility criteria influence bank lending and risk-taking behaviors. In contrast, our study provides a novel perspective by focusing on the corporate bond issuer's perspective, specifically investigating how changes in bond collateral eligibility impact firms' real economic behaviors.

Third, we contribute to the growing literature on the importance of production networks in the transmission of economic shocks. Existing research has extensively examined shock propagation through various channels, including natural disasters (Barrot and Sauvagnat, 2016; Boehm et al., 2019), cyber risks (Crosignani et al., 2023), pandemics (Bonadio et al., 2021), and credit shocks (Cortes et al., 2019; Alfaro et al., 2021; Agca et al., 2022;

Costello, 2020). Our study extends this literature by investigating shock transmission through the lens of collateral eligibility changes in production networks. Diverging from prior research that predominantly focuses on unidirectional shock transmission (from suppliers to customers), we provide a novel bidirectional perspective. Critically, we illuminate the transmission mechanisms involving two pivotal actors in production networks: competitors and collaborators, thereby enriching our understanding of how economic shocks propagate through interconnected firm ecosystems.

Finally, we contribute to the literature on trade credit. While existing research has focused on how trade credit responds to liquidity shocks (Garcia-Appendini and Montoriol-Garriga, 2013; Restrepo et al., 2019) and natural disasters (Ersahin et al., 2024), our findings complement these streams of literature in two ways. First, while Gofman and Wu (2022) document that centrally positioned firms provide more trade credit to both upstream and downstream partners to maintain supply chain stability, we show that firms with collateral eligibility, typically larger corporations, extend trade credit support throughout their supply chain network. Second, whereas Adelino et al. (2023) find that large-scale asset purchase programs induce affected firms to provide trade credit to downstream partners, we demonstrate that changes in bond collateral eligibility through monetary policy generate similar effects. Moreover, we extend this analysis by examining bidirectional impacts along the supply chain and investigating the responses of both competitors and collaborators.

The remainder of the paper is organized as follows. Section 2 reviews the institutional background. Section 3 presents data sources and summary statistics. Section 4 presents an empirical strategy and results. Section 5 concludes.

2 Institutional Background

Following Eberl and Weber (2014), we provide a historical overview of the Corporate Bond Collateral Eligibility Policy of the European Central Bank (ECB), which is fundamental to

our research. This policy has evolved substantially since the establishment of the eurozone. During the initial phase (1999-2007), corporate bonds were mainly categorized as tier 2 assets, where national central banks had the authority to decide which corporate bonds could serve as collateral based on their local market conditions. This decentralized approach resulted in various collateral standards in different eurozone countries.

The year 2007 marked a watershed moment in the ECB's collateral policy. The introduction of a unified "single list" of eligible assets standardized the acceptance criteria for corporate bonds across the eurozone. This new system required bonds to meet two key conditions: maintain a minimum credit rating of A- and be traded either on regulated markets or ECB-approved nonregulated markets. This reform brought much-needed clarity and uniformity to the corporate bond collateral framework. However, the 2008 financial crisis prompted the ECB to adopt a more flexible approach. To help stabilize financial markets, the ECB lowered the minimum credit rating requirement to BBB- and expanded the eligible asset pool to include certain foreign currency-denominated corporate bonds.

During the eurozone debt crisis (2010–2013), the ECB further adjusted its corporate bond eligibility criteria[2]. In particular, for certain countries affected by the crisis, the ECB temporarily suspended the minimum credit rating requirements for corporate bonds issued within these jurisdictions. These measures significantly expanded the pool of eligible corporate bonds, providing businesses with additional financing channels. The policy adjustments during this period underscored the increasingly vital role of corporate bonds in the ECB's collateral framework and demonstrated the central bank's commitment to supporting corporate financing during periods of economic stress.

Since 2010, the ECB has regularly published its *Eligible Assets Database* [3] on its official website, marking a significant step toward market transparency. This comprehensive database, updated daily on working days, catalogues all tradeable assets that meet the ECB's collateral eligibility requirements, including corporate bonds. Market participants can freely access

[2]See this artical from *the ECB website* for details.
[3]See this dataset from *ECB Website* for details.

detailed information about specific bonds, including their collateral qualification status, ratings, and issuance details, thereby facilitating more efficient collateral management and liquidity planning.

However, as Pelizzon et al. (2024) emphasize, the Eurosystem's Collateral Assessment Framework (per General Documentation Guideline ECB/2014/60) grants the ECB substantial discretionary power in determining collateral eligibility. The framework introduces an exogenous component to eligibility decisions through three key provisions: (a) the ECB never confirms eligibility prior to an asset's issuance, (b) the Eurosystem maintains the right to exclude otherwise suitable assets from the eligible assets list due to risk management, operational, or other discretionary considerations, and (c) while assets must meet minimum criteria (typically being plain-vanilla bonds issued in the European Economic Area, denominated in EUR, and rated above BBB-), fulfilling these requirements alone does not guarantee immediate inclusion. This institutional design creates inherent uncertainty regarding the timing of eligibility list inclusion, even for bonds meeting all formal criteria. Consequently, this discretionary element in the ECB's decision-making process provides an ideal quasi-experimental setting for examining how collateral eligibility affects market dynamics.

3 Data and descriptive statistics

3.1 ECB's list of eligible marketable assets

Our primary dataset is derived from the ECB's list of eligible marketable assets. We focus specifically on non-financial corporations whose bonds were included in the ECB List and limit the sample to the period between 2007 and 2016. During this timeframe, we have access to daily eligibility information, which allows us to pinpoint the exact inclusion date of eligible [4]. The dataset provides detailed information, including the security identifier (ISIN), asset

[4]In fact, while the European Central Bank (ECB) has been supporting corporate bond eligibility as collateral since 1999, it was not until February 2010 that the Bank began publicly disclosing the comprehensive

category, issuance and maturity dates, haircuts, coupon type, issuer's country of residence, reference market, and currency denomination.

Based on data from the European Central Bank (ECB) website, we identified 87 firms in our sample that were newly added to the ECB's collateral eligibility list after April 2010.

3.2 Sample and Fundamental Data

Our sample is constructed from Bureau van Dijk's Orbis database, which provides comprehensive financial statements of companies worldwide. The initial dataset comprises both publicly listed and privately held firms over the period 2007-2016. We focus on firms headquartered in the 19 member states of the Economic and Monetary Union (EMU) of the European Union (euro area).

To ensure data quality and relevance, we apply several screening criteria. First, we exclude firms classified as small enterprises according to Orbis classification criteria. Second, we remove financial institutions (SIC codes 6000-6999) and public administration entities (SIC codes 9000-9999) due to their distinct regulatory environments and operating characteristics. Finally, we require complete information for all control variables in our analysis.

We focus on firms' real responses, specifically examining outcome variables from the perspectives of investment, employment, and trade credit. To measure employment ($Labor\_g$), we use the annual change in the number of employees. To capture firms' investment levels ($CAPEX$), we calculate the change in tangible fixed assets plus depreciation and amortization, divided by lagged total assets. Regarding trade credit, we examine the impact of collateral eligibility on firms' upstream and downstream activities. Specifically, we focus on four variables: accounts receivable divided by sales ($receivable$), accounts payable divided by sales ($payable$), prepaid expenses divided by total assets ($prepaid$), and unearned revenue divided by total assets ($unearned$).[5]

list of eligible securities (Eberl and Weber, 2014). Drawing on the work of Pelizzon et al. (2024), we focus our empirical analysis on firms that were initially excluded from the collateral list but subsequently added, employing these newly eligible firms as our treatment group.

[5]Following Adelino et al. (2023), accounts receivable is measured using Orbis item *DEBTORS*, and

3.3 Supplier, Customer, Competitor, and Partnership Data

Our supplier, customer, competitor, and partner[6] data are sourced from the FactSet Revere Relationship Database, which comprehensively documents global business relationships through publicly available information. A direct relationship is identified when a company explicitly lists the target company as a material customer, while a reverse relationship is established when another company lists the source company as a material supplier. Consequently, our dataset provides a comprehensive network of supply chain interconnections.

Furthermore, we match firms in the FactSet Revere database to those in the Orbis database using ISIN identifiers. Referencing Adelino et al. (2023), firms in the FactSet Revere database are further matched to the ECB's bond eligibility list using fuzzy name-matching techniques.

Finally, we identified 380 firms as customers, 226 firms as suppliers, 349 firms as partners, and 275 firms as competitors of companies that were newly added to the ECB's corporate bond collateral eligibility list.

3.4 Other Data and control variable

To investigate the real effects on firms' competitors and partners, we obtain loan data from the Dealscan database and analyze how the inclusion of corporate bonds in the ECB's collateral eligibility list affects their financing costs.

To mitigate the influence of confounding factors, we control for the following variables:

accounts payable is measured using Orbis item *CREDITORS*. However, to the best of our knowledge, neither Compustat nor Orbis balance sheets provide precise accounts for prepaid expenses or unearned revenue (and even when available, they often contain substantial missing values). Since this study attempts to extend the analysis of collateral eligibility's impact on upstream activities, we use the higher-level account *Other Current Liabilities (OCLI)* to proxy for unearned revenue and the higher-level account *Other Current Assets (OCAS)* to proxy for prepaid expenses. We acknowledge that this approach may introduce some measurement bias, but it represents the most feasible solution given the available data.

[6]The database classifies partnerships into several categories: investor partnerships (30.34%), research collaborations (20.33%), equity investments (17.37%), joint ventures (12.31%), licensing agreements (7.56%), distribution partnerships (4.62%), manufacturing collaborations (2.21%), marketing alliances (1.79%), and product integration partnerships (0.71%). Additional categories include unclassified partnerships (0.25%), patent licensing (0.24%), and licensing outsourcing (0.23%). Notably, the three dominant partnership types—investor partnerships, research collaborations, and equity investments—collectively account for approximately 68% of all documented relationships in the dataset.

the ratio of long-term debt to total assets (*long_debt_at*), the logarithm of total assets (*log_at*), the ratio of cash holdings to total assets (*cash*), net income divided by operating revenue (*net_gross*), the ratio of intangible assets to total assets (*intang_at*), the ratio of sales to total assets (*sales*), and the ratio of cost of revenue to total assets (*cost*).

3.5 Summary Statistics

Table 1 provides the summary statistics of the key variables discussed throughout the paper. The ratio of accounts receivable to sales is 0.22, suggesting that the company's accounts receivable turnover period, commonly referred to as Days Sales Outstanding (DSO), is approximately 80.3 days (calculated as DSO $= \frac{\text{Accounts Receivable}}{\text{Sales}} \times 365$). Similarly, the accounts payable turnover period, known as Days Payable Outstanding (DPO), is calculated as DPO $= \frac{\text{Accounts Payable}}{\text{Cost of Goods Sold}} \times 365$, representing the average number of days the company takes to settle its obligations to suppliers.

The descriptive statistics for advance payments (prepayments) and unearned revenues (pre-receipts) indicate relatively large values, as they are measured using higher-level balance sheet accounts. Meanwhile, the variables related to ECB eligibility align closely with the expected number of identified firms.

[Insert Table 1 Here]

4 Empirical Strategy and Results

4.1 Determinants of Corporate Bond Collateral Eligibility

To investigate the determinants of corporate bond collateral eligibility ($OwnList_{i,t}$), we construct the following regression model. The dependent variable is the corporate bond collateral eligibility status (*OwnList*), which is a binary variable indicating whether a firm meets the collateral eligibility criteria. The key independent variables include the long-term

debt ratio ($LtDebtAt_{i,t}$), the logarithm of asset size ($LnSize_{i,t}$), cash ratio ($CashRatio_{i,t}$), net margin ($NetMargin_{i,t}$), intangible assets ratio ($IntangAt_{i,t}$), sales revenue ($SalesRev_{i,t}$), and the logarithm of firm age ($LnAge_{i,t}$). In addition, we control for fixed effects, including firm fixed effects, industry-year fixed effects, and country-year fixed effects, to address potential heterogeneity across time, industries, and countries. The full regression equation is specified as follows:

$$\begin{aligned} OwnList_{i,t} = \beta_0 + \beta_1 \cdot LtDebtAt_{i,t} + \beta_2 \cdot Lnsize_{i,t} + \beta_3 \cdot CashRatio_{i,t} + \beta_4 \cdot NetMargin_{i,t} \\ + \beta_5 \cdot IntangAt_{i,t} + \beta_6 \cdot SalesRev_{i,t} + \beta_7 \cdot LnAge_{i,t} + FE + \epsilon_{i,t} \end{aligned} \tag{1}$$

[Insert Table 2 Here]

The regression results indicate that the long-term debt ratio ($LtDebtAt_{i,t}$) has a negative but insignificant impact on corporate bond collateral eligibility. The logarithm of asset size ($LnSize_{i,t}$) shows a consistently significant positive effect across all specifications, suggesting that larger firms are more likely to meet the collateral eligibility criteria. The cash ratio ($CashRatio_{i,t}$) exhibits significant positive effects in models (1) and (4), indicating that firms with stronger cash positions tend to have higher collateral eligibility. The net margin ($NetMargin_{i,t}$) shows a significant negative relationship with collateral eligibility in most specifications. Interestingly, the intangible assets ratio ($IntangAt_{i,t}$) demonstrates a positive and significant effect in the first three models, while sales revenue ($SalesRev_{i,t}$) shows no significant impact across all specifications. The effect of firm age ($LnAge_{i,t}$) is positive and significant in the first three models but becomes negative and significant when firm fixed effects are included in model (4).

4.2 The Effect of ECB Collateral Eligibility

The pledgeability [7] of assets can enhance their value (Garleanu and Pedersen, 2011; Chen et al., 2023), reduce the issuer's financing costs (Van Bekkum et al., 2018; Pelizzon et al., 2024), and alleviate financing constraints, thereby facilitating corporate investment (Gan, 2007; Chaney et al., 2012; Bahaj et al., 2020). Moreover, there is evidence suggesting that firms in central and profitable positions tend to extend trade credit within supply chain relationships (Gofman and Wu, 2022). As shown in Table 2, it is often large firms and those with higher cash holdings that are more likely to be included in this category. Additionally, firms may also provide trade credit to downstream customers when their issuance costs decrease (Adelino et al., 2023). In this section, we investigate whether the pledgeability of corporate bonds promotes firms' own investment activities or facilitates the provision of trade credit to upstream or downstream partners.

4.2.1 The Effect on Employment and Capital Investment

Based on the theoretical framework discussed above, we first examine the impact of collateral eligibility on firms' own real economic activities. Specifically, we focus on two key indicators: employment and capital investment. These metrics directly reflect firms' expansion decisions and actual operating activities. To this end, we estimate the following regression model:

$$Y_{i,t} = \beta_0 + \beta_1 \cdot OwnList_{i,t} + \gamma' \cdot Controls_{i,t} + FE + \epsilon_{i,t} \tag{2}$$

where $Y_{i,t}$ represents the dependent variable, specifically employment ($Labor$) or capital investment ($CAPEX$) for firm i in year t. The key independent variable is $OwnList_{i,t}$, which indicates whether the firm is eligible for ECB collateral in the current period. The model

[7] The concepts of "pledgeability" and "collateral eligibility" are closely related but distinct. "Collateral eligibility" refers to the status of an asset being accepted as collateral by a specific institution, such as the European Central Bank (ECB). Once a corporate bond is included in the ECB's list of eligible collateral, it becomes "pledgeable," meaning it can be used in secured transactions to obtain liquidity. In this context, "pledgeability" captures the practical usability of the bond as collateral in financial markets, which directly affects its value and the issuer's financing conditions.

also incorporates a vector of firm-level controls ($Controls_{i,t}$) to account for other potential determinants of $Y_{i,t}$.

The fixed effects (FE) include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects to control for time-invariant firm heterogeneity, industry-specific time trends, and macroeconomic conditions at the country level. Standard errors are clustered at the firm level to address potential within-firm correlation in the error terms.

[Insert Table 3 Here]

The results are presented in Table 3. Columns (1) and (2) display the effects on employment ($Labor$), while Columns (3) and (4) focus on capital investment ($CAPEX$). For employment, the coefficient for *OwnList* in Columns (1) and (2) is not statistically significant, suggesting that ECB collateral eligibility does not have a direct or immediate effect on firms' employment levels. This finding appears to diverge from the broader monetary policy transmission literature, where studies like Acharya et al. (2019) document significant real economic effects from monetary interventions. However, it aligns with Chakraborty et al. (2020)'s nuanced view that monetary policy's impact on firm behavior often operates through indirect channels rather than direct employment effects.

For capital investment, the results in Columns (3) and (4) indicate that ECB collateral eligibility does not have a direct contemporaneous effect, as the coefficients for *OwnList* are not statistically significant. While this might seem counterintuitive given studies like Chaney et al. (2012) and Adelino et al. (2015) that document positive investment responses to enhanced collateral values in real estate markets, our findings suggest that the transmission mechanism of collateral eligibility might differ for corporate bonds. This interpretation is consistent with Van Bekkum et al. (2018)'s analysis of the ECB's collateral framework, though from a different perspective - while they focus on bank behavior, we examine the corporate issuer's response.

The absence of direct effects on employment and investment suggests that the benefits of collateral eligibility likely manifest through alternative channels, particularly through firms'

positions within production networks, as theorized by Cortes et al. (2019) and Alfaro et al. (2021). Specifically, Gofman and Wu (2022) and Adelino et al. (2023) demonstrate that firms with improved financial conditions often prioritize maintaining supply chain stability through trade credit provision over internal expansion. This network-centric view is further supported by recent studies on shock propagation through production networks Bonadio et al. (2021); Crosignani et al. (2023), suggesting that the impact of collateral eligibility might be better understood through the lens of inter-firm relationships rather than standalone firm outcomes.

Moreover, our findings complement the growing literature on the relationship between monetary policy and market liquidity (Pelizzon et al., 2024; Kacperczyk et al., 2021), suggesting that while collateral eligibility may enhance bond market liquidity and reduce financing costs, these benefits might be strategically deployed by firms to strengthen their network positions rather than directly expand their operations. This interpretation aligns with recent research by Garcia-Appendini and Montoriol-Garriga (2013) and Ersahin et al. (2024) on how firms utilize improved financial conditions to support their business networks through trade credit mechanisms.

4.2.2 The Effect on Trade Credit

To better understand this trade credit transmission mechanism, we examine the effect of ECB collateral eligibility on firms' accounts receivable and prepaid expenses. Specifically, we estimate the following regression model:

$$Y_{i,t} = \beta_0 + \beta_1 \cdot OwnList_{i,t} + \gamma' \cdot Controls_{i,t} + FE + \epsilon_{i,t} \tag{3}$$

where $Y_{i,t}$ represents the dependent variable, specifically accounts receivable (*Receivable*) or prepaid expenses (*Prepaid*) for firm i in year t. The key independent variable is $OwnList_{i,t}$, which indicates whether the firm is eligible for ECB collateral in the current period. The model also incorporates a vector of firm-level controls ($Controls_{i,t}$) to account for other potential determinants of $Y_{i,t}$.

The fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$) to control for time-invariant firm heterogeneity, industry-specific time trends, and macroeconomic conditions at the country level. Standard errors are clustered at the firm level to address potential within-firm correlation in the error terms.

To capture the dynamic effects of collateral eligibility, we include event-time dummies: $OwnPre2_{i,t}$ (two or more periods before the event), $OwnCurrent_{i,t}$ (the current period), $OwnPost1_{i,t}$ (one period after the event), and $OwnPost2_{i,t}$ (two or more periods after the event). Note that the $OwnPre1_{i,t}$ variable is excluded from the regression to avoid multicollinearity issues[8].

To validate the causal interpretation of the results, we conduct a parallel trend test by examining the coefficient of $OwnPre2_{i,t}$. The insignificance of this coefficient indicates that there are no significant differences in trends between eligible and ineligible firms prior to the event, supporting the parallel trend assumption.

[Insert Table 5 Here]

The results are presented in Table 5. Columns (1) and (2) report the effects on accounts receivable, while Columns (3) and (4) focus on prepaid expenses. For accounts receivable, Column (1) shows that the coefficient for $OwnList$ is 0.0308, which is significant at the 1% level. This result indicates that firms eligible for ECB collateral experience a significant increase in accounts receivable. Specifically, the finding corresponds to a 3.08 percentage-point increase in accounts receivable, equivalent to approximately 11.1 additional receivable days (calculated as $36 = 0.0308 \times 360$), representing about 14% of the sample mean. This finding aligns with Adelino et al. (2023)'s research showing how firms utilize improved financing conditions to expand trade credit provision.

For prepaid expenses, the results in Column (3) show that the coefficient for $OwnCurrent$ is 1.1155, which is also significant at the 1% level, suggesting a strong positive effect on

[8]Multicollinearity can lead to unstable coefficient estimates, and thus $OwnPre1_{i,t}$ is omitted.

prepaid expenses. This result complements Gofman and Wu (2022)'s findings that firms strategically manage their supply chain relationships through financial support mechanisms, including prepayments and trade credit extension.

Furthermore, the insignificance of *OwnPre2* in both accounts receivable (Column (1), 0.0341) and prepaid expenses (Column (3), 1.0028) confirms that there are no significant differences in trends between eligible and ineligible firms prior to the event. This supports the parallel trend assumption and validates the causal interpretation of the results.

The above conclusion indicates that when a firm is included in the ECB bond collateral eligibility list, it tends to increase trade credit along the supply chain rather than investing in its own operations. This finding extends Van Bekkum et al. (2018)'s analysis of the ECB's collateral framework by examining the corporate issuer's perspective. Moreover, our results suggest that firms strategically utilize their improved financial position from collateral eligibility to support their supply chain partners, aligning with Ersahin et al. (2024)'s recent work on trade credit responses to external financing conditions.

4.3 The Effect of supplier or Customer ECB Collateral Eligibility

The preceding evidence suggests that when a firm's bonds are included in the ECB collateral eligibility list, its accounts receivable and advance payments tend to increase. Next, we analyze this from the perspective of supplier firms and client firms to determine whether suppliers' advance receipts and clients' accounts payable also increase, thereby providing a two-way verification of the trade credit mechanism.

4.3.1 The Effect of Suppliers' ECB Collateral Eligibility on Firms' Accounts Payable

To investigate the effect of suppliers' ECB collateral eligibility on firms' accounts payable, we estimate the following regression model:

$$Payable_{i,t} = \beta_0 + \beta_1 \cdot SuppEcb_{i,t} + \gamma' \cdot Controls_{i,t} + FE + \epsilon_{i,t} \tag{4}$$

where $Payable_{i,t}$ represents the dependent variable, specifically the accounts payable for firm i in year t. The key independent variable is $SuppEcb_{i,t}$, which indicates whether the supplier of firm i is eligible for ECB collateral in the current period.

The model also incorporates a vector of firm-level controls ($Controls_{i,t}$) to account for other potential determinants of $Payable_{i,t}$. Fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$) to control for time-invariant firm heterogeneity, industry-specific time trends, and macroeconomic conditions at the country level. Standard errors are clustered at the firm level to address potential within-firm correlations in the error terms.

[Insert Table 6 Here]

The results are presented in Table 6. Columns (1) and (2) display the effects on accounts payable. Column (1) focuses on the contemporaneous effect of suppliers' ECB collateral eligibility, while Column (2) includes dynamic event-time dummies to capture the temporal effects.

For accounts payable, the results in Column (1) indicate that the coefficient for *SuppEcb* is 0.0686, which is statistically significant at the 1% level. This finding suggests that firms whose suppliers are eligible for ECB collateral experience a notable increase in accounts payable. The positive coefficient implies that supplier eligibility enhances suppliers' financial flexibility, enabling firms to extend their payment terms. This aligns with the findings of Adelino et al. (2023), who document that firms with improved financing conditions tend to extend more trade credit to their customers. From an economic perspective, this result indicates that customers of eligible firms benefit from an extension in payment terms of approximately 24.7 days (calculated as $24.7 = 0.0686 \times 360$), which corresponds to 31.2% of the sample mean.

Column (2) explores the dynamic effects of suppliers' ECB collateral eligibility. The coefficient for *SuppEcbPre2* is -0.0262 ($t = -0.658$), which is statistically insignificant. This supports the parallel trend assumption, as there are no significant differences in accounts payable between firms with eligible and ineligible suppliers before the event. The coefficient for *SuppEcbCurrent* is -0.0101 ($t = -0.218$), also statistically insignificant, suggesting no immediate effect in the current period.

However, the coefficients for *SuppEcbPost1* and *SuppEcbPost2* are both positive and statistically significant. These results indicate that the effect of supplier ECB collateral eligibility on accounts payable becomes significant in the periods following the event and persists over time. This delayed effect may reflect the time needed for suppliers to adjust their financial strategies and for firms to renegotiate payment terms. This finding complements Gofman and Wu (2022)'s research, which shows that firms in central and profitable positions strategically manage their supply chain relationships through trade credit mechanisms. Additionally, our results align with Pelizzon et al. (2024)'s findings that improved collateral status enhances market liquidity and reduces financing costs, which in turn enables suppliers to offer more favorable payment terms to their customers.

4.3.2 The Effect of Customers' ECB Collateral Eligibility on Firms' Unearned Revenue

To investigate the effect of customers' ECB collateral eligibility on firms' unearned revenue, we estimate the following regression model:

$$Unearned_{i,t} = \beta_0 + \beta_1 \cdot CustEcb_{i,t} + \gamma' \cdot Controls_{i,t} + FE + \epsilon_{i,t} \tag{5}$$

where $Unearned_{i,t}$ represents the dependent variable, specifically the unearned revenue (advance payments received) for firm i in year t. The key independent variable is $CustEcb_{i,t}$, which indicates whether the customer of firm i is eligible for ECB collateral in the current period.

The model also incorporates a vector of firm-level control variables ($Controls_{i,t}$) to account for other potential determinants of $Unearned_{i,t}$. Fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$) to control for time-invariant firm heterogeneity, industry-specific time trends, and macroeconomic conditions at the country level. Standard errors are clustered at the firm level to address potential within-firm correlations in the error terms.

[Insert Table 7 Here]

The results are presented in Table 7. Columns (1) and (2) display the effects on unearned revenue. Column (1) focuses on the contemporaneous effect of customers' ECB collateral eligibility, while Column (2) includes dynamic event-time dummies to capture the temporal effects.

For unearned revenue, the results in Column (1) show that the coefficient for *CustEcb* is 0.0953, significant at the 5% level. This suggests that firms with ECB-eligible customers experience a significant increase in unearned revenue. The positive coefficient indicates that customer eligibility improves customers' financial flexibility, enabling them to make more advance payments to firms.

Column (2) explores the dynamic effects of customers' ECB collateral eligibility. The coefficient for *CustEcbPre2* is 0.0490 ($t = 0.911$), which is statistically insignificant. This supports the parallel trend assumption, as there are no significant differences in unearned revenue between firms with eligible and ineligible customers before the event. The coefficient for *CustEcbCurrent* is 0.0541 ($t = 0.847$), also statistically insignificant, suggesting no immediate effect in the current period.

However, the coefficients for *CustEcbPost1* and *CustEcbPost2* are both positive and statistically significant. These results indicate that the effect of customer ECB collateral eligibility on unearned revenue becomes significant in the periods following the event and persists over time. This delayed effect may reflect the time needed for customers to adjust

their financial strategies and for firms to renegotiate payment terms. These findings align with Pelizzon et al. (2024)'s research showing that improved collateral status leads to better liquidity management and working capital efficiency throughout the supply chain. Moreover, as documented by Gofman and Wu (2022), such improvements in payment terms reflect the strategic adaptation of financial arrangements within supply chain relationships.

Taken together with our previous findings on suppliers' eligibility effects, these results suggest a comprehensive improvement in supply chain financing when either customers or suppliers gain ECB collateral eligibility. This bilateral enhancement supports the literature on financial network effects (Acemoglu et al., 2012; Bonadio et al., 2021), demonstrating how central bank policies can strengthen both upstream and downstream supply chain relationships.

4.3.3 The Real Effect of Suppliers' and Customers' ECB Collateral Eligibility

Previous findings suggest that when suppliers or customers are included in the ECB Collateral Eligibility list, they gain greater access to trade credit. However, does such credit support lead to real economic effects? To examine the impact of suppliers' and customers' ECB collateral eligibility on firms' employment and capital investment, we estimate the following regression model:

$$Y_{i,t} = \beta_0 + \beta_1 \cdot SuppEcb_{i,t} \text{ or } CustEcb_{i,t} + \gamma' \cdot Controls_{i,t} + FE + \epsilon_{i,t} \tag{6}$$

where $Y_{i,t}$ represents the dependent variable, specifically employment growth ($Labor$) or capital investment ($CAPEX$) for firm i in year t. The key independent variables are $SuppEcb_{i,t}$, which indicates whether the firm's suppliers are eligible for ECB collateral in the current period, and $CustEcb_{i,t}$, which indicates whether the firm's customers are eligible for ECB collateral in the current period.

The model also incorporates a vector of firm-level control variables ($Controls_{i,t}$) to account for other potential determinants of $Y_{i,t}$. Fixed effects (FE) include firm fixed effects

($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$) to control for time-invariant firm characteristics, industry-specific time trends, and macroeconomic conditions at the country level. Standard errors are clustered at the firm level to address potential within-firm correlations in the error terms.

[Insert Table 8 Here]

The results are presented in Table 8. Columns (1) and (2) display the effects of suppliers' ECB collateral eligibility, while Columns (3) and (4) show the effects of customers' ECB collateral eligibility.

For suppliers' ECB collateral eligibility, the results in Columns (1) and (2) show that *SuppEcb* has a positive and statistically significant effect on both employment growth (*Labor*) and capital investment (*CAPEX*). Specifically, the coefficient for *SuppEcb* in Column (1) is 0.0232, significant at the 5% level, indicating that firms with eligible suppliers experience higher employment growth, which corresponds to an economic significance of a 2.32% increase in employment. Similarly, the coefficient in Column (2) is 0.0765, also significant at the 5% level, suggesting a positive effect on capital investment with an economically significant increase of approximately 7.65%. These findings complement our earlier results on trade credit, suggesting that the improved payment terms (as evidenced by the increase in accounts payable) translate into real economic outcomes. This transmission mechanism aligns with Adelino et al. (2023)'s findings that enhanced supplier financing conditions can stimulate downstream firms' investment and growth opportunities.

For customers' ECB collateral eligibility, the results in Columns (3) and (4) indicate that *CustEcb* also has a positive and statistically significant effect on both employment growth and capital investment. The coefficient for *CustEcb* in Column (3) is 0.0177, significant at the 5% level, while the coefficient in Column (4) is 0.0447, also significant at the 5% level. This suggests that customers' ECB collateral eligibility leads to a 1.77% increase in employment and a 4.47% increase in capital investment. These effects, while smaller in magnitude compared to supplier eligibility effects, are consistent with our earlier findings

on unearned revenue, suggesting that improved customer financial conditions and advance payments contribute to firms' investment capacity.

The combined results suggest that ECB collateral eligibility of both suppliers and customers creates a comprehensive enhancement of firm investment and employment growth through trade credit channels. This finding extends Van Bekkum et al. (2018); Pelizzon et al. (2024)'s analysis of the ECB's collateral framework by demonstrating its real economic effects throughout the supply chain. Moreover, the stronger effects observed for supplier eligibility compared to customer eligibility (2.32% vs. 1.77% for employment; 7.65% vs. 4.47% for investment) suggest that upstream financial improvements may have more substantial downstream real effects, consistent with the supply chain finance literature (Gofman and Wu, 2022; Adelino et al., 2023; Ersahin et al., 2024). These results highlight how central bank collateral policies can influence real economic activities through both upstream and downstream channels in the supply chain network.

4.4 Effects of ECB Collateral Eligibility on Market Dynamics

Building on previous analysis showing that collateral eligibility effects propagate through production networks, this section examines how these effects differ between competitors and partners. While Holmstrom and Tirole (1997)'s theoretical framework suggests that collateral eligibility may affect firm performance through both competitive and collaborative channels, Stiglitz (1990) emphasizes positive informational externalities through peer monitoring among collaborating firms, and Pelizzon et al. (2024) indicates potential resource reallocation among competing firms. We investigate these differential effects by examining how competitors' and partners' ECB collateral eligibility influences firms' borrowing costs, contributing to our understanding of monetary policy transmission mechanisms highlighted by Chakraborty et al. (2020) and Adelino et al. (2023).

4.4.1 ECB Collateral Effects on Loan Spreads: Competitors vs. Partners

To investigate the effect of competitors' and partners' ECB collateral eligibility on firms' borrowing costs, we obtain loan-level data from the Dealscan database. Following Dagostino et al. (2023), we use the natural logarithm of the all-in-drawn loan spread over LIBOR (*Lnspread*) as a measure of the cost of each loan. Specifically, we estimate the following regression model:

$$Y_d = \beta_0 + \beta_1 \cdot CompEcb_d \text{ or } PartEcb_d + \gamma' \cdot Controls_d + FE + \epsilon_d \tag{7}$$

where Y_d represents the dependent variable, specifically the loan spread (*Lnspread*) for deal d, measured as the natural logarithm of the all-in-drawn loan spread over LIBOR. The key independent variables are $CompEcb_d$, which indicates whether competitors of the borrowing firm are eligible for ECB collateral, and $PartEcb_d$, which indicates whether the borrowing firm's business partners are eligible for ECB collateral.

The model incorporates several deal-level control variables ($Controls_d$), including the logarithm of loan maturity (in months) (denoted as *Lnmaturity*) and the logarithm of the total loan amount (in U.S. dollars) (denoted as *Lnamount*). Furthermore, the regression includes borrower fixed effects (*Borrower_FE*), lender fixed effects (*Lender_FE*), industry-by-year fixed effects (*Industry_Year_FE*), country-by-year fixed effects (*Country_Year_FE*), loan type fixed effects (*Loan_Type_FE*), and secured status fixed effects (*Secured_FE*). Specifically, *Loan_Type_FE* is a dummy variable that indicates whether the loan is a term loan or a revolver, while *Secured_FE* is an indicator variable that equals one if the loan is secured and zero otherwise. Standard errors are two-way clustered at the borrower and lender levels to address potential correlations in the error terms.

[Insert Table 9 Here]

The empirical results in Table 9 reveal differential effects of collateral eligibility through business network relationships. Columns (1) and (2) present the effects of competitors' and

business partners' ECB collateral eligibility on loan spreads, respectively.

For competitors' ECB collateral eligibility, Column (1) shows that *CompEcb* has a positive and statistically significant effect, with a coefficient of 0.0586 (significant at 1%). This finding strongly aligns with Holmstrom and Tirole (1997)'s theory of financial intermediation, which suggests that improved financing terms for eligible firms may precipitate crowding-out effects, as their competitors encounter relatively elevated financing costs. This phenomenon stems from banks' strategic reallocation of monitoring resources: when competitors gain collateral eligibility, banks tend to allocate more credit resources to these lower-risk firms while charging higher risk premiums to others. Economically, this crowding-out effect results in a 5.86% increase in loan financing costs, reflecting the substantial impact of collateral eligibility policies on market competition dynamics.

In contrast, business partners' ECB collateral eligibility generates significant positive externalities. Column (2) shows a coefficient of -0.0514 for *PartEcb* (significant at 5%), indicating lower borrowing costs when business partners are eligible for ECB collateral. This result can be understood through Stiglitz (1990)'s theory of peer monitoring, which posits that peer monitoring facilitates efficient risk transfer from financial institutions to co-signers while reducing banks' monitoring costs, thereby enhancing credit market efficiency. In our context, this mechanism operates through several channels: first, when supply chain partners gain collateral eligibility, their improved creditworthiness provides reliable signals to banks; second, stable supply chain relationships constitute an implicit mutual monitoring mechanism; and finally, partners' improved financing conditions may generate positive spillovers through trade credit channels. These factors collectively lead to a significant economic effect of a 5.14% reduction in loan financing costs.

4.4.2 The Real Effect of Competitors' and Partners' ECB Collateral Eligibility on Real Economic Activities

To investigate the effect of competitors' and partners' ECB collateral eligibility on firms' employment and capital investment, we estimate the following regression model:

$$Y_{i,t} = \beta_0 + \beta_1 \cdot CompEcb_{i,t} \text{ or } PartEcb_{i,t} + \gamma' \cdot Controls_{i,t} + FE + \epsilon_{i,t} \tag{8}$$

where $Y_{i,t}$ represents the dependent variable, specifically employment growth ($Labor$) or capital investment ($CAPEX$) for firm i in year t. The key independent variables are $CompEcb_{i,t}$, which indicates whether the firm's competitors are eligible for ECB collateral in the current period, and $PartEcb_{i,t}$, which indicates whether the firm's business partners are eligible for ECB collateral in the current period.

The model also includes a vector of firm-level controls ($Controls_{i,t}$) to account for other potential determinants of $Y_{i,t}$. Fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$) to control for time-invariant firm heterogeneity, industry-specific time trends, and macroeconomic conditions at the country level. Standard errors are clustered at the firm level to address potential within-firm correlation in the error terms.

[Insert Table 10 Here]

Table 10 presents the real economic consequences of the interest rate effects documented earlier. Columns (1) and (2) report the effects of business partners' ECB collateral eligibility, while Columns (3) and (4) present the effects of competitors' ECB collateral eligibility. These results demonstrate how changes in financing costs ultimately translate into firms' operational decisions.

For business partners' ECB collateral eligibility, Columns (1) and (2) indicate that $PartEcb$ has positive and significant effects on both employment growth ($Labor$) and capital investment ($CAPEX$). Specifically, the coefficient for $PartEcb$ in Column (1) is 0.0185 (significant at

5%), suggesting a 1.85% increase in employment growth. This result directly relates to the previously documented reduction in financing costs (-5.14%): lower interest rates reduce firms' cost of capital, allowing them to transform financial savings into labor market expansion.

Column (2) shows a coefficient of 0.0694 for *PartEcb* (significant at 1%), corresponding to a 6.94% increase in investment. This substantial investment response further validates the financing advantages gained through the peer monitoring mechanism: when firms obtain lower borrowing costs due to their business partners' collateral eligibility, they can undertake more long-term investment projects. This finding suggests that the reduction in financing costs achieved through peer monitoring ultimately translates into real economic investment growth.

In contrast, competitors' ECB collateral eligibility generates significant negative effects, consistent with the previously documented increase in financing costs (5.86%). Column (3) shows a coefficient of -0.0257 for *CompEcb* (significant at 5%), implying a 2.57% decrease in employment growth. This employment contraction reflects the direct consequence of higher financing costs: facing increased cost of capital, firms must control labor costs to maintain profitability.

Column (4) shows a coefficient of -0.0617 for *CompEcb* (significant at 5%), indicating a 6.17% reduction in investment. This investment suppression effect directly manifests the crowding-out effect discussed earlier: when competitors' collateral eligibility leads to higher financing costs for the firm, some previously viable investment projects become infeasible due to increased capital costs. This aligns perfectly with the resource reallocation effects predicted by Holmstrom and Tirole (1997)'s theory.

Overall, these results demonstrate how changes in financial market conditions affect firms' actual operating decisions through the financing cost channel. The financing cost advantages from business partners' collateral eligibility ultimately translate into employment and investment growth, while the increased financing costs due to competitors' collateral eligibility suppress firms' expansion activities.

5 Conclusions

This paper examines the real economic implications of corporate bond collateral eligibility in the context of the European Central Bank's collateral framework. Using a comprehensive dataset of firm-level information and inter-firm relationships, we document several important findings. First, firms that gain collateral eligibility significantly increase their trade credit extension to both upstream and downstream partners, with accounts receivable rising by 3.08 percentage points. This enhanced trade credit support stimulates employment and investment among their business partners. Second, we identify significant network effects: while competitors of newly eligible firms face increased borrowing costs and reduced investment capacity, business partners benefit from reduced credit costs and increased economic activity. These findings demonstrate that collateral eligibility changes generate substantial spillover effects throughout production networks.

Our findings have important implications for monetary policy implementation and financial market design. First, they suggest that central banks' collateral frameworks have far-reaching effects beyond financial markets, significantly influencing real economic activities through production networks. Second, our results highlight the importance of considering network externalities when designing monetary policy interventions, as the effects of collateral eligibility changes propagate differently across competitors and business partners. These insights are particularly relevant for policymakers as they continue to expand their toolkit of monetary policy instruments, especially in times of financial stress when corporate bonds increasingly serve as eligible collateral for central bank operations.

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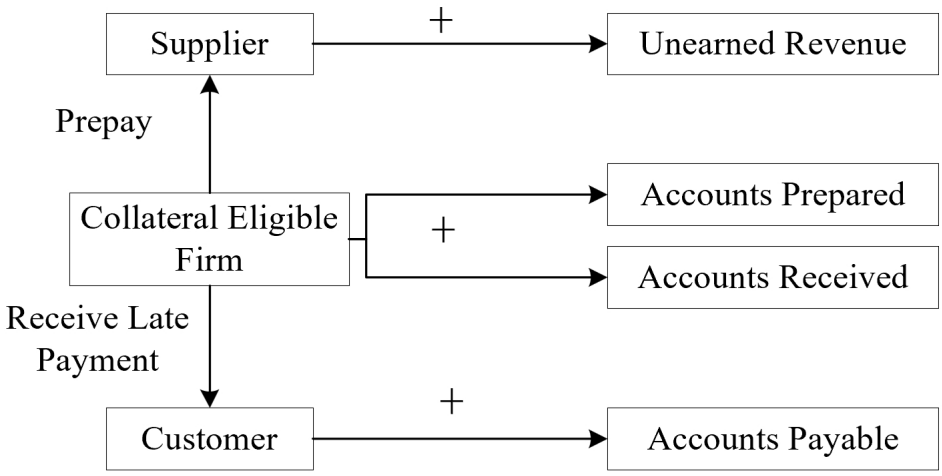
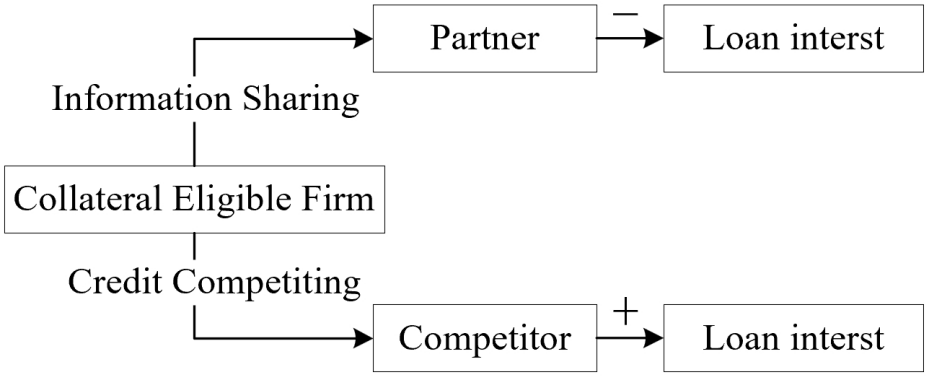
Figure 1: **Transmission Mechanism of ECB Collateral Eligibility through Supply Chain**



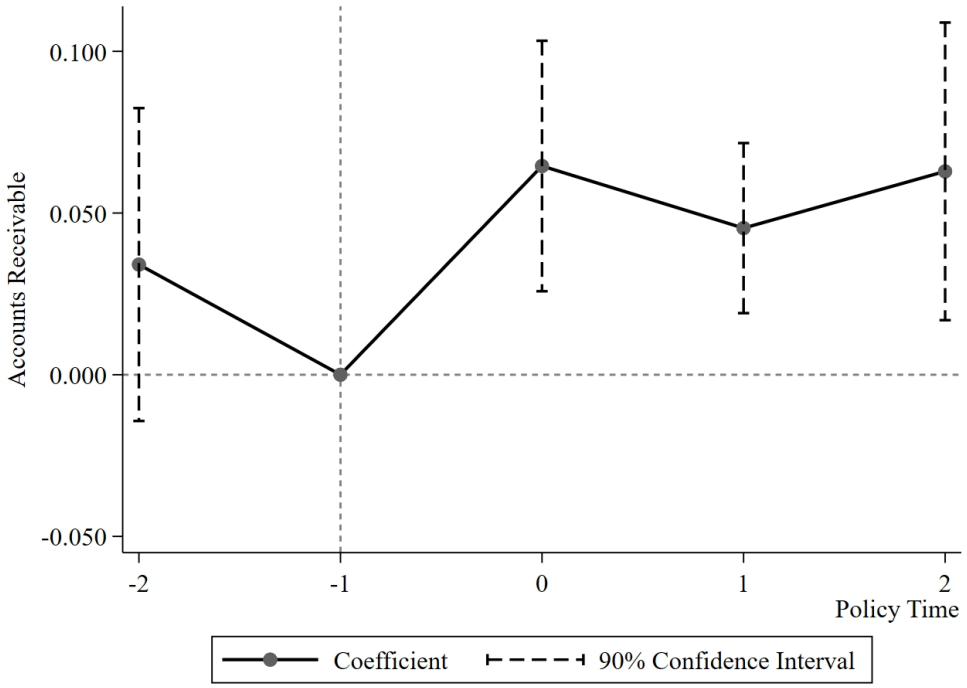
Notes: This figure illustrates the transmission mechanism of ECB collateral eligibility through supply chain networks. Firms with ECB collateral eligibility tend to accelerate payments to suppliers while extending credit terms to customers, resulting in increased accounts receivable and prepaid expenses on their own balance sheets. Consequently, this leads to higher accounts payable for downstream customers and increased unearned revenue for upstream suppliers.

Figure 2: **Spillover Effects of ECB Collateral Eligibility on Market Participants**



Notes: This figure demonstrates how the eligibility for ECB collateral affects market participants through two channels. Through information spillover effects, business partners of eligible firms experience reduced borrowing costs. In contrast, through the effects of the competition in the credit market, competitors face higher borrowing rates due to the reallocation of the credit supply.

Figure 3: **The dynamic effect of Self-Inclusion in the List and Accounts Receivable**

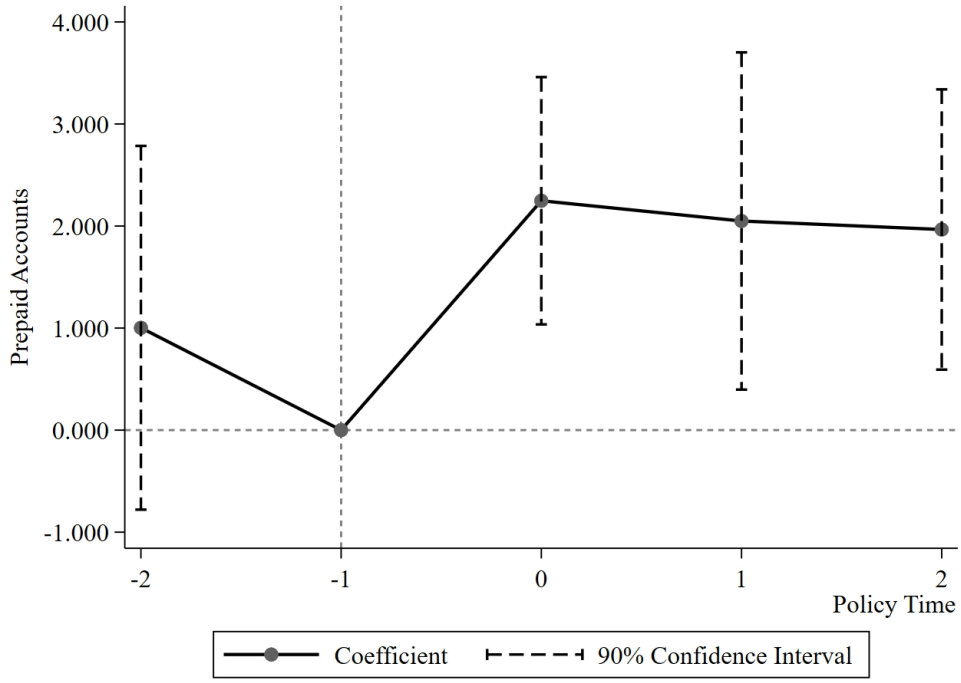


Notes: This figure presents the results of the parallel trend test, estimated using the following equation (with lagged period -1 serving as the reference group):

$$Receivable_{i,t} = \alpha + \sum_{k=-2}^{2,k\neq -1} \beta_k \cdot OwnPeriod_{k,i,t} + Control_{i,t} + FE + \epsilon_{i,t},$$

where $Receivable_{i,t}$ represents the ratio of accounts receivable to sales for firm i at time t, and $OwnPeriod_{k,i,t}$ is a set of indicator variables for different time periods ($k = -2, 0, 1, 2$) relative to the reference period ($k = -1$). Here, $k = 2$ represents all periods after 2, and $k = -2$ represents all periods before -2. $Control_{i,t}$ denotes a set of control variables. The fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$). Standard errors are clustered at the firm level. In the figure, the dots represent the estimated coefficients (β_k), while the vertical lines indicate their corresponding 95% confidence intervals.

Figure 4: **The dynamic effect of Self-Inclusion in the List and Accounts Prepaid**

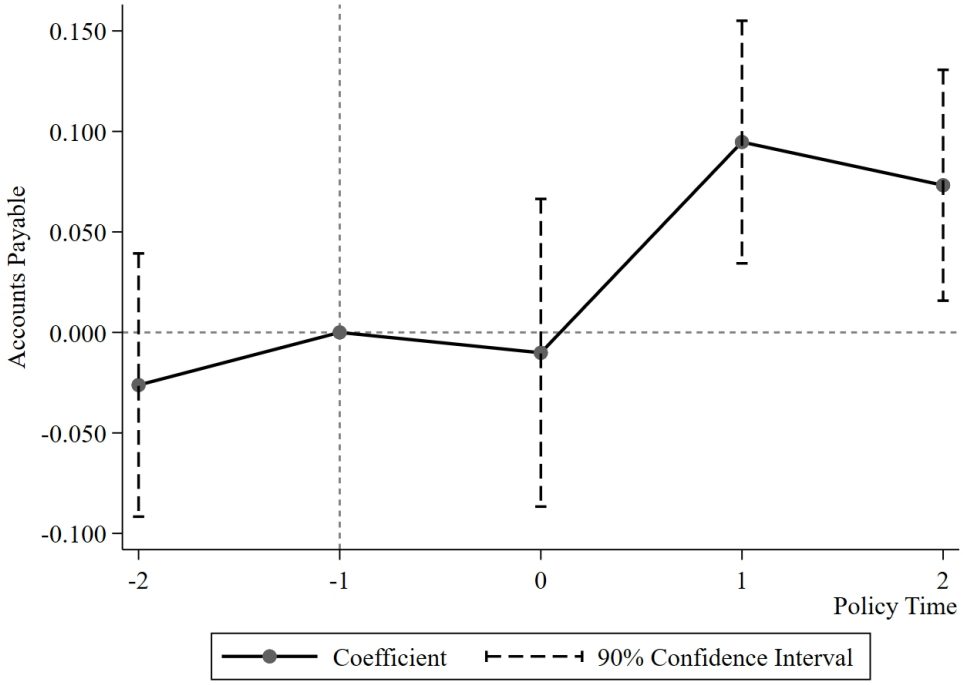


Notes: This figure presents the results of the parallel trend test, estimated using the following equation (with lagged period -1 serving as the reference group):

$$Prepaid_{i,t} = \alpha + \sum_{k=-2}^{2,k\neq -1} \beta_k \cdot OwnPeriod_{k,i,t} + Control_{i,t} + FE + \epsilon_{i,t},$$

where $Prepaid_{i,t}$ represents the ratio of accounts prepaid to sales for firm i at time t, and $OwnPeriod_{k,i,t}$ is a set of indicator variables for different time periods ($k = -2, 0, 1, 2$) relative to the reference period ($k = -1$). Here, $k = 2$ represents all periods after 2, and $k = -2$ represents all periods before -2. $Control_{i,t}$ denotes a set of control variables. The fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$). Standard errors are clustered at the firm level. In the figure, the dots represent the estimated coefficients (β_k), while the vertical lines indicate their corresponding 95% confidence intervals.

Figure 5: **The Dynamics of Suppliers' ECB Collateral Eligibility and Firms' Accounts Payable**

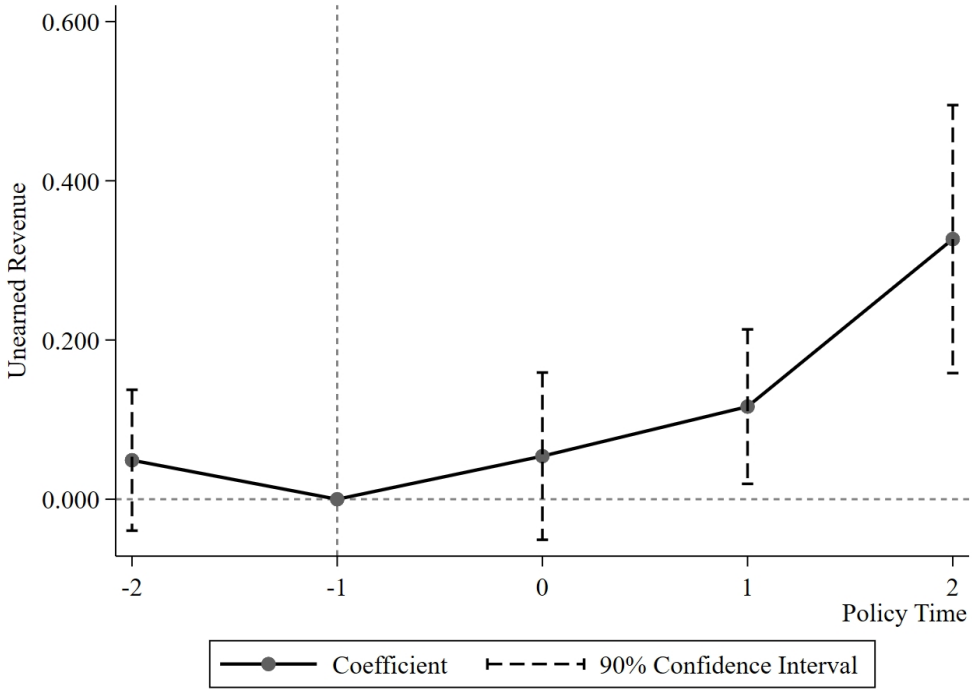


Notes:This figure presents the results of the parallel trend test, estimated using the following equation (with lagged period -1 serving as the reference group):

$$Payable_{i,t} = \alpha + \sum_{k=-2}^{2,k\neq -1} \beta_k \cdot SupPeriod_{k,i,t} + Control_{i,t} + FE + \epsilon_{i,t},$$

where $Payable_{i,t}$ represents the ratio of accounts Payable to sales for firm i at time t, and $SupPeriod_{k,i,t}$ is a set of indicator variables for different time periods ($k = -2, 0, 1, 2$) relative to the reference period ($k = -1$). Here, $k = 2$ represents all periods after 2, and $k = -2$ represents all periods before -2. $Control_{i,t}$ denotes a set of control variables. The fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$). Standard errors are clustered at the firm level. In the figure, the dots represent the estimated coefficients (β_k), while the vertical lines indicate their corresponding 95% confidence intervals.

Figure 6: **The dynamic Effect of Customers' ECB Collateral Eligibility and Firms' Unearned Revenue**



Notes: This figure presents the results of the parallel trend test, estimated using the following equation (with lagged period -1 serving as the reference group):

$$Unearned_{i,t} = \alpha + \sum_{k=-2}^{2,k\neq -1} \beta_k \cdot CusPeriod_{k,i,t} + Control_{i,t} + FE + \epsilon_{i,t},$$

where $Unearned_{i,t}$ represents the ratio of Unearned Revenue to sales for firm i at time t, and $CusPeriod_{k,i,t}$ is a set of indicator variables for different time periods ($k = -2, 0, 1, 2$) relative to the reference period ($k = -1$). Here, $k = 2$ represents all periods after 2, and $k = -2$ represents all periods before -2. $Control_{i,t}$ denotes a set of control variables. The fixed effects (FE) include firm fixed effects ($Firm\_FE_i$), industry-by-year fixed effects ($Industry\_Year\_FE_{s,t}$), and country-by-year fixed effects ($Country\_Year\_FE_{c,t}$). Standard errors are clustered at the firm level. In the figure, the dots represent the estimated coefficients (β_k), while the vertical lines indicate their corresponding 95% confidence intervals.

Table 1: Descriptive Statistics

	N	Mean	SD	P25	Median	P75
Panel A: Trade Credit Variables						
Receivable	29291	0.22	0.26	0.09	0.16	0.27
Payable	29130	0.22	0.57	0.06	0.11	0.19
Prepaid	29087	2.24	17.44	0.10	0.20	0.42
Unearned	29138	0.59	2.93	0.08	0.14	0.27
Panel B: ECB Eligibility Variables						
OwnList	29697	0.01	0.11	0.00	0.00	0.00
PartEcb	29697	0.03	0.18	0.00	0.00	0.00
CompEcb	29697	0.03	0.17	0.00	0.00	0.00
CustEcb	29697	0.03	0.18	0.00	0.00	0.00
SuppEcb	29697	0.02	0.14	0.00	0.00	0.00
Panel C: Control Variables						
LtDebtAt	29697	0.15	0.17	0.01	0.10	0.22
LnSize	29697	18.88	2.37	17.22	18.74	20.43
CashRatio	29697	0.13	0.15	0.03	0.08	0.17
NetMargin	29697	-0.28	2.77	-0.03	0.02	0.07
IntangAt	29697	0.15	0.18	0.01	0.07	0.24
SalesRev	29697	0.93	0.71	0.44	0.81	1.24
LnAge	29697	3.19	0.91	2.64	3.18	3.81
Panel D: Outcome Variables						
Labor	22327	0.05	0.29	-0.05	0.01	0.09
CAPEX	25982	0.73	1.78	0.10	0.25	0.59

Note: This table presents descriptive statistics for our sample. The sample period spans from 2007 to 2016. Financial data are obtained from BvD Orbis. Supply chain, competition, and cooperation relationships are sourced from FactSet Revere. Data on corporate bonds' eligibility as collateral are collected from daily historical lists and descriptions of the variables available on the ECB website. The loan data is sourced from Dealscan.

Table 2: Determinants of Corporate Bond Collateral Eligibility

	(1) OwnList	(2) OwnList	(3) OwnList	(4) OwnList
LtDebtAt	-0.0010	-0.0036	-0.0006	-0.0006
	(-0.142)	(-0.501)	(-0.079)	(-0.112)
LnSize	0.0108***	0.0117***	0.0126***	0.0037**
	(8.782)	(8.000)	(8.032)	(2.268)
CashRatio	0.0142***	0.0092	0.0077	0.0199***
	(3.434)	(1.536)	(1.255)	(3.130)
NetMargin	-0.0006***	-0.0007***	-0.0008***	-0.0002
	(-4.970)	(-3.631)	(-4.239)	(-1.350)
IntangAt	0.0364***	0.0324***	0.0355***	0.0141
	(3.664)	(2.999)	(3.093)	(1.120)
SalesRev	-0.0016	0.0004	0.0005	0.0006
	(-1.401)	(0.315)	(0.340)	(0.480)
LnAge	0.0053***	0.0054**	0.0048**	-0.0279***
	(3.093)	(2.379)	(2.033)	(-3.261)
_cons	-0.2128***	-0.2309***	-0.2467***	0.0281
	(-8.972)	(-8.070)	(-8.141)	(0.815)
Firm_FE	No	No	No	Yes
Industry_Year_FE	No	Yes	Yes	Yes
Country_Year_FE	No	No	Yes	Yes
Obs	29697	29697	29697	29697
r2_a	0.0620	0.0619	0.0665	0.5055

Note: This table reports OLS regression estimates of the relationship between a firm's collateral eligibility status and its balance sheet characteristics over the period 2007-2016. The dependent variable is the firm's current eligibility status. Financial data are obtained from Bureau van Dijk's Orbis database. All specifications include fixed effects as indicated in the table. The values in parentheses are t-values adjusted using firm-level clustered standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3: The Effect of ECB Collateral Eligibility on Employment and Capital Investment

	(1) Labor	(2) Labor	(3) CAPEX	(4) CAPEX
OwnList	0.0022	-0.0176	-0.0293	-0.0568
	(0.132)	(-1.164)	(-0.469)	(-0.961)
LtDebtAt		0.0411		0.2538**
		(1.444)		(2.201)
LnSize		0.1143***		0.1497***
		(11.090)		(4.077)
CashRatio		0.0288		-0.5266***
		(0.883)		(-3.680)
NetMargin		-0.0025		-0.0531***
		(-1.226)		(-3.133)
IntangAt		0.1898***		-0.4421**
		(3.795)		(-2.088)
SalesRev		0.0387***		-0.1200***
		(3.157)		(-4.132)
LnAge		-0.2442***		-0.6607***
		(-7.872)		(-5.061)
_cons	0.0461***	-1.4371***	0.7277***	0.2139
	(154.786)	(-6.530)	(767.262)	(0.263)
Control	No	Yes	No	Yes
Firm_FE	Yes	Yes	Yes	Yes
Industry_Year_FE	Yes	Yes	Yes	Yes
Country_Year_FE	Yes	Yes	Yes	Yes
Obs	21389	21389	25542	25542
r2_a	0.1942	0.2209	0.7132	0.7191

Note: This table examines the effect of ECB collateral eligibility on firms' employment and capital investment. The analysis is conducted at the firm-year level over the period 2007-2016. All specifications include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects. The values in parentheses are t-values adjusted using firm-level clustered standard errors. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 4: The Effect of ECB Collateral Eligibility on Accounts Receivable and Prepaid Expenses

	(1) Receivable	(2) Receivable	(3) Prepaid	(4) Prepaid
OwnList	0.0308**		1.1155**	
	(1.992)		(1.992)	
OwnPre2		0.0341		1.0028
		(1.159)		(0.926)
OwnCurrent		0.0645***		2.2477***
		(2.741)		(3.051)
OwnPost1		0.0453***		2.0493**
		(2.837)		(2.040)
OwnPost2		0.0629**		1.9660**
		(2.248)		(2.355)
Control	Yes	Yes	Yes	Yes
Firm_FE	Yes	Yes	Yes	Yes
Industry_Year_FE	Yes	Yes	Yes	Yes
Country_Year_FE	Yes	Yes	Yes	Yes
Obs	28805	28805	28589	28589
r2_a	0.6103	0.6102	0.6850	0.6850

Note: This table presents the effects of ECB collateral eligibility on firms' accounts receivable and prepaid expenses. The analysis is conducted at the firm-year level over the period 2007-2016. All specifications include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects. The values in parentheses are t-values adjusted using firm-level clustered standard errors. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 5: The Heterogeneous Effects of ECB Collateral Eligibility on Trade Credit Extension

	(1) ar_to_revenue	(2) ar_to_revenue	(3) prepaid_to_revenue	(4) prepaid_to_revenue
cash_own_list	0.0587**		0.0235***	
	(2.368)		(2.603)	
margin_own_list		-0.1025***		-0.0012**
		(-2.769)		(-2.363)
own_list	-0.0074	-0.0467	0.0043***	0.0016
	(-0.166)	(-0.521)	(3.575)	(0.801)
cash_to_ta	0.0326	0.0327	0.0069***	0.0069***
	(0.935)	(0.940)	(2.861)	(2.853)
gross_profit_margin	-0.1378***	-0.1379***	-0.0077***	-0.0077***
	(-4.798)	(-4.801)	(-4.426)	(-4.424)
intangible_to_ta	-0.0081	-0.0086	0.0102**	0.0102**
	(-0.165)	(-0.175)	(2.533)	(2.527)
operating_expenses_to_ta	-0.0877***	-0.0877***	-0.0054***	-0.0054***
	(-6.992)	(-6.994)	(-7.119)	(-7.116)
log_ta	0.0167	0.0167	-0.0005	-0.0005
	(1.119)	(1.120)	(-0.465)	(-0.465)
_cons	0.3933***	0.3934***	0.0202***	0.0202***
	(4.584)	(4.585)	(3.581)	(3.581)
Firm_FE	Yes	Yes	Yes	Yes
Sic_Year_FE	Yes	Yes	Yes	Yes
Country_Year_FE	Yes	Yes	Yes	Yes
Obs	27420	27420	28574	28574
r2_a	0.7017	0.7017	0.6010	0.6010

Note: The Heterogeneous Effects of ECB Collateral Eligibility on Trade Credit Extension. The analysis is conducted at the firm-year level over the period 2007-2016. All specifications include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects. The values in parentheses are t-values adjusted using firm-level clustered standard errors. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 6: The Effect of Supplier ECB Collateral Eligibility on Accounts Payable

	(1) Payable	(2) Payable
SuppEcb	0.0686***	
	(3.147)	
SuppEcbPre2		-0.0262
		(-0.658)
SuppEcbCurrent		-0.0101
		(-0.218)
SuppEcbPost1		0.0947***
		(2.582)
SuppEcbPost2		0.0732**
		(2.097)
Control	Yes	Yes
Firm_FE	Yes	Yes
Industry_Year_FE	Yes	Yes
Country_Year_FE	Yes	Yes
Obs	28605	28605
r2_a	0.6710	0.6712

Note: This table examines the effect of suppliers' ECB collateral eligibility on firms' accounts payable. The analysis is conducted at the firm-year level over the period 2007-2016. All specifications include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects. The values in parentheses are t-values adjusted using firm-level clustered standard errors. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 7: The Effect of Customer ECB Collateral Eligibility on Unearned Revenue

	(1) Unearned	(2) Unearned
CustEcb	0.0953**	
	(2.133)	
CustEcbPre2		0.0490
		(0.911)
CustEcbCurrent		0.0541
		(0.847)
CustEcbPost1		0.1163**
		(1.973)
CustEcbPost2		0.3267***
		(3.193)
Control	Yes	Yes
Firm_FE	Yes	Yes
Industry_Year_FE	Yes	Yes
Country_Year_FE	Yes	Yes
Obs	28603	28603
r2_a	0.6255	0.6256

Note: This table examines the effect of customers' ECB collateral eligibility on firms' unearned revenue (advance payments received). The analysis is conducted at the firm-year level over the period 2007-2016. All specifications include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects. The values in parentheses are t-values adjusted using firm-level clustered standard errors. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 8: The Real Effect of Suppliers' and Customers' ECB Collateral Eligibility

	(1) Labor	(2) CAPEX	(3) Labor	(4) CAPEX
SuppEcb	0.0232**	0.0765**		
	(2.222)	(2.471)		
CustEcb			0.0177**	0.0447**
			(2.169)	(2.222)
Control	Yes	Yes	Yes	Yes
Firm_FE	Yes	Yes	Yes	Yes
Industry_Year_FE	Yes	Yes	Yes	Yes
Country_Year_FE	Yes	Yes	Yes	Yes
Obs	21389	25542	21389	25542
r2_a	0.2210	0.7191	0.2210	0.7191

Note: This table examines the effect of business partners' ECB collateral eligibility on firms' employment and capital investment. Columns (1) and (2) present the effects of suppliers' ECB collateral eligibility, while columns (3) and (4) show the effects of customers' ECB collateral eligibility. The analysis is conducted at the firm-year level over the period 2007-2016. All specifications include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects. The values in parentheses are t-values adjusted using firm-level clustered standard errors. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 9: The Effect of Competitors' and Partners' ECB Collateral Eligibility on Borrowing Costs

	(1) Lnspread	(2) Lnspread
PartEcb		-0.0514**
		(-2.335)
CompEcb	0.0586***	
	(2.827)	
Lnmaturity	0.1706***	0.1705***
	(10.590)	(10.588)
Lnamount	0.0032	0.0011
	(0.258)	(0.091)
_cons	4.6297***	4.6591***
	(42.357)	(42.393)
Borrower_FE	Yes	Yes
Lender_FE	Yes	Yes
Industry_Year_FE		Yes
Country_Year_FE	Yes	Yes
Loan_Type_FE	Yes	Yes
Secured_FE	Yes	Yes
Obs	33796	33796
r2_a	0.9630	0.9630

Note: This table examines the effect of network firms' ECB collateral eligibility on firms' loan interest rates at the deal level. Column (1) presents the effects of competitors' ECB collateral eligibility, while column (2) shows the effects of business partners' ECB collateral eligibility. The competition and partnership relationships are identified using FactSet Revere data. The loan data are obtained from DealScan.The analysis is conducted at the deal level over the period 2007-2016. All specifications include borrower fixed effects, firm fixed effects, firm industry-by-year fixed effects, firm country-by-year fixed effects, and loan type and secured status fixed effects. Standard errors are two-way clustered at the borrower levelthe firm level (with t-values reported in parentheses). *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

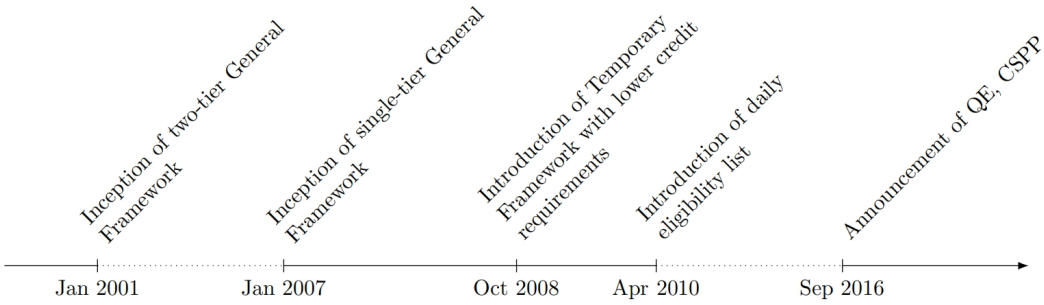
Table 10: The Effect of Network Firms' ECB Collateral Eligibility on Real Economic Activities

	(1) Labor	(2) CAPEX	(3) Labor	(4) CAPEX
PartEcb	0.0185**	0.0694***		
	(2.164)	(2.583)		
CompEcb			-0.0257**	-0.0617**
			(-2.551)	(-2.111)
Control				
Firm_FE	Yes	Yes	Yes	Yes
Industry_Year_FE	Yes	Yes	Yes	Yes
Country_Year_FE	Yes	Yes	Yes	Yes
Obs	21389	25542	21389	25542
r2_a	0.2210	0.7191	0.2211	0.7191

Note: This table examines the effect of network firms' ECB collateral eligibility on firms' real economic activities. Columns (1) and (2) present the effects on employment, while columns (3) and (4) show the effects on capital investment. For each outcome variable, the columns 1 and 2 present the effects of competitors' ECB collateral eligibility, while columns 2 and 4 show the effects of business partners' ECB collateral eligibility. The analysis is conducted at the firm-year level over the period 2007-2016. All specifications include firm fixed effects, industry-by-year fixed effects, and country-by-year fixed effects. The values in parentheses are t-values adjusted using firm-level clustered standard errors. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix

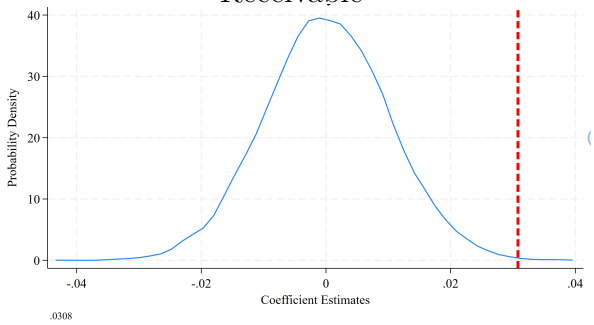
Figure A1: **Evolution Timeline of ECB Asset Eligibility**



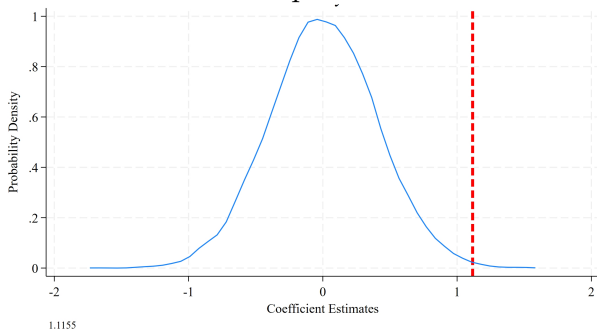
Notes: This figure illustrates the key milestones in the development of the ECB's corporate bond collateral framework. The timeline begins in January 2001 with the inception of the two-tier General Framework, where each member state maintained its own collateral eligibility standards, resulting in heterogeneous criteria across the Eurozone. This was followed by its transition to a single-tier system in January 2007, which established a unified ECB framework for corporate bonds as eligible collateral. In response to the financial crisis, the ECB introduced a Temporary Framework with lower credit requirements in October 2008. A significant operational change occurred in April 2010 with the introduction of daily updates to the eligibility list. The timeline concludes with the announcement of Quantitative Easing (QE) and the Corporate Sector Purchase Programme (CSPP) in September 2016. To avoid potential confounding effects from the CSPP implementation, we restrict our sample period to end before this date(Adelino et al., 2023; Pelizzon et al., 2024).

Figure A2: **Placebo Tests of ECB Collateral Eligibility Effects**

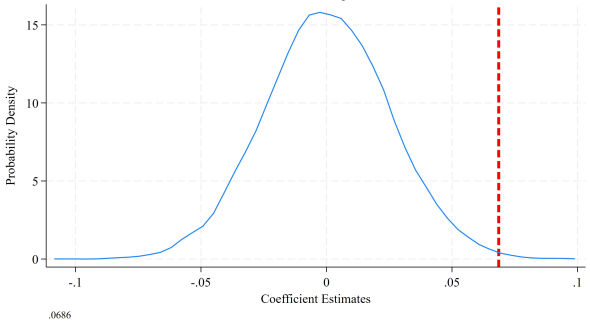
Panel A: Self-Inclusion and Accounts Receivable



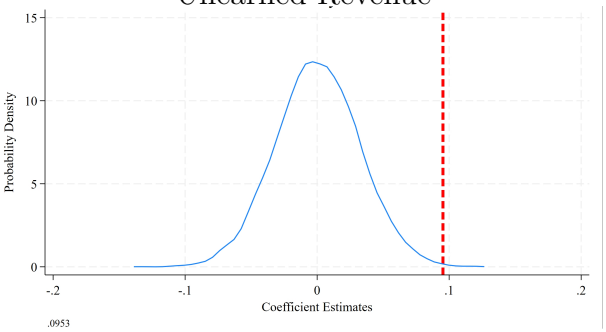
Panel B: Self-Inclusion and Accounts Prepaid



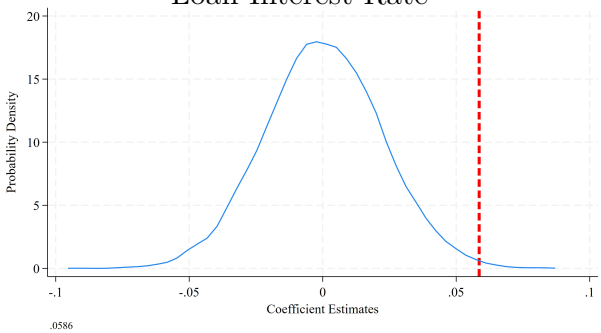
Panel C: Suppliers' ECB Eligibility and Accounts Payable



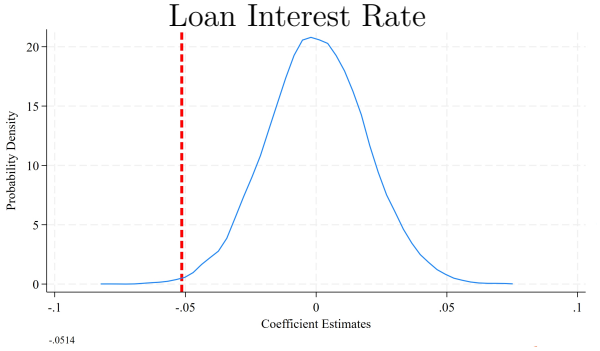
Panel D: Customers' ECB Eligibility and Unearned Revenue



Panel E: Partners' ECB Eligibility and Loan Interest Rate



Panel F: Competitors' ECB Eligibility and Loan Interest Rate



Notes: These figures provide placebo tests of ECB collateral eligibility effects. Panel A shows the test for self-inclusion in the list and accounts receivable. Panel B presents the test for self-inclusion in the list and accounts prepaid. Panel C displays the test for suppliers' ECB collateral eligibility and firms' accounts payable. Panel D shows the test for customers' ECB collateral eligibility and firms' unearned revenue. Panel E demonstrates the test for partners' ECB collateral eligibility and their loan interest rates, while Panel F illustrates the test for competitors' ECB collateral eligibility and their loan interest rates. In each test, we randomly assign firms to the ECB's collateral eligibility list and repeat this 500 times, with each point in the figures representing the estimated coefficient from each iteration.

Table A1: Variable Definitions

Variable	Definition
Panel A: Trade Credit Variables	
receivable	Accounts receivable divided by sales
payable	Accounts payable divided by sales
prepaid	Prepaid expenses divided by sales
unearned	Unearned revenue divided by sales
Panel B: ECB Eligibility Variables	
own_list	Indicator equal to 1 if the firm's bonds are ECB eligible
part_ecb_list	Indicator equal to 1 if business partners' bonds are ECB eligible
compet_ecb_list	Indicator equal to 1 if competitors' bonds are ECB eligible
cus_ecb_list	Indicator equal to 1 if customers' bonds are ECB eligible
sup_ecb_list	Indicator equal to 1 if suppliers' bonds are ECB eligible
Panel C: Control Variables	
long_debt_at	Long-term debt divided by total assets
log_at	Natural logarithm of total assets
cash	Cash and cash equivalents divided by total assets
net_gross	Net income divided by operating revenue
Intang_at	Intangible assets divided by total assets
sales	Operating revenue divided by total assets
lnage	Natural logarithm of firm age since incorporation
Panel D: Outcome Variables	
Labor_g	Annual change in number of employees
CAPEX	Capital expenditure divided by lagged total assets
Panel E: Loan Deal Variables	
lnspread	Natural logarithm of the all-in-drawn loan spread over LIBOR
lnmaturity	Natural logarithm of loan maturity (in months)
lnamount	Natural logarithm of the total loan amount (in U.S. dollars)

Table A2: Summary and classification of main actions in ECB's collateral policy

Date	Action	Classification	
		tightening	loosening
30/05/2005	Ineligibility of equities	•	
01/01/2007	Abolition of idiosyncratic eligibility criteria (introduction of Single List)		•
15/09/2008	Collapse of Lehman Brothers		
25/10/2008	Lowering of minimum credit rating for all assets except ABSs from "single A" to "triple B"; eligibility of bank bonds traded in the STEP market		•
14/11/2008	Eligibility of marketable debt instruments issued in pounds sterling, yen or US dollars		•
01/02/2009	Eligibility of own-use government-guaranteed debt instruments; DBRS accepted as fourth ECAI		•
01/03/2009	Increase of minimum credit rating for ABSs from "single A" to "triple A" at issuance	•	
06/05/2010, 01/04/2011, 07/07/2011, 03/05/2013, 09/05/2013	Suspensions of minimum credit rating for debt instruments issued or guaranteed by the governments of Greece, Ireland, Portugal; later by governments under an EU/IMF program and Cyprus		•
19/12/2011	Idiosyncratic acceptance of credit claims by NCBs; lowering of minimum credit rating for specific ABSs from "triple A" to "single A" at issuance		•
29/07/2012	Lowering of minimum credit rating for all ABSs from "single A" to "triple B" at issuance and over lifetime		•
03/01/2013	Ineligibility of heterogeneous ABSs	•	

The table conveys the impression that (1) the ECB intensified collateral policy activity in response to the crisis, and that (2) this activity was predominantly directed at loosening eligibility criteria accompanied by a broadening of the eligible collateral pool.