



Non-standard monetary policy: what impact on small and medium-sized enterprises financing?

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Following the 2011 crisis, the European Central Bank lent massively to Eurosystem banks while extending the range of assets accepted as collateral for these loans. This Rue de la Banque shows that, by targeting a particular asset class, the easing of the collateral policy has made it possible to increase the supply of private financing to French small and medium-sized enterprises, in particular those with a single bank. The measure has also reduced the contagion effects of financial distress without encouraging excessive risk-taking.

Access to financing is critical for the growth and development of small and medium-sized enterprises (SMEs), especially in times of crisis. In terms of external financing, French SMEs have recourse almost exclusively to bank financing. This strong reliance on banks is also characterised by a small number of banking relationships. 80% of French SMEs have only one bank. These companies are therefore particularly vulnerable to bank shocks. Ensuring SMEs' access to credit in times of crisis has been one of the main objectives of the non-standard monetary policy measures taken by central banks since 2008. In this *Rue de la Banque*, we look at the effect on lending to French SMEs of the second long-term refinancing operation conducted by the European Central Bank (ECB) at the beginning of 2012 (LTRO 2¹), which in France was accompanied by a change in the collateral eligibility criteria to be met by banks to access this liquidity.

In a crisis setting marked by a sharp decline in the demand for credit, isolating and assessing the impact of such measures can be difficult. We present the methodology used in our article (Cahn et al., 2017) which enables us, within the same bank, to measure this effect on lending volumes and to understand how banks adjust their loan portfolio: who do they lend to? Do they favour borrowers with whom they have a strong

banking relationship? Does this lead to a misallocation of credit to riskier borrowers?

The collateral framework: a new monetary policy instrument

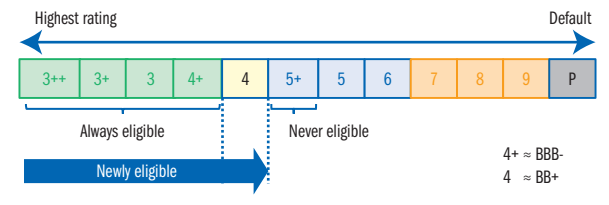
Euro area credit institutions may borrow liquidity from Eurosystem central banks in exchange for pledging eligible assets as collateral. The ECB's permanent collateral framework thus identifies, in a single list common to all national central banks, the assets accepted as collateral, based on the assessment of their credit risk. It also defines the haircuts that are applied to the value of this collateral in order to capture the liquidity risk.

Eligible assets include credit claims², including certain corporate bank loans. The eligibility of a loan is determined by the credit rating of the borrowing company, which cannot, under normal circumstances, correspond to a probability of default over a one year horizon above 0.4%.

¹ Second series of Long Term Refinancing Operation (LTRO), introduced in February 2012.

² Credit claims – loans to households and companies – accounted for 50% of the collateral posted by French banks in 2012, corresponding to EUR 150 billion (Bignon et al., 2016).

C1 Banque de France rating scale and expansion of the collateral framework in February 2012



Source: Cahn, Duquerroy and Mullins (2017).

The Banque de France has its own rating system: it assesses corporate credit risk, expressed by the attribution of a rating, which is not public, but recognised and taken into account by the Eurosystem to determine the eligibility of a credit claim as collateral. The Banque de France's rating scale comprises 12 risk categories, ranging from 3++ for the best-performing companies to P for failing companies (see Chart 1).

In response to the market funding pressures following the 2011 crisis, the ECB Governing Council announced on 8 December 2011 the implementation, at end-December 2011 and in February 2012, of two longer term refinancing operations (LTRO). During these operations, banks were able to borrow in unlimited quantities, at a fixed rate³ and with an unprecedented 3-year maturity, provided they could pledge as collateral eligible assets with the ECB. The Governing Council also gave the national central banks that so wished the opportunity of temporarily⁴ expanding the range of eligible assets. In France, this measure resulted in the acceptance of a new category of corporate loans (the "additional credit claims").

The expansion of the collateral framework thus enabled banks, in a context of strong demand for central bank liquidity, to borrow more and at a lower cost. Indeed, the measure reduced the marginal cost of refinancing loans to certain companies that had become eligible compared to loans granted to similar companies that remained ineligible: in operational terms, this meant that loans rated 4 on the Banque de France internal rating scale (rating equivalent to BB+, corresponding to a probability of default of less than 1% per year) could be pledged as collateral with the Banque de France from February 2012; loans in the lower category (rated 5+) remained ineligible.

The stated objective of this measure was to ensure that companies, and in particular SMEs, had access to credit in a context of pressures on bank refinancing⁵. It is important to assess whether this measure has had the desired effect⁶.

Identifying the effect of the supply shock using a control group

It is not easy to estimate the effectiveness of measures to support corporate bank lending because this implies being able to differentiate the supply effect, i.e. the bank's behaviour in terms of credit approval, from the demand effect, i.e. companies' appetite for bank financing. In addition, in times of crisis the demand for financing naturally diminishes due to the slowdown in economic activity.

The approach usually adopted in the academic literature is to use a banking shock and to focus exclusively on companies with multiple banks. The supply effect is then estimated by comparing, for the same company whose observable and unobservable characteristics are taken into account, the credit adjustment between two (or more) of its banks, the first affected by the shock and the second unaffected (or to a lesser extent)⁷. The result cannot therefore be attributed to the demand of the company, provided that it is identical with each of its banks, thus ignoring the phenomena of bank specialisation (Paravisini et al., 2015). By definition, this method requires focusing only on companies with several banks and therefore overlooks a large share of companies, especially SMEs⁸.

In Cahn et al. (2017), we take advantage of the expansion of the collateral framework to a new group of corporate loans to identify the effect of a positive credit supply shock, in particular on companies which have only one bank and which have been largely ignored by the literature⁹.

³ Fixed-rate tender with full allotment (FRFA) procedure put in place in October 2008.

⁴ Despite being announced as "temporary", no date has been given as to the end of this measure, which is still ongoing at the time of writing this article.

⁵ "[The ECB] will allow banks to use loans as collateral with the Eurosystem, thereby unfreezing a large portion of bank assets. [...] The goal of these measures is to ensure that firms – and especially small and medium-sized enterprises – will receive credit as effectively as possible under the current circumstances" Mario Draghi, December 15, 2011".

⁶ Mésonnier et al. (2017) look at the price effect of this measure and consider that the cost of credit for eligible corporate loans has decreased by 7 basis points compared to slightly higher quality companies.

⁷ Methodology of Khwaja and Mian (2008).

⁸ Furthermore, this solution is never entirely satisfactory because the results always reflect the specificities of the bank-company pair and the unobservable characteristics of the banks that are likely to influence their exposure to the shock.

⁹ To our knowledge, Degryse et al. (2017) is the only article that also looks at single-bank companies.

For this purpose, we use individual company data relating to their outstanding bank loans, their accounting data and the occurrence of possible trade bill payment incidents¹⁰, for a sample of French SMEs¹¹.

In practice, we compare the changes, before and after the measure, in lending to two distinct groups of companies: the group of newly eligible companies (companies rated 4 in November 2011) and the group of best-rated companies that have remained ineligible (companies rated 5+ in November 2011). The companies rated 5+ thus constitute a control group which enables us to determine how lending to 4 rated companies would have evolved in the absence of the reform¹².

We focus in particular on the effect of the measure on companies with a single bank. These differ from companies with multiple banks; they are significantly smaller, younger and appear to have been more financially constrained during the crisis.

Strong credit growth for newly eligible SMEs

Chart 2 illustrates our main result. It clearly shows that lending to 4 and 5+ rated companies follows a parallel path in 2010 and 2011, before the implementation of the measure under study. Then, after February 2012, the increase in outstanding loans of newly eligible companies is 8% higher than that of ineligible companies in the year following the shock.

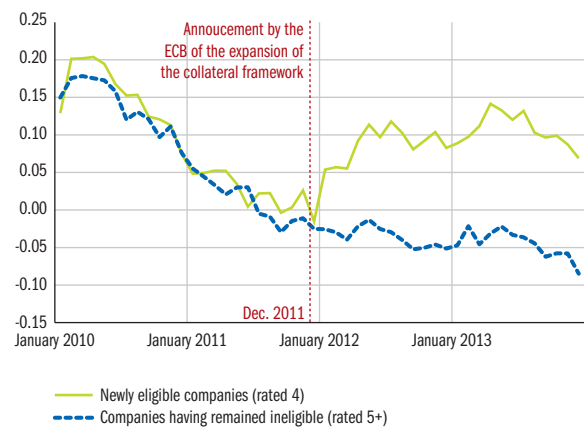
In Cahn et al. (2017), we also show that this effect cannot be attributed to a reallocation within the banking portfolio to the detriment of the ineligible companies, limiting the crowding out effects.

This increase in available resources also has an impact on client-supplier relationships by reducing the amount of trade bill payment incidents for eligible companies in the year following the shock (down by 1.5% as a proportion of trade payables). Thus, one of the benefits of the measure is to reduce potential negative spillover effects such as chain defaulting via trade credit relationships as highlighted in other studies (Boissay and Gropp, 2013).

Lastly, newly eligible companies are less likely to have their credit rating severely downgraded (down two notches) than those of the control group in the two years following the reform.

C2 Average cumulative growth rate of bank credit: newly eligible companies following the reform and companies that have remained ineligible

(x-axis : years; y-axis : average cumulative growth rate of bank credit)



Source: Cahn, Duquerroy and Mullins (2017).

Note: This chart shows the average growth rates of outstanding loans compared to their 2011 level, for two distinct groups of companies: companies whose loans became eligible as collateral in February 2012 and companies whose loans have remained ineligible. The newly eligible companies have a credit rating of 4 on the Banque de France internal rating scale; directly comparable ineligible companies have a rating of 5+. The sample consists of independent French SMEs with only one bank.

A heterogeneous effect across companies

Single-bank companies are not all impacted in the same way. Table 1 shows that the effect of the measure on newly eligible companies varies according to the characteristics of the companies and to their banking relationship.

The single-bank companies that benefit the most from the measure are those with the soundest fundamentals. Our estimates show that the relatively high-risk companies (because they are more indebted, offering less collateral in the form of tangible assets, or net borrowers in terms of trade credit) do not post an increase in their credit.

¹⁰ Monthly data on outstanding loans taken from the Banque de France Credit Register. Accounting data reported at the legal unit level, taken from the FIBEN company database. Data on payment incidents taken from the national database of trade bill payment incidents (CIPE).

¹¹ Independent SMEs, excluding agricultural, financial and utilities sectors.

¹² We estimate an "intention-to-treat": banks may now pledge loans to 4 rated companies as collateral but we do not observe the amount of loans actually pledged.

T1 Estimated effect of the non-standard monetary policy measures (LTRO and new collateral)

(%)

Companies with one bank	+8.66	(1.9)
<i>Additional effect:</i>		
for highly leveraged companies	-8.32	(4.1)
for companies with a low tangible assets ratio	-8.08	(3.1)
for net borrowers in terms of trade credit	-7.00	(4.1)
for high-growth companies (“gazelles”)	+11.8	(6.9)
for companies with a long-term and diversified banking relationship	+12.1	(4.9)
Companies with several banks	+3.15	(0.16)

Source: Cahn, Duquerroy and Mullins (2017).

Note: The parameters are estimated by ordinary least squares within the same bank for a given month, after taking into account the company fixed effects. The standard deviations in brackets are robust and adjusted for company cluster effects.

Conversely, eligible companies that have a strong relationship with their bank (long-term and diversified relationship in terms of types of financing) record a 20% rise in their credit compared to non-eligible companies. For these borrowers, the bank has access to non-directly quantifiable information that it is the only one to be able to observe and use in order to select the companies to which it grants loans. In Cahn et al. (2017) we nevertheless show that sound observable fundamentals are a prerequisite for obtaining a new loan and that a strong banking relationship is not an alternative.

Contrary to what has been observed for other measures (Acharya et al 2016, Van Bakkum et al., 2017), our results do not show any distortion in banks’ incentives conducive

to excessive risk-taking or loan ever-greening (so-called zombie loans).

Implications in terms of economic policy

Our work shows how a set of new central bank instruments – collateral framework and longer term refinancing operations – can be an effective lever for boosting private financing to the real economy in times of crisis.

We highlight the existence of a causal link between a reduction in banks’ refinancing costs, targeting one asset class in particular (corporate loans), and an increase in the supply of credit to SMEs, without any distortions towards extremely high-risk borrowers.

The limitation of our approach is that the identified effects are always relative effects, compared to a control group. Quantifying the overall macroeconomic effect of the measure is therefore impossible in this context.

Our conclusions call for paying particular attention to single-bank companies, which have so far not or hardly been studied. These companies are more financially constrained in times of crisis, and have particularly benefited from this measure. They clearly show the importance for policymakers of understanding the constraints under which funding decisions are made. In a context of unlimited supply of fixed-rate central bank liquidity, the available collateral determines banks’ borrowing capacity. Without the expansion of the collateral framework to additional credit claims, a number of companies would not have benefited from these liquidity injections.

References

Acharya (V. V.) and Steffen (S.) (2015)

“The ‘greatest’ carry trade ever? Understanding eurozone bank risks”, *Journal of Financial Economics*, Vol. 115, No. 2, pp. 215-236.

Bignon (V.), Boissay (F.), Cahn (C.) and Harpedanne de Belleville (L.-M.) (2016)

“Extended eligibility of credit claims for Eurosystem refinancing: consequences for the supply of credit to companies”, *Quarterly Selection of Articles/Banque de France Bulletin*, No. 43, Autumn 2016, pp. 15-23.

Boissay (F.) and Gropp (R.) (2013)

“Payment defaults and interfirm liquidity provision”, *Review of Finance*, Vol. 17, No. 6, pp. 1853-1894.

Cahn (C.), Duquerroy (A.) and Mullins (W.) (2017)

“Unconventional monetary policy and bank lending relationships”, *Banque de France Working Paper*, No. 659.

Degryse (H.), De Jonghe (O.), Jakovljevic (S.), Mulier (K.) and Schepens (G.) (2016)

“The impact of bank shocks on firm-level outcomes and bank risk-taking”, working paper.

Khwaja (A. I.) and Mian (A.) (2008)

“Tracing the impact of bank liquidity shocks: Evidence from an emerging market”, *American Economic Review*, Vol. 98, No. 4, pp. 1413-1442.

Mésonnier (J.-S.), O'Donnell (C.) and Toutain (O.) (2017)

“The interest of being eligible”, *Banque de France Working Paper*, No. 636.

Paravisini (D.), Rappoport (V.) and Schnabl (P.) (2015)

“Specialization in bank lending: evidence from exporting firms”, *NBER Working Paper*, No. 21800.

Van Bakkum (S.), Gabarro (M.) and Irani (R. M.) (2017)

“Does a larger menu increase appetite? Collateral eligibility and bank risk-taking”, working paper.

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