

**Panel Discussion: “The Real Effects of Disrupted Credit:
Evidence from the Global Financial Crisis”**

Per Jacobsson Lecture by Ben S. Bernanke

BIS, Sunday, 24 June 2018

Remarks by Ignazio Visco, Governor, Bank of Italy

I am very pleased to be here today to discuss the economic effects of credit crunches with such a distinguished group of colleagues and friends following Ben Bernanke’s insightful lecture.

The time is ripe to draw some policy lessons about the exceptional wave of turbulence that has hit credit markets in the last decade. I shall do so from a European angle. The European banking system has endured two major crises in the past decade: the Global Financial Crisis (GFC) and the Sovereign Debt Crisis (SDC). The former was mostly imported from the United States and it hit European banks through their exposure to toxic assets and the freeze of wholesale funding markets. The latter originated within the euro area and was due to a loss of confidence in the sustainability of public debts and, ultimately, to the risk of a break-up of the monetary union.

In my remarks I will focus on the negative side of Ben’s financial accelerator, that is, on the fact that in stressed periods banks may not be able to supply loans to businesses and consumers and this may aggravate the economic fall-out from the crisis, triggering a downward negative spiral between credit availability and domestic demand.¹ I would like to make six main points.

* * *

I wish to thank Margherita Bottero, Lorenzo Burlon and Giuseppe Grande for their help in assembling the evidence discussed in this note.

¹ See Ben’s work on non-monetary effects in the propagation of the Great Depression (Bernanke, 1983).

1. Credit crunches do matter and may arise in many contexts

The first lesson is that credit crunches do matter and that they may arise in many contexts.

Credit supply reacts negatively to adverse shocks generated in the real or the financial sector, amplifying the decrease in real activity; the ensuing contraction in credit demand and the deterioration in credit quality puts further pressure on banks' balance sheets and reinforces financial strains, creating a vicious circle.

The experience of the euro area since 2007 offers a painful vantage point from which to appreciate the extent of this downward loop, which partly explained the fall in GDP during both the GFC and the SDC.

The GFC spread over Europe in two forms: a real shock, due to the collapse of world trade and the surge in uncertainty, and a purely financial shock, via exposure to toxic assets and the freeze of wholesale bank funding markets. Both channels affected bank lending standards in the euro area (Figure 1). During the GFC most of the tightening of credit conditions was connected with banks' assessment of borrowers' credit risk, probably owing to the real shock. However, another factor was banks' greater funding costs and other balance sheet constraints. The case of Italy is enlightening. First, since the worse international outlook accounted for roughly three quarters of Italy's economic slump, the contraction in credit lines to firms came mainly from the deterioration in borrowers' creditworthiness.² Second, Italy's financial institutions were not exposed to toxic assets, so balance sheet constraints were less of an issue than in the rest of the euro area. Yet, financial shocks did matter, too: as bank surveys also signalled, the GFC caused a freeze in the interbank market that weakened banks' funding conditions, leading to a contraction in credit lines to firms.³ The consequent worsening of firms' financing opportunities discouraged their investment plans, thus affecting credit demand and activating the financial accelerator. The Bank of Italy's estimates put the reduction in investment expenditure by firms in Italy due exclusively to this channel at over 20%.⁴

² For a quantitative assessment of the macroeconomic impact of the GFC on Italy, see Caivano, Rodano, Siviero (2010).

³ Gaiotti (2013).

⁴ Cingano, Manaresi, Sette (2016).

Compared with the GFC, the SDC was triggered by different shocks. It stemmed from growing concerns about country-specific structural weaknesses, aggravated by the recent GFC, and became systemic because of growing concerns about the solidity of the monetary union, which led financial market participants to price in redenomination risk. The increase in sovereign spreads worsened funding conditions for all domestic borrowers, from banks to non-financial corporations and households. Following, moreover, the increase in uncertainty, the loss of confidence and the necessary fiscal consolidation as well, consumption and investment diminished.⁵ This re-activated the financial accelerator.⁶ Unlike the GFC, the tightening of banks' lending standards was to a larger extent due to the deterioration in their funding conditions rather than to the rise in borrowers' credit risk.

2. The nexus between the solvency of banks and that of the domestic sovereign goes beyond banks' mere holdings of government bonds

This leads me to the second lesson, which concerns the sovereign-banks nexus. In a sovereign debt crisis the holdings of government bonds backfire directly onto banks' valuations, but there are other indirect channels that characterize the two-way relationship between banks and State.

A cursory look at banks' balance sheets reveals that up to the failure of Lehman Brothers in September 2008 euro-area banks had been steadily reducing their holdings of government bonds.⁷ That share then increased during the prolonged period of financial instability running from late 2008 to early 2013. Since then, in most euro-area countries banks' government bond holdings have edged down again. Thus, the increase in banks' holdings of government bonds during the crisis was mainly a consequence, rather than a cause, of the crisis (Figure 2).

The SDC worsened the general macroeconomic outlook and this put banks under severe strain. For this reason, as I have pointed out in the past, the nexus

⁵ For the impact of sovereign risk on banks' funding conditions, see CGFS (2011). For the effects of the SDC on the Italian economy, see Buseti and Cova (2013).

⁶ Rodano, Siviero, Visco (2013).

⁷ See, e.g., Angelini and Grande (2014).

between banks and sovereign goes beyond the direct holdings of sovereign bonds.⁸ Accordingly, it has to be tackled by reinforcing investors' confidence in the solidity of the public finances, the growth prospects of the country and the stability of the banking system.

As an aside, I would say that the increase in banks' sovereign exposure observed during the crisis should not necessarily be regarded as problematic.⁹ In the face of greater funding risks, banks need to hold more liquid assets. Moreover, in stressed periods banks could have an incentive to act as shock absorbers or contrarian investors on the domestic government bond market for a number of reasons. Specifically, they may want to dampen unwarranted changes in government bond prices, as the latter feed through to the prices of all other domestic assets. Compared with foreign players, they may have a better understanding of political and economic developments in their own country. They know that they are closely intertwined with their sovereign through funding conditions, the macroeconomic environment and other indirect channels, so that if their sovereign runs into trouble, they will probably run into trouble as well, no matter how many domestic government bonds they hold.

3. The structure of the financial system does matter

My third point concerns the importance that firms rely upon a well-diversified system of funding sources. The two crises propagated differently across countries depending not only on macroeconomic conditions but also on the structure of the financial system. There is evidence that, during recessions, economies with market-based financial systems recover more quickly than those that rely mainly on banks.¹⁰ This is especially true if the recession goes hand in hand with a financial crisis. More diversified financial systems also matter for growth, as they expand the financing tools available to borrowers and improve investors' portfolio choices and risk management techniques.

⁸ Visco (2016).

⁹ Lanotte and Tommasino (2018).

¹⁰ See, e.g., Allard and Blavy (2011).

Greater resilience is also likely to come with higher solvency. This suggests that not only does diversification insulate firms from credit crunches, it also benefits banks, to the extent that it leads to lower credit risk and lower non-performing loans (NPLs), and the whole system as well, as healthier banks are more likely to provide credit.

In general, market-based finance is more prominent in the United States than in Europe and, within Europe, in the UK and France (Figure 3). Over the last ten years, however, the funding structure of the non-financial corporate sector in the advanced economies has changed significantly. Partly as a result of the weakening of bank lending observed during the two crises, there has been a generalized increase both in equity as a share of total liabilities and in debt securities as a share of total debt. The greater role of equity and bond financing in Europe is a welcome development. Nevertheless, important differences continue to be observed across countries and across firms of different sizes, as small and medium-sized firms are still heavily dependent on bank credit. Improving access to capital markets for all firms, regardless of their size, is an objective to aim for in the near future with appropriate structural policies, including the capital markets union programme.

4. There is no automatic connection between well-provisioned NPLs, the supply of credit and resource misallocation

My fourth point is about the relationship between ailing firms, non-performing loans and credit supply.

Two deep recessions in the space of a few years have naturally increased the number of ailing firms, bringing about a sharp rise in the share of non-performing loans. Italy's experience is fairly instructive in this respect: the ratio of new bad debts to outstanding loans to non-financial firms almost tripled during the GFC and then continued to grow, peaking during the SDC.

Against this background, a first concern is that of credit misallocation, which arises if banks continue to lend to weak firms in order to delay recognizing losses on their credit portfolios. Studies carried out for Italy have shown that some misallocation did take place during the crises, but it involved predominantly small

and less capitalized banks and it had negligible effects on the growth of healthier firms and total factor productivity dispersion.¹¹

A second concern is that high NPLs hamper banks' ability to supply credit to the economy (Figure 4). Certainly, the emergence of new NPLs has negative effects on banks' ability to lend, but these are mostly indirect, via a higher cost of funding, lower profitability and eroded capital.¹² However, this does not imply that stocks also play a role. There is no clear empirical evidence – or theoretical support – that a high stock of NPLs per se directly reduces banks' ability to lend. Furthermore, a fair share of NPLs granted to ailing (but not yet bankrupt) firms return to performing status after a while.¹³

Thus, while the negative effects of NPLs on capital and profitability justify the current policy action in favour of NPL reduction, forcing banks to dispose quickly of such positions could be counterproductive. Large disposals of NPLs at market prices that are much lower than book values would generate losses sizeable enough to offset the benefits to the bank in terms of improved asset quality. Ultimately, blanket disposals could hamper banks' ability to lend, with negative spill-overs on the overall economy.

5. Financial integration is a key aspect of functioning credit markets

The fifth lesson is about the importance of fostering economic and financial integration.

Another particular feature of the bank lending crunch in the euro area was the considerable increase in financial fragmentation across countries (Figure 5), which contributed to the reduction in economic activity and posed a substantial challenge to the correct transmission of the monetary stimulus. The institutional set-up of the monetary union was caught off guard and fell short of the needs generated by the two financial crises, compounding the centrifugal forces arising from deteriorating

¹¹ See Albertazzi and Marchetti (2010) and Schivardi, Sette, Tabellini (2017).

¹² See Accornero, Alessandri, Carpinelli, Sorrentino (2017) and Angelini (2018).

¹³ See Ciocchetta, Conti, De Luca, Guida, Rendina, Santini (2017).

economic fundamentals. It is thus of key importance that we continue boldly to support and reinforce the process of financial integration.

On a brighter note, the experience of the SDC has proved that global financial integration can be an effective shock absorber. It has now been documented that foreign banks can act as stabilizers in credit markets that are under stress.¹⁴ In a way, foreign intermediation can be viewed as a global insurance scheme that swiftly takes liquidity where it is most needed. Naturally, we have to ensure that these dynamics do not bring instability, which we can and should do through regulation. Yet, when integration is properly regulated, its benefits largely exceed its costs.

6. Central banks have used many tools to support credit supply, including credit easing

The sixth and last lesson that I draw is that we now have a better understanding of how to avert or mitigate credit crunches.

The response of the ECB was swift, and it extended well beyond the trough of the crises to accompany the recovery and accomplish its price stability mandate. A number of extraordinary measures were put in place almost simultaneously: two waves of TLTROs were implemented, key interest rates were taken into negative territory and steered ahead through forward guidance, and the APP was launched (Figure 6).

The TLTROs were designed to provide banks with funds “targeted” to expand credit to firms and consumers.¹⁵ With about €760 billion allocated, the initiative, which ended in March 2017, witnessed ample participation and was pretty successful: the rates on loans to non-financial corporations declined markedly and stayed low; in addition, a positive impact can be detected on volumes of business

¹⁴ See De Haas and van Horen (2013) and, for Italian banks during the sovereign debt crisis, Bofondi, Carpinelli, Sette (2018).

¹⁵ The funds are “targeted” as the amount that banks can borrow and, for the TLTRO II, the interest rate to be applied are linked to their loans to non-financial corporations and households (except loans to households for house purchases).

as well.¹⁶ Evidence drawn from the euro-area Bank Lending Survey confirms these conclusions, which are also corroborated by a recent empirical study carried out at the Bank of Italy, documenting that banks participating in TLTROs apply an interest rate to the same firm 20 basis points lower than non-participating Italian banks.¹⁷

Research on the other measures is still ongoing, but the available evidence suggests that their effects have been largely positive.¹⁸

All in all, today we can say that the ECB's intervention has also been effective. This has also been acknowledged by euro-area financial intermediaries, which, in their answers to the euro-area Bank Lending Survey, reported a direct positive impact of these measures on both volumes of business and the costs applied to borrowers.

* * *

Summing up, my main focus has been the real effects of the disruption of credit markets in the euro area and related policy lessons.

The overall impact of credit disruption on the real economy is the result of a hardly discernible *ex ante*, yet vicious *ex post*, loop between bank lending and the real sector in difficult times. In fact, a contraction in credit supply can leave the real sector in a state of vulnerability that may in turn have adverse effects on the financial sector. This harmful negative feedback takes place in a variety of forms, in terms of weakness of borrowers' demand for credit, circumspection of investment plans and the general uncertainty that keeps all economic actors, including banks, from "acting normally". This situation, especially if prolonged, weakens banks' balance sheets and reduces their resilience to unexpected events, which may result in a second round of credit restrictions.

¹⁶ ECB (2017).

¹⁷ See Benetton and Fantino (2018).

¹⁸ For the case of negative interest rates, see Bottero, Minoiu, Peydró, Polo, Presbitero, Sette (2018). For the impact of the asset purchase programme, see, e.g., Altavilla, Canova, Ciccarelli (2016) and Burlon, Gerali, Notarpietro, Pisani (2017).

Looking at the experience of the euro area, both the GFC and the SDC have demonstrated the importance of these feedback effects from the real economy to the financial system: the last decade has arguably seen these feedbacks turned into a “fact” to be confronted rather than a “possibility”, and hence into a key challenge for policy action. It is of vital importance that the strengthening of the financial sector does not create negative spin-offs for growth: if it does, it risks taking both the financial and the real economy farther from, rather than closer to, a full recovery.

On a brighter note, we have learnt a lesson during these years, and today we stand better prepared to withstand future, unavoidable turbulences. The unconventional policy measures that we have deployed in this decade are now part of the central banks’ “emergency” toolkit. Some of them, such as the TLTROs, are there to be re-activated in times of need while others, such as forward guidance, will accompany us in our daily conduct of monetary policy.

References

- Accornero, M., P. Alessandri, L. Carpinelli, A. M. Sorrentino (2017) “Non-performing loans and the supply of bank credit: evidence from Italy”, Bank of Italy Occasional Papers, No. 374.
- Albertazzi, U., D. J. Marchetti (2010) “Credit supply, flight to quality and evergreening: an analysis of bank-firm relationships after Lehman”, Bank of Italy Working Papers, No. 756.
- Allard, J., R. Blavy (2011) “Market phoenixes and banking ducks: are recoveries faster in market-based financial systems?”, IMF Working Papers, No. 11/213.
- Altavilla, C., F. Canova, M. Ciccarelli (2016) “Mending the broken link: heterogeneous bank lending and monetary policy pass-through”, ECB Working Paper Series, No. 1978.
- Angelini, P., G. Grande (2014) “How to loosen the banks-sovereign nexus”, VOX - CEPR Policy Portal, 8 April 2014.
- Angelini, P. (2018) “Do high levels of NPLs impair banks’ credit allocation?”, Bank of Italy, Notes on Financial Stability and Supervision, No. 11.
- Benetton, M., D. Fantino (2018) “Competition and the pass-through of unconventional monetary policy: evidence from TLTROs”, mimeo.
- Bernanke, B. S. (1983) “Nonmonetary effects of the financial crisis in the propagation of the Great Depression”, *American Economic Review*, 73, 3, pp. 257-276.
- Bofondi, M., L. Carpinelli, E. Sette (2018) “Credit supply during a sovereign debt crisis”, *Journal of the European Economic Association*, 16, 3, pp. 696–729.
- Bottero, M., C. Minoiu, J. L. Peydró, A. Polo, A. F. Presbitero, E. Sette (2018) “Negative policy rates and bank asset allocation: evidence from the Italian credit and security registers”, mimeo.
- Burlon, L., A. Gerali, A. Notarpietro, M. Pisani (2017) “Macroeconomic effectiveness of non-standard monetary policy and early exit. A model-based evaluation”, *International Finance*, 20, pp. 155-173.
- Busetti, F., P. Cova (2013) “The macroeconomic impact of the sovereign debt crisis: a counterfactual analysis for the Italian economy”, Bank of Italy Occasional Papers, No. 201.
- Caivano, M., L. Rodano, S. Siviero (2010) “The transmission of the global financial crisis to the Italian economy. A counterfactual analysis, 2008-2010”, Bank of Italy Occasional Papers, No. 64.
- CGFS, Committee on the Global Financial System (2011) “The impact of sovereign credit risk on bank funding conditions”, CGFS Papers No. 43.

Cingano, F., F. Manaresi, E. Sette (2016) “Does credit crunch investment down? New evidence on the real effects of the bank-lending channel”, *The Review of Financial Studies*, 29, 10, pp. 2737-2773.

Ciocchetta, F., F. M. Conti, R. De Luca, I. Guida, A. Rendina, G. Santini (2017) “Bad loan recovery rates”, Bank of Italy, Notes on Financial Stability and Supervision, No. 7.

De Haas, R., N. van Horen (2013) “Running for the exit? International bank lending during a financial crisis”, *Review of Financial Studies*, 26, 1, pp- 244-285.

ECB (2017) “The targeted longer-term refinancing operations: an overview of the take-up and their impact on bank intermediation”, ECB Economic Bulletin, Issue 3 / 2017, Box 5.

Gaiotti, E. (2013) “Credit availability and investment: lessons from the ‘great recession’”, *European Economic Review*, 59, pp. 212-227.

Lanotte, M., P. Tommasino (2018) “Recent developments in the regulatory treatment of sovereign exposures”, VOX - CEPR Policy Portal, 5 February.

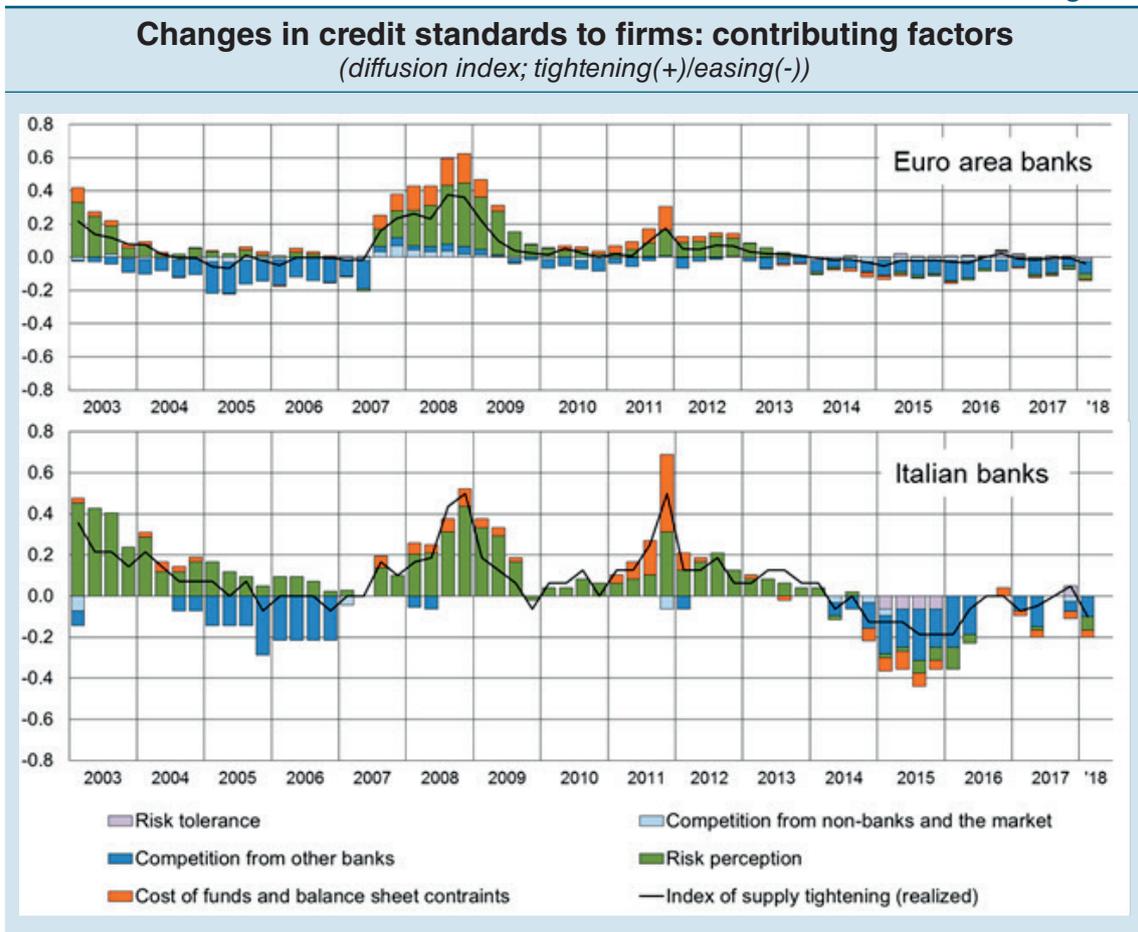
Rodano, L., S. Siviero, and I. Visco (2013) “Inversioni cicliche e previsioni macroeconomiche: racconto di due recessioni”, in Bardazzi, R. (ed.), *Economic multisectoral modelling between past and future: a tribute to Maurizio Grassini and a selection of his writings*, pp. 229-247, Firenze University Press, 2013.

Schivardi, F., E. Sette, G. Tabellini (2017) “Credit misallocation during the European financial crisis”, CEPR Discussion Paper, No. 11901.

Visco, I. (2016) “Banks’ Sovereign Exposures and the Feedback Loop Between Banks and Their Sovereigns”, speech at the “Euro50 Group - the Future of European Government Bonds Markets” conference, 2 May.

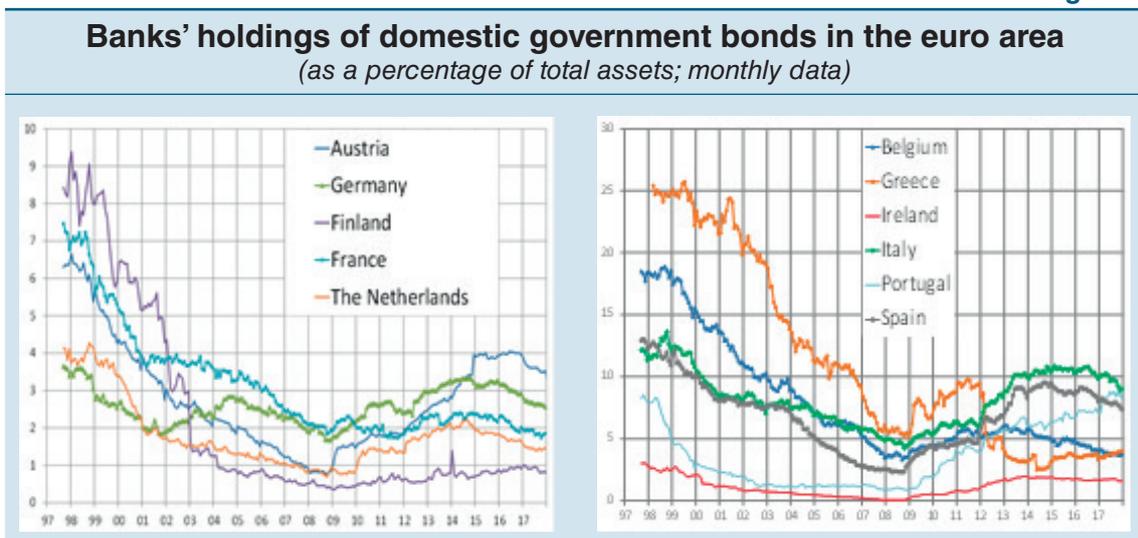
FIGURES

Figure 1



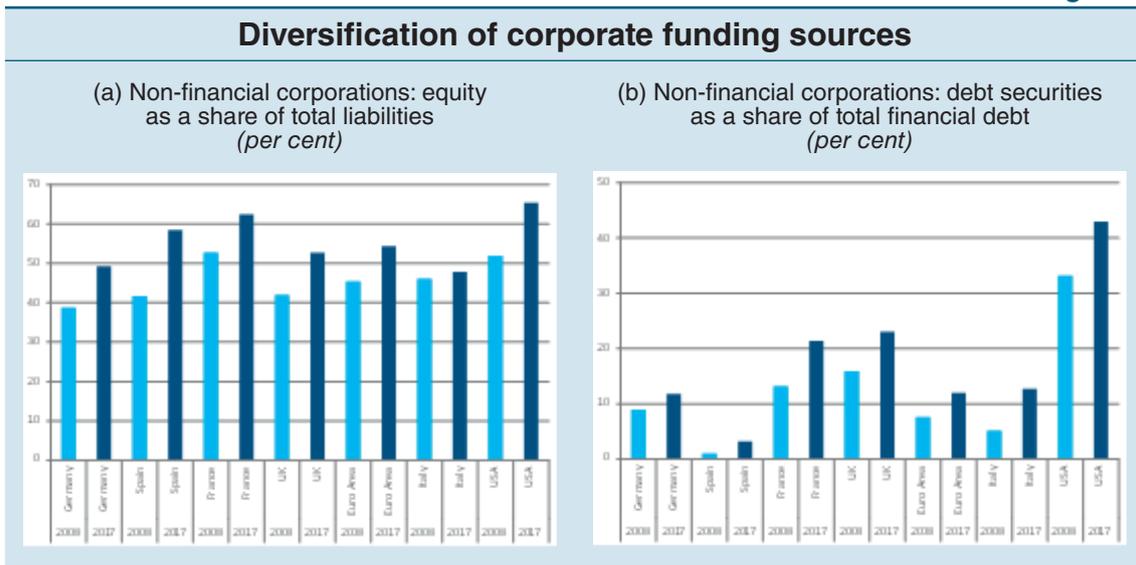
Source: ECB (Bank Lending Survey) and Bank of Italy calculations.

Figure 2



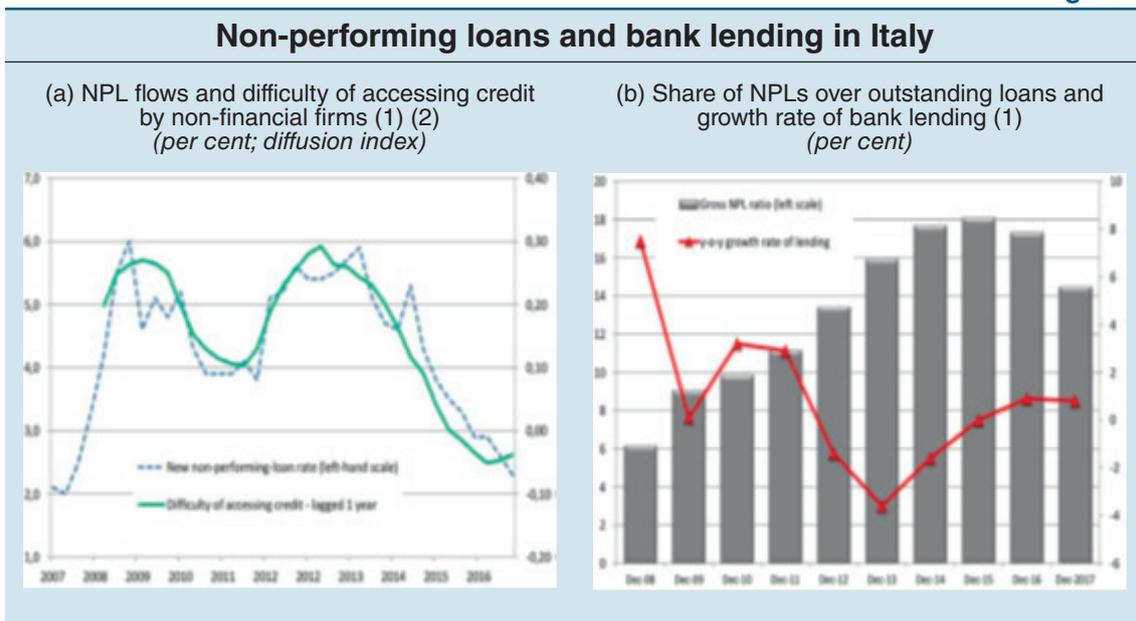
Source: based on Eurosystem data.

Figure 3



Source: Eurostat and Federal Reserve System data and Bank of Italy calculations.

Figure 4

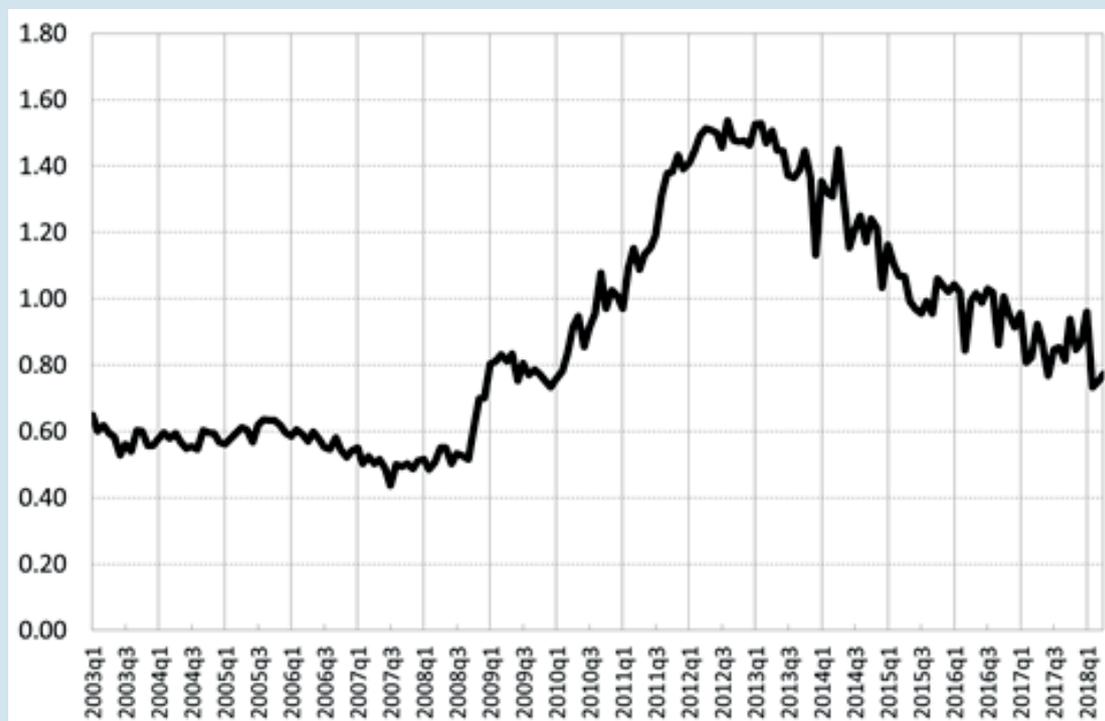


Source: Angelini (2018)

(1) Data for 2017 are provisional. – (2) The indicator of difficulty of accessing bank credit is taken from ISTAT.

Figure 5

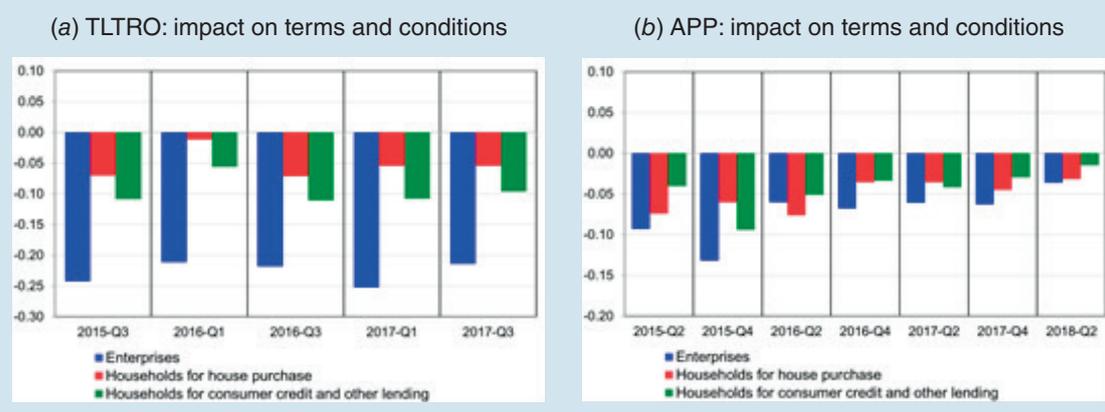
Cross-country dispersion of the cost of loans to non-financial corporations in the euro area
(diffusion index; tightening(+)/easing(-))



Source: ECB. The cost of loans is the ECB composite cost-of-borrowing indicators, based on MFI interest rate statistics. Dispersion is computed as the standard deviation of the average interest rates for 12 euro-area countries.

Figure 6

Euro-area banks' perceived impact of ECB measures on bank lending
(diffusion index; tightening(+)/easing(-))



Source: ECB (Bank Lending Survey) and Bank of Italy calculations. Credit terms and conditions refer to the conditions of a loan that a bank is willing to grant. They generally consist of the agreed spread over the relevant reference rate, the size of the loan, the access conditions and other terms and conditions in the form of non-interest rate charges (i.e. fees), collateral or guarantees which the respective borrower needs to provide (including compensating balances), loan covenants and the agreed loan maturity.

