

Is special treatment for SMEs warranted?

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1. Why do we care?

Why do policy makers, the general public, business concerns and (less so) economists care so much about SMEs? Because SMEs account for a large share of employment and GDP in all economies, emerging or mature. Because all great things start small.

These two arguments are crucial and they should somehow be considered separately. Indeed, the first perspective is static, it is about the existence and the survival of a large share of the domestic economy in all countries. More than 99% of all firms in the European Union are SMEs, and this ratio is stable across all countries. They account for the large majority of employment, with an average share of 66.9% for the EU 28 countries and peaks of up to 79.6% for Italy and 73.1% in Spain (Figure 1 in the Numbers section). Most of these firms are in services and construction, with manufacturing accounting for around 20% in all EU countries. As a consequence of their aggregate size, SMEs account also for a very large share of banks' balance sheet to the corporate sector. As reported in Figure 6 in the number section, new loans to SMEs were around 27% of new loans to non-financial corporations in the Euro area, with peaks at around 40% for Italy and Spain.

The second perspective is instead dynamic, it is about favoring the reallocation of resources towards fast growing entities. Start-up firms plus fast-growing

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young firms historically have accounted for about 70 percent of gross U.S. job creation annually.² If most large firms start small, not all firms become large. As reported by DeYoung in this issue, about 50% of private firms born in the U.S. in 2009, and about 30% of U.S. firms that were already five-years old in 2009, had exited the market by 2014 (U.S. Bureau of Labor and Statistics 2015).

Hence, whether we consider smallness as a persistent or a transient state of affairs, the implications for financial markets and policy makers are quite different.

From the perspective of finance, the keyword is market failure. Whatever perspective is taken, the static or the dynamic one, if markets were functioning adequately we would not have an SMEs issue. Yet, as extensively discussed in most contributions to this issue, asymmetric information between financial institutions and firms restricts financing opportunities and the matching between demand and supply. Consequently, there is a clash between the real and perceived economic and social urgency of nurturing, fostering and supporting SMEs and the ability of markets to do so. In this issue we discuss extensively and put forward proposals and best practices. Outcomes are imperfect and there are large margins for improvement. But no all encompassing optimal solutions exist.

The aim of this issue of European Economy is to uncover how and under what conditions financing SMEs can achieve adequate levels of selectivity through market and non-market solutions. SMEs have no right to survive at all cost because they are such. Solving market failures, precisely means finding ways for being efficiently selective. This is the key message emerging from most contributions to this issue.

Also, we will draw a dividing line between the cyclical and the structural component of the argument. It is certainly true that SMEs became especially topical in the long years of the financial plus sovereign crisis. Even though the lending cycle was smoother for SMEs than for large corporates (Figures 4 and 5 in the Number section), several indicators show a higher level of distress for these companies, particularly at the peak of the financial crises: faster decline in profitability (Figure 16 in the Numbers section), a higher share of non-performing loans over total loans (Figure 14) and an increased number of these firms declaring a funding gap between their needs and the actual availability of funds (Figure 12).

2. According to estimates by Haltiwanger (2014), see DeYoung in this issue.

The policy reaction to this shortfall was massive. Besides for bailing out financial institutions in distress many measures were targeted to supporting SMEs. Capital requirements for lending to SMEs through the so called “supporting factor” were lowered in the European Union. Many European Governments and finally the European Union through the SMEs initiatives set up funds entirely or partially financed with taxpayers money directly investing in SMEs or providing credit guarantees. Finally, several liquidity windows set up by the Eurosystem and other Central Banks increased the viability of the packaging and securitization of loans to SMEs.

All these instruments are still in place, nurturing and supporting the economic recovery of the European Union and several other countries. The key question is whether these tools should still be in place once recovery has fully stabilized. Are in other words the market imperfections that have justified these measures during the crisis structural and still relevant in a better phase of the cycle? Or should they gradually be phased out towards a return to SMEs lending at market conditions? As we will argue below, the final objective of any action for SMEs support should be the restoration of a vibrant market for SMEs lending where the distribution of risks is efficiently dealt with by the market. For this reason several contributions in this issue of European Economy and this editorial discuss how the boundary between market and government based lending to SMEs can be pushed towards expanding the role of market based instruments, especially in good times.

However, it is also clear that many measures implemented during the crisis have a structural component, or should be assessed with reference to the overall evolution of the economic policy and the regulatory framework. As for public guarantees, for example, several contributions to this issue define benchmark conditions for these measures to be sustainable over time, and create financial additionality (i.e., provide credits that would have not been provided otherwise), as well as economic additionality (that is, job creation and value added that the market would fail to generate) with very low risks for the taxpayers’ money used as a collateral.

As for the supporting factor, which is related to the regulation on capital requirements, this measure plays a crucial role during the negative phases of the economic cycle. But this measure also rebalances the structural tendency to strengthen prudential barriers to bank lending, which has an especially

severe impact on SMEs lending. The very introduction of this capital discount as an exception to the structural review and evolution of the regulatory framework, indicates that the real issue that should be under discussion is the revision of the overall regulatory framework itself, i.e the rule, rather than the supporting factor, i.e. the exception to the rule. Hence, for Small Business Lending, it is really imperative to clearly identify the trade-off between risk reduction and the expansion of loans, a question analysed in general in the first issue of *European Economy*. This type of lending is at the same time very risky and highly sensitive to capital requirements.

Finally, many contributions point out that there can possible options for strengthening the role of the market in SME financing: reducing the barriers to entry to the equity market; expanding options and reducing regulatory constraints to 'securitization'; improving and expanding venture capital markets; developing other, new alternative instruments and crowdfunding.

The fundamental point, however, is that these markets can be effectively expanded only if the information problem is significantly improved, or, in other words, if information asymmetries between firms and lenders are reduced. Several contributions to this issue examine how to move in this direction. In reality, the critical and crucial step is to encourage SMEs' attitude towards transparency. Only those firms willing to clearly disclose their numbers and business conditions will have in fact access to advanced forms of financing.

Still, since a complete transparency is unlikely to be achieved, and given that for smaller, and less dynamic firms this transition to transparency generally implies high costs, traditional banking loans will continue to play a key role for SMEs. Hence, in this context, long-term relationships based on qualitative, and non-standardized information will remain the most effective lending 'technology', that no financial innovation has yet been able to replace.

In what follows we will first discuss market failures affecting SMEs structurally and during cycles. Second, we will examine how market based solutions can compensate these market failures and which policies may support them. Finally, we will discuss policies, and particularly the question of capital requirements and the extension of public guarantees to support SMEs. Particularly in the last two sections we will focus on best practices and we will push forward proposals distilled from the contributions to the *Journal*.

2. Why special treatment? Identifying market failures.

Why do we think we need more, possibly fast growing SMEs than what we actually have in market economies? And why is there a special issue concerning SMEs financing? The reason is that we believe that markets do not function well when it comes to these small firms. In particular, there is a general consensus that SMEs are associated with specific market failures. These market failures justify targeted policy interventions.

First, SMEs' market for one essential input, financial capital, is distorted by *informational issues*, more than for large enterprises. *Second*, SMEs generate *external benefits on economy-wide efficiency*, for example in terms of external spillovers. In this respect, having fewer and smaller SMEs than what is efficient may negatively reverberate on other dimensions. If SMEs are more labor intensive than large firms (as often claimed, although with mixed empirical evidence), an expansion of this type of firms could guarantee increased employment. Moreover, if SMEs are more innovative than large firms (again a highly debated matter), the inefficient outcome is "multiplied" by a loss of dynamic efficiency and missed growth.

The presence of these two market failures (informational issues and externalities) implies that the size and the number of SMEs tend to be not optimal, with respect to what would be an efficient market organization. Yet, one should be cautious to conclude that the two market failures necessarily imply that there are too few SMEs and that these are necessarily too small.

For example, the fact that SMEs employ proportionally more labor than larger firms may be the consequence of the distortions previously mentioned on another important input, capital. In this case, a policy favoring SMEs to sustain employment may turn out to be even more distortionary, not targeting the heart of the issue. Or perhaps SMEs are not too few but too many, if they are unable to grow and exit from the SME status. Hence these failures do not justify loosening a highly selective approach to the SMEs question.

A key question that we want to address here is how these failures affect the provision of funding. Why do SMEs face more adverse credit conditions than larger firms? Why does size matter in the determination of the availability and the cost of credit?

The initial step is understanding the technology of lending and associated possible costs of bankruptcy (see the extensive treatment of this issue by

DeYoung and by Udell, both in this issues). Providing loans requires appraising borrowers, monitoring them, and other activities implying considerable per-loan fixed costs, i.e. independent of the size of the loan. A simple and immediate consequence of this cost is that, if lending rates reflects banks' cost structure, banks tend to charge higher interest rates for small loans than for large loans. Figure 8 in the Numbers section shows clearly that on average small firms pay 50 to 100 basis points more for loans in all the main European countries. This difference can rise to up to 250-300 basis points during serious market distress.

Bernanke and Gertler (1989) have also suggested that when bankruptcy costs faced by a bank (dealing with the bankruptcy of a debtor) are significant, firms with low equity, such as SMEs, will be (more) credit constrained (than firm with more equity). The reason for this failure of the Modigliani-Miller Theorem is that a highly leveraged firm faces a higher probability of bankruptcy due to more severe difficulty in servicing debt (for example when facing unexpected negative product demand shocks), so that banks require higher interest rates to more leveraged firms. Firms in turn react borrowing less than it would be required for the optimal size of their projects of investment. Fixed costs and bankruptcy costs imply that SMEs, when they have low equity, will face higher interest rates *ceteris-paribus*. Even though in recent years the capitalization of small firms has improved, and it is even higher than for large firms, this might partly reflect the reduction of the availability of credit during the crisis (see Figures 8 to 10 in the Numbers section). In general terms, the issue of the limited access of SMEs to the market for equity remains a serious impediment to their expansion.

Typically, entrepreneurs are endowed with different projects characterized by different levels of risks, the potential of which they know much better than potential lenders. The consequent inability of banks to carry out an adequate risk assessment of entrepreneurs and their projects and the consequent increase in interest rates generate a typical adverse selection problem. Safer borrowers refrain from borrowing. Rising interest rates will first increase banks' profits (when the price effect prevails), but then, as interests keep rising, profits decline because of growing impairment provisions facing non-performing loans. Hence, banks might prefer to cap interest rates and withhold loans: entrepreneurs with good and safe projects are left with too little or no borrowing.³

3. Stiglitz and Weiss (1981) provided a neat explanation of the specific issue of adverse selection.

This problem, of course, applies both to large and small borrowers and per-se cannot be an explanation of limited access to credit specific for SMEs. The presence of fixed costs in the lending activity now adds a special twist, together with asymmetric information, that works against SMEs in particular. The higher interest rate required for small loans because of fixed costs, makes the adverse selection in the pool of SMEs borrowers even more likely than for large firms. Importantly, one should notice that the adverse selection in the pools of SMEs that are funded anyway implies that “many”, possibly too many, risky and inefficient small firms get financed, whereas deserving ones get excluded. In other words there is not just an issue of insufficient financial capital for SMEs but also an issue of an inefficient composition of the pool of *actual* borrowers. This argument is consistent with the evidence reported in Figure 14 in the Numbers section of this journal, that small firms have a much higher rate of non-performing loans than large ones.

On top of this it is also well accepted that SMEs are more opaque than large firms, so that the issue of asymmetric information is even more severe. Large firms are subject to more intense informational obligations (that could not be replicated to small firms, again for an issue of fixed costs and scale of activity) which allow banks to better assess and separate their risks. Younger firms, that tend to be smaller for obvious reasons, are even more opaque for banks because signals concerning profitability and riskiness need time to be accumulated, making adverse selection stronger for younger and thus smaller firms. As shown in Barba Navaretti et al (2014), these are also the fastest growing small firms.

The informational issues in lending does not uniquely refer to adverse selection as another source of problem affects the lender-borrower relationship, that of imperfect monitoring and consequent moral hazard.

In a highly leveraged firm, whatever its size, a larger share of the total expected gains in case of success go to the bank and relatively less in the hands of the entrepreneur.⁴ Thus, little equity and high leverage induce managing entrepreneurs exerting too little of their costly effort and firms less likely to repay their loans. This moral hazard issue is generated by the absence of observability or verifiability of the entrepreneur effort by banks who will thus react constraining the credit to small firms that have typically little equity.

4. Even though the return on equity will be higher.

On a similar vein, since a debtor has often the ability to capture some of the assets in the case of default, the entrepreneur of a highly leveraged firm faces higher incentives to default. Banks then react restraining credit and requiring larger collateral and equity. Again, small and young firms that are typically less capitalized and with limited collateral to provide, suffer more than larger firm from this credit constraint.

Summing up, **market failures can not only generate an inefficient amount of financing, but also a wrong allocation away from the most deserving borrowers.**

3. Why special treatment? Are SMEs especially exposed to negative cycles?

Loans to SMEs dropped significantly during the Global Financial Crisis (Figures 4 and 5 in the Numbers section), and financing conditions have become particularly severe in Europe as a consequence of the sovereign debt crisis, especially in the peripheral countries, although some signs of improvements have been seen starting in 2012 (Figure 6).

However, despite the strong effects of the financial crises, bank credit to SMEs remained much less cyclical than bank credit to larger firms. Even along the global financial crisis and the subsequent sovereign crisis, the drop in the value of new bank loans granted in the euro area was stronger for those above € 1 million than for those below that threshold, that are typically granted to smaller firms (Figures 4 and 5).

The reasons why banks smooth their credit supply across the business cycle, especially in the case of loans to borrowers that are more dependent on bank credit, such as SMEs, are indeed well understood. In a seminal paper published in 1994, Petersen and Rajan argue that small and opaque borrowers have an incentive to build a long-term lending relationship with banks, in order to reduce information asymmetry problems. Since lending relationships need time to be develop, once they are established they provide substantial market power, that banks can exploit by requiring higher than average interest rates. At the same time, to preserve the value of established lending relationships, banks have an incentive to guarantee stable credit supply, especially

in terms of quantities. Clearly, this is much less likely to happen in the case of large firms, that suffer less from problems of information asymmetries and can switch more easily across different funding products and providers, therefore limiting banks' market power. For this reason, bank credit to larger firms tends to be more cyclical than credit to SMEs.

From the point of view of SMEs, the ability of banks to smooth credit supply along the business cycle is certainly beneficial, even if it comes at the cost of higher average interest rates. The more so since SMEs depend for their external financing almost entirely on banks. From the point of view of banks, smoothing credit conditions across the business cycle clearly has a cost, but this is an activity in which banks have a strong comparative advantage with respect to other financial intermediaries, and that is rewarded by the higher average interest rates that are paid by on loans to smaller and more opaque firms.

However, the ability of banks to smooth credit supply across the business cycle clearly depends also on what the determinants of fluctuations are. Banks are in a much worse position to smooth fluctuations that are caused by shocks to the financial sector than to smooth shocks to the real economy. The global financial crisis and, even more, the European sovereign debt crisis are clear examples of cases in which the worsening of the business cycle was in large part caused by a drop in credit supply. Interestingly, also in this case bank credit to SMEs dropped less than that to larger firms (Figures 4 and 5). But since smaller firms are more dependent on bank financing, they suffered more from the credit crunch than larger corporations. From the point of view of banks this can indeed be a huge problem, since by cutting credit supply they may cause some of their borrowers to go bankrupt, thus amplifying the business cycle and creating the conditions for a worsening of their own loan portfolio. According to EBA (2015), at the end of 2014 the incidence of non-performing loans to total loans to SMEs in the European Union was 18.6%, exactly twice the ratio for loans to larger firms. Indeed, the evidence in Ferrando et al. (2015) confirms that European SMEs suffered a strong drop in credit supply during the crisis. Similarly, DeYoung (2015 and this issue) presents evidence that American SMEs suffered more than larger firms during the GFC.

In this case, **temporary policy interventions that help stopping this potential spiral may have relevant effect on aggregate welfare.** In fact,

the smother cycle of SMEs lending could probably partly be also explained by the massive increase in the use of public guarantees and other forms of direct support to SMEs during the crisis.

4. How to make the special case less special? Market solutions to the information issues

There are large margins for making markets more effective in funding SMEs and partly compensating market failures. The range of options goes from improving the information set on SMEs, to expanding markets for specialized finance and non-bank sources of funding, to strengthening mechanisms for risk spreading.

In our view **improving the information set is the key strategy for making SMEs lending more efficient and selective**. The principle that only firms able to provide qualified and certified information can have access to funding, i.e. I fund you only if you are transparent, should permeate the governance and the culture of SMEs in their relationship to potential funders (see Di Noia et al in this issue).

There are certainly margins for expanding the role of non-banks forms of funding, from specialized finance, to equity, to securitization. **This market space may expand both in the high and the low end of the financing business.**

The high end involves the access of SMEs in market segments generally conceived for large firms, through an evolution of the corporate culture and investments in providing broad and accurate information on their business conditions. At the same time it involves making this access easier and less costly through a reduction of the regulatory burden and administrative procedures. The same transparency and evolution of the business culture of SMEs is required for entering market segments targeted for innovative firms, like venture capital or start-up funding, where risks are very high and information limited by definition.

But there are margins of expansion also of the **low end of the market**, where the information process cannot be sorted out through an increase transparency. The lending technology (see Udell in this issue) here is either asset based, i.e. where funding is guaranteed through non opaque assets, the quality

and value of which is easily identifiable; or based on verifiable performance records as in crowdfunding; or based on sufficiently high interest, not capped by regulatory ceilings, and sufficient to compensate lenders against very high risks (see Mc Murray in this issue).

Even if there are margins for non-banking markets, based on different ways of sorting out the informational problem, we believe that **banks will remain dominant in funding SMEs**. In particular the opaqueness of SMEs make it difficult for funders to acquire a broader information set on borrowers than what can be acquired through a long term banking relationship, even if these information sets are highly improved and standardized. DeYoung in this issue, looking at the US market, strongly supports the use of relationship lending in funding SMEs. This may appear a 'back to the future' option, in contrast to the view of fully informed modern markets. **But the bottom line is that modern markets have not yet found technologies able to replace fully behavior based knowledge, as in relationship lending, with standardized information.**

Indeed, as it will be clear from the following discussion, different financing technologies and providers may address different market failures, albeit imperfectly. Yet, as far as market imperfection persists, market mechanisms based on fully transparent and standardized information will keep limping. We will discuss in section 5 the scope for public policy and state funding in this domain.

4.1 Increase transparency and improve the information set

One basic option which has to do with policy and regulation, is the aggregation of business registers at the European level, as suggested by Di Noia et al. (this issue). In addition to reducing the negative externalities associated with SMEs lending in equilibrium conditions these policies would also help attenuating the cyclical consequences of an exogenous shock on credit supply. Equally, business practices can themselves lead to improving the information framework, as far as provider of funds may ask for transparent information from SMEs like audited balance sheets. Of course there is a trade-off, in that the information burden certainly rises fixed costs for SMEs and might deter entry. All the same, this is an area where there are large margins for improvements.

Another way of producing standardized information is ratings, that in the case of SMEs is becoming more and more common, especially because they are in-

creasingly requested by banks. The technology for rating SMEs' debt is essentially the same as that of the credit-scoring techniques used by banks. The advantage of making these information available outside the perimeter of the bank is nonetheless that of making SMEs' financing less dependent on the conditions of bank credit supply, partly addressing the issue of cyclicity discussed above.

4.2 I know who you are: relationship vs transaction based lending

Information asymmetries, generating adverse selection and moral hazard, explain the importance of long term relationships between lenders and SME borrowers. Good entrepreneurs will prefer long relationships with banks, generating a large stock of shared information and mitigating informational asymmetries, because this allows them to be identified and treated differently from riskier entrepreneurs. These, instead, are more likely to rely on shorter relationships. Repeated interactions between a borrower and a lender may allow to (partially) reduce the risk of moral hazard because by shirking the entrepreneur now puts at risk the entire future profitability associated with the relationship with that particular lender. This (at least partially) explains why older firms face less credit constraints with their usual lenders.

Information had indeed been in the spot of economic research in the last decades and it has proven to be a very subtle and sophisticated ingredient of virtually any economic and financial transaction. Not only the lack of information generates the mentioned market failures, but information itself is difficult to handle as an input in the transaction/production process. In particular, two types of information are relevant, "hard" information that can be easily codified and interpreted in an unambiguous way such a credit score, and "soft" information that instead is characterized by subjective evaluation both in the transmission of information and in its interpretation, such as the "feeling" a banker may have concerning the credibility of a good borrower.

Since, as we have previously argued, information on SMEs tends to be opaque and there are fixed costs to generate "hard" information (which can be justified by the scale that SMEs lack), lending with SMEs tends to be more based on "soft" information and the associated form of "relationship-based lending". Larger firms are instead less opaque, are obliged to provide many different types of "hard" information and then they can be dealt with by banks more with transaction or arm's-length lending.

This simple but important observation (see Petersen and Rajan, 1994 and 1995; Berger and Udell, 1995; Stein, 2002, for early contributions) has deep consequences on the structure of the lending market for SMEs, as extensively discussed by DeYoung and Udell in this issue. Once a long term relationship between the banker and the local borrower is built on the premises of “soft” information, the cost of switching for the borrower can be very high because all the soft information will be lost even if the former banker is obliged to disclose the information to possible competing banks. Although verifiable credit history can be transferred (and public intervention may make this transfer compulsory), still some of the dimensions of bank relationship are based on non verifiable and soft information that cannot be easily transferred. Hence, the very same informational issues that induce credit constraints also constrain competition for lending to SMEs.

Relationship lending could also explain why the lending cycle has been more stable for SMEs than for large companies, as shown in section 3. DeYoung in this issue notes that “small business clients of commercial banks that are less dedicated to relationship lending bear the risk of being credit rationed during economic downturns”, while during the financial crisis, a small group of banks in the US that were using a relationship-based business lending model did not reduce but instead increased their credit supply.⁵

4.3 *Non-bank financing: from equity to shadow banking*

As already discussed above, SMEs are far from a uniform set of firms. As such, they can have very different opportunities to access non-bank financing, depending on their sector of economic activity and other idiosyncratic characteristics.

Venture capital specifically deals with the problem of information asymmetries for young and innovative firms with risky activities and potentially strong growth prospects. Typically, venture capitalists act as external shareholders that provide funding to entrepreneurs with limited financial resources. The activity is risky, due to the high default probability of young firms, but venture

5. Interestingly the evidence shows that relationship lending is not strictly the domain of small local banks but it is also relevant for banks with cross border operations, depending on how these operations are carried out. Hoffman and Sorensen (2015) and IMF (2015) stress that while banks with a higher incidence of wholesale cross-border funding reduced significantly their credit supply, the subsidiaries of foreign banks helped attenuating the credit crunch in host economies. If this is true, capital surcharges required to SIFIs should not be based on the value of their assets held through foreign subsidiaries.

capitalists have two levers to address the problem: they have sufficient knowledge of the business of the entrepreneur so as to be able to monitor efficiently its activities, thus overcoming most information problems; and they have a diversified portfolio, so that the large profits from successful projects compensate for the losses caused by the ones that default. As Udell emphasizes in this issue, it is the monitoring activity of venture capitalists that is rewarded with extra profits, as shown by the fact that the returns to limited partners, that only provide the funding, have not been significantly higher than the market return since the 1990s (Mulcahy, Weeks and Bradley 2012). However, even active venture capitalists can reap satisfactory rewards only if they can sell their participations once the firm is listed. A well-functioning venture capital market requires therefore skilled financiers, with an adequate knowledge of the business that they finance, and an efficient stock market, where prices of IPOs fully reflect the value of the firm that is going to be listed (Felix et al., 2013). In very few countries outside the United States both these characteristics are present at the same time, and indeed venture capital is not a common source of funding in Europe, with the only possible exception of the UK. Moreover, since venture capitalists profit from the success of a small number of firms that deliver extremely high returns, it can only be used to finance activities with high expected returns, typically in risky and innovative sectors, and not to provide funds to older and more stable SMEs.⁶

Equity has a crucial role in addressing information issues. Since SMEs are by and large unlisted corporations owned by a small number of individuals, often members of the same family, equity financing typically implies a nearly perfect control of the firm by part of the investors. Clearly, problems of limited information are in this case irrelevant. However, since families and their potential friends are unlikely to have unlimited resources to invest, profitable opportunities are frequently lost because of lack of financing. This is even more problematic in the case of young and innovative firms. Opening to external equity funding may in these cases be extremely difficult, due to agency problems among majority and minority shareholders, leaving debt financing as the only viable alternative.

6. An alternative source of equity financing often compared to venture capital is private equity. However, private equity is more often used to address agency problems between managers and shareholders, and typically suffers of the same problems in the cost of collecting information as all other forms of SMEs financing.

Indeed, at the beginning of the last decade, the share of equity financing over total liabilities of SMEs in the Euro area was lower than that of larger firms. However, this situation changed in recent years. This shows that SMEs are progressively finding ways to overcome information problems and find investors willing to share the entrepreneurial risk, partly helped by initiatives like stock markets dedicated to small firms and the diffusion of private equity funds.

Crowdfunding is a recent and innovative way of funding SMEs that may sustain the positive trend in the share of equity financing. As it is well explained by Udell and McMurray in this issue, crowd-funding is based on the use of internet platforms that allow entrepreneurs to tap small individual investors. A crucial advantage of this transactions-based technology is that it reduces significantly the fixed costs associated to other forms of arm's length external financing. However, only if the entrepreneur raises funds from within the network of its relationships, that are clearly better informed than the average potential financier on the nature of its project, or borrowers can be evaluated on the basis of their long term performance within the network, this technology can help overcome the information problems that are at the root of the difficulties of SMEs financing.

Commercial credit is one of the most largely used forms of debt financing for SMEs. They are a relationship based technology, since they are granted by the commercial partners of a firm, that typically have better information on its activities than the average financiers. However, precisely because commercial credits are granted by commercial partners, and also because they are related to specific transactions, like in the case of factoring, they are likely to be a substitute only for short-term working capital loans, and not for investment loans.

Shadow banking is also creating new market niches to address the strong need of SMEs for alternative sources of financing. As discussed by McMurray in this issue, specialized intermediaries that can require interest rates in the order of 2-6% per month for short term working capital loans are emerging in the UK. On the one hand, the fact that borrowing at such high rates can still be economically viable for some SMEs shows that fairly unexpected market equilibria can emerge. If these forms of financing tap the worse tail in the quality distribution of borrowers, such high interest rates adequately compensate the actual risk and the probability of default of these borrowers. On the other hand, if these instruments finance firms that could have access to funding at much better conditions

under complete information, they could merely reflect the extent of market failures in other segments of the market. Indeed, in countries like Italy interest rates at these levels would be considered usury and therefore illegal.

McMurray also points to the emergence of other non-bank intermediaries that are specializing in longer term SME financing. The issue in this case seems to be related to bank regulation and the steady growth of shadow banking businesses, as discussed in this issue also by Di Noia et al. in this issue. However, from a conceptual point of view, there is no value added in these forms of financing, that suffer of the same problems discussed above and seem to profit only from the exploitation of regulatory loopholes.

As a final note we should recall that, in most cases, alternatives to bank loans are offered by or through banks. In many countries, venture capital funds are controlled or participated by banking groups, bond underwriting is performed by commercial banks, securitizations are made mainly on bank loans. How far business models where banks diversify into activities in competition with their traditional lending activity are efficient it is not clear and not the object of this issue. The impact on these equilibria and on the emergence of new specialized intermediaries of entry costs, regulatory and fiscal biases should be carefully analyzed. Perhaps another issue of European Economy!

4.4 Spreading the risk through the market: securitization and bond pooling

For large firms, a major alternative to bank loans is to issue bonds. However, as Di Noia et al. forcefully remark in this issue, the crucial problem of this form of arm's length financing is the cost of acquiring adequate information on a firm's activities before buying its bonds. In addition, in the case of arm's length financing, such as bond issuance, fixed costs can represent an important constraint for SMEs.

A number of options have been proposed to address these problems. Securitization of pools of loans to SMEs is a tool to increase the availability of resources for these firms. While this technology requires loans at origination, it nonetheless helps lenders like banks to remove the credit risk from their balance sheets and at the same time obtain additional resources to grant new loans. However, the financial crisis has clearly shown that information asymmetries make it very hard to find the right balance between information production and risk transfer in the origin-to-distribute model of bank lending. Indeed, as ar-

gued by Udell in this issue, especially in Europe, the recovery of the market for securitizations is in large part explained by the possibility to use asset backed securities as collateral in central bank financing operations. Therefore the risk (and consequent capital absorption) remains in banks' balance sheets. Whether in the coming years it will be possible to build a market for the securitization of bank loans to SMEs seems still to be an open question. To reduce the fixed costs of bond issuance, one option is to reduce the regulatory burden in the case of issues by SMEs. In Italy, this policy has recently been introduced for the so-called mini-bonds. However, these policies do not address the problem of the costs of producing information on the borrowers, one of the major reasons why mini-bond subscriptions are restricted to specialize investors, that in theory should be better able to evaluate their riskiness. One interesting further step, as suggested by Di Noia et al. in this issue, could then be to aggregate bond issues in pools, by groups of SMEs, sometimes interconnected either because they operate in the same industrial district or within a vertical production chain relationship, so as to smooth idiosyncratic risk and to increase liquidity. These financial products would be very similar to a securitization.

5. And what for policy and regulation?

So far for the market. But is there room for a policy or a regulatory induced expansion of funding to SMEs? In the institutions section of this issue readers will find an extensive description of policy measures adopted especially by European policy makers to support SMEs. Many of these measures have been designed and implemented after the start of the financial crisis. They imply direct intervention by public institutions like the the European Investment Bank Group (EIB) and national agencies through loans and equity, as well as other risk sharing instruments; the creation of public or semi-public guarantee funds; several measures to ease the securitization of SMEs loans, especially aimed at reducing informational barriers. And finally ad-hoc measures to alleviate capital requirements for lending to SMEs.

In this editorial we focus our discussion on capital requirements and on the provision of public guarantees. Both these measures aim at expanding lending to small and medium enterprises, by reducing its cost in terms of capital absorp-

tion. Yet they have different implications in terms of the distribution of the risk to lend to SMEs. A reduction in capital requirements concentrates this risk on banks' balance sheets (and eventually on resolution funds and taxpayers in case of default), as capital buffers facing these risks are reduced. Public guarantees instead lift away this risk from banks balance sheets and spread it on taxpayers. We discuss these two measures in turns.

5.1 *Capital requirements.*

As discussed in the first issue of this journal in 2015, there is a likely trade-off between achieving financial stability through the expansion of capital buffers in banks' balance sheets and credit expansion. Given that SMEs account for a very large share of bank lending, and given that these firms rely overwhelmingly on banks funding, they should be especially sensitive to the rise in capital requirements envisaged by the transition from Basel II to Basel III and by other measures under implementation or still under consultation.

But the fact that SMEs are in aggregate very large borrowers is not enough to make their case a special one. To clarify this question we should first understand if exposures towards this group of firms involve higher capital absorption than to large corporates. This is difficult to estimate, as risk weighting is affected by whether banks use the standardized or the Internal Rating Based (IRB) approach and by whether loans are classified as corporate or retail. Still BIS estimates, reported in the recent Basel Committee's Consultative Document on the Revisions to the Standardised Approach for Credit Risk, indicate *“that risk weights on SMEs are, on average, higher than risk weights on other corporates. In particular, according to the data collected, the average IRB risk weight of large internationally active banks on SME corporates is more than double the average IRB risk weight on other corporates”* (BCBS, 2015).

If the negative effect of extra capital requirements on lending is larger the higher are capital requirements and if capital absorption is higher for SMEs than for other corporates, then a tightening of capital requirements will especially affect this group of firms. Several contributions in Issue 1/2015 of this Journal argued that evidence based on dynamic general equilibrium models find an inverted U shape relationship between bank lending and capital requirements, and estimate that the optimal level of regulatory capital should be in the range of 8 to 14%: capital requirements above these values may have an inhibit-

ing effect on the real economy activity (see Clerc in issue 1/2015 of this journal). This implies that lending to SMEs is especially sensitive to the tightening of capital regulations.

The paper by Udell in this issue reports several pieces of evidence supporting the view *“that concerns over the effect of Basel III is not without some justification”*. But also that this evidence is pretty muddled once we consider all the different technologies available for lending to SMEs and how far they are exposed to regulatory changes. What matters from the point of view of the borrower is the net effect, as some lending channels might contract and others expand. And this effect might vary considerably across countries. Clearly if (i) capital requirements address predominantly technologies related to bank lending, (ii) banks are the dominant lenders to SMEs, and (iii) markets for alternative funding are underdeveloped, SMEs are unable to carry out these regulatory arbitrages between alternative lines of funding. The empirical evidence reported by Udell also shows that the impact of more strict capital requirements clearly depends on the initial conditions of banks. Lending by banks which are initially capital constrained is especially severely affected by a tightening of the regulatory environment.

So there are theoretical arguments and a mild empirical evidence supporting the view that a high capital absorption for loans to SMEs and the transition from Basel II to Basel III might constrain lending to this group of firms.

The question, then, is whether and how far high capital requirements simply reflect the higher risk of loans to SMEs or whether they reflect some bias in the regulatory framework. The evidence on non-performing loans and of the rapid deterioration of SMEs balance sheets during the crisis supports the view that these firms are especially risky borrowers. It could also be argued that in the aggregate SMEs provide a much broader diversification of risk from idiosyncratic shocks or shocks arising from the real economy. Yet, this is no longer the case in systemic financial crisis, precisely as shown by the faster deterioration of riskiness indicators for SMEs than for large corporates during the global crisis.

So the view that SMEs are especially risky with a higher probability of default than large corporates is supported by the recent evidence on the impact of the financial plus sovereign crisis. Also, as argued above, market imperfections and asymmetric information make lending to these firms especially risky.

Once this structural higher risk of SMEs is taken into account, it could still be argued that regulatory requirements are more demanding than this higher risk would in fact require. Or in other words that the regulatory framework considers lending to SMEs more risky than what it is in fact. It is difficult to assess whether this is the case in the present framework. What is certainly true is that an optimal regulatory scheme should indeed take into account the actual trade-off between reducing risks and hindering credit expansion.

Precisely limiting the negative impact of capital requirements on SMEs lending is the rationale of the SMEs supporting factor, introduced by the Capital requirement Regulation of the European Commission to reduce the total risk weighted exposure of SMEs lending. This capital discount, implemented in January 2014 and subject to a potential revision in 2016, aims at reducing capital requirements for banks active in SMEs lending, that should in turn use this capital relief to provide further credit to SMEs. See the Institution section for a discussion of this measure.

EBA has launched a call for evidence to assess the effectiveness of the supporting factor. The reported preliminary evidence shows that EBA's reporting banks increased their CET1 ratios by 0.19% on average in 2014Q4. In terms of capital saving, this increase generated a 10.5 billion € capital relief for EBA's reporting banks, although the distribution across countries displayed strong heterogeneity, because of the different exposure to SMEs. More than 50% of this freed up in capital is in fact concentrated in Italy, France, and Spain, the countries with the largest share of SMEs.

According to these estimations, this measure has therefore been quite effective in freeing capital and extra lending space in favor of SMEs. And it has provided a competitive rebalancing for banks that operate in countries with a stronger presence of SMEs towards other European competitors. The question is whether these conclusions should support a structural use of the supporting factor, even after the revision of 2016 or whether it should merely be considered as countercyclical measures.

It will of course depend on the status of the economic recovery. In a phase of expansionary economic policy, with still clogged channels of transmission of the monetary stimulus and a colossal amount of non-performing loans on banks' balance sheets, the countercyclical impact of lifting this measure should be evaluated with extreme caution. Probably the burdens inherited from the long years of the financial plus sovereign crisis should be sorted out first.

On a more structural ground, this policy is justified only if the regulatory framework is unable to provide an optimal balance between reducing risks and a sustainable credit expansion. In other words if the regulatory framework is indeed distorted or unable to achieve its objectives.

Yet, if this were the case, wouldn't it be more efficient to directly change overall rules on capital requirements, rather than correcting them through exceptions? If capital requirements are too high to support lending expansion in general, they should then be reduced permanently with no need for corrective measures. We understand this might be demanding in political terms in the framework of global negotiations. But at the same time this is what mere logic would call for.

Of course if, instead, there are no distortions in the regulatory framework and lending trends are adequate, then since the supporting factor implies that banks reduce their ability to face potential losses, the costs of the policy in the event of defaults would be borne by other banks, if the industry funded recovery and resolution funds have sufficient capacity, or by the taxpayers, if a public back-stop becomes necessary.

In light of these arguments the future envisaged tightening of capital requirements on banks' lending to SMEs should be considered with extreme care. The Basel Committee on Banking Supervision has recently launched a consultation on a revision to the standardized approach for credit risk, which has important implications also for the IRB approach. In particular the Committee is investigating the suitability of substituting external ratings with a some measures of risk drivers that should be simple to use, intuitive, readily available and capable of explaining risk consistently across jurisdictions. Several comments to the consultative document from representative of the banking industry have argued that these procedures can create severe distortions against SMEs' lending. Capital requirements proposed by the Basel Committee would indeed raise the risk weighting parameters for lending to SMEs, especially highly leveraged ones. Given that these requirements would provide risk weighting floors for IRB assessment, they would also lift risk weighting for banks using this approach.

In light of this, the Standardized approach should certainly be simple, but not err in being simplistic. Although this seem obvious, it is less so when one tries to identify simple risk drivers to be used for this approach. For example, using a company's revenue as a crude measure of firms' size as one of the few

(two or three) risk drivers of the new Standardized Approach, may turn out to be excessively simplistic and generate a considerable impact on capital absorption.

This discussion shows that the issue of capital requirements on lending to SMEs is extremely complex and it requires special attention and a deep and balanced assessment of their impact on the trade-off between risk reduction and economic growth. Therefore, our concluding comment is that it is necessary **to assess very carefully potential distortions and suboptimal outcomes induced by capital requirement regulations. If distortions exist, lift them, rather than correcting a suboptimal regulatory framework through exceptional and equally distorting provisions.**

5.2. Public guarantees and public funding

A second crucial policy and regulatory issue concerning SMEs is the very fast rising of public guarantees and public funds in supporting SMEs during the crisis. According to the OECD, public guarantees on SMEs loans in Italy rose from around 2 billion in 2007 to 12 billion by 2014, reaching values comparable to those of France and Spain (see Figure 18 in the Numbers section). Public guarantees rose considerably also in the US during the crisis.

These instruments, by lifting risks from banks balance sheets and consequently reducing the capital absorption cost have clearly enhanced the sustainability of loans to SMEs during the crisis. They might also explain the limited cyclical downturn in these loans observed during the crisis (see section 3 of this editorial).

In general terms, guarantees are justified under one of the following three conditions, as discussed by Gozzi and Schmukler and by Revoltella and Kraemer-Eis in this issue. First, guarantors have better information on the pool of borrowers and can deal with the market failures arising from asymmetric information better than other entity. Second, lenders can help spreading and diversifying risks in directions not available to lenders. Third, they can be used for regulatory arbitrage, as guarantors may face different regulations than lenders.

These three conditions do not necessarily imply public funding. A large numbers of private Mutual Guarantee Associations (MGA) have been set up in many countries. It is however obvious that particularly during a negative swing of the cycle the availability of MGAs and other forms of private guarantees becomes limited. For this reason during the crisis many public guarantee schemes were set up and increased public funding was provided to MGA.

Public funds in this domain have a cyclical impact but they are precisely targeted at solving market failures. The crucial issue is therefore how far their design is effective in addressing these failures. This can vary along many domains: management structure, type of guarantees, coverage ratio and pricing. Gozzi and Schmukler in this issue provide very useful guidelines for best practice guarantee funds.

*First, **schemes should not be solely public managed but in conjunction with private lenders like banks or MGAs.*** Public agencies do not have better information than MGAs or banks in selecting creditors and in processing loans. In most countries loan assessment and recovery is typically undertaken by the lender.

*Second, **the coverage ratio, i.e. the fraction of the value covered by the guarantee should be less than 100 percent. Part of the credit risk should remain with the lender.*** This measure helps aligning the incentives of the lender and the guarantor, and force the former to carry out an adequate assessment of the borrower.

*Third, **the processing of claims should be rapid and transparent and based on clearly defined ex-ante rules.*** Costly and time consuming procedures reduce the transparency and the appeal of the scheme.

*Fourth, **fees charged by the guarantor to the lender should be able to guarantee the financial sustainability of the guarantee fund.*** This principle really depends on the characteristics of the fund and of the guarantor. If the guarantor has an informational or an enforcement advantage over the lender, it should charge high enough fees to cover its expenses and credit losses. Public guarantee funds might not follow this rule as far their fee structure involves some level of subsidization towards the lender addressing some market failure. Clearly then these funds face the issue of the long term sustainability of their activity.

As argued by Gozzi and Schmukler the performance of public credit guarantee scheme in terms of their financial sustainability” *has been mixed, at best*”. Consequently these funds clearly imply a transfer of credit risk from lenders to tax payers. In order to evaluate the rationale and the scope to use of tax payers funds two it is necessary to understand if these funds generate financial and economic additionality.

Financial additionality refers to whether these funds generate extra borrowing and loans at better conditions for SMEs to what would have happened in ab-

sence of the scheme. Even though very difficult to assess empirically, most studies find evidence of positive financial additionality of public guarantee funds. The extent of this additionality crucially depends on the competitive framework of the financial market. In fact, banks with market power can (at least in part) appropriate the subsidy and prevent the deployment of the possibly positive effects on growth of credit for small constrained firms.

Despite financial additionality, Gozzi and Schukler report also evidence of “*sizeable displacement effect and dead weight costs*” related to these schemes. For this reason the best practice ingredients outlined above are crucial. Finally evidence on *economic additionality* is very difficult to identify, even more than financial additionality. Economic additionality also look at the effects of the scheme on the real economy, in terms of creation of employment and value added. On this there is no conclusive evidence, even though this is a crucial element in assessing the merit of these schemes.

Summing up, public guarantee funds, if well designed can certainly address part of the market failures arising from SMEs lending. The question, though, is how far these schemes should be considered only as cyclical devices or whether they have a structural function. Here too the jury is still out. They are certainly instruments targeting market failures more directly than the supporting factor, so their structural function, again if they are designed according to best practices, has an economic rationale. At the same time it is true that market failures become especially severe in negative swings of the cycle, so possibly some of these schemes set up during the crisis might be phased out when recovery is finally consolidated, and market conditions are strengthened again.

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