
# THE ASYMMETRIC BURDEN OF REGULATION: WILL LOCAL BANKS SURVIVE?

Pietro Alessandrini Michele Fratianni
Luca Papi Alberto Zazzaro

*Working paper no. 125*

June 2016

# THE ASYMMETRIC BURDEN OF REGULATION: WILL LOCAL BANKS SURVIVE?

Pietro Alessandrini
*Università Politecnica delle Marche and MoFi*R

Michele Fratianni
*Indiana University, Università Politecnica delle Marche and MoFi*R

Luca Papi
*Università Politecnica delle Marche and MoFi*R

Alberto Zazzaro
*Università di Napoli Federico II, Università Politecnica delle Marche, MoFi*R *and CSEF*

**Abstract**

The re-regulation wave following the recent financial crisis has contributed to produce a complex system of new rules and controls. The paper argues that the burden of this new regulatory system is asymmetric and penalizing for small banks. This conclusion is corroborated from the preliminary results of a questionnaire on the impact of regulation on different types of Italian banks. Asymmetric effects on banking structure produce related asymmetries on firms and regional economies, in light of the fact that small firms and peripheral regions are highly dependent on bank credit and need strategic proximity of banking structures. When firms and regions are heterogeneous, the review of the literature on different countries and on different periods of time suggests the importance of differentiated banking models. Bank size, organization and governance should be evaluated in relative terms reflecting various heterogeneities of clients and regions. Consequently, a regulatory system should not favor one particular bank type but should aim at achieving a more symmetric distribution of the regulatory burden.

**JEL Classification**: G01, G18, G21

**Keywords**: banking regulation, local banks, large banks, regions, asymmetries, heterogeneity.

## 1. Introduction

One of the most evident consequences of the Great Financial Crisis (GFC) has been the rapid expansion of banking regulation. The same happened during the Great Depression (GD) of the 1930s. Historically, the regulation-deregulation *pendulum* swings are affected by two forces: efficiency and stability. In crisis periods, stability goal prevails on efficiency. The opposite happens in periods of market stability and growth.

The *pendulum* has swung back to regulatory tightness after a long period of liberalization in banking and financial markets following the demise of Bretton Woods. Banks expanded activities and instruments and developed new markets. Wider diversification yielded obvious advantages, as it is evidenced by the growth of large multinational banks operating worldwide. But with the advantages came higher risks that are inherent with the pace of innovations. Examples of innovation were the originate-to-distribute banking model, the growth of shadow banking, the creation of complex and difficult-to-understand products, and rising interconnectedness. As banks became larger, their potential to do damage to the economy rose and with it the cost of taking no action when a large bank fails. In fact, big banks became protected by the "too-big-to-fail" umbrella.

GFC brought the end of the liberalization myth and a return to a growing regulatory system with the expressed aim of reining in risk taking and restore stability in banking. Historically, the authorities have reset their preferences to approximately the position that existed soon after the GD. The adopted regulatory system is not static: it is evolving through a continuous flow of additional rules aimed at targets that may potentially trigger new crises. A vast and complex regulatory system is bound to alter behavior. A key in this paper is how this new regulation will affect the structure of the banking system and, in particular, what asymmetric effects will emerge. Two come to mind.

The first asymmetry is on bank size. While stability comes with a cost, the working principle is that this cost be distributed proportionately across different types and sizes of banking institutions. A uniform regulation may end up having asymmetric effects on different types and sizes of banks. This results from the fact that much of regulation is a fixed cost, which creates a proportionally higher burden on small banks than on large banks. Consequently, uniform regulation violates the principle of proportionality. This outcome is widely recognized in the United States, where a correction is in the making. For example, Fed's Chairwoman Janet Yellen (2014) stated that "…overly complex accounting rules in this area would increase costs with little benefit for the users of community banks financial statements" and argued for a "tailored supervision of community banks". In contrast, in the European Union the prevailing rule is the "one-size fits all," with the attendant risk that local commercial banks may become too small to survive under the proportionally higher regulatory costs of compliance. It is odd that it is the United States, where small firms and bank credit are less relevant than in Europe, that recognize explicitly the relative importance of local banks (Masera (2012; 2015). The European Union

and Italy in particular, in contrast, appear more concerned to achieve a massive consolidation process in banking with an attendant shift towards finance-based transactions (Visco 2015). We will check in the paper if the discrimination policy against local banks' discrimination is supported by empirical evidence.

The second asymmetry of the new regulation is on regions. In lesser developed regions, banks face a higher proportion of riskier firms. Since these firms impose a higher consumption of bank capital, uniformly stricter capital-based rules are bound to amplify regional disparities. In the paper, we will address the issue of whether local banks are as important for regional development as they had been in the past.

The remainder of our work is structured as follows. Section two discusses the historical swings of the regulation-deregulation *pendulum*. The main conclusion there is that each phase of the *pendulum* has left an impact on the structure of the banking system and on credit markets. The re-regulation wave has put more emphasis than in the past on a complex system of controls to cover an extended range of risks of bank intermediation. The regulatory burden, excluding the initial government rescues, has been borne by banks, particularly European, without any discrimination in relation to size, organizational structure, type of intermediation, customer portfolio, and regional development. Bank consolidation has been the outcome of tighter controls. Section three presents preliminary results from a questionnaire on the impact of regulation and supervision that we have distributed to a number of Italian banks, differentiated by size and regional localization. The answers of the banks' top management confirm the difficulty in interpreting the massive flow of regulatory documents and the differentiated cost of adapting bank organization and governance to the new prescriptions. Section four raises doubts as to whether greater integration of European financial markets is best served by further bank consolidation. The literature does not offer univocal answers on the links between banking structure and development. The financial crisis has contributed to the opacity of the empirical results, but it has also revealed the risks connected with financial deepening and overbanking. Section five reviews the empirical evidence on the relevance of banking geography when the playing field is not even. The conclusion is that one cannot arrive at a "best" model by contrasting global versus local banks. Section six draws conclusions.

## 2. The regulation-deregulation pendulum and banking structure

Over the last eight decades, we have had two peaks of financial regulation, the first in the wake of the GD of the 1930s and the second after the GFC of 2008-2009. Between these two peaks we have experienced a long wave of deregulation that started in the 1980s and progressed in the 1990s. By removing barriers between commercial banking, investment banking and insurance, the new de-regulation, set in an environment of liberalized capital flows, facilitated the growth of large, complex,

interconnected, and international banks. From 1999 to 2008, total assets of the world's largest banks rose at least by a factor of two and in some cases by a factor of four (Laeven et al. 2014: Figure 1). Big became bigger and with it grew the relevance of TBTF.[1]

Under the pressure of the crisis, Basel III (2010-11) emerged as a much more muscular version of Basel II (2004-08) in terms of capital requirements. It also introduced non-credit risk based requirements such as minimum leverage and liquidity ratios. Basel III is actually an ongoing process that produces a constant flow of new norms and clarifying documents.[2] But the one feature that really stands out in Basel III is complexity (Masera 2015: Figures 1-4). Complexity goes beyond the enormous number of pages detailing norms and interpretation. It is measured in terms of data, analytics, implementation and reporting requirements.[3] The basic issue at stake is whether complex systems are better handled by complex controls or simple controls. Judged in terms of interaction alone, complex controls are at a disadvantage relative to simple controls. Implementation and compliance costs are another strike against complexity. Furthermore, while Basel III defines a forest of risk definitions, it ignores that ultimately risk is determined by the interaction of a complex system with complex controls (Caprio 2013). Take as an example the zero weight on holdings of government securities. This induces banks to re-allocate portfolios in favor of government debt and governments to accommodate the higher demand, a process that alters the nature of risk. In a crisis, a big wedge develops between the market perception of risk and the definition of risk set by the regulators. This wedge encourages simultaneous sales by all banks, as it happened with Greek bonds during the sovereign debt crisis. The point is that risk changes and that a Gosplan-type regulator works "no better for bankers than it did for tractors" (Haldane 2011: 10).

As to banking structure, Basel III treats all banks virtually the same.[4] This uniformity affects unfavorably the smaller local or community banks that are an important feature of many banking systems, including the United States and several European countries, Italy included. The uniformity of regulation penalizes local banks relative to larger banks because the implementation of complex regulation is to a large extent a fixed cost (Koch 2013: Chart 4). But there is a second disadvantage falling on smaller banks: the subsidy that large banks may still receive from the possibility that the capital surcharge may not be adequate to prevent being rescued by governments. Without a regulatory

[1] Recently, the Financial Stability Board has identified 30 mega banks as "global systematically important banks" (G-SIBs). As of 2014, the 30 G-SIBs held assets valued at approximately $47 trillion and capital valued at $2.5 trillion (Persaud 2014:2).

[2] For example, the most recent concern of the Basel Committee for Bank Supervision is how to treat differentially a group of 30 G-SIBs so as to compensate for the contingent subsidy implied in being TBTF; for the evolution of the capital surcharge on the mega banks refer to Financial Stability Board (2014, 2015) and for estimate of the size of the subsidy earned by TBTF banks refer to Siegert and Willison (2015).

[3] Haldane (2011:2-3) offers a simple metric of such complexity: "…using an advanced internal set of models to calibrate capital…number of risk buckets has increased from around seven under Basel I…to, on a conservative estimate, over 200,000 under Basel II…to over 200 million [under Basel III]."

[4] Except the 30 G-SIBs.

correction, small banks are at risk of disappearing, an issue that is hotly debated in the United States, which has already implemented a dual-regulatory system, one that is applicable to very large banks (Advanced Approaches Banks) and another to community banks (Fratianni 2015). The latter face smaller risk-weighted capital ratios than the former and are exempt from the countercyclical capital buffer, supplementary leverage ratio, and credit valuation adjustments requirements (Hunter 2015). Furthermore, community banks in the United States are subject to lighter supervision than applicable to large banks and are exempt from stress testing and capital planning requirements (Yellen 2014). In contrast, the EU application of Basel III does not make any substantial distinction between large and local banks[5].

In sum, regulation impacts not only risk and profitability of the banking system as a whole but also its structure. The last wave of regulation is relatively unfriendly to local banks, reflecting the position of regulators, especially European, that a consolidation of the banking system can lower systemic risk. American regulators, unlike their European counterparts, appear to be convinced that variety of organizational forms in banking is worth preserving.

## 3. **A survey on the burden of regulation**

We have distributed a survey on the impact of the new regulation to a small sample of Italian banks, the objective being an assessment of the regulatory costs and their differential impact across banks of different dimensions. The different aspects of regulation deal with organizational structures for internal audit, compliance, risk management, internal reporting to the Board and external reporting to authorities and stakeholders. Regulation is as much a flow as it is a stock; hence, banks meet the requirements in a dynamic way. We quantify this aspect by collecting data for 2010, 2013, and 2015. The complexity of regulation goes beyond objective numbers. The difficulty to interpret norms induce banks to hire and train people with specialized skills or to pay external consultants. We capture this qualitative aspect of regulation by asking top management to assess opacity of rules and their adaptability to banking structure, functional impact of rules, proportionality, risk coverage, and crisis resolution mechanism.

[5]In fact, with the exception of the global systematically important banks, the European regulatory approach envisages a sort of one-size-fits-all regulation framework relegating the implementation of the principle of proportionality basically to a different frequency of the supervisory engagement for the various size categories of banks

**Table 1:** Survey of regulatory impact on a group of Italian banks

| Bank Headquarters | North West | North West | North East | Center | Center | Center | South |
|---|---|---|---|---|---|---|---|
| Employees | > 4000 | < 200 | < 50 | < 400 | > 100 | < 100 | < 250 |
| **Top management assessment of regulation impact** (1) | | | | | | | |
| Risk coverage | 10 | 10 | 3 | 8 | 8 | 8 | 9 |
| Organization adaptability | 8 | 5 | 8 | 7 | 7 | 8 | 8 |
| Functional flexibility | 3 | 5 | 5 | 1 | 2 | 3 | 1 |
| Need of bank types' differentiation | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Respect of proportionality principle | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Bail-in | 6 | 2 | 5 | 5 | 5 | 8 | 1 |
| **1) overall impact (range 10 - 60)** | **30** | **24** | **23** | **23** | **24** | **29** | **21** |
| **2) specific impact of bail-in (range 10 - 50)** (2) | **13** | **5** | **26** | **50** | **26** | **26** | **26** |

(1) The range of each assessment is from 1 (higher impact) to 10 (lower impact)
(2) Total assessment of 5 specific impact on : customer trust, total deposits, bank bonds, deposits' cost, and transparency.

Given the incompleteness of the survey and the limited space in the paper, we report in Table 1 only the qualitative answers of top managers of seven banks operating in different areas of Italy. Six of these banks are small local banks with number of employees ranging from 50 to about 400 and number of branches ranging from 9 to 60. The seventh bank is a large national entity with more than 4000 employees and 500 branches. While our small sample is not representative of the Italian banking system, these preliminary results are indicative and informative of the impact and burden of the new regulation. Here are some comments to the table. To begin with, none of the small banks had computed the cost of regulation; the big bank, instead, had done an approximate and preliminary exercise. This lateness in quantifying the costs of regulation explains the incompleteness of the responses to our questionnaire. It will simply take more time to obtain the quantitative answers. Second, the qualitative overall assessment of the regulatory impact turns out to be quite homogeneous. It ranges from 21, relative high impact, for the small banks in the South to 30, relative low impact, for the big bank. However, for the entire sample the overall score is closer to 10, highest impact, than to 60, lowest impact. Third, the overall score reflects two opposite sentiments of bank managers. On the positive side, management views the new regulation as providing the appropriate risk coverage and stimulating organizational changes. On the negative side, there is agreement that regulation reduces functional flexibility of bank activity. Above all, there is lack of differentiation of the regulatory system

across different types of banks and absence of the proportionality principle. These findings are consistent with our analysis that the new regulation is of the one-size-fits-all variety.

Other results from our survey, not reported in Table 1, also corroborate our conclusions. In 2015, the percentage of employees working on internal audit, regulatory compliance, risk management, internal reporting to the Board and external reporting to authorities and stakeholders increased from 4.5% (more than 180 individuals) for the big bank to 7.5-8% (7-8 individuals) for three of the larger small banks to 14% (7 individuals) for the smallest banks. These findings of the asymmetric burden of regulation are consistent with US data from Koch (2013: Chart 4). Furthermore, this asymmetry is underestimated in light of the fact that small banks are more likely than large banks to outsource part of the regulatory cost. Once completed, the research will provide extensive information on the outsourcing of services to meet regulatory standards as well as on the costs for training employees for the same purpose.

The survey deals also with the attention the governing body of the bank dedicates to regulatory issues. The response is that those issues absorb a rising proportion of the agenda: from 20% in 2010 to 35% in 2015 for the big bank, and from 14% to 28% for the smallest bank of our sample in the same period.

Finally, on the recent introduction of the bail-in system, we ask two kinds of questions. The first is on the overall assessment of the bail-in system. The answer to that reflects two attitudes, one of general principle, for which the response tends to be positive; and the other, on the application of bail-in to the Italian banking system, the response is negative. In fact, in separate conversations we have had with top management we gather that the application of the bail-in procedure in Italy is unanimously judged untimely and without adequate information and preparation, with the consequence of having eroded the trust relationship between savers and banks. In view of these results, we have deepened our questionnaire on the impact of bail-in on customer trust, the effect on bank deposits, deposit cost, bank bonds, and transparency. Table 1 gives an overall score of bail-in as the sum of the assessment for each of the five separate aspects. In this case, the minimum impact (grade 50) is scored by the bank that is firmly grounded in its territory and has a reputation for solidity, transparency, and functional proximity to their customers. On the other hand, apart for the small bank located in the North West of the country, the bail-in system has a negative impact on the big bank.

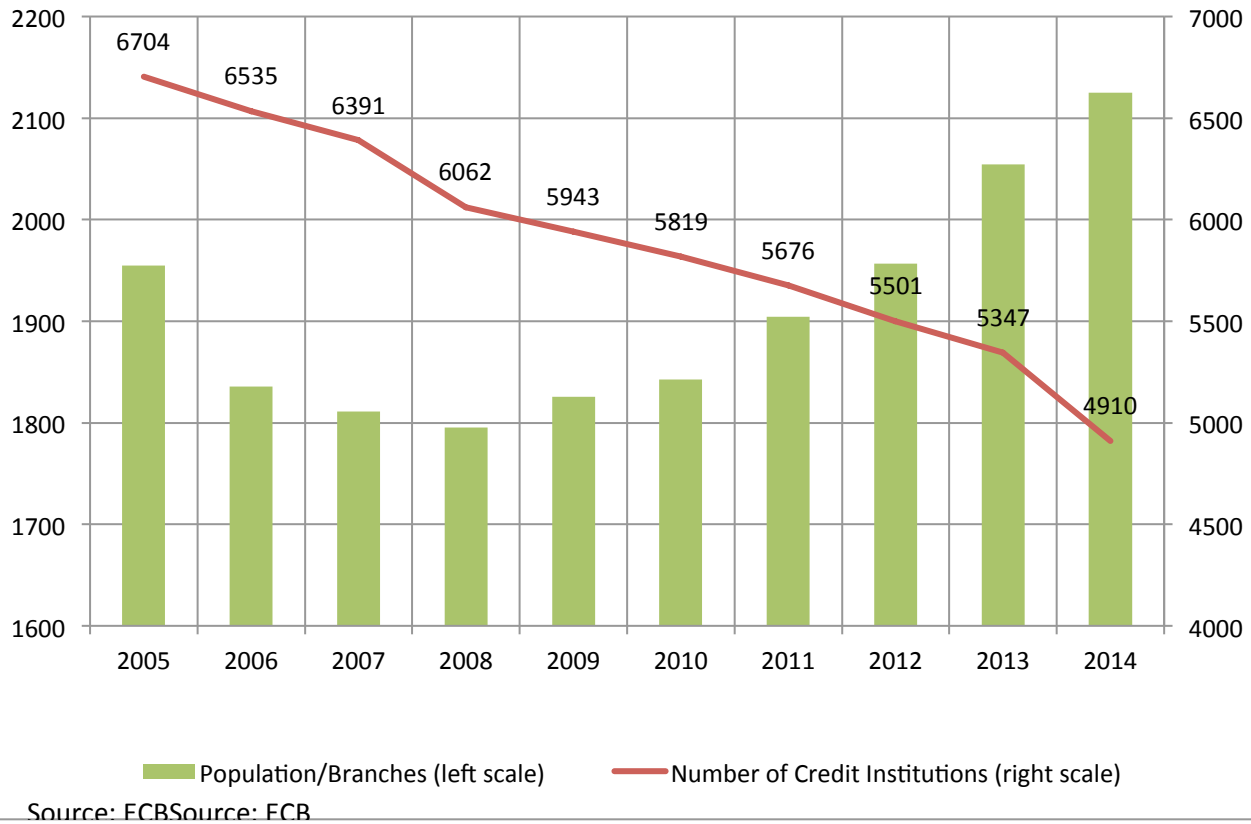
## 4. A new wave of banking consolidation?

In the renewed regulatory environment, cross-border mergers and acquisitions (M&As) in the euro area (EA) confirm the trend in number and value of transactions that has prevailed since the global financial crisis of 2007-2009. In fact, from December 2013 to December 2014 the number of EA credit institutions has decreased by 8 per cent, from 5347 to 4910, a reduction that is similar to that occurred

during the entire previous five years (Figure 1). This trend is likely to persist in the future.

At the same time, banks are changing their spatial organizational structure, by reducing the number of branches and increasing the use of impersonal tools to manage deposit and loan relationships, such as e-banking and internet-based platforms (Petersen and Rajan 2002). In Europe, the number of branches peaked in 2009 with 186,255; then the trend has been reversed: in 2014 there were 159,396 branches. The phenomenon is even more evident if we consider the dynamics of the ratio between population and number of branches (Figure 1).

**Figure 1** ***Structural Banking Indicators***
***(Euro Area; source: ECB)***




Source: ECBSource: ECB

These changes in the European banking structure raise new and old questions. Does Europe need further banking consolidation? Does increasing financial market integration require a new wave of bank mergers and acquisitions? What is the likely impact of this new wave of banking M&As on the growth of peripheral European regions and access to credit for small, local enterprises and households?

These are complex questions to which it is difficult to give clear, univocal answers. Much will

depend on what banks will be involved in the deals, how these operations will be designed and conducted and how the emerging larger, pan-European banking organizations will be actually managed. However, the experience of the Nineties and the empirical evidence accumulated in the last twenty years on the organizational structure and geographical distribution of banks should help to inform the political debate and prevent further imbalances in the EA.

4.1 *Overbanking in Europe*

Based on these and other findings, a recent report produced by the Advisory Scientific Committee of the European Systemic Risk Board (2014) concludes that Europe is overbanked. Also, the banking system is significantly more concentrated in Europe than in the USA These two facts have led the authors of the report to conclude that "the large size of the EU banking system and the size of largest banks are two related phenomena …two sides of the same coin" (ESRB 2014:7).

One of the reason that explains the steep and rapid growth of the European banking system, the report continues, is the deep links between banks and politics, and the "banking nationalism" bias of EU national governments during the initial stages of the European Monetary Union. This resulted in promoting national champions, laxer bank supervision and greater state support to banks, all of which led to oversizing domestic banking systems and the European banking industry as a whole.

Paradoxical as it may seem, banking nationalism arises from a widely shared opinion in the Nineties of the supremacy of universal and global banking players in promoting efficiency and innovation. As it was commonly argued at that time, deregulation, advancements in information and communication technology and financial innovations would have made banking activity ever more transaction oriented, by including a wide-range of non-traditional financial products and arm's length lending technologies. In this new, more competitive environment, traditional commercial and local banks would have been crowded-out by few global banks expanding geographically and supplying standardized financial products without suffering a permanent disadvantage in making loans to small local firms.

Admittedly, the more thoughtful scholars recognized that organizational diseconomies in global banking, emanating from scattered information collection, could lead to a temporary decline in lending to SMEs, especially in peripheral economies. This decline would have disappeared, however, as soon as global, out-of-region banks adapted to the needs of the new local areas and local banks adjusted to the new competitive pressure of global banks. At this stage, a supranational and fully integrated banking system would have flourished, wiping out the constraints of distances and replacing the 'geography of banks' with the 'geography of financial flows' (O'Brien 1992).

The mixed rhetoric of national champions in integrated competitive markets, and the stark contrast between the goal of keeping national banking autonomy and its irrelevance at the regional level, appear to re-occur at the EA level, under the impact of the asymmetric burden of regulation on large vs small

banks; and the added risk of producing financial marginalization in some member countries. It may be time to evaluate the expected effects of the new wave of cross-border M&As in Europe by balancing the benefits of having more efficient and globalized banks with the costs of excessive bancarization and the negative externalities due to concentration of bank headquarters in few financial centers.

## 5. Global banks, local banks and distances in regional development

A growing empirical evidence suggests that liquidity management and lending activity of local branches and subsidiaries are influenced by the organizational complexity of their banking institutions, and that local branches and subsidiaries of global banks allocate resources differently from stand-alone banks having their strategic center in the same region.

Starting from Stein (2002), the literature has emphasized that organizational complexity and geographical and cultural distance between the different hierarchical layers of a banking organization have an effect on information production, lending technologies and credit allocation. The broad idea is that information asymmetries and agency costs inside a bank organization lead to hierarchical and functional distance separating peripheral structures of the bank from its headquarters, which in turn impact on bank lending policy, bank officers' behavior and access to credit for local firms (Alessandrini et al. 2005). Information about local enterprises, it is argued, is mainly soft and embedded in the local economy and society, and can be effectively gathered only by loan officers working and living in the same neighborhoods as borrowers. As a result, information about borrowers' creditworthiness is largely asymmetric within the bank organization and this provides local loan officers with the opportunity to take advantage of an informational rent at their own private benefit.

In the rest of this section we selectively review the literature on the importance of banking organization by focusing on three related but distinct aspects:

(i) the effects of bank size and banking consolidation on small business lending;
(ii) the effects of organizational complexity and functional distance on credit allocation and financial shock transmissions to peripheral regions; and
(iii) the role of small, local banks in promoting economic growth in local economies.

### 5.1. *Bank size, consolidation in banking industry and small business lending*

In the Nineties, a great number of studies have analyzed the effects of bank size and consolidation on small business lending (Berger and Udell 1998; Berger et al. 1999). Overall, this literature shows that large banks tend to allocate a smaller share of their assets to small business lending and to rely more on hard-information lending criteria than small, local banks (Berger et al. 1995, 2005; Cole et al. 2004; Scott 2004; Uchida et al. 2012; Ogura and Uchida 2014). However, other studies have documented that, at least in the United States, access to credit by small firms is broadly unrelated to the share of large

banks in the local credit market (Strahan and Weston 1998; Avery and Samolyk 2004; Berger et al. 2007; Berger and Black 2011). This result is consistent with the hypothesis that it is the share, but not necessarily the total amount, of loans to small firms that decreases with bank size and that the reaction of other banks operating in the same market allows to cover the market segments left uncovered by large banks.

In view of these findings, M&As should not necessarily worsen the conditions (price and quantities) of access to credit by small businesses. Actually, the evidence confirms that the effects of bank consolidation on small business lending are not univocal; they depend instead on the type of institutions involved in the deals and on the economic conditions of the area where the consolidated/affiliated bank operates. For example, when two medium-large banks consolidate or when a large bank incorporates a small bank, loans to small firms tend to decrease significantly (Peek and Rosengren 1998; Strahan and Weston 1998). By contrast, M&As involving small banks usually lead to a bigger share of loans to small firms. Using Italian data, Focarelli et al. (2002) uncover that, three years after a M&A transaction, the involved banks tend to reduce small business lending and reduce non-performing loans. In other words, banks implement a cherry-picking strategy by shifting lending towards larger but less risky borrowers. Again remaining on Italy, Alessandrini et al. (2005) find that size, market power, capital adequacy and local presence being equal, those Southern banks which are part of a Central-Northern banking group tend to lend less to small businesses, to have a worse credit quality and a lower profitability when compared to stand-alone banks. Alessandrini et al. (2008) analyze the Italian experience with the restructuring asset portfolio strategies following bank acquisitions. At the national level, they find evidence of an asset cleaning strategy, in which the acquiring bank makes a clean sweep of all non performing loans in the portfolio of the acquired bank without modifying its composition in terms of loans and borrowers. On the contrary, the authors show that when the acquired banks are located in economic backward Southern Italian regions, the acquiring bank permanently changes the portfolio allocation of the acquired bank reducing loans to small businesses and increasing loans to large firms.

Decrease in lending to small firms is welfare reducing only to the extent that this determines a cut in valuable investments. Otherwise, we would only be faced with the termination of inefficient credit lines (Berger, Kashyap and Scalise 1995). Unfortunately, in this respect the available evidence is scarce and even more inconclusive. However, the facts that loans to small firms from incumbent rival banks increase (Berger et al. 1998), that the higher probability of small borrowers being dropped by the consolidated bank is independent of borrower quality (Degryse et al. 2011) and that returns of target banks, especially in the case of out-of-market acquisitions, do not always increase (Alessandrini et al. 2008) suggest that the reduction in small business lending does not simply reflect previous loan misallocation by the target bank, but rather it might be evidence of possible welfare losses.

5.2. *Organizational complexity, functional distance and credit allocation*

Consolidation processes have usually gone along with concentration of bank headquarters and strategic functions in few financial centers. This has greatly increased the complexity of the banking organization and the functional distance between the locus of control of the banks' lending strategy from local branches and local economy where lending relationships originate and develop, with the effect of exacerbating agency costs and home biases and adversely influencing the availability of credit to local firms.

Consistent with the hypothesis that distant banks are less equipped to provide loans to opaque borrowers and process/use soft information, a number of studies show that firms located in regions disproportionally populated by functionally distant banks tend to have less access to credit (Detragiache et al. 2008; Alessandrini et al. 2009; Gormley 2010; Claessens and Van Horen 2014), a lower capacity to maintain a long-lasting bank relationship (Presbitero et al. 2011) and a lower propensity to innovate (Alessandrini et al. 2010).

The negative impact of functional distance on bank-firm relationships receives broad confirmation for the global crisis period. Specifically, after the Lehman collapse Italian firms borrowing from banks whose headquarters and branches are quite distant from the location where firms are headquartered paid, on average, higher interest rates (Gambacorta and Mistrulli 2014) and obtained lower amounts of credit (Gobbi and Sette 2015). At the market level, Presbitero et al. (2014) document that Italian firms headquartered in provinces populated by bank branches whose headquartered in far away provinces are more likely to have experienced a credit crunch after the Lehman collapse.

The existence of "home biases" in credit allocation is also well documented for syndicated loans and banks' internal capital market. Several studies show that global banks experiencing a liquidity shock rely on their internal capital market to move funds from the periphery to the center; that is, the geographical pecking order penalizes locations that are more distant from the parents' headquarters. During the GFC a "flight-to-home" effect was responsible for the decline of banks' loans to firms headquartered farther away from bank headquarters. Similarly, restrictions on credit were more pronounced for firms located in regions whose banking system was functionally distant. Presbitero et al. (2014) provide evidence that the credit crunch occurred in Italy after the Lehman collapse was also driven by a home bias effect in which functionally distant branches reduced their lending in the region independently of the quality of local firms.

5.3. *Local banks and local development*

While there is clear empirical evidence of the differences between small and large banks in the structure of their assets and liabilities and in lending technologies, the evidence about the role of small, local

banks in the local economic growth is scarcer and less clear. With regard to Italy, Ferri and Mattesini (1997) and Cosci and Mattesini (1997) document that the growth rate of value added at the provincial level is positively associated with share of local branches owned by cooperative banks. In the same vein, Lucchetti et al. (2001) find that the ratio between cooperative banks' loans and total loans at the regional level is significantly correlated with regional economic growth even after controlling for the efficiency of the local banking system and the share of loans going to the private sector. The positive impact of cooperative banks on regional economic growth is confirmed by Usai and Vannini (2005). In contrast, Angelini et al. (1997) find that at the municipal level the presence of cooperative banks has no significant impact on the variation of the rate of unemployment.

With regard to the US economy, Collender and Shaffer (2003) do not find any clear evidence of local banks influencing short- and long-term GDP growth rates of local economies (identified by the so-called metropolitan statistical areas and nonmetropolitan counties) differently from the out-of-market banks, while Jayaratne and Strahan (1996) find that the rate of growth of US states significantly increased in the years following the bank branch deregulation and the removal of state branching restrictions.

Recently Hakenes et al. (2015) have reconsidered the impact of small banks on economic growth looking at the case of Germany. In particular, they find evidence of a positive effect of the presence of small local banks (measured by the share of branches in the region belonging to saving and cooperative banks) on the growth in new business registrations, especially in less developed regions. Contrasting results about the role of local banks during the recent crisis have been found in the case of Italy. According to Demma (2015), over the period 2005-2012, the deterioration of credit quality has been less for local banks compared to non-local banks, after controlling for the credit demand and bank characteristics. More recently, Stefani et al (2016) show how Italian local banks increased their presence on local markets in terms of branches and loans during the seven years between 2007 and 2014. However, the quality of their credit worsened markedly showing how the local banks' lending activity can be prone to severe risks, which in some cases might even outweigh the benefits of customer proximity. Finally, at the cross-country level, Berger et al. (2004) analyze the impact of the presence and efficiency of community banks on GDP growth rates of 49 developed and developing countries in the period 1993-2000, documenting a positive and significant relation.

## 6. Conclusions

The "too-small-to-survive" fall-out for small banks, a consequence of uniform regulation, goes hand in hand with the reinforcement of the "too-big-to-fail" protection for big banks. Is it true that fewer and bigger banks will create a less risky system than a mixture of large and small banks? The GFC lesson seems to indicate otherwise. It originated in large multinational banks, where financial creativity was

most advanced. Only in its second wave the weaknesses of commercial banking manifested themselves and those were mostly the result of the economic crisis. But the rapid increase of nonperforming loans cannot be attributed to bank size. Commercial banking, especially community banking, fell victim first to a bad economy and later to the policy of fiscal austerity that kept depressed aggregate demand. Bank loans fell in quantity demanded and deteriorated in quality. A bad economy, lower collateral values, optimistic credit evaluations, and bank mismanagement contributed to the rise of non-performing loans, Italy being a prime example of this state of affairs. While we do not have a precise breakdown of the relative contributions of each factor, a bad economy looms as the significant driver underlying non-performing loans. The negative effects of the latter on profitability were aggravated by an erosion of intermediation margins; on these the zero-rate monetary policy played its role.

Bank losses produced two contrasting forces. The first was an erosion of banks' safety driven by lower profitability. The new regulatory regime, with its attendant costs, contributed to the decline in banks' earnings. The second was the reaction of regulators who wanted banks to raise fresh capital to buttress safety. But here comes the conundrum. How can regulation raise bank safety through higher capitalization in a world where banks are perceived to be less profitable and riskier? While investors demand a higher required return on capital, banks' performance is incapable of satisfying these demands. In sum, it is hard to make the case that community and regional banks have been the great villain in the crisis.

Moving to economic development, the noted asymmetric burden of regulation on banking structure produces related asymmetries on firms and regional economies. Small firms and peripheral regions are highly dependent on bank credit and need strategic proximity of banking structures. The reviewed empirical evidence demonstrates that larger and more (functionally) distant banks penalize small firms, which are more opaque and more exposed to credit rationing. The objective of shifting some bank intermediation to financial markets will affect disproportionately smaller firms, whose characteristics are not congruent with the issue of negotiable debt instruments. While one cannot discount the role innovations, such as mini bonds, that may be suitable to small firms, the point remains that the adoption of a regulatory system that penalizes small banks' credit function to stimulate market-based financing is not only inadequate, but also distorting. One likely prediction is that the industrial structure of the country (Italy in particular) will have to change as a result of the shift in emphasis from bank to finance intermediation. Firm size will have to adapt to the available financing options. Smaller firms will not survive and industrial structure will move towards larger firms. Furthermore, regions as well will be affected asymmetrically by the uniform regulation. The less developed regions of a country tend to have a higher proportion of small, riskier firms, that have a higher consumption of bank capital. It follows that bank credit is more rationed in less developed areas than in developed areas. In sum, the asymmetric impact of uniform regulation is likely to change

industrial structure to different degrees across regions. It may well be that this is the ultimate objective of regulatory policy. If so, the authorities ought to be plain on what they aim and their consequences. On that score, the preliminary results of a survey on the burden of regulation, shown in section 3, are consistent with our analysis that this burden is asymmetric between large and small banks.

Finally, our review of the literature on different countries and on different periods of time, including the GFC years, suggests the importance of a differentiated banking model when firms and regions are heterogeneous. There is no obvious optimal size of bank. Bank organization and governance must be evaluated in relative terms, according to criteria such as: types of banks involved in M&As, functional distance, opacity of local market information, regional development disparities, and territorial sensibility by bank management. Therefore, it is wise for a regulatory system not to favor one particular bank size. The market should decide on this size, whereas the authorities should concentrate on the reconciliation of market efficiency with financial stability and limit the swing of the pendulum between the two extremes of full liberalization and oppressive regulation. Our preferred policy is for a dual-regulatory system that would achieve a more symmetric distribution of the regulatory burden. The United States has moved in this direction, the European Union not.[6] It is odd that a country where small firms and bank credit are less relevant than in Europe has opted for a dual approach. It is equally odd that the importance of preserving local banks is valued less in Italy than in Germany.

**References**


Alessandrini P., M. Croci and A. Zazzaro. 2005. The geography of banking power: the role of functional distances. *BNL Quarterly Review*, 58(235):129-167.

Alessandrini P., G. Calcagnini and A. Zazzaro. 2008. Asset restructuring strategies in bank acquisitions: Does distance between dealing partners matter?. *Journal of Banking and Finance* 32(5): 699-713.

Alessandrini P., A. F. Presbitero and A. Zazzaro. 2010. Bank size or distance: What hampers innovation adoption by SMEs?, *Journal of Economic Geography* 10(6):845-881.

Angelini P., G. Ferri and V. Vacac. 1997. Banche e sviluppo economico in Italia: Un'analisi a livello comunale. In *Credito e sviluppo*, edited by F. Cesarini, G. Ferri and M. Giardino. Bologna: il Mulino, 131-150.

Avery R. B. and K. A. Samolyk. 2004. Bank consolidation and small business lending: The role of community banks. *Journal of Financial Services Research* 25(2): 291-325.

Berger A. N. and L. K. Black. 2011. Bank size, lending technologies, and small business finance. *Journal of Banking and Finance* 35(3):724-735.

Berger A. N., R. S. Demsetz and P. E. Strahan. 1999. The consolidation of the financial services


[6] Again it is worth quoting Yellen's remarks: "I believe a healthy financial system relies on institutions of different sizes performing a variety of functions and serving different needs" (Yellen, 2014).

industry: Causes, consequences, and implications for the future. *Journal of Banking and Finance* 23(2-4):135-94.

Berger A. N., I. Hasan & L. Klapper. 2004. Further evidence on the link between finance and growth: An international analysis of community banking and economic performance. *Journal of Financial Services Research* 25(2):169-202.

Berger A. N., A. K. Kashyap and J. M. Scalise. 1995. The transformation of US banking industry: What a long, strange trip it's been", Brookings Papers on Economic Activity. 2:55-218.

Berger, A. N., N. H. Miller, M. A. Petersen, R. G. Rajan and J. C. Stein. 2005. Does function follow organizational form? Evidence from the lending practices of large and small banks. Journal of Financial Economics. 76(1):237–269.

Berger A. N., R. J. Rosen and G. F. Udell. 2007. Does market size structure affect competition? The case of small business lending. *Journal of Banking and Finance* 31(1):11-33.

Berger A. N., A. Saunders, J. M. Scalise and G. F. Udell. 1998. The effects of bank mergers and acquisitions on small business lending. *Journal of Financial Economics* 50(2):187-229.

Berger A. N. and G. F. Udell. 1998. The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of Banking and Finance* 22(6-8):613-73.

Caprio G. Jr. 2013. Financial regulation after the crisis: How did we get here, and how do we get out?, LSE Financial Market Group Special Paper Series N. 226, November.

Claessens S. and N. Van Horen. 2014. Foreign banks: Trends and impact. *Journal of Money, Credit and Banking* 46(s1):295-326.

Cole R. A., L. G. Goldberg and L. J. White. 2004. Cookie-cutter versus character: The micro structure of small business lending by large and small banks. *Journal of Financial and Quantitative Analysis* 39(2):227-251.

Collender R. N. and S. Shaffer 2003. Local bank office ownership, deposit control, market structure, and economic growth. *Journal of Banking and Finance* 27(1):27-57.

Cosci S. and F. Mattesini. 1997. Credito e sviluppo nelle province italiane. In *Credito e sviluppo*, edited by F. Cesarini, G. Ferri and M. Giardino. Bologna: il Mulino, 89-130.

Degryse H., N. Masschelein and J. Mitchell. 2011. Staying, dropping, or switching: The impacts of bank mergers on small firms. *Review of Financial Studies* 24 (4):1102-1140.

Demma C. 2015. Localismo bancario e crisi finanziaria, Banca d'Italia, *Questioni di Economia e Finanza* 264.

Detragiache E, T. Tressel and P. Gupta, P., 2008, Foreign banks in poor countries: Theory and evidence, *Journal of Finance* 63(5):2123-2160.

European Systemic Risk Board. 2014. Is Europe overbanked? *Reports of the Advisory Scientific Committee*, 4.

Ferri G. and F. Mattesini.1997. Finance, human capital and infrastructure: an empirical investigation on

postwar Italian growth. Bank of Italy Working Papers 321.

Financial Stability Board. 2014. Adequacy of loss-absorbing capacity of global systematically important banks in resolution: consultative document, November.

Financial Stability Board. 2015. 2015 update of list of global systematically important banks (G-SIBs), 3 November.

Focarelli D., F. Panetta and C. Salleo 2002. Why Do Banks Merge?. *Journal of Money, Credit and Banking* 34(4):1047-1066.

Fratianni M. 2015. Basel III in reality. *Journal of Economic Integration* 30(1):1-28.

Gambacorta L. and P. E. Mistrulli. 2014. Bank heterogeneity and interest rate setting: What lessons have we learned since Lehman Brothers?. Journal of Money, Credit and Banking 46(4):753-778.

Gobbi G. and E. Sette. 2015. Relationship lending during a financial crisis. *Journal of the European Economic Association* 13(3):453-481.

Gormley T. A. 2010. The impact of foreign bank entry in emerging markets: Evidence from India. *Journal of Financial Intermediation* 19(1):26-51.

Hakenes H., I. Hasan, P. Molyneux and R. Xie. 2015. Small banks and local economic development. 19(2):653–683.

Haldane A. G. 2011. Capital discipline, speech at the American Economic Association, Denver, Colorado, 9th of January.

Hunter M. F. 2015. Statement before the Subcommittee on Financial Institutions and Consumer Credit, U.S. House of Representatives, April 23.

Jayaratne J. and P. E. Strahan. 1996. The finance-growth nexus: evidence from bank branch deregulation. *Quarterly Journal of Economics* 111(3):639-71.

Koch C. 2013. Regulatory burden rising, in Federal Reserve Bank of Dallas, *Financial stability: Traditional banks pave the way*.

Laeven L., R. Lev and H. Tong. 2014. Bank size and systemic risk, IMF Staff Discussion Note N. SDN/14/04.

Lucchetti R., L. Papi and A. Zazzaro. 2001. Banks' inefficiency and economic growth: A micro-macro approach", *Scottish Journal of Political Economy* 48(4):400-24.

Masera R. 2012, "Risk Regulation and Supervision of Financial Systems: US and Eurozone Solutions", *ZOeR*, 67: 251-280.

Masera R. 2015. Regole e supervisione delle banche: approccio unitario vs modello per livelli e implicazioni per la morfologia del sistema delle banche, EU e US. Working paper 30 Novembre, Università degli Studi Guglielmo Marconi.

O'Brien R. 1992. *Global financial integration: The end of geography*. London: Royal Institute of International Affairs.

Ogura Y. and H. Uchida. 2014. Bank consolidation and soft Information acquisition in small business lending *Journal of Financial Services Research* 45(2):173-200.

Peek J. and E. S. Rosengren.1998. Bank consolidation and small business lending: it's not just bank size that matters, *Journal of Banking and Finance* 22(6-8):799- 819.

Petersen M. A. and R. G. Rajan. 2002. Does distance still matter? The information revolution in small business lending. *Journal of Finance*, 57(6): 2533–2570.

Persaud A. D. 2014. Why bail-in securities are fool's gold, Peterson Institute for International Economics, Policy Brief N. PB14-23.

Presbitero A. F. and A. Zazzaro. 2011. Competition and relationship lending: Friends or foes?. *Journal of Financial Intermediation* 20(3):387–413.

Presbitero A. F., G. F. Udell and A. Zazzaro. 2014. Competition and relationship lending: Friends or foes?. *Journal of Money, Credit and Banking* 46(s1):53–85.

Scott J. A. 2004. Small business and the value of community financial institutions. *Journal of Financial Services Research* 25(2/3):207-230.

Siegert C. and M. Willison. 2015. Estimating the extent of the 'too big to fail' problem – a review of existing approaches, Bank of England, Financial Stability Paper, 32.

Stefani M. L., V. Vacca, D. Coin, S. Del Prete, C. Demma, M. Galardo, I. Garrì, S. Mocetti, D. Pellegrino. 2016, Le banche locali e il finanziamento dei territori: Evidenze per l'Italia (2007-2014). Banca d'Italia, *Questioni di Economia e Finanza.* 324.

Stein, J. C. 2002. Information production and capital allocation: Decentralized versus hierarchical firms." *Journal of Finance* 57(5): 1891-921.

Strahan P. E. and J. P. Weston. 1998. Small business lending and the changing structure of the banking industry. *Journal of Banking and Finance*, 22(6-8):821- 45.

Visco, I. 2015. Speech of the Governor of the Bank of Italy at "Giornata mondiale del risparmio", Rome, Associazione di Fondazioni e di Casse di Risparmio Spa, Rome October 25, 2015; available at https://www.bancaditalia.it/pubblicazioni/interventi-governatore/integov2015/Visco_28102015.pdf

Uchida H., G. F. Udell and N. Yamori. 2012. Loan officers and relationship lending to SMEs, *Journal of Financial Intermediation* 21(1): 97-122.

Usai S. and M. Vannini. 2005. Banking structure and regional economic growth: Lessons from Italy. *Annals of Regional Science* 39(4):691-714.

Yellen, Janet L. 2014. Tailored supervision of community banks, Remarks made at Policy Summit of the Independent Community Bankers of America, Washington, May 1.